DETERMINANTS OFDIVIDEND PAYOUT RATIO IN SUB-SAHARAN AFRICA BANKS: THE PANEL GMM APPROACH

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Abstract - This study adopts the dynamic panel two-step System and DifferencedGMM in analysing the data of 250 commercial banks from 30 countries in sub-Saharan Africa(SSA) for the period 2006 to 2015 to examine the determinants of the dividend payout ratio of these banks. The empirical results reveal that;past year dividend is the most significant determinant of current year dividend. Taxation and capital adequacy ratio are found to be insignificant. Our findings reveal earnings-after-tax and leverage asbeing significant determinants of payout ratio in SSA banks. Hence,Lintner's model holds in SSA banks as a region.

Keywords - Lintner Model; Payout policy; Agency cost; Capital Adequacy
JEL Classification - G21; G35.

I. INTRODUCTION

The main determinants of dividend policy identified in the literature across various economies - include size, profitability, risk, leverage, liquidity, lagged dividends and investment opportunity prospects. A review of various studies on the determinants of dividend policy has produced contentious findings(Bushra, 2012, Chekole, 2016, Maldajian and El Khoury, 2014). Sub- Saharan Africa (SSA) like other emerging markets is usually characterized by the predominance of banks among other financial institutions, as well as financial systems that are bank rather than market-based - with a larger proportion adopting the dividend payout ratio. According to Forti and Schiozer (2015), the banking sector all over the world is among the largest dividend payout industries- all in an attempt to minimize the agency problems (costs) and risk burden of the banks. In addition to the conflict in the findings of the existing studies, it can also be observed that region-specific studies are not common. In addition, the banks' regulatory factor (capital adequacy ratio), which has been a universal regulatory requirement for the survival of banks, has been omitted in the studies of determinants of dividend payout ratio in SSA. This is even though SSA banks have adopted the laid down 8% minimum capital adequacy ratio and the 2.5% capital conservation buffer ratio of the Basel II and III framework of banking supervision.

In this paper, we find it necessary to contribute to the existing debate in order to provide further evidence which could lead to a general consensus on the determinants of dividend payments in SSA using the banking sector as a case study, and with the inclusion of the capital adequacy ratio (which has been neglected) and the test of the validity of the generally accepted Lintner model. This model has been tested in India, Greece, Vietnam, the US and the UK- and it was concluded that it still holds good and remains the best description of the dividend setting process. However, no known study has tested the model with a regional focus –especially SSA. This paper intends to fill this gap, to establish if the wider geographical focus proffers a uniform finding on the determinants of payout ratio for the region's banking sector.

MODEL SPECIFICATION

Theoretical Framework on Determinants of Dividend Payout Ratio

To examine the determinants of dividend payout ratio, the bird-in-the-hand theory is the theory underpinning the objective, because it explains the dividend payout as birds in the hands of shareholders with little or no uncertainty. Following this theory and a study by Bawa and Kaur (2012), Lintner's model is used to examine the determinants of the dividend payout ratio.

Following Lintner's model mathematically:

$$\Delta D_{it} = a_0 + c_i\left(D_{it}^{*} - D_{i(t-1)}\right) + U_{it} \ldots\ldots\ldots (i)$$

Where; a_0 is a constant term/ intercept, ΔD_{it} =the changes in dividend ratio in the current year, D_{it} = the dividend to be paid in the current year (t) across each bank (i), and $D_{i(t-1)}$ =the dividend paid in the preceding year across each bank i over t.

$$D_{it} = a_0 + \beta_1 D_{i(t-1)} + \beta_2 Y_{it} + U_{it} \ldots\ldots\ldots (ii)$$

Equation (ii) represents the dividend payout ratio model according to Lintner. Modifying this equation (ii) to incorporate other control variables affecting the dividend payout ratio of commercial banks:

$$D_{it} = a_0 + \beta_1 D_{i(t-1)} + \beta_2 Y_{it} + \beta_3 R_{it} + U_{it} .(iii)$$

R_{it} is the vector of the control variables X_1, X_2, X_3, X_4 and X_5. The control variables are Leverage ratio, Growth prospect, Bank size, Capital Adequacy Ratio and the Taxation ratio of the banks. These variables are chosen based on the past empirical findings, and the regulatory and legal requirements of the banking sector.

