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Audit Committee and Internal Control Effectiveness in Public Sector Entities

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Abstract

This paper reports the findings of a study that examined the audit committee and internal control effectiveness nexus. The study worked on the assertion that the audit committee of the board enhances internal control effectiveness, which is widely documented and supported, more so in the private sector. As a result, many public sector entities' governing boards are increasingly establishing such audit committees. Yet, it is unclear to what extent such increase in audit committees contribute to public sector entities' internal control effectiveness, especially in developing economies. This study, therefore, examined the explanatory power of the audit committee's characteristics, internal control specific oversight processes, and management support on the effectiveness of internal control of the reporting entity. Data was collected using structured questionnaire administered with key audit committee stakeholders of social security funds in Tanzania. Ordinary Least Square (OLS) was used to multi-regress the investigated independent variables against the dependent variable. Overall, results show that audit committee characteristics, audit committee internal control specific oversight processes and management support to audit committee significantly account for internal control effectiveness. Indeed, internal control specific oversight processes have the most significant positive explanatory power followed by management support to the audit committee and audit committee characteristics, respectively. Scholars, policymakers, audit committees, boards, and managers may use the results of this study to inform strategies and/or interventions aimed to improve audit committee's contribution to internal control effectiveness.

Keywords: Audit committee, internal control effectiveness, Social Security Funds, Tanzania.

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Introduction

The use of the audit committee (AC) of the board—as a critical tool for enhancing internal control effectiveness (ICE)—dates back to many years ago in private sector entities (Gendron, Bedard & Gosselin, 2004; DeZoort, Hermanson, Archambeault, & Reed, 2002). In recent years, however, public sector entities have increasingly been adapting audit committees (ACs) largely because of the success they have engendered in the private sector (Michelon, Bozzolan & Bretta, 2015; Rich & Zhang, 2014; Krishnan, 2005; COSO, 2004; Menon & Williams, 1994). The increasing trend of the adaption also stems from an ongoing global surge in formulations and enforcements of legislations, regulations and best practices which, among others, aim to promote internal control effectiveness through the AC's oversight (see, for instance, KPMG-ACI, 2016; Sarbanes-Oxley [SOX] Act, 2002; URT, 2001a; URT, 2001b; Treadway Commission, 1987).

Although the literature-backed discussion supports a general hypothesis that AC contribute significantly positive towards internal control effectiveness, prior empirical tests on the same have produced mixed results. Such mixed results range from significantly positive or negative results, insignificantly positive or negative results to no effect at all (Berkman & Zuta, 2017; Alzharani & Ajaaidi, 2015; Ogoro & Simiyu, 2015; Rich & Zhang, 2014; Menon & Williams, 1994). The cause of such mixed results can hardly be established with certainty but may include differences in contexts, methodologies, type and measurements of variables considered during investigation process. For instance, each of the prior studies just cited has considered AC characteristics (independence, financial or accounting expertise and experience, size, authority, resource and diligence) as the only key variables explaining audit committee-driven internal control effectiveness. The same studies (for example, Alzharani & Ajaaidi, 2015; Ogoro & Simiyu, 2015; Rich & Zhang, 2014) indicate variations in terms of type and number of AC characteristics considered during investigations. Such variations range from one or two or a few selected characteristics instead of considering all of them so as to investigate the combined effect. In this case, there is still, arguably, no universal empirical understanding about the audit committee and internal control effectiveness nexus. Impliedly, there is a need for further investigations about this phenomenon.

The scholarly works reviewed (Masanja, 2021; Michelon *et al.*, 2015; Beasley, Carcello, Hermanson & Neal, 2009; Mihret & Yismaw, 2007; DeZoort *et al.*, 2002) collectively indicate that the AC's significant positive effect on internal control effectiveness is a potential rather than an auto effect. More precisely, the literature reviewed suggest that, unless the AC under consideration adequately benefits from all necessary pre-requisites for effective oversight of internal control, it cannot add value to the reporting entity's internal control effectiveness. These pre-requisites include possession of appropriate AC characteristics (Michelon et al., 2015; DeZoort *et al.*, 2002), adherence to appropriate internal control specific oversight processes (Beasley *et al.*, 2009), and sufficient support from the entity's management (Bananuka, Nkundabanyanga, Nalukenge, & Kawaase, 2018; Mihret & Yismaw, 2007; Beasley, Cune, & Hermason, 2005).

Even though the literature reviewed indicates a common consensus that AC characteristics, oversight processes and management support to AC need collective consideration in explaining AC-driven internal control effectiveness, most of the prior studies have not done

so. Most of them (see, for example, Berkman & Zuta, 2017; Dewayanto, Suhardjanto, Bandi & Setiadi, 2017; Khlif & Samaha, 2016; Alzharani & Ajaaidi, 2015; Rich & Zhang, 2014) have focused on AC characteristics as underpinned by the Agency Theory (Jensen & Meckling, 1976). Only few have focused on AC oversight processes as informed by the Institutional Theory (Beasley *et al.,* 2009; Gendron *et al.*, 2004; Powell, 1991) and even fewer on management support to AC based on the Stewardship Theory (Cohen & Sayag, 2010; Nicholson & Kiel, 2007). This means that there is virtually none of the reviewed prior studies with a focus on an analysis of AC vis-à-vis internal control effectiveness whilst considering AC characteristics, internal control specific oversight processes and management support to AC simultaneously. Impliedly, our empirical and theoretical knowledge about simultaneous effect of these variables on internal control effectiveness remains constrained to a considerable extent. Moreover, most of the prior studies reviewed have been conducted in the private sector as opposed to the public sector particularly of the developing economies such as Tanzania. Implicitly, both theoretical and empirical knowledge about AC and internal control effectiveness in the context of developing economies' public sector remains inadequate.

