Firm-Specific Determinants of Profitability of Listed Commercial Services Companies in Kenya and Tanzania

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ABSTRACT

The issue on whether firm-specific determinants such as capital adequacy, financial leverage, company liquidity and firm size influence the profitability of listed commercial services companies is still debatable to date. Therefore, this study examines the firm-specific determinants of profitability of listed commercial services companies at Dar es Salaam Stock Exchange (DSE) and Nairobi Stock Exchange (NSE) in Tanzania and Kenya respectively. The study used data extracted from annual reports of eleven commercial services companies from 2015 to 2020 yielding 66 firm-year observations. Moreover, panel data regression analysis specifically a random effect estimator was employed to estimate firm-specific determinants of profitability of commercial services companies listed in Tanzania and Kenya. The study found out that capital adequacy was significantly positively linked to the profitability of listed commercial services companies at DSE and NSE. Likewise, the study revealed that firm size was significantly positively associated with the profitability of commercial services listed at DSE and NSE. Moreover, the study uncovered an insignificant positive association between profitability and both financial leverage and liquidity of commercial services companies listed at DSE and NSE. The results suggested that corporate managers are advised to increase investment in equity through selling equities to the general public and private shareholders so as to increase profitability. Furthermore, corporate managers are advised to increase firm size to enhance profitability.

Keywords: Firm-specific determinants, listed commercial services Companies, profitability, liquidity, leverage, firm size, capital adequacy

INTRODUCTION

The commercial services sector worldwide is an integral part of production networks and global value chains; as such it is an important driver of efficiency, competitiveness and economic performance for countries. The sector has played the uttermost role in providing support services to businesses and organizations worldwide. The commercial services sector globally grew from USD 5,152 billion in January 2022 to USD 5,696 in 2023 January (The Business Research Company, 2023). Moreover, the compound annual growth for the commercial services sector for the past year stood at 10.6% slightly lower than the annual compound growth rate of 12.7% for the previous year 2021 (The Business Research Company, 2023). The growth of commercial services globally implies that commercial services companies are economic enablers, as such it is imperative to ensure that a conducive environment is built for making sure commercial services companies flourish and grow. Commercial services companies are paramount as they provide support services that stimulate trade and production of a country. In Africa, particularly Egypt, South Africa and Morocco, over the past eleven years (2008 -2018),the commercial services sector contributed approximately 55.5% of the Gross Domestic Product (GDP)(Milton, 2018, USITC 2018).

Despite, the significant role the commercial services companies performance, the contribution of services companies in East Africa specifically in Kenya and Tanzania over the past ten years (2010-2020) was relatively low approximately 43.4% and 39.36% of the GDP respectively (O'Neill, 2022). This suggests that commercial services companies in East Africa, specifically Kenya and Tanzania, contribute less to economic growth compared to countries like Egypt, South Africa, and Morocco. Despite various efforts to increase the number of listed companies to enhance more contribution of commercial services companies to the economy in East Africa, still, the number of commercial services companies in Kenya and Tanzania is low (Ndiritu & Mugivane, 2015).The number of commercial services companies listed in the Nairobi stock exchange (NSE) is eleven (11) out of all sixty-eight (68) as of December 2022. Likewise, the number of commercial services companies listed in the Dar es Salaam Stock Exchange (DSE) is five (5) out of twenty- eight 28 listed companies as of December 2022.This implies that unlisted commercial services companies will not be able to access finance through the capital market, thus, hindering their growth and contribution to the

economy. There is no yet consensus on the key firm-specific determinants of the profitability of commercial services companies globally. Prior studies have documented that there are various determinants of a company's profitability, which may be classified as macro-economic determinants and firm-specific determinants (Connell, 2023; Kengatharan, 2020; Mansikkamäki, 2023; Matar & Eneizan, 2018). Several studies have documented several macro-economic determinants that influence profitability of commercial services companies which are GDP, consumer price index (CPI), interest rates, inflation rates, stock market index and unemployment (Al-Homaidi et al., 2018; Camino-Mogro & Bermúdez-Barrezueta, 2019; Linawati & Halim, 2017). However, it is important to note that countries differ in terms of the macro-economic conditions, the operating environment as well as financial systems, thus the macro-economic determinants that trigger profitability in one country may not have the same influence in another country.

