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Are risk management disclosures relevant to firm's profitability? A Tanzanian case

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Abstract

This study investigates the relevance of risk management disclosures to firm profitability in Tanzania. Risk management disclosures (RMD) is measured using a disclosure index adopted from Tanzania's Capital Markets Act (CMSA) regulations. Profitability is represented by return on equity (ROE) and return on assets (ROA). A quantitative research approach was used, secondary data were collected from annual reports of companies listed on the Dar es Salaam Stock Exchange (DSE) for the period from 2010 to 2021. Panel regression modeling was used to estimate the parameters in this study. The results have shown that risk management disclosure (RMD) has a positive effect on ROA and ROE. Based on this, the study concludes that risk management disclosures are important as they assisted Tanzanian businesses to become more profitable. We recommend firms to include more information related to risk management in their annual reports for the benefit of financial statement users. This study contributes to existing knowledge by adding new variables to existing models.

Keywords; profitability, return on assets (ROA), return on equity (ROE), risk management disclosures, relevance.

INTRODUCTION

Profit generation is one of the primary motive behind the launch of majority of firms in the world (Ceylan *et al.*, 2020). In order to generate profit, the firm has to have the ability to efficiently and effectively utilize the available resources (Ormerod, 2021). For a firm to be profitable, several plans of action and choices have to be made which will ultimately contribute to the firm's level of profitability. Profitability, i.e. the ability to generate profit, becomes a matter of significant importance when one considers the effect that may arise when a firm is unable to generate the required amount of profit necessary to fund the ongoing daily operations (Nasution, 2020). From such perspective it is important for the firm's management to devise strategies that will always aim at enhancing firm's profitability.

Amongst the strategies that may have an impact on the firm's level of profitability are the risk management strategies (Ampofo *et al.*, 2019). Risk management entails all the processes required to detect, evaluate, and mitigate potential threats to firms' assets and profitability. Risks may arise from a myriad of sources such as unpredictability in the financial sector, legal responsibilities, and mistakes in strategic management, accidents, or natural catastrophes (Salamai, 2021). Dionne (2013) posit that risk management began to be extensively studied after the end of World War II. He further states that risk management has historically been associated with market insurance to safeguard people and corporations from accident-related losses. In the 1950s, market insurance was seen as expensive and inadequate for pure risk protection, thus other kinds of risk management emerged. In the 1970s, firms began using derivatives as risk management tools, and their usage grew dramatically in the 1980s. Financial companies created risk management models and capital calculation algorithms in the 1990s to hedge against unforeseen risks and minimize regulatory capital. Over this period of time various legislation, governance norms, and risk management techniques have been brought into being. Appiah-Kubi (2018) noted that risk management disclosure gained popularity after the 2007 – 2008 financial crisis. When we run businesses by ourselves the decisions to be made on risk management are in our hands (Janes, 2017) when other individuals are tasked to run the firms on behalf of other they have the responsibility to report on what they are doing. Stakeholders became concerned with the risk that the firm's management were taking on their behalf and requested for their disclosure to facilitate the analysis of the firm's future economic outlook.

Risk management disclosures can be seen as a potential solution to the problem of information obscurity since it gives an opportunity to stakeholders to recognize and assess the risks that the firm faces. Disclosure and management of risks by firms assist stakeholders in their process of making financial decisions. In addition, the preferences of investors can be heavily influenced by the quality of the risk information they obtain from the financial reports (Nasr *et al.*, 2022). However, the style and way risks can be disclosed among firms can vary significantly. Certain firms are more likely to be affected by foreign exchange risk than the other, banks are more likely to be exposed to credit risk as compared to cement manufacturers. Telecommunication firm like

Vodacom naturally face Information technology risks to great extent compared to beer manufacturers.