In short, extant literature indicates a consensus that substantial knowledge gaps about the AC and internal control effectiveness nexus persist. Extant literature indicates that there still an indispensable demand for further investigations. This study, thus, examined empirically the extent to which variance in internal control effectiveness in Tanzania's state-owned social security funds AC as represented by AC characteristics, internal control specific oversight processes and management support to AC account for the. Overall, the study answers the following major question: To what extent does the audit committee as represented by AC characteristics as a whole, internal control specific oversight processes and management support to AC explain the variance in internal control effectiveness in Tanzania's social security funds? More specifically, it answers the following questions: To what extent do AC characteristics as a whole contribute to internal control effectiveness of Tanzania's social security funds? To what extent do AC internal control specific oversight processes contribute to internal control effectiveness of Tanzania's social security funds? And to what extent does management support to AC contribute to internal control effectiveness of Tanzania's social security funds?

The choice of Tanzania's social security funds as units of analysis was informed by the critical roles these funds play in supporting livelihoods of their members, growth and development of the country's financial sector and the economy generally (SSRA, 2018; BoT, 2017). The study is crucial as its findings illuminates on areas, which deserve proportionately high efforts during interventions aimed to promote AC-driven internal control effectiveness. Such interventions can also provide assurance to the funds' going concern and this, in turn, can ensure the welfare of funds' members and the public.

This study also contributes to the existing body of knowledge as one of the fewest first studies to provide evidence on simultaneous and individual explanatory powers of AC characteristics, internal control specific oversight processes and management support to AC on internal control effectiveness. In fact, none of the prior studies reviewed had examined the AC vis-à-vis internal control effectiveness while considering three explanatory variables at a time. Further, most of the prior studies reviewed had examined explanatory power of AC

characteristics on basis of individual or group of selected characteristics contrary to the literature's general indication that it is the combined explanatory power that matters most. Moreover, none of the studies reviewed had focused on state-owned social security funds operating in the developing economies context.

The rest of the paper is organized as follows: Literature review follows in the next section which is then followed by hypotheses development. Then, comes the methodology, results presentation and interpretation, and subsequently results discussion. Finally, the conclusion and study findings implications wrap up the paper.

Literature

Audit Committee and Internal Control Concepts

An audit committee (AC) generally refers to a sub-committee of the board of directors consisting of three to five members whose primary responsibility is to oversee the reporting of an entity's financial management activities such as internal controls, financial reporting and auditing (Dewayanto et al., 2017; Beasley et al., 2009; DeZoort *et al.*, 2002). At least one of the AC members must be an experienced financial expert and the rest must be financially literate (Rich & Zhang, 2014; SOX, 2002). Primarily, when it comes to the internal control the AC seeks to ensure that the reporting entity's internal control system is consistently adequate and effective to achieve the entity's overall objective (KPMG-AC, 2016; DeZoort *et al.*, 2002).

The term internal control (IC) or internal controls (ICs) generally refers to ways/mechanisms, laws/regulations, operational procedures/guidelines, and physical measures implemented at all levels of the reporting entity to ensure efficient and effective achievement of its objectives (Khlif & Samaha, 2016; COSO, 2004; SOX, 2002). Internal controls also aim at promoting integrity, transparency and accountability, timely and reliable financial reporting (COSO, 2004; SOX, 2002). Based on these benefits, it is thus imperative that each reporting entity ought to ensure that its internal control system functions effectively.

Internal Control Effectiveness Concept

Internal control effectiveness (ICE) or effective internal control system refers to a situation in which an entity deploys effectively its systematic set of policies, laws and regulations, operating processes, tasks, personnel behaviours, and other aspects deemed relevant to enable the reporting entity to achieve its ultimate goal (KPMG-ACI, 2016; COSO, 2004). Arguably, developing and maintaining an effective internal control provides reasonable assurance in achieving the entity's ultimate goal, that is, wealth maximisation (Dittmeier & Casati, 2014).

Extant literature (Bananuka et. Al, 2018; Khlif & Samaha, 2016; Dittmeier & Casati, 2014), provides evidence of how effectively a particular internal control system operates including in terms of maintenance of internal control system along with sufficient deployment of financial, technical and human resources to support its implementation of at all levels of the entity. Other indicators include regular assessments of the control system's effectiveness and identification of inherent weaknesses; timely corrections of weakness; incorporation of new

developments; and evidence of compliance with all relevant laws, regulations, ethics and best practices (Michelon *et al.,* 2015; Hoitash, Hoitash & Bedard, 2009; COSO, 2004).

Effective internal control system primarily rests in the hands of the entity management. Yet, in a principal-agent situation of many big private and public sector entities, the AC of the board widely provides reasonable assurance that the entire internal control system operates effectively (Michelon *et al.*, 2015; Krishnan, 2005). AC particularly exercises independent oversight of the entire internal control system along with providing technical advice for the management to maintain effective internal control system (Krishnan, 2005; Menon & Williams, 1994). Literature further indicates that rightly characterised AC coupled with substantive internal control specific oversight processes and management support to AC can enhance the internal control's effectiveness (Rich & Zhang, 2014; Cohen & Sayag, 2010; Beasley *et al.*, 2009).

