



FINANCIAL SECTOR IN GHANA: THE ROLE OF OPENNESS

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Abstract

The financial sector of every economy is important and relevant in the economic growth process of the country. Some countries have developed efficient financial system while others have less developed financial sector. Ghana is among countries with an under-developed financial system. The study sought to determine the effects of inflation and impact of trade openness on financial sector development in Ghana. The study adopted dynamic model with the use of Ordinary Least Square (OLS) technique as an estimator for the period 1980-2020. The results revealed that inflation rate has a reverse effect on the financial sector development in Ghana. The estimated result was robust. The study further shows that openness in both trade and financial liberalisation reveal significant direct effect on the development of the financial sector. The complementarity between the two openness indicates insignificant effect. The study therefore recommends restrictive monetary and fiscal policies to reduce inflationary pressures in the economy. High trade openness is also recommended.

Keywords: Financial sector development, openness, inflation, liberalisation

INTRODUCTION

The term "financial sector development" refers to a condition in which there is an increase in the productivity of financial intermediation, which leads to agents and firms benefiting from the services of the financial sector (Amoh, et.al. 2019). By removing information gaps and lowering transaction costs, financial systems play crucial functions in the process of allocating funds to productive enterprises (Khan and Ozturk, 2021). Sethi et al. (2021) posit that financial institutions serve as the heartbeat of every economy. Disruptions in the operations of the financial system impact negatively on the economy thereby leading to declining levels of economic growth or stagnation of the economy (Gourinchas, 2022). The financial systems are responsible for coordinating the economic activities for the purposes of advancing the course of production, therefore an efficient and well-functioning financial sector is necessary for countries economic progress (Levine, 2001).

It is evident that countries with well-developed financial systems such as the United Kingdom, Germany, Italy, Japan, United States of America, Canada, France etc can equally boast of developed economies. On the contrary, countries with less developed and less robust financial system are characterized by least development in economic growth (Kablan, 2010). Therefore, it cannot be by coincidence that the financial sector is well correlated with economic growth.

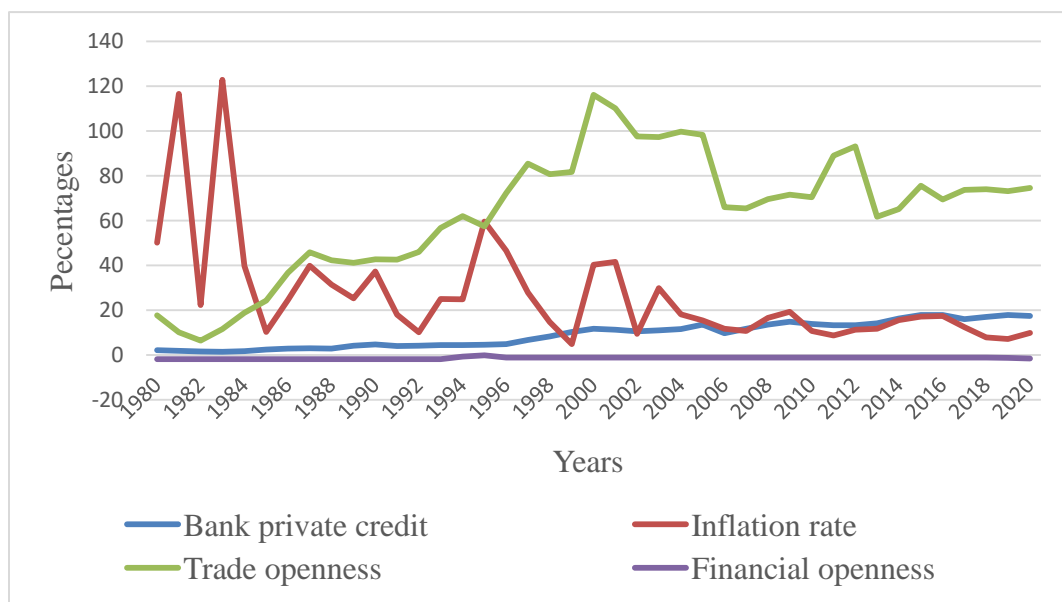
Noticing the critical role the financial sector plays in countries economic growth processes, sub-Saharan African countries in the 1980s adopted Economic Reforms through the Structural Adjustment Programme that introduced financial sector modifications to boost growth in both the financial sector and real sector through induced economic growth in the sub-region (Mahawiya, 2015). One of the ideas of the reforms was to eliminate impediments deemed to be reversing progress in the financial sector. Thus, governments moved from state controlled to a more market inducing system of the financial sector (Cho, 2010).