Various scholars across the globe have studied the effect of risk management disclosures on firms' profitability. Nahar & Jahan (2021) concluded that risk management disclosure positively and significantly affected ROA of banks registered across the globe for a time period ranging from 2006 to 2016. Kassamany *et al.* (2022) demonstrated that both mandatory and voluntary risk disclosure had significant adverse effect on ROA for insurance firms trading in the United Kingdom and Canada stock exchanges. Eugenia & Ifurueze (2021) concluded that financial risk management disclosure (FRMD) and operational risk management disclosure (ORMD) significantly and positively affected ROE of firms listed on the Nigeria and Ghana stock exchanges. Appiah-Kubi (2018) concluded that ROA of banks listed on Ghana Stock Exchange was significantly influenced by the extent of risk management disclosure. Chandren *et al.* (2017) did an empirical and theoretical review and came into a conclusion that risk management disclosure has a positive relationship with ROA and ROE. Kakanda & Salim (2018) concluded that risk management information disclosure had a significant and favorable effect on ROE of deposit money banks in Nigeria. Nwadialor & Nweze (2020) determined that risk management disclosure had a substantial effect on ROE of non-financial firms in Nigeria. Razek (2014) concluded that there was an insignificant association between risk information disclosure and profitability of firms listed in Egypt. Qadiri & Alsughayer (2021) found out that there was no association between credit risk disclosure and profitability of Saudi Arabia listed banks. Aryani & Hussainey (2017) found out that there was a negative association between firm's profitability and risk disclosure of non-listed banks in Indonesia.

Observation from previous studies indicate that there are mixed results, with some scholars concluding that risk disclosure having significant negative effect (Kassamany *et al.*, 2022; Aryani & Hussainey, 2017) while other scholars conclude that risk disclosure had a significant positive effect (Kakanda & Salim, 2018; Eugenia & Ifurueze, 2021). The mixture in the result might stem from firstly the way the risk information index is constructed for instance (Kassamany *et al.*, 2022) constructed a voluntary risk disclosure index using QSR NVIVO by manually coding and measuring the frequency of specified risk related phrases. Then they deducted mandatory risk disclosure phrases such as

derivatives, financial instruments, investments, segments and foreign currency from aggregated risk disclosure count to get voluntary risk disclosure data which was used for analysis. Eugenia & Ifurueze (2021) used a dichotomous scoring system basing on global reporting initiatives risk reporting guideline they awarded "1" for each item disclosed in the financial report and "0" otherwise. Then the sum of all the score was calculated. Secondly the confusion could stem from differences in markets and operating environment as risk prevalent in Europe might not be the same risk prevailing in the horn of Africa.

Apart from the mixed results, when we consider the signaling theory posit the idea that firms that are better at risk management are most likely to signal their superior risk management abilities to the market via disclosure in annual reports. When a firm chooses to disclose more risk information management not only does it display its risk management efficiency but also it display its higher level of transparency (Razek, 2014). In essence we can argue that there is no motive or incentive for a loss bearing firms to disclose risk management information that will jeopardize its image and stance in the market by exposing not only losses but also the vulnerabilities it is facing in in risk management. Referring to such narrative we can assume that there is a likelihood to find a firm with longer pages covering many risk disclosure and others with shorter reports covering only a few items of risk disclosures. The main question that remains is are the risk management disclosure being presented relevant to firm profitability? That is can we establish any significant relationship between risk management information disclosed and firm profitability? We delved forth to provide the answer to this research question by analyzing firms registered in the DSE.

LITERATURE REVIEW

The concept of profitability

Profitability can be looked into as an overall capacity of a firm to make profits from operations that are carried out within the time period covered by the firm financial year at a given level of assets or shares (Wati *et al.*, 2022). Profitability can be utilized as a yardstick for determining how efficiently a firm utilizes its equity and how efficiently its operations are handled. Profitability may be positive or negative. When evaluating the success of a business, one of the most important factors to consider is whether it is able

to create profit from its day-to-day operations. When there is a high potential for profit the interested of investors in a firm is raised (Wahyuni & Oktavia, 2020). Investors are interested in firms' profitability because the it has a tendency of significantly affecting firm value (Chen & Chen, 2011). When a firm has a stronger capacity to generate profits, investors have a bigger expectation of the returns they will get; as a result, the value of the company increases (Wahyuni & Oktavia, 2020). Due to the high importance of profitability, it becomes necessary to study any factors that may have an influence on its bearing. Risks usually poses a threat to pursuit of objectives (Cieśla *et al.*, 2017). Profitability is amongst one of the objectives of the firms and thus it is necessary to assess the relevance of RMD towards firm profitability.