Theoretical Foundation

Three theories underpin this study: The Agency Theory, Institutional Theory and the Stewardship Theory. The Agency Theory served as the major theory and the other two complemented it. The Agency Theory (Jensen & Meckling, 1976) is based on the argument stressing on the essence of AC independence characteristic relative to internal control effectiveness. It capitalises on the understanding that managers (agents) have access to more information on the entity than shareholders (principals) and this provides them with an opportunity to bias information flow in favour of their interests at the detriment of shareholders (Arnold & De Lange, 2004). As a remedy, the Agency Theory calls for an independent mechanism such as AC of the board to address potentially information asymmetry and conflict of interest between managers and shareholders (DeZoort *et al.*, 2002; BRC, 1999). Generally, extant literature treats AC as an effective independent mechanism composed of members equipped with all necessary competencies and experiences that can effectively monitor and cause managers to abide by laid down internal controls of the entity (Malai, 2015; He *et al.*, 2009).

Institutional Theory-based reasoning, on the other hand, suggests that AC independence alone without AC's adherence to laid down processes, regulations and best practices deemed necessary for effective oversight may not serve the purpose (Scott, 1997; Powell, 1991). More specifically, effective operation of the AC requires the composition and operational procedures to observe the institutionally-documented laws, regulations and best practices deemed necessary for effective oversight of internal control (Powell, 1991; Beasley *et al.*, 2009).

The Stewardship Theory in this study, on the other hand, provides a plausible explanation about the role of support the entity's management extends to the AC when overseeing the internal control system. Proponents of the Stewardship Theory links the intrinsic motivation of managers to successful performance or achievement of organisational goals which is also the overall objective and/or interest of shareholders (Nicholson & Kiel, 2007). In other words, there is convergence between the goals of managers and those of fund providers, members of social security funds as far as this study is concerned. This means that there exist common interests between managers and members of the funds as opposed to conflicting interests

(Lambright, 2009). Invariably, the support managers extend to AC by providing finance and information as necessary inputs, as well as by implementing AC recommendations stem from the management's commitments to the achievement of organisational objectives (Cohen & Sayag, 2010; Nicholson & Kiel, 2007). Precisely, it is the presence of common goals or interests, commitment and willingness to achieving common goals that enables managers to substantially extend support to AC, hence underpinning the AC's effective operation.

Generally, this theoretical review advances two important observations. Firstly, although the Agency Theory constitutes the major theoretical foundation of the audit committee (AC) vis-à-vis internal control effectiveness, it is not self-sufficient in itself. After all, it does not underscore the role of institutionally laid-down processes, regulations and best practices adhered to by AC when overseeing internal control system. Moreover, it does not also underscore the necessary (financial and non-financial) supports extended by the management to AC during the oversight processes to ensure that AC objective(s) and thus of the organisation as a whole are realised. Finally, the AC vis-à-vis internal control effectiveness is simultaneously explainable by AC characteristics, AC oversight processes and management support to AC as opposed to much of the literature that attempt to explain it only using AC characteristics (DeZoort et al., 2002). Therefore, AC vis-à-vis internal control effectiveness is a multi-dimensional phenomenon that cannot be explained sufficiently by only one construct.

AC Characteristics and Internal Control Effectiveness

AC characteristics refer to qualitative attributes that reflect the AC's ability to execute its oversight and advisory responsibilities (DeZoort *et al*, 2002). There six widely recognised AC characteristics, which include independence, financial or accounting expertise and experience, size, authority, resource and diligence (PWC, 2011; Gendron, Bedard, & Cosselin, 2004). AC characteristics that can impact on internal control effectiveness are independence, financial and/or accounting expertise and experience, size and diligence characteristics (Khlif & Samaha,2016; Yatim, 2009; DeZoort *et al*, 2002).

To underline the importance of independence, extant literature argues that an AC characterised by independence normally monitor internal controls and actions of managers closely and proactively as opposed to the counterpart (Krishnan, 2005; DeZoort, *et al.*, 2002). Such a situation empowers an AC with a better prospect of detecting material weaknesses, deterring managers' fraudulent actions and, thus, enabling timely corrective actions (Berkman & Zuta, 2017; Krishnan, 2005).

Regarding diligence, literature posits that the willingness of AC members to work together and/or serve in the best interest of the stakeholders is vital when overseeing internal control and related matters (Beasley *et.al*, 2009; DeZoort *et al.*, 2002). Raghunandan and Rama (2007) argue that, unless each member and/or AC has willingness or commitment to working as a team in the best interest of shareholders, the rest of the AC attributes may not serve its purpose substantively. Similarly, Beasley *et al. (*2009) posits that an AC with committed members can set critical agenda, discuss agenda substantively, and come up with substantive recommendations capable of translating into effective internal controls.

On the part of financial or accounting expertise and experience, AC expertise and experience in finance or accounting enables its members to review substantively the internal control system and, hence, provide appropriate technical advice and recommendations (Berkman & Zuta, 2017; DeZoort & Salterio, 2001). As such, any AC should have at least one financial expert with the remaining members being financially literate (DeZoort *et al.*, 2002). As for the AC size, an independent AC with at least three or five members at the most can execute its responsibilities effectively (Yatim, 2009; Gendron, et.al., 2004). Implicitly, such a sized autonomous AC can be resourceful enough in terms of financial expertise.

