Monetary Policy and Small and Medium Enterprises' Performance in Selected West African Countries

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Abstract
The study focussed on the effect of monetary policy on the performance of Small and Medium Enterprises (SMEs) in three West African countries, Nigeria, Ghana and Gambia over the period of 1981 to 2016. Variables like credit to the private sector, interest rate, inflation rate and exchange rate were employed as explanatory variables, while SMEs output was employed as dependent variable. It was observed that credit to the private sector and inflation rate have negative effect on SMEs output, while exchange rate and interest rate have negative effect on SMEs output over the period. Among all the monetary policy indicators, only interest rate had direct impact on the performance of SMEs in Ghana while exchange rate reported positive impact on SMEs output in Gambia. Consequently, it is concluded that monetary policy in the three countries had not been favourable to the performance of the SMEs sector in West African countries.

Keywords: Monetary Policy, SMEs Output, Private Sector, West Africa.

JEL Classification: E52, E43

1. Introduction

The small and medium enterprises (SMEs) have a very crucial role to play in stimulating growth and development in every economy. The experiences of Asian economies where small and medium enterprises are major contributors to economic growth is a good reference point (Selim, 2013). SMEs are often faced with myriads of challenges due to the nature and size of their businesses. Some of the challenges facing the SMEs sector stem from the fact that their output is somewhat smaller in most cases than those of the more established firms. Also, adequate financing of their activities is often a mirage as credit or financial institutions' requirement for granting loans are always not in the reach of the SMEs because they often lack the

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needed collateral securities favourable to being granted financial assistance. They are however faced with several prospects and opportunities if well supported with appropriate economic policies and adequate financing (Ajagbe, 2012; Lawal, 2014, Mesagan and Shobande, 2016). These opportunities stem from their ability to be able to service the domestic market and charge relatively low prices. Also, SMEs can reach out more to majority of the masses in terms of providing them with goods in their required quantity, quality and specification.

One of the means for stimulating SMEs performance is through monetary policy. According to Mordi (2014), monetary policy is one of the macroeconomic management tools used to influence outcomes in the real economy to its desired direction. The basic goals of monetary policy are the promotion of stable prices, sustainable output and employment. In macroeconomic theory, monetary policy is expected to affect the real sector of the economy through interest rate movements that has effect in altering the cost of capital and investment in the productive sector. Similarly, monetary policy can influence economic output via several channels like interest rates, credit, asset prices through exchange rates, equity and housing prices (Mishkin, 1996 and 2007). This is very important because the tightening of monetary policy, for instance, can be viewed as excessive for certain sectors of the economy. Thus, as identified by Alam and Waheed (2006), the need to understand those sectors that are adversely affected by monetary tightening, for instance, will help generate valuable policy information for the monetary authority.

The question that comes to mind is how effective are monetary policy instruments in stimulating the output of the small and medium enterprises in West African countries? Several studies have been able to investigate the relationship between the performance of the small and medium enterprises and economic growth while others have focussed on monetary policy and economic growth. However, the dearth of studies on the link between monetary policy and SMEs performance necessitates this study. To this end, the study attempts to determine the impact of interest rate on SMEs output in three West African countries, Nigeria, Ghana and Gambia. It evaluates the effect of inflation on the output of the SMEs sector and assesses the impact of the available credit to the private sector on SMEs output in the three countries. The rest of the study is organised into literature review in section 2, research methodology in section 3, presentation of results in section 4, while section 5 concludes the study.

2. Literature Review

In this section, we present the review of the relevant literatures that are germane to the subject matter. For instance, Sievers and Vandenberg (2007) researched into the

development of micro financing and SMEs. The study opined that the formalization of informal business activities contributes to increasing tax revenue for the government and provide impetus for government to invest in health and education, helps to strengthen existing SMEs and promote development. Kapila and Mead (2002) opined that to strengthen SMEs position and boost performance, access to financial and non-financial services should be made available and interest rates should be kept reasonably low. Bawuah *et al.* (2014) confirmed that there are enough and available financial opportunities for small businesses to access in Ghana, however, Leippoid *et al* (2006) had earlier found a contrary opinion that financial institutions in Ghana were rather cautious with lending to SMEs owing to high rates of default and risks. Kwaku (2014) extended the study by looking at the effect micro and small credit schemes have on the performance of the SMEs in Ghana. It opined that although micro credit plays a very crucial role in advancing the course of the SMEs in Ghana, the unnecessarily high rate of interest and the rigidity involved in assessing the loans retard the performance of the sector. Selim (2013) looked at monetary policy and bank credit for SMEs in the manufacturing sector in Turkey and observed that money supply has a strong impact on the volume of credit in the manufacturing sector but not on the credit volume for SMEs. Furthermore, Ajagbe (2012) observed that inflation rate has positive effect on SMEs output as well as capacity utilisation. Lawal (2014) confirmed that a positive relationship exists between bank loans and SMEs performance. Akinlo and Odusola (2003) found that exchange rate depreciation contracts output and suggested that Nigeria should encourage real appreciation to boost real output of the SMEs whereas, Mordi (2014) found that sectoral output responded heterogeneously to contractionary monetary policy shocks in Nigeria.