Several studies that examined the determinants of the profitability of commercial services companies have focused on firm-specific factors relative to macro-economic factors due to the fact that they are unique and different for each company unlike macro-economic factors that are general and affect companies pervasively (Adelopo et al., 2022; Nguyen & Nguyen, 2020). Specifically, prior studies done by Nguyen and Nguyen(2020) and Zainudin et al.(2018) revealed the influence of company size as proxied by the level of assets on the profitability of listed companies. This implies that asset increases give a company a competitive advantage and economies of scale thus leading to higher level of profitability. Moreover, Taha, (2015) documented the influence of liquidity and leverage on the profitability of listed Malaysian companies. Furthermore, studies by Al-Homaidi et al.(2018), Jreisat & Bawazir(2021) and Lim and Rokhim(2020) affirmed the link between capital adequacy, liquidity and profitability. Similarly, Taqi et al.(2020),Le Thi Kim et al.(2021) Nguyen et al.(2019) and Morara and Sibindi(2021) revealed that the asset quality and financial leverage influence the profitability of listed firms. Despite the substantial role of commercial service companies in the economy, their contribution to the GDP in Tanzania and Kenya remains low. Additionally, the specific factors that influence the profitability of these companies, and thus their potential to enhance GDP, have not been well-explored. Moreover, there is a significant scarcity of studies examining the firm-specific determinants of profitability in commercial service companies,

particularly in East African countries such as Kenya and Tanzania, when compared to studies conducted in developed economies(Camino-Mogro & Bermúdez-Barrezueta, 2019; Mansikkamäki, 2023). Therefore, this study is unique one as it attempts to examine the firm-specific factors that influence the profitability of commercial services companies listed in Kenya and Tanzania so as to enhance growth and increase the sector's contribution to the GDP. The findings can provide useful information to corporate managers with regards to firm-specific determinants that enhance profitability of firms in Tanzania and Kenya. This paper is organized as follows: section two provides a review of the literature, while section three outlines the methodology used in this study. Subsequently, Section four presents a comprehensive discussion of the findings obtained from the research. Finally, section five concludes the paper by summarizing the key insights and implications drawn from the study's results.

Review of Related Literature and Hypotheses Development

Firm Size and Profitability

Firm size is the internal strength of the company that gives the company economies of scale thus enhancing profitability. Large firm size tends to have large profit than smaller firms due to large resources that enhance higher production scale (Mansikkamäki, 2023). Yet, the question of whether an increase in a firm’s size leads to profit increase is still not well established among studies that examine firm-specific determinants of profitability. Several prior studies have documented evidence that links firm size and profitability. For instance, Nugraha et al., (2021) revealed size gives companies competitive advantages thus enhancing profitability. However, Matar and Eneizan(2018)found out that for the companies listed in Jordan that their size was inversely related to profitability. This implies that not all the time firm may benefit from economies if operating costs are not well managed. Moreover, Abdulrahman and Musa(2019)conducted a study in Nigeria focusing on listed consumer goods companies and found out that firm size is positively linked with profitability. Likewise, Nguyen and Nguyen(2020) documented a significant positive influence of firm size on the profitability of Vietnamese listed companies. Moreover, Zainudin et al.(2018) conducted cross country study involving eight Asian countries and found a significant positive association between firm size and profitability. Morara and Sibindi(2021) uncovered that firm size is positively linked with the

profitability of insurance companies in Kenya. Moreover, Al-Homaidi et al.(2018) revealed that firm size influence positively financial performance of banks in Tanzania. Likewise, Alarussi and Alhaderi(2018) examined the firm specific determinants of Malaysian listed companies and found out that firm size is positively linked to profitability. Therefore, this paper hypothesized that;

H1: *There is a positive association between firm size and profitability of commercial services companies listed in Kenya and Tanzania.*

Capital Adequacy and Profitability

Capital adequacy enables the company to improve its creditworthiness thus enhancing profitability. Adequate capital improves companies' bargaining power with suppliers and creditors minimize cost and increase profitability. Several prior studies have documented the influence of capital adequacy on profitability. Camino-Mogro and Bermúdez-Barrezueta, (2019) studied the determinants of profitability of Ecuadorian listed insurance companies and found out that capital adequacy is positively linked with the profitability of listed Ecuadorian companies. Likewise, Irawati et al.(2019) examined the firm specifc determinants of profitability of Indonesian's banking industries. They found out that both capital adequacy ratio (CAR) and non-performing loan (NPL) are significantly and positively associated with the profitability of the Indonesian banking industry.