Several regulators are also essential in engendering an AC characterised by independence, financial/accounting expertise, appropriate size and diligence to exercise effective oversight and advisory role. The Sarbanes-Oxley Act of 2002 in the US and Treadways Commission (1987) in the UK recommend AC composition of members who are independent of the management team. The same legislations recommend an AC size of 3 – 5 members, one of whom should be an expert in finance/accounting and the others with financial literacy. This AC should meet at least four times per annum. In Tanzania, the Public Finance Act (PFA) No. 1 of 2001 Order No.30 and its Public Finance Regulation No. 30 of 2001—both as amended—apply to all public entities in Tanzania (URT, 2001a, 2001b). Moreover, the Bank of Tanzania (BoT) Subsidiary Legislation No.33 of 2014, Regulation 7 regulates all financial banking and non-banking institutions, social security funds inclusive.

In general, the foregoing literature-based discussion indicates that all six widely recognised AC characteristics taken collectively are critically important in fostering audit committee-driven internal control effectiveness. Impliedly, what matters most is not an individual or a group of selected AC characteristics but a combination of all. This implies further that any attempt to examine the role of AC characteristics in explaining internal control effectiveness variance has to focus on the combined explanatory power as opposed to explanatory power of individual or of a group of selected AC characteristics.

Several empirical studies on the AC vis-à-vis internal control effectiveness evidentially indicate that AC independence, financial expertise, size and diligence spur the internal control system's effectiveness. Berkman and Zuta (2017) report that AC characterised by independence and financial expertise as measured by the proportion of non-executive members and of members with financial expertise, respectively, were found to be negatively affiliated with negative events in Israel's listed firms. Invariably, there is a positive association between AC independence and financial expertise and internal control effectiveness. Similar results have been documented by Dewayanto, Suhardjanto, Bandi and Setiadi (2017) in Indonesia and the Philippines.

Alzharani and Ajaaidi (2015) report that an independent AC (as measured by proportion of independent members) with a size of 3 - 5 members has strong positive relationship with risk management or internal control activities. Khlif and Samaha (2016) and Krishnan (2005) report that a diligent AC, as measured by the number of meetings held (at least four times per annum) and time and efforts exerted by AC members on scrutinising important agenda, has significant positive effect on the internal control quality and vice-versa. This empirical-backed observation tallies with Dodo (2017) who studied the Lehman Brothers' financial scandal

only to expose the non-diligence of its AC. In contrast, Ogoro and Simiyu (2015) report negative effects of the audit committee characteristics on internal control effectiveness in Kenya's public sector, specifically parastatals.

The theoretical predictions coupled with empirical evidence reviewed thus far collectively suggest that AC characteristics, as measured by independence, financial/accounting expertise, size and diligence, enhance the internal control system's effectiveness and far outweigh the alternative outcome. Equally important, AC characteristics vis-à-vis internal control theoretical literature reviewed thus far generally suggest that what matters most is the combined explanatory power of all AC characteristics as opposed to explanatory power of one or of a group of selected characteristics. It is on basis of this, the following hypothesis deserves to be tested:

H1: *AC characteristics have a significant positive influence on internal control effectiveness.*

Internal Control Specific Oversight Process and Internal Control Effectiveness

Literature (Bananuka *et al.* 2018; Dittmeier & Casati, 2014; PWC, 2011) indicates that properly composed AC contribute substantially to internal control effectiveness if it adheres to all necessary processes or procedures for effective oversight of internal control. In more particularised terms, literature (KPMG-ACI, 2016; Dittmeier & Casati, 2014; PWC, 2011; COSO, 2004) indicates a relative consensus that AC should at the minimum adhere to the following internal control oversight procedures: (i) review and ensure that management maintains an internal control system; (ii) review and determine whether management periodically assesses internal control adequacy, efficiency and effectiveness; (iii) review and determine the adequacy and appropriate processes in place to assess periodically internal control system adequacy, efficiency and effectiveness; (iv) review and ensure that any material weaknesses or deficiencies identified are appropriately and timely taken care of; and (v) provide relevant, technical advice to the management, wherever necessary, through the governing board.

In consequence, some regulators have often directed audit committees to adhere to more or less similar procedures to encourage AC to exercise substantive oversight of internal controls. For instance, the Regulation No. 7 of the BoT Subsidiary Legislation No.33 of 2014 imposes similar internal control oversight procedures on all banking and non-banking financial institutions operating in Tanzania. Such imposition is consistent with Gendron *et al.* (2004) and Menon and Williams (1994), who suggest that AC may not be effective when they failed to undertake actively what they were supposed to do. Thus, an AC that adheres to the minimum possible processes (procedures) relevant for effective oversight of internal control can be effective, hence contributing significantly to internal control effectiveness as opposed to one that fails to do so.

Prior studies that have examine the cause-effect relationship between AC internal control specific oversight processes and internal control effectiveness seem to be relatively few as compared to those that have examined the same phenomenon using AC characteristics. Beasley *et al*. (2009) report that an AC that reviews substantively the internal control and risk management activities is effective as opposed to otherwise. Similarly, Dodo's

(2017) study the Lehman Brothers identified one of the major reasons behind the Lehman Brothers' financial scandal as lack of the AC's substantive adherence to processes essential for effective oversight of financial management activities including internal controls. Impliedly, an AC that adheres to relevant procedures for effective oversight of internal control adds substantial value to internal control effectiveness as opposed to one that does not. As Gendron *et al*. (2004) also produced similar findings, we can hypothesise thusly:

H2: *AC internal control specific oversight processes have a significant positive influence on internal control effectiveness*.