3. Data and Methodology

As identified in Selim (2013) and Mordi (2014), there is a strong link between monetary policy instruments and the performance of the Small and Medium Enterprises (SMEs). Akinlo and Odusola (2003), Lawal (2014) and Kwaku (2014) have also modelled the relationship between SMEs output and monetary policy variables such as exchange rate and interest rate for both the Nigerian and Ghanaian economies. To this end, this present study follows the plethora of studies in specifying a functional relationship for monetary policy and performance of the SMEs sector in Nigeria as follow:

$$SME = f(EXR, INF, INT, CPS) \quad (1)$$

Where SME represents the output of the Small and Medium Enterprises, while exchange rate (EXR), inflation rate (INF), interest rate (INT) and credit to the

private sector (CPS) are the monetary policy instruments employed in the study as explanatory variables. Both credit to the private sector and SME's output are ratios of the gross domestic product (GDP).

For regression analysis, equation (1) is explicitly stated as:

$$SME_t = \beta_0 + \beta_1 EXR_t + \beta_2 INF_t + \beta_3 INT_t + \beta_4 CPS_t + \varepsilon_t \quad (2)$$

In equation 2, $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ are the slope parameters of the model, t is time while ε is the white noise error term. The apriori expectation is that $\beta_4 > 0; \beta_2 < 0; \beta_1 > / < 0; \beta_2 > / < 0$. Moreover, equation (2) is estimated by employing the multiple linear regression analysis. The data for the study are mainly secondary and are sourced from the World Development Indicators (2017), whereas SMEs output are sourced from each countries' Central Bank statistical data online covering 1981 to 2016.

4. Empirical Result

The result of the unit root tests for the three countries in Table 1 indicates that the series are stationary at first difference at 5%. We therefore reject the null hypotheses of "*no stationary*" at first difference.

Table 1: Stationarity Test Results

Variables	ADF Tau Statistics			Order of Integration
	Nigeria	Ghana	Gambia	
SME	-10.288[-3.589]*	-5.7438[-4.244]*	-4.1650[-3.553]*	1
INT	-6.9487[-3.593]*	-4.9512[-4.244]*	-5.3041[-4.273]*	1
INF	-6.8339[-3.593]*	-4.7646[-4.273]*	-7.9884[-4.244]*	1
CPS	-6.6827[-3.593]*	-7.0542[-4.244]*	-5.4077[-4.244]*	1
EXC	-5.8143[-3.589]*	-7.6009[-4.244]*	-6.5055[-4.244]*	1

Note: *Mackinnon critical values are shown in parenthesis. * signify 5% significance level.*

The Johansen cointegration test is presented in Table 2. For both Nigeria and Gambia, the trace and Maximum-eigenvalue tests indicate that there is 1 co-integrating equation at 5% significance level. However, for Ghana, both trace and Maximum-eigenvalue tests show that there are 2 co-integrating equations at 5% significance level. Summarily, the cointegration result indicates that there is long-run relationship between monetary policy and small and medium enterprises performance in the selected West African countries.

Table 2: Johansen Cointegration Test

Hypothesized No. of CE(s)	Nigeria		Ghana		Gambia	
	Trace Test @5%	**Max-Eigen Test @5%**	**Trace Test @5%**	**Max-Eigen Test @5%**	**Trace Test @5%**	**Max-Eigen Test @5%**
None *	89.6641 *	43.8679 *	101.461 *	45.1483 *	97.2374 *	43.2789 *
At most 1	45.7962	22.8171	56.3125 *	32.8245 *	53.9585	26.2658
At most 2	22.9791	14.3705	23.4879	12.7835	27.6926	13.8897
At most 3	8.60861	6.32928	10.7045	9.26840	13.8029	11.4029
At most 4	2.27933	2.27933	1.43611	1.43611	2.39999	2.39999

Note: * denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values

The results of the multiple linear dynamic model of the relationship between monetary policy and small and medium enterprises performance in the three countries Nigeria, Ghana and Gambia are presented in Table 3. The finding reveals that exchange rate positively and significantly impacts SMEs output in Nigeria and Gambia. The values of 0.028 and 0.0165 implies that while keeping constant inflation rate, interest rate, credit to the private sector and the previous value of SMEs output itself, a 1% percentage increase in the currency relative the US dollar (currency depreciation) brought about 2.81% and 1.65% increase in the output of SMEs in Nigeria and Gambia. The relationship between the variables was only significant at 5% in Nigeria. The reason for this is not far-fetched as most of the small and medium enterprises in Nigeria depend less directly on exchange rate in terms of input and raw material sourcing. In fact, there is more local content in

producing output of the SMEs in Nigeria because the sector is mostly rudimentary and unorganised. Similarly, currency depreciation (exchange rate increase) means that Nigerian goods becomes cheaper relative to foreign goods and so, Nigerians shift emphasis away from depending on imported goods and concentrate more on buying Nigeria-made goods, this fuels the patronage of SMEs products and boosts their output. However, the relationship between the variables was found negative for Ghana where it indicates that a 1% increase in Ghanaian cedi/US dollar decreases SMEs output by 0.24%.