$$D_{it} = a_0 + \beta_1 D_{i(t-1)} + \beta_2 Y_{it} + \beta_3 X_{1it} - \beta_4 X_{2it} + \beta_5 X_{3it} - \beta_6 X_{4it} + \beta_7 X_{5it} + U_{it} \ldots (iv)$$

$$DPOR_{it} = a_0 + \beta_1 DPOR_{i(t-1)} + \beta_2 \ln ATI_{it} + \beta_3 CAR_{it} - \beta_4 LEV_{it} + \beta_5 SIZ_{it} + \beta_6 GRO_{it} - \beta_7 TAX_{it} + U_{it} \ldots\ldots\ldots\ldots\ldots\ldots (v)$$

Equation (v) is the dividend payout ratio model of commercial banks in SSA.

Variable Description

This section describes the variables used in this study and their respective formulars.

Estimating Technique

Due to the dynamic nature of Lintner's model upon which the study is based, equation (v) was estimated by dynamic panel analysis with the choice of the two-step differenced and system Generalised Method of Moments specifically.

MODEL ESTIMATION AND DATA ANALYSIS

Two- Step System and Difference Panel GMM

	SYS-GMM		**DIFF-GMM**	
	No of groups: 250		No of groups: 250	
	No of Instruments: 40		No of Instruments: 44	
	Prob(F) = 0.0000		Prob(F) = 0.0000	
Variable	**Coefficient**	**p>/t/**	**Coefficient**	**p>/t/**
C	-1.0233	0.000***		
DPOR (L1)	0.24417	0.000***	0.2202949	0.000***
ATI	0.03498	0.028**	0.0822599	0.000***
SIZ	-0.01735	0.460	-0.0504515	0.047**
LEV	0.01527	0.002***	0.0088542	0.017**
GRO	-0.00812	0.321	0.0079522	0.309
TAX	13.57836	0.164	2.2186	0.632
CAR	-0.00317	0.985	0.044493	0.813
POST ESTIMATION TESTS:				
HANSEN TEST				
Ho: There is No Over-Identification of Instrument				
SYS-GMM			**DIFF-GMM**	
Chi^2 (32)	37.67		Chi^2 (37)	42.34
Prob>Chi^2	0.226		Prob>Chi^2	0.252
SARGAN TEST				
Chi^2 (32)	34.22		Chi^2 (37)	31.61

Prob>Chi^2	0.361		Prob>Chi^2	0.719
SERIAL CORRELATION TESTS				
Ho: There is No Serial Correlation				
SYS-GMM			**DIFF-GMM**	
Order	Z	Prob>Z	Z	Prob>Z
AR (1)	-5.02	0.000***	-5.11	0.000***
AR (2)	1.24	0.216	1.48	0.138

Table 2: Two- Step GMM Estimations of the Series: ATI, SIZ, GRO, LEV, TAX and CAR with Dependent Variable: DPOR Source: Authors' computation (2017). Note that "*" and "**" represent 1% and 5% level of significance respectively.**

From Table 2, Past year dividend (DPOR), ATI and LEV are found to be significant in both estimations but - SIZis inclusive in the DIFF-GMM. Hence, they are all significant determinants of the dividend payout ratio of banks in SSA at 1 or 5%. The significance and positive effect of past year dividends and ATI are in line with Lintner's model that is the basis of this study. This implies that the higher the profit generated by the banks in SSA, the higher the payout dividend in order to satisfy the urge of their owners, which might have been the reason the banking sector in all these countries is still backward in relation to international competition, - since a larger proportion of their income is paid out and not retained for the exploration of viable and positive NPV investment opportunities.

Although these banks payout dividends to serve as a signaling effect to attract more investors and reduce managers' free cash flow that leads to expropriation and compounds the agency cost of banks,the situation of banks in most of these countries is such that managers defraud the banks, - i.e. they are not acting in the sole interest of the owners. The significance and positive effect of past year dividends suggest that past year dividends affect today's dividend payment, and this concurswith the study of Abdella and Manual (2016), Bawa and Kaur (2012), Eriotis (2011) andMaldajian and El Khoury (2014). The observed positive relationship between dividend payout ratio and profitability (ATI) supports the work of Olowe and Moyosore (2008), Amidu and Abor (2006), Agyei and Marfo-Yiadom (2011), and Anil and Kapoor (2008).