Moreover, Suganya and Kengatharan(2018) uncover superior capital ratio in influencing the profitability of Sri Lanka commercial banks. Amararathne and Wanigasuriya(2022) revealed that there is a positive significant association between capital adequacy and profitability of Sri Lanka commercial banks. Barus et al.(2017) examined the firm specific determinants of profitability for the Kenyan insurance sector and found out that capital adequacy is significantly positively associated with the profitability of insurance companies. Moreover, Malimi (2017) conducted a study in Tanzania and found out that capital adequacy is not linked to non-performing loans. Also, Hossain and Ahamed (2021) examined the effect of capital adequacy on profitability of Bangladesh banks and found a significant positive relationship between capital adequacy and profitability. Similarly, Nguyen (2020) uncover that capital adequacy is positively linked to the profitability of Vietnameselisted companies. Likewise, Lingerih Zerihun(2021) revealed that

the capital ratio is significantly related to the profitability of Ethiopian commercial banks. This implies that as the level of equity increases the cost associated with borrowing declines hence increase in profitability. However, Hakuduwal(2021) affirmed that the capital ratio of Nepalese commercial banks is not linked with profitability. Additionally, Djaya(2019) examine the influence of capital ratio on profitability of Indian banks. The study found an insignificant positive association between capital adequacy and the profitability of Indian banks. Moreover, Hakuduwal(2021) documented an insignificant positive influence of capital adequacy on the profitability of Vietnamese listed companies. In general, aforementioned studies have uncovered the superiority of capital adequacy in influencing the profitability of companies; thus this paper hypothesized that;

H2: *There is a positive association between capital adequacy and profitability of commercial services companies listed in Kenya and Tanzania.*

Financial Leverage and Profitability

Financial leverage is linked with the cost of capital of a company. Companies with higher growth opportunities will rely less on long debt financing than those with fewer growth opportunities (Nguyen et al., 2019). The work of Modigliani and Miller (1958) opened discussion on the ideal optimal level of financial leverage for companies. However, many studies have been done, yet there is no consensus on the optimal level of financial leverage for companies(Rahman et al., 2020; Zaitoun & Alqudah, 2020). Several studies that examined the firm-specific determinants of profitability have reported mixed findings over time with regard to the influence of financial leverage on profitability. For instance,Taqi et al.(2020) studied the impact of financial leverage on the profitability of the oil and gas sector in India. They uncover that financial leverage is positively linked to the profitability of the sector. The evidence from prior studies implies that companies with promising investments benefit from leverage financing thus enhancing profitability. However, Dalci(2018) investigated the impact of financial leverage on the profitability of manufacturing firms in China. The study uncovers a non-linear association between financial leverage and the profitability of manufacturing companies listed in China. Moreover, Ahmad et al.(2015) documented a significant negative association between financial leverage and profitability of

companies listed in Pakistan. Moreover, Zaitoun and Alqudah(2020) investigate the effect of financial leverage on the profitability of the industrial sector for listed Jordanian companies. Their findings revealed that financial leverage had a negative effect on the profitability of the sector. Moreover, Rahman et al.(2020) examined the effect of financial leverage on the profitability of Bangladesh textile companies. Their result uncovers a significant negative association between financial leverage and the profitability of textile companies. Nguyen et al.(2019) uncover no relationship between the leverage and profitability of listed companies in Vietnam. Moreover, Le Thi Kim et al.(2021) documented an insignificant association between leverage and financial performance. This evidence suggests that sometimes companies may not benefit from leverage if the funds are not directed to better investments, thus increase in leverage increases operating costs that decline profitability. The evidence provided by prior studies is mixed; therefore this study hypothesized that;

H3: *There is a positive association between financial leverage and profitability of commercial services listed in Kenya and Tanzania.*