Signaling theory

Signaling theory was put forth by Spence in (1973), the theory argues that one side might send a signal to the other so as to expose asymmetric information. The receiving party would then interpret the signal and react accordingly. We can forthrightly say that the management will disclose risk management information in the financial report to send a signal to the stakeholders that they have a precautionary approach in running the business and that the stakeholders can rest assured that the management is steering the firm in the right directions. However considering (Spence, 1973) perspectives as presented in his paper, investing in a firm run by others is like buying a lottery ticket, with returns to be obtained by the investor being termed as the prize winnings. The firm will send out signals that it is a good buy by showing off the risk management skills of its management by sharing risk information in the annual report (Qadiri & Alsughayer, 2021). As a result, it is within the firm's interests to manipulate the signals as it sees fit. However, the theory also argues that in so doing these parties would face significant issues such as how much time, energy, or resources should the signal sender spend to deliver the signal? In this case we ought to ponder if the firms have the necessary resources to disclose all the relevant risk information in the financial reports. The second problem is how can the recipient party trust the signal to be honest? We ought to consider if there is any other way the stakeholders can attest the risk management information disclosed by the management. The last problem is how long the equilibrium of honesty will last? We consider this as the scenario of viewing the management being truthful all

the time in disclosing the risk management information in the financial reports. After a careful consideration we can deduce that profitability is the link can be used to assess the relevance of the RMD. Inefficient deployment of resources to deliver the RMD signal to the stakeholders will hurt firm profitability and If the management is not honest in delivering the RMD over time, or if it disturbs the equilibrium of honesty in presenting RMD the results of such actions will eventually be reflected in the firms profitability. This will arise as the improperly managed undisclosed risks which the firm will be exposed to will eventually jeopardize firm profitability. Thus, in this study we thought it relevant to prove the assumption of signaling theory by determining the link between RMD disclosure and profitability of the firms.

Stakeholders' theory

Stakeholder theory was brought into widespread attention by Edward Freeman during the 1980s. The theory states that a firm does not exist for the sole purpose of advancing its own interests; rather, it is obligated also to advance the interests of its stakeholders (Rasmini *et al.*, 2022). For the sake of this research we like to view stakeholders people, groups, or organizations that can have an effect on or be affected by the firms (West *et al*., 2022). Once a firm is run on behalf of others, risk disclosures becomes an important information because at the end of the day the endeavors that a firm will undertake are likely to expose it into some risk and jeopardize investments and other interests of the stakeholders (Elamer *et al.*, 2022). Scholars have indicated that risks do have a significant effect on firms' profitability (Surayya & Kadang, 2022; Dogarawa, 2020). If risk affects profitability, then it is deemed fair to assume that stakeholders will be keenly waiting for any disclosure of the risk the firm is exposed to and how such risks are managed. In that regard we set forth to establish the relevance of risk management disclosure towards firm profitability. We argue from the stakeholder's theory perspective that the firm cares for its stakeholders interests thus it manages risks effectively and discloses its risk management practices.

Aim of the study

Considering all the literature and the discussion presented above. This study has only on objective, that is to establish the relevance of risk management disclosure towards firms profitability. Teistler (2021) quoted (Fitzpatrick, 1983; Haynes et al, 1995; Sireci & Faulkner-Bond, 2014) positing an idea that an item is relevant if its content is vital to the construct domain. From such view if we can establish that risk management disclosure has an association with and can significantly affect firm profitability then we can make a conclusion on its relevance towards the domain of profitability. In so doing we want to provide an answer to the following research question.
Is risk management disclosure relevant to firm profitability?