Ghana also adopted these structural reforms in the mid-1980s in the financial sector by opening and liberalizing the sector with the hope of achieving growth in the sector (Leith, 2000). Financial market liberalization in Ghana started under the auspices of the IMF and the World Bank as part of the Financial Sector Adjustment Programme (FINSAP) (Bawumia, 2010). This involved reforms in troubled banks and the cleaning up of non-performing assets in order to make banks more profitable (Obuobi et al. 2020). Under these reforms in the mid-1980s, financial liberalization policies were adopted to abolish capital restrictions. Interest rates were liberalized to introduce competition into the banking sector that was supposed to propel financial sector development. The programme led to stability of the economy by not only adjusting prices but also led to structural changes such as fiscal and monetary operations (Quartey et al. 2014).

Liberalization of the sector contributed to financial deepening and stability, however, despite the continuous efforts of the Ghanaian authorities to trigger development in the Ghanaian financial sector, the sector is still undeveloped as compared to other economies like South Africa and Nigeria. What could be the possible explanation? What policy variables can be blamed for this relatively low development state of the financial sector in Ghana? Do inflation, financial and trade openness play key roles in the sector's performance? This study seeks to determine the role of inflation, openness in trade and in finance on financial developments in the country.

Figure 1 demonstrates the correlation between inflation, trade and financial openness of Ghana on one hand and the financial sector development on the hand. The data set covers the period from 1980 to 2020. From Figure 1, it is clear that the financial sector is measured by bank private credit which rises imperceptibly in 1980 from about 2.1% to about 41 years high of 17.4% in 2020. It can also be observed from Figure 1 that there was a high inflationary trend in the early 1980s with the highest of about 123% in 1983, and since then inflation slowed down to a single digit in 2020 (amid fluctuations in the rate). It is worth noting that Figure 1 reveals a reverse effect of inflation on the progress of the financial sector. The inverse relationship between inflation and growth in the financial sector is consistent with the theory demonstrated by Huybens and Smith (1998, 1999). Figure 1, further shows that Ghana registered the highest trade openness in the year 2000. The trade openness demonstrated a positive relationship with financial sector openness from 1980 to 2000 and thereafter an inverse relationship is noticed.

Figure 1: Financial Sector Development, Inflation and Openness



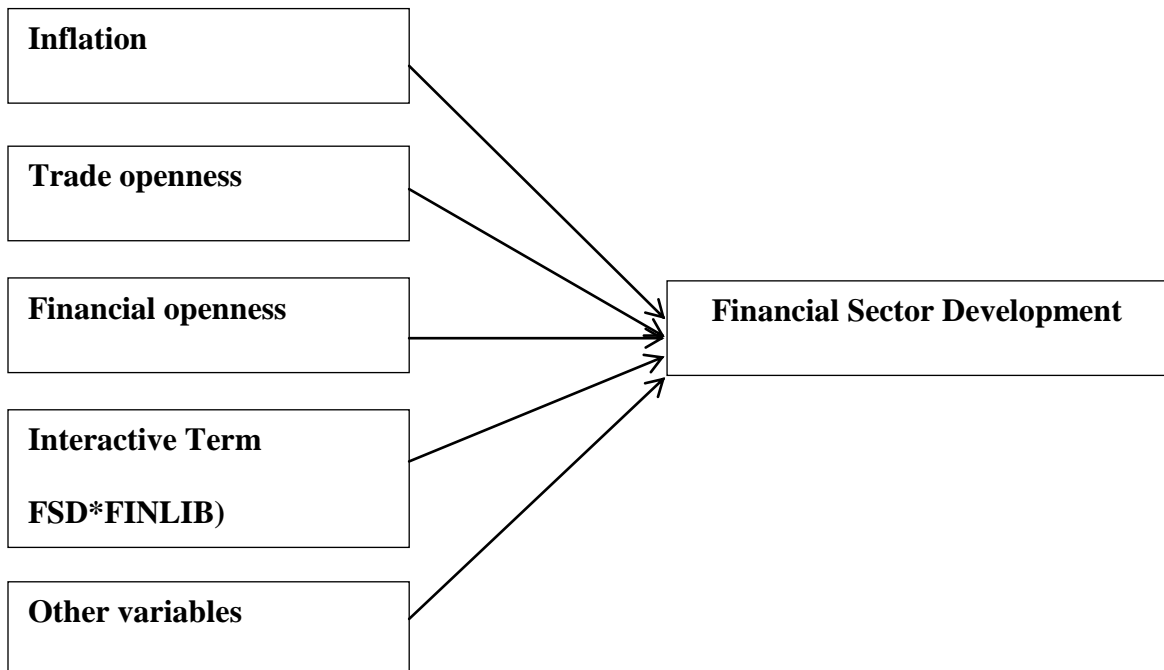
Source: Authors own construct, 2022.