Liquidity and Profitability

Liquidity reflects the level of protection for lenders and suppliers. It simply indicates the ability to meet short-term maturing obligations. Higher levels of liquid signal more protection relative to low levels. Studies have linked liquidity with profitability over time. Mbekomize and Mapharing, (2017) investigated the effect of liquidity on the profitability of Botswana banks and reported a significant positive link between liquidity and profitability. Likewise, Madushanka and Jathurika, (2018) studied the influence of liquidity on the profitability of listed manufacturing companies in Sri Lanka. The study revealed that profitability and liquidity are significantly linked. Moreover, Mohanty and Mehrotra, (2018) examined the association between profitability and liquidity for Indian SMEs. The study found that liquidity and profitability are significantly positively related. Moreover, Ibrahim, (2017) investigated the link between liquidity and profitability of Iranian companies. The study uncover increase in liquidity is related to an increase in profitability. Likewise, Kajola et al., (2019) assessed the link between Nigerian bank liquidity and profitability. The study found out that liquidity and profitability are positively linked. Adelopo et al., (2022) documented a significant positive association

between the profitability of European banks and liquidity. Moreover, Paul et al., 2021) assessed the association between profitability and liquidity in commercial banks in Bangladesh. They uncover a significant positive association between profitability and liquidity. Likewise, Akhter, (2019) documented a significant positive association between liquidity and profitability of Indian banks. The results documented from prior studies suggest that liquidity give a company edge to negotiable with suppliers and lenders thus reducing operating cost hence increase profitability. However, Vintilă and Alexandra (2016) documented an insignificant positive association between liquidity and profitability of Romanian listed companies. Moreover, Alarussi and Alhaderi, (2018) reported an insignificant positive association between liquidity and profitability for Malaysian listed companies. Bintara, (2020) revealed a significant negative association between liquidity and profitability of companies listed in Indonesia. The results of prior studies imply that benefits of negotiating with suppliers and lenders sometimes may not be realized thus not enhancing profitability. Generally, their association between liquidity and profitability is mixed; therefore this study hypothesized;

H4: *There is a positive relationship between liquidity and profitability of commercial services listed in Kenya and Tanzania.*

Conceptual Framework

In line with prior studies, figure 1 below depicts the independent variables which are firm size, capital adequacy, liquidity, and financial leverage (Alarussi& Alhaderi, 2018; Abdulrahman & Musa, 2019; Mansikkamäki, 2023; Morara & Sibindi, 2021). Moreover, it presents a dependent variable which is profitability.