Management Support to AC and Internal Control Effectiveness

Even though AC characteristics and internal control specific oversight processes can play a critical role in ensuring that AC contributes significantly to internal control effectiveness, management support to AC is worth serious consideration. In practice, the actual implementation of the resultant AC recommendations on internal control improvement, as well as the AC's access to necessary inputs such as finance and information depend on the management's willingness and commitment to collaborating with the AC (Masanja, 2021; Mihret & Yismaw, 2007). Impliedly, management support to AC is centripetal to enhancing the contribution of AC to enhanced internal control effectiveness. In this regard, the Tanzania Public Finance Act of 2001 and its attendant Regulations of 2001, both as amended, support require the secretariat of the board constituting the AC members to be headed by an accounting officer (chief executive officer). The same legislation requires that the AC secretariat should be drawn from the management team members, preferably the accounting officer assisted by the head of legal services (URT, 2001b). In other words, collaboration between AC and management coupled with management support to AC are crucial in ensuring that the AC oversees the internal control effectively.

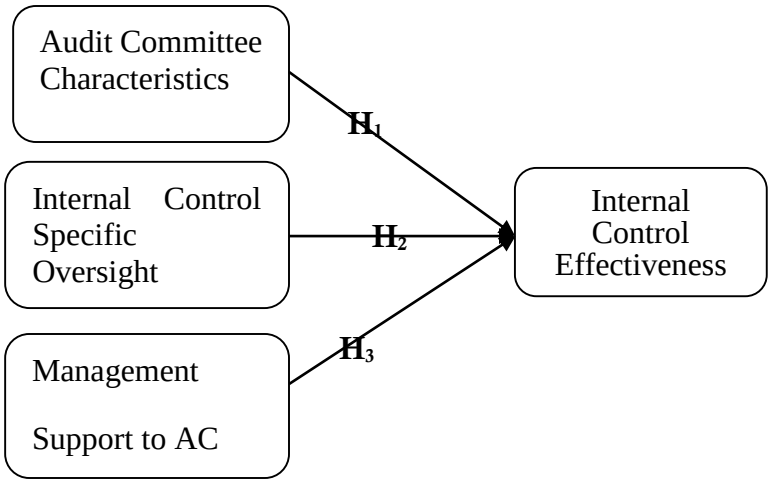
Prior studies dealing specifically with management support to AC vis-à-vis internal control effectiveness are hardly available thus far. The few available are closely related to this matter include Masanja (2021), who reports that management support to AC such as supplying AC with sufficient and reliable information, funds and other vital resources on demand coupled with effecting recommendations facilitated the effective AC's oversight over risk management. Similarly, Beasley, Cune and Hermason (2005) report a significant association between the extent of risk management and internal control system implementation, board (AC in this case) and management support to the board/AC. Beasley *et al*. (2005) use the chief executive officer (CEO) and chief finance officer (CFO) as a proxy for management. Based on the theoretical postulations and empirical evidence, it is apparent that the more the management supports the AC, the greater the contribution of AC to internal control effectiveness. As such, we can hypothesise:

H3: *Management support to AC has a significant positive influence on influence internal control effectiveness.*

The three hypotheses this study has developed indicate the nature of analysis and results of interest to this examination as diagrammatically presented in Figure I. Particularly, the

causal-effect relationship conceptual model shows the three explanatory variables explaining the variance in internal control effectiveness.

Figure I: Conceptual Model Audit Committee and Internal Control Effectiveness



Methodology

Study Design, Population and Sampling

This is explanatory research treats internal control effectiveness as a dependent variable and AC characteristics, AC internal control specific oversight processes and management support to AC as explanatory variables. The study used the Tanzania government-owned social security funds as units of analysis. AC members and AC key stakeholders such as internal auditors, external auditors and chiefs of finance formed the inquiry units. The study's sample size of 210 respondents was derived using Krejcie and Morgan's (1970) sample size tabulation at 95% confidence from a total population of 460. Simple random probabilistic sampling technique was employed to select the respondents from with a view to enabling generalisation of the results to the total population (Hair, Black, Babin, Anderson, & Tatham, 2010; Neuman, 2005).

Model Formulation and Measurement

Extant literature posits that AC characteristics, AC internal control specific oversight processes and Management support to AC have a positive bearing on the entity's internal control effectiveness (Michelon *et al*. 2015; Cohen & Sayag, 2010; Beasley *et al*., 2009; DeZoort *et al*., 2002). Yet, information on the extent of their combined and individual influences on internal control effectiveness is limited. To test statistically the extent of the combined and individual influences of AC characteristics, AC internal control specific oversight processes and Management support on the AC's effectiveness in internal controls, the study collected cross-sectional data from Tanzania's social security funds from July 2018 to early February 2019. The data has then been multi-regressed using Ordinary Least Square (OLS) estimation technique. Preference for OLS stems from its wide application as a tool for establishing the degree and type of causal relationships among dependent and independent

variables. The model linking internal control effectiveness, as a function of AC characteristics, AC internal control specific oversight processes and Management support to AC can, thus, be formulated as:

$$\mathbf{ICE} = \boldsymbol{\alpha} + \beta 1\mathbf{ACXs} + \beta 2\mathbf{ACIOP} + \beta 3\mathbf{MSPAC} + \boldsymbol{\mu}$$

Where:
α = constant that explains ICE not accounted for by ACXs, ACIOP and MSPAC. *β1, β2 and β3* = coefficients representing the extent to which ACXs, ACIOP and MSPAC respectively accounts for ICE. $\boldsymbol{\mu}$ represents the error term.