METHODOLOGY

This paper employed a mixed research design in which quantitative data is supported by sequential explanations of qualitative data obtained from interviews. An explanatory sequential study design was used due to its ability to enrich the quantitative data with individuals' perspectives and experiences which ultimately provides for a better comprehension of the subject being studied (Thompson, 2020). The population of firms in this study were all the firms registered in the DSE. Census sampling approach was used as every firm was included in the study. Secondary data was collected from the financial reports of each firm for a period ranging from 2011 to 2020. Ten years period was selected because a decade is a time frame long enough to bring together the key arguments and try create a vision basing on previous research accomplishments and failures (West, 2021). 11 interviewees provided the primary data these were two regulators from CMSA and DSE, two brokers, and seven senior officers from firms registered in DSE. they were purposively selected based on their experience, abilities, and competence in capital markets. Privacy, secrecy, informed consent, and respondent dignity prevailed during data collection. Thematic analysis was used to determine thematic issues posed by the respondents. Quantitative data analysis was carried out via STATA software version 14 and a regression model was used to examine whether there was a connection between RMD and the profitability of listed firms. Several researchers (Nahar & Jahan, 2021; Kassamany *et al.*, 2022) have found it useful to use similar model while studying RMD.

The model was appropriate due to the continuous nature of the dependent variable. The equation that represents the model is presented in equation (i)(ii)

$$ROA_{it} = \beta_o + \beta_1 RMI_{it} + \beta 2\ Geolocait + \beta_3 FS_{it} + \beta_4 FA_{it} + FD_i + TD_t + \varepsilon_{it} \ldots\ldots \text{(i)}$$
$$ROE_{it} = \beta_o + \beta_1 RMI_{it} + \beta 2\ Geolocait + \beta_3 FS_{it} + \beta_4 FA_{it} + FD_i + TD_t + \varepsilon_{it} \ldots\ldots \text{(ii)}$$

Where ROE is the independent variable representing firms' profitability, ROE was selected because it measures how successfully a firm creates earnings for its shareholders (Albuja *et al.*, 2011). β_1 to β_5 are the estimated coefficients of independent variable RMD which denotes risk management disclosures. RMD disclosure check index was created to quantify qualitative risk disclosure in financial reports by awarding 1 for disclosure and 0 for nondisclosure. The amount of disclosure was scored based on item scores against the checklist's total score, with a maximum of 33 and a minimum of 0. A score ratio was obtained and multiplied by 100 to get disclosure percentage. Scholars like Eugenia & Ifurueze (2021) utilized the same technique. Control variables FS representing firm size, FA representing firm age, Geo loca representing business diversification and. Whereas the vectors FD (firm dummy) and TD (time dummy) each represents firms time invariant specific effect and time related unique effects, respectively, Ɛ is the error term, and i and t are the firm and time elements. Table 1 presents operationalization of variables employed in this study.

Table 1: Variables Measurement

Variables	Measurement	Expected Sign
Dependent Variables		
Return on assets	Net profit after tax divided by Total assets	+ or-
Return on Equity	Net profit after tax divided by shareholders' equity	+ or-
Independent variable		
RMD	It is dichotomous i.e., 1 for disclosure and 0 if otherwise	+
Control variables		
Firm size	Natural logarithm of the total assets	+ or-
Geographical location	Dichotomous i.e., 1 for diversification and 0 for otherwise	+
Firm age	Number of years since incorporated till the period of study	+ or –

Note that: + = positive and – = negative

RESULTS AND DISCUSSION

Table 2 provides descriptive information regarding the mean, minimum, maximum, and standard deviations of ROA, ROE, risk management information (RMI), firm size, firm age and geographical diversification.

Table 2. Summary of descriptive

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	253	13.46	24.32	-156.77	74.47
ROE	253	14.23	27.55	-162.55	79.74
RMI	253	0.67	0.21	0.49	0.89
Geographical location	253	0.63	0.32	0.51	0.78
Firm size	253	7.87	1.10	4.67	10.13
Firm age	253	25.44	18.16	0	70