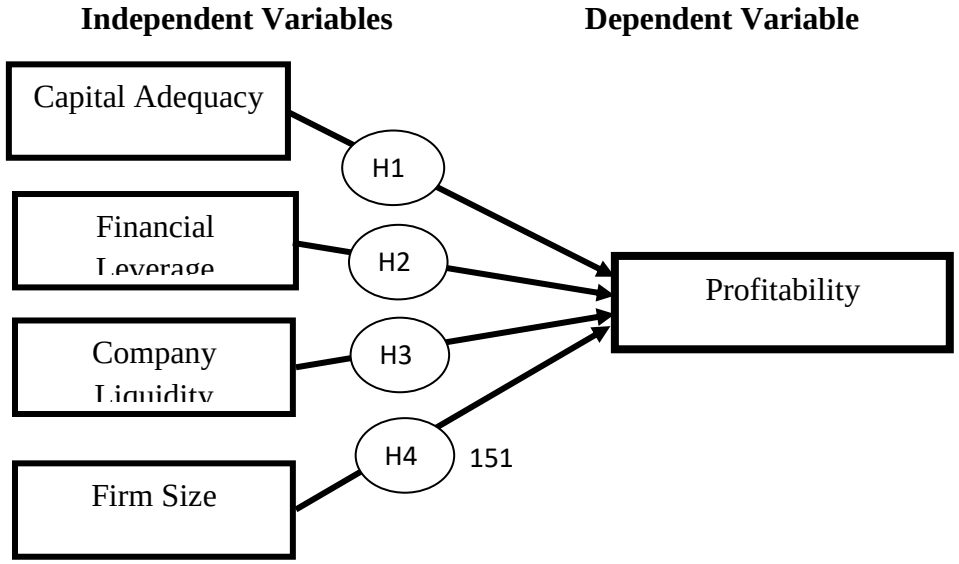

Figure 2: Conceptual Framework

Methodology

Data and Sampling

The study was conducted in Kenya and Tanzania focusing on listed commercial services companies in NSE and DSE. There were 63 companies listed in NSE that consist of thirteen sectors and a total of 28 companies listed in DSE with five different sectors. Moreover, in NSE out of 63 listed companies only eleven (11) companies belonged to the Commercial services sector. NSE listed commercial services companies include; Express Ltd, Sameer Africa plc, National Media Group, Standard Group Ltd, TPS East Africa Ltd, Scangroup Ltd, Uchumi Supermarket, Loghorn Publisher, Deacons and Nairobi Business Venture. Furthermore, in DSE out of 28 Companies, only five (5) companies belong to the commercial services sector and these commercial services companies include; Uchumi Supermarket, Swiss port Tanzania, National Media, Precision Air Services and Kenya Airways.

Thus, yielding a total of sixteen (16) commercial services companies listed in DSE and NSE. However, Uchumi Supermarket, National Media Group and Kenya Airways are listed in both stock markets (NSE & DSE), thus reducingthe number of commercial services companies to thirteen (13) companies. Moreover, the number of commercial services companies was reduced to eleven (11) commercial services companies after focusing on commercial services companies that had available data for at least six years from 2015 to 2020. The selected eleven (11) commercial services companies were Precision Air Plc and Swissport Tanzania Plc listed in DSE, and the others were National Media Ltd and Kenya Airways Plc found in both NSE and DSE. Also,Express Kenya, Longhorn Publishers, Nairobi Business Ventures, Standard Group, TPS Eastern Africa, WPP Scangroup and Sameer Africa Plcare listed at NSE. Furthermore, two companies were excluded for not having financial information over six years (2015-2020), these companies areDeacons (East Africa) and Uchumi Supermarket. Moreover, secondary data were extracted from annual reports of the aforementioned eleven (11) commercial services companies listed at NSE and DSE from 2015 to 2020.

Tests Employed

The study employed key tests in line with the requirements for panel data regression analysis (Wooldridge, 2015). Specifically, this study employed statitonary test (Levin-Lin-Chu unit-root test), serial autocorrelation test (Breusch-Godfrey LM test), descriptive statistics, multicollinearity test (VIF) and heteroske dasticity test (Breusch-Pagan and Cook-Weisberg test).

Measurement of Variables

Table 1 reports the measurement basis for the dependent and independent variables used in this study.

Table 1: Measurements of Variables

Variable	Measurement	Source
Return on Assets (ROA)	$ROA = \frac{Net\ Profit\ before\ Tax}{Total\ Assets}$	(Abdulrahman & Musa, 2019; Nguyen & Nguyen, 2020)
Capital Adequacy (CA)	$CA = \frac{Total\ Equity}{Total\ Assets}$	(Amararathne & Wanigasuriya, 2022; Camino-Mogro & Bermúdez-Barrezueta, 2019)
Financial Leverage (FL)	$FL = \frac{Debt}{Equity}$	(Nguyen et al., 2019; Taqi et al., 2020)
Company Liquidity (CL)	$CL = \frac{Current\ Assets}{Liabilities}$	(Adelopo et al., 2022; Paul et al., 2021)
Firm size (FS)	$Size = Log\ (Total\ Assets)$	(Linawati & Halim, 2017; Mansikkamäki, 2023)

Model Specification

In estimating the firm specific determinants of profitability of commercial services companies listed in Kenya and Tanzania, the model detailed below is used in line with prior studies that examined the same in other countries (Abdulrahman & Musa, 2019; Al-Homaidi et al., 2018; Zaitoun and Alqudah, 2020).