ICE = Internal Control Effectiveness: It is the dependent variable of the study. It has been measured using the respondents' perceptions based on five indicators adapted from Michelon, *et al*. (2015), Dittmeier and Casati (2014), and COSO (2004). They include perceived indicative evidence pertaining to the reporting entity's management or personnel as a whole: (i) maintaining an internal control system; (ii) deploying sufficient financial, technical and human resources to support its implementation of at all levels of the entity; (iii) regularly assessing the internal control system effectiveness; (iv) appropriately and timely addressing any material weaknesses identified as well as new developments; and (v) compliance with all operational procedures, relevant laws, regulations, ethics and best practices.

ACXs = AC characteristics: This is one of the independent variables comprising four dimensions of independence, financial/accounting expertise, size, and diligence. Each of these dimensions has been measured separately using the respondents' perceptions based on specific indicative evidence and, subsequently, summed up to make a whole so as to enable examination of a combined effect of AC characteristics. On the other hand, independence has been measured using three indicators: Presence of more non-executive members; lack of members with personal relationship with the fund's management team; and lack of members' business interests in the fund other than serving as AC members (Berkman & Zuta, 2017; Alzharani & Ajaaidi; 2015). Financial or accounting expertise has been measured using two indicators, that is, the presence of at least one AC member with requisite expertise and experience in finance/accounting, and financial literacy for the rest of AC members (Berkman & Zuta, 2017; Dewayanto *et al*., 2017). Size has been measured using at least three and five AC members at the most; and size adequacy (Alzharani &Ajaaidi; 2015). Finally, the study has measured diligence using the frequency of AC meetings; AC members remuneration; and AC performance evaluation (Khlif & Samaha, 2016; Krishnan, 2005).

ACIOP = AC internal control specific oversight processes: This independent variable has been measured using the respondents' perceptions based on five indicators adapted from Bananuka *et al.* (2018), KPMG-ACI (2016), Dittmeier and Casati (2014), and COSO (2004). They include evidence showing that the AC: (i) ensures that management maintains an internal control system; (ii) reviews and determines whether management periodically assesses internal control adequacy, efficiency and effectiveness; (iii) reviews and determines the adequacy and appropriateness management procedures to assess periodically the internal control system's adequacy, efficiency and effectiveness in fostering internal control; (iv) reviews and ensures management addresses timely and appropriately any material

weaknesses or deficiencies or new developments identified; and (v) provides relevant, technical advice to the management, wherever necessary, through the governing board.

MSPAC = Management support to AC: This final independent variable has been measured using the respondents' perceptions based on five indicators as adapted from Masanja (2021) and Beasley *et al.* (2005). They include perceived indicative evidence to the effect that: (i) management accepts and honours timely information requests made by the AC; (ii) management accepts and honours financial resources requests made by the AC; (iii) management accepts and honours necessary input resources, other than finance and information, requested by the AC; (iv) management accepts and implements timely all relevant recommendations made by the AC; and (v) management provides the AC with timely implementation feedback(s).

Data Collection

The study used a self-administered questionnaire whose scale ranged from strongly disagree (1) to strongly agree (5). As already noted and described, the study respondents consisted of AC members and other relevant AC key stakeholders. The questionnaire focused on collecting data on the perceptions of the sampled respondents on question items, which sought specific information on the AC characteristics, internal control specific oversight processes, management support to AC and internal control effectiveness. The questionnaire also sought information on the respondents' profile that signals their relevance for participating in the study. Such profile comprised variables such education qualifications and experience of working with audit committees in years as a member or key stakeholder.

Data Analysis

In all, the study generated data based on 193 actual sample out of the 210 theoretical sample size. The former same was derived following data cleaning and subjecting it to diagnosis for reliability, normality, correlations and multicollinearity as pre-requisites for meaningful OLS – regression analysis. Particularly, the study used the Cronbach alpha to diagnose reliability. It diagnosed normality using skewness and kurtosis whereas correlations and multicollinearity were assessed using Pearson correlations. Multicollinearity was also diagnosed using the variance inflation factor (VIF) and tolerance value (TV).

Besides data cleaning and diagnosis of key OLS-regression assumptions, study variables descriptive statistics were obtained followed by testing of the study hypotheses (H1), (H2), and (H3) using Multiple Ordinary Least Square (OLS). Particularly, AC characteristics, AC internal control specific oversight processes and Management support to AC were multi-regressed against Internal control effectiveness.

Results

Variables Descriptive Statistics

Three independent variables, namely AC characteristics (ACXs), AC internal control specific oversight processes (ACIOP) and Management support to AC (MSPAC), and one dependent variable, that is, Internal control effectiveness (ICE) were involved in this study. As the results in Table I indicate, the respondents' perceptions of all the four variables had mean scores of

above 3.0 (neither disagree nor agree) with ACXs scoring the highest (m = 4.0908). The ACIOP (m = 4.0143) ranks second, MSPAC (m= 4.0129) ranks third followed by ICE (m = 4.0063), respectively. The closeness of all the four means suggests that the respondents generally perceived positively that all the four variables prevailed sufficiently. Moreover, all of the three independent variables contributed to the internal control effectiveness. Results in Table I also indicate variations in responses from one respondent to another on a particular variable. However, these variations were generally low as evidenced by standard deviations ranging from 0.42197 to 0.60139 throughout.