According to Table 2, the average ROA was 13.6%, with the worst ROA loss being a loss of 156.77% and the highest ROA profit being a profit of 74.47%. The variability of ROA was 24.32% standard deviations from average value, showing that returns were erratic. ROE had a standard deviation was 27.55%, with a mean of 14.2% which also indicate that ROE was erratic as well. The worst loss for roe was a loss of 162.55% and the highest profit for ROE was 79.74%. On average 67.81% of required RMI was disclosed to the public. The minimum disclosure was a disclosure of 49% of the required items and the maximum disclosure was a disclosure of 89% of the requirement as per CMSA these results imply that stakeholders did not get the full spectrum of required RMI as per CMSA (2002). Discrepancies in RMI disclosure may make it more difficult for stakeholders to form accurate opinions of the firm's risk management strategies and policies and cast doubt on its ability to enhance profitability, thereby throwing shades of doubt amongst its stakeholders as per stakeholder’s theory. The average firm size was 7.87 on a scale of 1 to 10, and the average age since establishment was 25 years. The results indicates that 63% of businesses had branches or parent companies beyond Tanzanian borders.

Regression analysis for RMI and firm profitability

A random effect model was used to determine the nature of the relationship between dependent and independent variables. Two distinct regression estimates were employed to solidify the robustness of the result whereby some independent variables

were dropped in the second estimates to see if there will any significant changes in the results. The findings of the regression analysis are presented in Tables 3 and 4

Table 3 Risk management information disclosure and ROA

Variables	(1) ROA	(2) ROA
Risk management disclosure	97.48***	121.81***
	(37.44)	(37.50)
Geographical location	103.84*	63.02***
	(64.72)	(13.54)
Firm size	3.39**	
	(1.31)	
Firm age	1.38***	1.72***
	(0.55)	(0.35)
Firm Dummy	Yes	Yes
Time Dummy	Yes	Yes
Constant	-75.59***	-68.38***
	(26.10)	(25.21)
Observations	253	253
Number of FIRMS	21	21

Standard errors in parentheses Key: * Significant at 10%, ** significant at 5%, *** significant at 1%

As can be observed in Table 3 RMI disclosure had a significant positive effect on ROA in both estimates. These results are consistent with those found by (Nahar & Jahan, 2021; Chandren *et al.* 2017). Both studies found that RMI disclosure had a positive effect on ROA of the firms they examined. This finding runs counter to findings of Kassamany *et al.* (2022) who determined that disclosing RMI negatively impacted firm's ROA. Results are robust, as the positive effect of RMI disclosure on ROA persisted even after removing specific control variables from base model. Since stakeholders are primarily concerned with a firm's profitability, these findings provide credence to the stakeholders theory which argues that stakeholders have an interest in seeing corporations release as much information as it possibly can (Hussainey *et al.*, 2019). The result also signifies the notion that once a firm is run on behalf of others risk disclosures becomes an important information. Endeavors that a firm will undertake are likely to expose it into some risk and jeopardize investments and other interests of the stakeholders (Elamer *et al.*, 2022). The results ads support to signaling theory which ponders that firms discloses risk information to signal their superior company performance and differentiate

themselves from rival organizations thus lend it more likely for profitable firms to disclose risk management information (Wahh *et al.*, 2021).

To get a clearer picture of how RMI disclosure affects ROA, interviews with key informants (KIs) were undertaken. Based on their responses, it seems that RMI disclosure expound the idea that there is value added from having an effective risk management program as it reduces costs associated with those firms and improve productivity (Rahman *et al.*, 2019). By disclosing RMI, decision-makers give the impression that they are performing their duties diligently and that they are making efficient use of resources, which, in turn, helps to increase ROA. One of the company's managers remarked this throughout the course of the interviews.

Any firm's success is directly tied to the quality of its risk management, thus for a firm to be profitable risk management must be naturally ranked higher on the list of its objectives. When approaching risk from such angle firms normally shifts the burden of hard to manage risk from itself to an outside entity (insurance companies). It is a common norm prior to making any financial commitment for investors to evaluate the firm's risk management practices. When appropriate risk-management measures are made public they signal the firm intent towards minimizing adverse outcome and enhancing its overall profitability (Firm manager, December, 2021).