$ROA_{i,t} = \varphi_0 + \sum_{i=1}^{n} \varphi_{i,t} X_{i,t} + \sigma_{i,t}$eq (1)

Equation one above is decomposed into,

$ROA_{i,t} = \varphi_0 + \varphi_1 CA_{i,t} + \varphi_2 FL_{i,t} + \varphi_3 CL_{i,t} + \varphi_4 FS_{i,t} + \sigma_{i,t}$eq (2)

Where;
Dependent variable is Return on Asset (ROA) that proxy profitability. Independent variables (Capital adequacy (CA), Company liquidity (CL), Financial leverage (FL) and Firm size (FS)), $\sigma_{i,t}$ = Error term for the company i, at time t,

The process of selecting the estimators for panel data regression follows rules that may lead to the use of either pooled Ordinary Least Square (OLS), fixed effects estimator or random effect estimator (Wooldridge, 2015). Wooldridge, (2015) documented that when basic tests are satisfied like multi-collinerity, stationary test, heteroskedasticity, and serial correration pooled OLS is efficient estimator. Moreover, Gujarati and Porter (2010) revealed that pooled OLS is ineffcicient in the presencse of serial correlation problem, heteroskedasticity problem and when variables contain unit root, thus random effect and fixed effects estimators furnish best estimation. In deciding between random and fixed effects estimators post estimation test known as Hausman test was performed (Wooldridge, 2015). The results that are discussed in subsequent sections favour the random effects estimator.

Discussion of Findings
This section presents results of tests employed and the regression results. Moreover, it covers discussion relating to the results of tests and regression results.

Descriptive Statistics
Table 2 below provides a summary of descriptive statistics of both predictor and outcome variables. The summary shows that listed commercial services companies in NSE and DSE on average generated minus ROA of 0.041. Moreover, the maximum value for ROA is 0.484 and the minimum value reported is -1.35 with a standard deviation of 0.289. This implies that averagely listed commercial services companies were generating unsatisfactory profits based on the level of assets invested. Capital adequacy among the listed companies was averaged at 0.164. The minimum amount of financial capacity was recorded at -2.666 and the maximum amount of 0.721. This implies on average that commercial services companies finance its operation extensively using debt rather than equity. This is demonstrated by a low average capital adequacy ratio of 0.164 far away from recommended cut off 0.5. Moreover, financial leverage has a mean of -0.783 with maximum and

minimum values of -55.895 and 23.916 respectively. This justifies that most of the listed commercial services companies reported abnormal losses and borrowing that resulted into negative total equity over the period of the study. Moreover, the average liquidity position was 1.229 and with both maximum and minimum values of 2.99 and 0.045 respectively. This implies that the average liquidity position of commercial services companies was within the recommended cut-off of the industry which ranges from 1.2 to 2 as propounded by Johri and Maheshwari (2015). Moreover, the reported average liquidity ratio indicates that commercial companies were able to meet their current obligations. Finally, the average value of the firm size for the listed commercial services companies is 9.623 and with the lowest value of 6.942 and the highest value of 11.292.

Table 2: Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
ROA	66	-0.041	0.289	-1.35	0.484
CA	66	0.164	0.697	-2.666	0.721
FL	66	-0.783	8.992	-55.895	23.916
CL	66	1.229	0.758	0.045	2.99
FS	66	9.623	1.269	6.942	11.292

Multi-Collinearity Test

The study employed a Variance Inflation Factor (VIF) to address the problem of multi-collinearity. Table 3 reports the result of VIF. The result indicates that the highest VFI was 1.71 for company liquidity and the lowest VFI was 1.09 for financial leverage. Therefore, the reported VIF values were far below the cut-off of 10 that was postulated by Field (2005), thus indicating that the variables were free from the problem of multi-collinearity that induce higher variance in estimating the coefficient of independent variables.

Table 3: Variance Inflation Factor

Variable	VIF	1/VIF
CL	1.71	0.586
FS	1.43	0.699
CA	1.33	0.752
FL	1.09	0.913
Mean VIF	1.39	

Heteroskedasticity Test

The study used Breusch-Pagan and Cook-Weisberg test to examine the potential problem of heteroskedasticity of independent variables. Table 4 below reports the result of the heteroskedasticity test whereby the null hypothesis of the test was constant variance (Ho: Constant variance).The reported p-value of 0.06 was greater than 5%;thus, the study failed to reject the null hypothesis of constant variance thus indicating that there was no problem of heteroskedasticity.