Table I: Independent and Dependent Variables Descriptive Statistics

Variables	**ACXs**	**ACIOP**	**MSPAC**	**ICE**
Mean	4.0908	4.0143	4.0129	4.0063
Std Dev	.42197	.53406	.60139	.59162
Minimum	2.97	2.29	1.20	1.00
Maximum	5.00	5.00	5.00	5.00
Skewness	.085	-.389	-.298	-.581
Kurtosis	-.391	-.017	-.186	-.329
Observations	**193**	**193**	**193**	**193**

Moreover, Table I results suggest that the respondents' perceptions of all the four variables were reasonably normal distributed since the skewness and kurtosis statistics of their responses are close to zero, which is consistent with extant literature recommendation (Hair, *et al.* 2010).

Correlations and Reliabilities

Table II presents Pearson correlation coefficients amongst all the four variables alongside reliability coefficients (Cronbach's alpha) in parentheses/brackets. Results show that all the four variables were found to have significant positive correlations (at $P \leq .001$). Table II results also reveal that all the four variables' scales were reliable since each of them met the widely recognised rule of the thumb of at least 0.70 Cronbach's alpha (Hair et al., 2010).

Table II: Pearson Correlations and Reliabilities

Variables	**1**	**2**	**3**	**4**
1. ICE	(.849)			
2. ACXs	.482***	(.738)		
3. ACIOP	.467***	.418***	(.861)	
4. MSPAC	.458***	.483***	.374***	(.853)

*N=193 ***P ≤.001 (two-tailed), Cronbach's alpha in Parentheses/brackets*

Normality and Multicollinearity

As earlier noted in the data analysis section, normality of data was assessed using skewness and kurtosis statistics whereas multicollinearity was assessed using Pearson correlations, variance inflation factor (VIF) and tolerance value (TV). All the four variables' data points had reasonably normal distribution because their skewness and kurtosis statistics were close to zero (see, Table I). This is consistent with the rule of the thumbs commended by Pallant (2013), Hair *et al*. (2010) and Neuman (2005).

Regarding multicollinearity, results in Table II indicate that all of the Pearson correlation coefficients amongst independent variables were not above 0.90 as the highest one was 0.485, hence assuring that multicollinearity problem did not exist (Hair *et al*., 2010). Lack of multicollinearity problem was also supported further by the variance inflation factor (VIF) below 10 and tolerance values (TV) above 0.10, respectively as Table III illustrates, hence in line with Hair *et al*. (2010) rule of thumb.

Hypotheses Testing

As the analysis section has already pointed, the testing of hypotheses number one (H1) through number three (H3) was performed using Multiple Ordinary Least Square (OLS) by regressing the independent variables under review at once against the dependent variable. OLS was performed after assurance of meeting all the basic OLS regression assumptions. The R^2 value of .361, adjusted R^2 value of .349 and F value of 34.001 with a probability value of less than .05 ($P < .001$) validate the significance of the model, hence making the hypothesis testing of H1, H2 and H3 valid (see Table III). Particularly, the model shows that 34.9% of the variance in ICE is accounted for by ACXs, ACIOP and MSPAC combined.

Overall, the results statistically support all the three hypotheses (H1, H2 and H3) which stated that AC characteristics, AC internal control specific oversight processes and management support to AC, respectively, have significant positive influence internal control effectiveness. More explicitly, results in Table III also indicate significant positive outcomes for ACXs (coefficient = .231, t = 3.270, P =.001), ACIOP (coefficient = .269, t = 4.078, P =.000) and MSPAC (coefficient = .258, t = 3.597, P =.000) individual influences on ICE. In relative terms, ACIOP (H2) implies that a unit increase in ACIOP brings about a significantly higher increase in ICE than what a unit increment in MSPAC and ACXs, respectively, can induce.

Table III: Regression Results

Dependent Variable:	**Internal Control Effectiveness (ICE)**		
	ACXs	**ACIOP**	**MSPAC**
Coefficient	.231	.269	.258
t-Statistic	3.270	4.078	3.597
P. Value	.001	.000	.000
TV	.68	.77	.71
VIF	1.449	1.276	1.388
Model Summary: R^2 = .361, Adj. R^2 = .349, F = 34.001, P <.001, N =193			

P. Value = Probability, TV=Tolerance Value, VIF= Variance Inflation Factor

Discussion

The study aimed to test the general hypothesis that audit committee (AC) of the board enhances the effectiveness of internal control of a reporting entity using the Tanzania social security funds as units of analysis. Results show that AC, as represented by AC characteristics (ACXs), AC internal control specific oversight processes (ACIOP) and Management support to AC (MSPAC), has a significant positive influence on internal control effectiveness (ICE). More precisely, results indicate that a unit variation in AC efforts explains almost 35% in variations of internal control effectiveness in Tanzania's social security funds. Results also reveal that all the three explanatory variables, as subsumed in hypotheses number one through three have a significant positive impact on ICE with ACIOP (H2) accounting for the highest coefficient of explanatory power. MSPAC (H3) and ACXs(H1) follow suit, respectively. In other words, all the results statistically support all the three hypotheses (H1, H2 and H3) of this study.