Table 3: Estimated Models Results

Variables	**Dependent variable:** SMEs output		
	Nigeria	**Ghana**	**Gambia**
Constant	3.012*	16.602**	3.363*
EXC	0.0281**	-0.0024	0.0165
INF	-0.071*	-0.0253	-0.072
INT	0.029	0.083	-0.091**
CPS	-0.025**	-0.409**	-0.194
SME(-1)	0.701*	0.616*	0.547*
R-square	0.76	0.70	0.61
Adjusted R-square	0.73	0.65	0.55
Durbin-Watson	2.02	1.98	1.93

Note: *, ** denote significance at the 1%, 5% levels; **Source:** Authors' Computation, 2017.

The coefficient of inflation conforms to theory as it shows that inflation rate in the three countries negatively and significantly impacts on the output of the SMEs sector. A 10% increase in inflation rate causes SMEs output to fall by almost 0.7%, 0.25% and 0.72% in Nigeria, Ghana and Gambia respectively. This is what is been witnessed currently in the countries and that is the channel through which exchange rate depreciation can negatively impacts the SMEs sector. The reason is that currency depreciation is often associated with fuelling inflation in the domestic economy and persistent increases in the general price level shifts aggregate demand

inward thereby negatively affecting consumption, investment and even output of the SMEs and the economy at large.

Interest rate positively but insignificantly impacts SMEs output in Ghana and Nigeria, whereas it negatively but significantly impacts SMEs in Gambia. This is so for Nigeria and Ghana SMEs sector does not often obtain long term loans directly from commercial banks, which focuses only on the organised private. Thus, increase in interest rates means that more people are encouraged to save either in commercial or micro finance banks thereby making some cheap funds available for the SMEs to boost their output. However, it is not significant because SMEs source more funding from friends and cooperative societies than they source from micro finance or commercial banks. Credit to the private sector negatively impacts SMEs output in Nigeria, Ghana and Gambia as its 10% increase leads to 0.25%, 4.1% and 1.9% decrease in SMEs output of the three countries respectively. The intuition is that the increase of credits to the organised private sector crowds out the funds available for the SMEs thereby negatively affecting their output also. Furthermore, SMEs previous output positively and significantly enhances their current output in the study.

Heteroskedasticity Test

According to Gujarati and Porter (2009), Autoregressive Conditional Heteroskedasticity (ARCH) may have an autoregressive structure, in that heteroskedasticity may be observed over different periods, hence it is needful to conduct the test for this study. The null hypothesis is specified as: **H_0:** There is no ARCH effect; and **H_1:** There is ARCH effect. The results of the heteroskedasticity are presented in Table 4 for the three countries.

Table 4: Heteroskedasticity Tests Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey		
Nigeria		
F-statistic	1.137690 Prob. F(5,30)	0.2643
Obs* R-squared	1.844500 Prob. Chi-Squared (5)	0.2826
Ghana		
F-statistic	0.671343 Prob. F(5,30)	0.5191
Obs*R-squared	1.647316 Prob. Chi-Squared (5)	0.4388
Gambia		
F-statistic	1.776700 Prob. F(5,30)	0.1877

Obs*R-squared	4.054155	Prob. Chi-Squared (5)	0.1317

Source: Authors' Computation (2017).

In Table 4, the Probability Chi-Squared values of observed R-squared and that of explained sum of squares are greater than 0.05 in the three countries implying that they are insignificant at 5%. Hence, we accept the null hypothesis that there is no ARCH effect. This is desirable because it signifies that there is no heteroscedasticity problem in the models and that the variances of the residual terms are homoscedastic.

5. Conclusion

This study investigates the impact of monetary policy on small and medium enterprises performance in three West African countries, Nigeria, Ghana and Gambia for a period of 36 years spanning from 1981 to 2016. In this study, it has been observed that exchange rate and interest rate have positive effect on SMEs output in Nigeria, while inflation rate and credit to the private sector have negative effect on the output of the SMEs sector. Among all the monetary policy indicators, only interest rate had direct impact on the performance of SMEs in Ghana while exchange rate reported positive impact on SMEs output in Gambia. The conclusion drawn is that monetary policy plays important role in SMEs performance in the three West African countries. Hence, since the SMEs sector depends to a large extent on foreign input, the apex banks can set aside a proportion of foreign exchange for the sector to enable it to source its inputs at reasonable cost or encourage the manufacturing sector to produce the desired inputs locally to lower the pressure on foreign exchange. Micro finance banks should be made to concentrate on financing SMEs operations through the provision of short and medium-term loans. Moreover, with the high rate of inflation currently ravaging the Nigerian and Ghanaian economy, their apex banks should come up with an inflation benchmark that is favourable to SMEs development in both countries. More so, since Selim (2013) confirmed that the increase of credits to the organised private sector crowds out the funds available for SMEs, policies should be targeted towards making sufficient funds available for SMEs entrepreneurs in West Africa.

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