Table 4: Heteroskedasticity test

Details	**Coef.**
Chi-square test value	32.1
P-value	0.06

Stationarity Test

Panel data contains both cross-sectional and time series data, therefore conducting stationarity test help to select estimators that furnish efficient estimation(Im et al., 2003). Table 5 below reports the results of stationarity using Levin-Lin-Chu unit-root test. The results uncover that CA (p-value =0.0.003), FL (p-value =0), and FS (p-value =0) were stationary at level. However, the results revealed that ROA (p-value =0.999) and CL (p-value=1) were not stationary at level. Since the results indicated that all variables were not stationary at level, OLS does not furnish best estimation, thus favours random and fixed effects estimators.

Table 5: Levin-Lin-Chu Unit-Root Test Results

Ho:Panels contains unit roots				**Number of panels**	**11**
Ha:Panels are stationary				**Number of periods**	**6**
	ROA	**CA**	**FL**	**CL**	**FS**
p-value	0.999	0.003	0	1	0
Unadjusted t	2.989	-2.995	-13.768	8.709	-10.551
Adjusted t*	3.775	-2.779	-14.268	9.597	-9.685

Serial Correlation Test

Theproblem of serial correlation induced bias when estimating variances of the coeffient thus furnish inefficient estimation when simple OLS is used. This study employed both Breusch-Godfrey LM test and Durbin-Watson d-statistic

test for serial correlation. To conduct the Breusch-Godfrey LM test and Durbin-Watson d-statistic test requires re-setting data as time series using stata command. Tables 6 and 7 below depicts the results of serial correlation tests. The results of Breusch-Godfrey LM test reported in table 6 revealed that the p-value was 0.013 which was less that 0.05 thus we reject the null hypothesis and favour the alternative hypothesis that there was a problem of serial correlation. The results of additional test, Durbin-Watson d-statistic test depicted in table 7 below reported the value 1.364 indicating positive autocorrelation problem. The results of both Breusch-Godfrey LM test and Durbin-Watson d-statistic test reported positive autocorrelation problem that makes simple OLS inefficient estimator thus favouring random and fixed effects estimators.

Table 6: Breusch-Godfrey LM test Results

lags(p)		chi2 df	Prob > chi2
1		6.113 1	0.013
H0: no serial correlation			

Table 7: Durbin-Watson d-statistic Test Results

Durbin-Watson d-statistic(5,66)	=	1.364

Regression Results and Discussion

Both fixed and random effects estimators were used to estimate the firm specific determinants of profitability of commercial services companies listed at DSE and NSE. Table 9 reports the estimates of the regression coefficient using both fixed and random effects estimators. In order to select the efficient estimators between random and fixed effect, a post estimation test known as Hausman test was performed. Table 8 below reports the results of the Hausman test. The results of Hausman test (p-value= 0.3565) favour the random effects estimator.

Table 8: Hausman Test

Test: Ho: difference in coefficients not systematic
chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 4.38
Prob>chi2 = 0.3565

Results of Fixed Effects Estimator

Table 9 portrays the results of fixed effects estimator in estimating the association between profitability and firm-specific factors that influence the profitability of commercial services companies. The results of the fixed effect estimator describe approximately 11.88% of changes in profitability of commercial services companies. Furthermore, the results revealed that only firm size (ϕ_4=0.1754, p-value =0.03) significantly positively influenced the profitability of commercial services companies. However, the results indicated that capital adequacy, financial leverage, and company liquidity did not influence the profitability of commercial services companies listed at DSE and NSE.

Results of Random Effects Estimator

Table 9 depicts the results of random effects estimator used in estimating the association between profitability and firm-specific factors that influence the profitability of commercial services companies. The results of the random effects estimator explain roughly 24.17% of changes in profitability of commercial services companies. Moreover, the results depicted below indicated that capital adequacy (ϕ_1=0.178, p-value =0.015) was significantly positively linked with profitability at a 5% level of significance. The result signified the relevance of having enough capital to stimulate the profitability of commercial services companies listed in NSE and DSE. Prior studies have supported the role of capital adequacy in enhancing growth and profitability. For instance, using listed insurance companies in Ecuado, Camino-Mogro and Bermúdez-Barrezueta (2019) documented significative positive association between profitability and capital adequacy. Likewise, Irawati et al.(2019)using pooled OLS, revealed a significant positive link between capital adequacy and profitability of Indonesia-listed banks.