The current study's results are generally consistent with the widely documented assertion that AC of the board is a critical tool in enhancing internal control effectiveness of a reporting entity (KPMG-ACI, 2016; COSO, 2004; DeZoort *et al.*, 2002). They are particularly in line with the results of several prior studies such as Berkman and Zuta (2017), Alzharani and Aljaaidi (2015), Khlif and Samaha (2016), Beasley *et al* (2009), and Cohen and Sayag (2010). Furthermore, the study results and those of these prior studies support the view that even though AC characteristics are important, they do not necessarily comprise the only critical variable for AC-driven internal control effectiveness of a particular entity. Other critical variables include internal control specific oversight processes and management support rendered to the AC as evidenced by H2 and H3 testing results, respectively. Generally, the study results and those of prior studies also suggest that assurance to AC's value addition to internal control effectiveness is dependent on the right mix of AC characteristics, substantive observation and execution of AC internal control specific oversight processes, and AC's receipt of substantive support from the entity management.

At the same time, however, the study results contradict those by Ogoro and Simiyu (2015) who found that the AC of the board did not significantly and positive contribute to financial management including internal control. Possible explanations for such conflicting results can be either predominant focus on the AC characteristics whilst neglecting oversight processes and management support or differences in the extent of possession of AC characteristics that illuminate on effective internal control oversight. Another possible explanation can be differences in the extent to which AC observes specific internal control oversight processes. With empirical evidence, Beasley et al. (2009) argue that unless the AC under consideration possesses the right characteristics in unison with substantive observation of processes relevant for effective oversight of internal controls, it can hardly contribute significantly and positively to internal control effectiveness. The conflicting results may also stem from differences in the extent to which ACs receive ready support from management teams of the entity under which they operate. According to Mihret and Yismaw (2007), any audit function (of the AC in this case), cannot be successful without full support from their top management of the organisation.

Subjecting the overall results of this study to theoretical lenses, they to substantial extent in concur with the Agency Theory that the AC of the board, independence and expertise characteristics play a critical role in enhancing internal control effectiveness. Results are also consistent with the Stewardship Theory on how the management, top management in particular, plays a crucial supportive that enabled the AC to contribute significantly and positively to internal control effectiveness. The application of the Stewardship Theory in this case, nevertheless, challenges the Agency theoretical perspective, which presumes that the managers' goals and/or interests always differ from those of ACs, as representatives of shareholders or principals. Moreover, the study results are congruent with the Institution Theory, which is largely reflected in how ACs in the entities studied contributed significantly and positively to the internal control's effectiveness by adhering substantively to the institutionalised laws, regulations and best practice guidelines essential in effectively overseeing internal controls.

Conclusion

The primary objective of this study was to examine the contribution of AC to internal control effectiveness. Using the OLS estimation technique, the study in its overall results reveal that the AC of the board—expressed by AC characteristics (ACXs), AC internal control specific oversight processes (ACIOP), and management support to AC (MSPAC)—has a significant positive influence on internal control effectiveness. The overall results also indicate that each of the three independent variables examined has significant positive influence on the AC-driven internal control effectiveness. Overall, the results further reveal that ACIOP exerts the highest influence than either MSPAC and ACXs whose bearing follow, respectively. Impliedly, even though all the three variables are critically important, more attentions should be paid to the variable with highest influence relative to other variables in efforts aimed to enhance AC-driven internal control effectiveness.

Overall, this study provides empirical evidence that AC as represented by AC characteristics, internal control specific oversight processes and management support to AC account for significant positive variations in internal control effectiveness in Tanzania's social security funds, so is to the rest of the public sector entities in Tanzania. While prior studies have largely contributed to literature on influence of individual or group of few selected AC characteristics on internal control effectiveness, this study contributes to literature on the critical role of combined influence of AC characteristics. Further, unlike prior studies which have mainly contributed to AC characteristics and internal control literature, the current study contributes to literature on the influences of AC internal control specific oversight processes and management support to AC on internal control effectiveness. Moreover, while prior studies have largely contributed to AC and internal control effectiveness literature in developed economies' private sector, this study contributes to AC and internal control effectiveness literature in developing economies' public sector.

The overall results and conclusion of this study lead to three vital implications. Firstly, for the AC to contribute significantly to internal control effectiveness, attention should not only be paid to AC characteristics—as is the case with the largest body of literature and practice thus far—but also to specific internal control oversight processes and management support to AC. Secondly, intervention aimed to improve internal control effectiveness via AC oversight

require directing most of efforts and/or limited resources to specific internal control specific oversight processes relative to management support and AC characteristics, respectively. Thirdly, the AC vis-à-vis internal control effectiveness phenomenon is a multifaceted issue that cannot only be viewed from the Agency theoretical perspective, which focuses on AC characteristics only, but also, the Institutional and Stewardship theoretical perspectives.

On the other hand, without undermining the usefulness of its results, conclusion and implications, the current study contended with two major limitations. To begin with, the study is based on cross-sectional data tied to state-owned social security funds operating in Tanzania, hence suggesting that general inference of its overall results across a range of times and contexts might me misleading. As such, it is imperative that future research be conducted on the same or similar subject over a range of times and in different contexts. Second, the study has employed the causality analysis technique, which wholly and exclusively relies on existing theoretical knowledge, implying that it cannot explore and discover contextual insights. Implicitly, future research works based on a blend of quantitative and qualitative research methods can be carried out both statistical results and context-specific insights about this subject matter to emerge.

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