Also, the negative effect of bank size under DIFF and SYS-GMM implies that the larger the asset base of the bank-, -the more investment decisions they make which favour Dividend Re-investment plans (DRIPs), and, on the other hand, reduce the payout ratio. This is in line with Gordon (1963) postulations on the dividend growth model, but contrary to life cycle theory. Relating these findings to previous past findings, it conforms with, the Maldajian and El Khoury (2014) and Abdella and Manual (2016)- but is contrary to the arguments of Olowe and Moyosore (2008), that larger firms will pay huge dividends in order to minimise the agency problem to reduce agency costs. Finding it significant and also negative under the DIFF-GMM estimation, calls for urgent attention in the policy formulation of banks in SSA. It implies that the more the growth (in terms of assets) in a bank, the less its payout ratio -which is the opposite of what the life cycle theory posits. Most SSA commercial banks have the required capital ratio - meaning they have a larger asset base to explore viable investment opportunities such that, they can open more branches across other countries and locations where there is possibility of positive and viable NPV projects. Hence, the payout ratio that serves as a signaling effect tends to reduce, as a larger bank has already enough investor - but they only border on maintaining the stake of the investors in the banks.

Our findings of a negative and insignificant relationship of CAR with DPOR also contradicts Chang and Dutta (2012), Olowe and Moyosore (2008) but concurs with a study on US banks by Casey et al. (2009). Rime (2001) terms Dividend Re-Investment plans as an internal source of bank's equity - which is the major component of banks'-capital adequacy (ratio of equity to total assets). Surely there is a direct correlation between CAR and retention ratio and an inverse relationship between CAR and DPOR is logical. The negative and insignificant effect of growth prospect, confirms the findings of Ho (2003); Amidu and Abor (2006); Rozeff (1982); Chiang et al. (2006) and Zameer et al. (2013) who found that the higher the growth prospect of the firm viable investment opportunities, the higher the retention ratio, and hence, - the lower the payout ratio. However for dividend-income-orientated shareholders, the higher the growth prospect of a bank, the more is their expectation at the end of the financial year. That said, our findings reveal that this factor is not of any significance in determining the payout ratio of banks, and the higher the growth of banks; the lower the payout ratio.

Our finding on LEV negates the a priori expectation and the findings of Olowe and Moyosore (2008); Collins et al. (1996); and Rozeff (1982) by being positive and significant. This implies that for banks using dividend payout as a tool to minimise the agency problem that leads to agency cost, the higher the debt, and the higher the payout will be. Findings on taxation as a determinant of dividend payout have been inconclusive, and not just in the banking context. Our findings reveal that taxation has a positive and insignificant effect on the dividend payout ratio in banks. This negates our a priori expectation that the higher the tax burden, the lower the earnings for distribution will be. Being positive implies that a higher tax is paid on a higher income. Therefore, the higher the tax paid, the higher the payout ratio - since payout ratio is proportionate to the earnings generated by the bank.

CONCLUSIONS AND RECOMMENDATIONS

Given that the Hansen, Sargan, AR (1) and AR (2) tests are passed and the F-test of joint significance among the independent variables reveals that the independent variables are jointly significant at the 1% level, the DIFF and SYS GMM estimation is efficient and reliable. Hence, the major determinants of SSA commercial bank DPOR are DPOR(LI), ATI, SIZ, and LEV. Based on our findings, we find it necessary for banks in SSA to strictly follow the Life Cycle and Dividend Residual theory. They should not prioritise payout ratio, but rather explore other dividend policies such as; retention policy and, share-repurchase - among many others. Hence, we recommend that banks in SSA adopt Lintner's model in setting their dividend payment anytime they choose payout policy, and they can adopt other dividend policies so they can establish which policy seems to maximise shareholder' wealth in the long-run, and still enhance the future growth of the bank.

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