Moreover, focusing on panel data of listed enterprise in Vietnam from 2014 to 2017;Nguyen and Nguyen(2020) uncover a positive association between profitability and capital adequacy. In addition, the result revealed an insignificant positive association between profitability and financial leverage (ϕ_2=0.0011, p-value =0.771). The result implies that there is no significant link between financial leverage and the profitability of companies. In this

regard, the finding adds to the debate about the optimal level of debt that enhances growth and profitability which is yet to be resolved. Prior studies have documented mixed findings over time with regard to optimal financial leverage (Dalci, 2018; Rahman et al., 2020). Moreover, a study conducted by Dalci(2018) that uncovers an insignificant positive relationship existing between profitability and financial leverage for manufacturing companies listed in China, supports the finding of this study. Moreover, the result revealed an insignificant positive association between the liquidity (ϕ_3 = 0.0765, p-value = 0.192) and profitability of commercial services companies. This implies that companies cannot enhance profitability by having a good liquidity position which may be contributed to management's failure to invest resources in the short term. The result is similar to those conducted by Alarussi and Alhaderi(2018) which documented an insignificant positive link between the profitability and liquidity using listed Malaysian companies from 2012 to 2014. Moreover, the finding is in line with those reported by Vintilă and Alexandra (2016) that uncover an insignificant positive relationship between liquidity and profitability using panel data of listed Romanian companies from 2005 to 2014.

Furthermore, the findings revealed a significant positive relationship between the firm size (ϕ_4 = 0.0913, p-value =0.016) and profitability of commercial services companies. This implies that large companies benefit from economies of scale thus enhancing profitability. Large firms enjoy economies of scale such as managerial, transport, financial, security, information, market, labour and technology economies of scale. A large firm is likely also to experience economies which in turn lower the operational costs hence an improvement of its profitability. Likewise, small companies lack the benefits of economies of scale thus leading to higher operations thus lowering profitability. The finding is supported by several prior studies that examined the firm specific determinants of profitability of companies. For instance, Abdulrahman and Musa (2019) revealed that firm size is significantly positively linked with the profitability of listed consumer goods companies listed in Nigeria. Likewise, Morara and Sibindi(2021) documented a significant positive influence of size on the profitability of listed insurance companies in Kenya. Furthermore, Zainudin et al.(2018) uncovered a significant positive relationship between firm size and profitability in the cross-country study.

Table 9: Results Fixed and Random Effects Estimators

	Fixed Effects Model Estimator			Random Effects Estimator		
Variables	Coef.	t	P>t	Coef.	z	P>z
CA	0.1511	1.42	0.162	0.178*	2.44	0.015
FL	-0.0017	-0.41	0.681	0.0011	0.29	0.771
CL	0.0656	0.88	0.382	0.0765	1.3	0.192
FS	0.1754*	2.24	0.03	0.0913*	2.4	0.016
Constant	1.8361	2.54	0.014	1.0415	2.71	0.007
R-square-overall	11.88%			24.17%		
No. observation	66			66		

Notes: The result of the Random and Fixed effects Estimators of regressing ROA on firm-specific determinants. Values in parentheses indicate p-values attached to the coefficient. *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Conclusion and Recommendations

This study examined the firm- specific determinants of profitability of the commercial services companies listed at DSE and NSE. This study was motivated by the debate on whether firm-specific determinants i.e. capital adequacy, financial leverage, company liquidity and firm size influence the profitability of the listed commercial services companies at DSE (Tanzania) and NSE (Kenya). The study used panel data set with 66 firm-year observations spanning from 2015 to 2020. The study employed random effect GLS regression to examine the firm specific determinants of profitability of commercial services companies listed in DSE and NSE. The findings revealed a significant positive link between the size and profitability of commercial services companies listed at NSE and DSE. Moreover, the study found capital adequacy is statistically significant and positively associated with the profitability of the listed commercial services companies at DSE and NSE.

Moreover, the study revealed an insignificant positive association between both financial leverage and liquidity and profitability of commercial services companies listed at DSE and NSE. Generally, capital adequacy and firm size are the firm-specific determinants of the profitability of listed commercial services companies at DSE and NSE. Therefore, corporate managers are advised to promote equity investment to enhance profitability by selling more equity to both general public and private shareholders. Moreover, they are advised to expand the firm size to enhance profitability.

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