Table 4 results for ROE

Variables	(1) ROE	(2) ROE
Risk management disclosure	99.37***	111.80***
	(37.54)	(37.60)
Geographical location	112.92*	54.01***
	(65.83)	(14.65)
Firm size	3.29**	
	(1.40)	
Firm age	1.47***	1.61***
	(0.46)	(0.46)
Firm Dummy	Yes	Yes
Time Dummy	Yes	Yes
Constant	-86.68***	-69.49***
	(27.01)	(26.30)
Observations	253	253
Number of FIRMS	21	21

In terms of ROE, Table 4 illustrates in both estimations that firm profitability is positively and significantly affected by RMI disclosure. Findings are consistent with those of (Kakanda & Salim, 2018) who determined that the disclosure of RMI enhanced the ROE of the firms they studied. This result contradicts the conclusions reached by Qadiri & Alsughayer (2021) which determined that disclosure of RMI did not have any effect on ROE of firms they studied. The robustness of the results was demonstrated by the fact that the positive effect of RMI disclosure on ROE persisted after removing some of the control variables from the model. These findings concur with stakeholders' theory as they have established that RMI disclosure positively affect ROE. Such results put forth an idea that RMI disclosures are likely to bring to light the efficiency of the firm's management towards enhancing shareholders' return by reducing and managing risk (Haddad & Alali, 2021). In terms of the signaling theory the results also concur with the theory as the firm management keeps interested parties informed of the extent to which it is curtailing the risk facing the firm and hence displaying its superior performance by enhancing ROE (Wahh *et al.*, 2021). To further substantiate the quantitative results interviews were carried out by the key informants. Informant from the DSE had this to say when it comes to establishing the relevance of RMI disclosure towards ROE.

> *"Risk management disclosure is a sign that the company's management is using effective risk management processes. Such effective practices could lead to a better use of capital and a higher return on shareholders' investments. This is because there is a chance that risk management could make investments that are good for business less risky. When risks are found early, they can be managed and the outcomes will be less bad when they do occur. If something bad happens, there will be a plan for how to handle it. When all these things are taken into account, it is easy to see why risk disclosure will be good for ROE" (DSE officer, 2021).*

CONCLUSION

This study assessed the relevancy of risk management disclosures on profitability of publicly traded firms. The study stemmed from challenge of having inconclusive results from past studies. From data analysis we conclude that RMI disclosure is of great relevance to firm profitability as it had a significant positive effect on the profitability

measures employed in this study that is ROA and ROE. This research will aid investors in the selection of investment opportunities in the firms registered in the DSE to select the most suitable firms in terms of risk management as it is quite clear that such firms are more likely to be profitable than their counterparts who didn't disclose risk management information

RECOMMENDATION

We are of the view that This topic may prove to be a productive avenue for future research and we recommend additional studies to analyze the nexus between RMI disclosure and the profitability of firms sector wise e.g. in banking, manufacturing or telecommunications in Tanzania . Secondly as the research has demonstrated that RMI disclosure is relevant when it comes to firm profitability, we recommend for the regulatory bodied overseeing publicly traded firms in Tanzania to exercise vigilant and tight control on RMI disclosure practices and make sure they are both sufficient and at par with the current existing global standards on risk management reporting.

IMPLICATION

The findings of this study have significant implications for practice and policy, since we have demonstrated RMI disclosure is relevant towards firm profitability. Policy makers should pay close attention to firm's profitability since at its core profit is a public good which encourages efficient economic management that benefits the needs of the society at large (Smolianskii, 1965). Policy makers may use the result of this study to request firms to implement initiatives, as well as measures to educate personnel on the proper and current risk management and reporting practices. Practically, findings suggest that firms wishing to stay profitable must effectively develop RMI disclosure practices beyond what is commonly offered as an in-depth reporting will force the firm to really consider its initiative towards risk management practices.

LIMITATIONS / CONTRIBUTION OF THE STUDY

The study contributes to the existing literature by adding new variables to the models that were used in previous existing studies. The study is limited only to public

traded firms registered in the DSE, such limitation makes it impossible to carry over the outcomes to private firms and firms that are operating beyond the Tanzanian borders.

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