Several empirical studies have demonstrated that the development in the financial sector impacts on economic growth and development process as revealed by; Puatwoe and Piabou (2017), Abu-Bader and Abu- Qarn (2008); Khan et al. (2019); Mahawiya and Dramani (2020); Sabir et al. (2019), Asteriou and Spanos (2019) and Wen et al. (2022). Even though there is adequate literature on this subject, little is known about Ghana’s financial system in relation to trade openness, inflation and financial openness. This study focuses on filling this gap and thus contributes to the financial sector development literature.

CONCEPTUAL FRAMEWORK

From Figure 2, inflation is expected to directly influence financial sector progress negatively whiles financial sector openness is expected to introduce competition into the financial system and thereby leading to efficiency and development in the sector (positive effect is expected). Trade openness is also expected to have direct impact on financial sector development. The interactive term which comprises of trade liberalization and financial sector liberalization is expected to have a complementarity effect on the financial sector development. Additionally, socio-economic and political variables such as government expenditure, foreign direct investment as well as political developments are expected to directly influence financial sector operations.

Figure 2: Conceptual Framework



METHODOLOGY

Since explanatory design enables researchers to test the causal relationship between variables, it was employed to provide a detailed explanation of the effect of the explanatory variables comprising; political development, inflation, trade openness, financial openness, foreign direct investment (FDI), real GDP per capita and government expenditure on financial development in Ghana. Thus, quantitative approach was used by adopting a regression technique. Specifically, the study used the ordinary least square (OLS) approach.

Model Specification

Following from the studies of Baltagi et al. (2009) and Mahawiya (2015), the model of the study in static and log form is as follows;

$$\begin{aligned} \ln FSD_t = & \beta_0 + \beta_1 \ln f_t + \beta_2 \ln traopen_t + \beta_3 \ln PD_t + \beta_4 \ln RGDP_t + \beta_5 \ln FDI_t + \beta_6 \ln GOVEXP_t \\ & + \beta_7 \ln Finopen_t + \beta_8 \ln traopen_t * \ln Finopen_t \\ & + \varepsilon_t \dots\dots\dots 1 \end{aligned}$$

Where $t = 1, 2, \dots, T$ and $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ and β_8 are coefficients to be estimated, The error term is measured by ε_t , FSD (dependent variable) is financial sector development, $\ln f$ stands for inflation, $\ln traopen$ is openness in trade, $\ln PD$ is political development, $\ln RGDP$ is real gross domestic product., $\ln FDI$ is foreign direct investment, $\ln GOVEXP$ is government expenditure. Also, $\ln traopen$ and $\ln Finopen$ represent openness in trade and financial sector respectively. All the variables are in log form except $\ln PD$.

In this study, FSD is mainly proxied by bank private credit as a ratio of GDP. It represents funds to the private sector by both banks and other financial institutions. According to Levine et al. (2000), this measure isolates credit to the private sector. Thus, this is a good measure of FSD. Furthermore, for purposes of robustness checks, the study also employed M3/GDP to proxy the measure of FSD. The M3/GDP measures financial depth and is preferred to M2/GDP because the latter is accused of representing more monetization instead of increase bank deposits, Eita and Jordaan (2010). Thus, M3/GDP provides more direct information of financial intermediation than M2/GDP

Inflation measures the general price rise. It is expected to have a detrimental relationship on financial sector development. Real GDP per capita is expected to drive development in the financial sector as incomes increase. $\ln PD$ measures political development. It ranges from -10 to +10. The -10 indicates extreme autocratic regimes with poor governance whiles +10 shows extreme democratic governance. Autocratic regimes propel corruption, rigidities in doing business and more especially uncertainty property right. Thus, these lead to reversal in FSD. However, a more developed democratic governance system is expected to positively impact on

FSD. This is because, a proper working legal institutions will instill confidence in the financial system.

Furthermore, government expenditure measures fiscal policy response by the government. It shows macroeconomic stability. This expenditure comes mainly in the form of sale of government security. It moves funds from the private sector to central government securities. Hence, this process has adverse effect on FSD. This is because resources that would have been mobilized by the financial sector are diverted to the central government.

Trade openness is how much a country is open to international trade. It is expected to influence the financial sector positively. This is because as the economy is opened for external transactions more external funds are channeled through the financial system into the economy. This process leads to the development of the financial sector. Financial liberalization like trade openness leads to inflows of funds into the economy through the financial system. Thus, a positive effect of financial liberalization on FSD is expected. However, financial liberalization could lead to intense competition in the financial system which may be detrimental to the local financial system. This may reverse FSD. Financial liberalization is obtained from Chinn and Ito Index of liberalization which is the “de jure” financial liberalization index. It is a four binary dummy variables construction. This measures limitation placed on financial flows on cross-border.

Finally, FDI is the inflow of funds into the economy which will influence FSD positively.

To obtain a dynamic model from equation 1 and any possible partial adjustment and possible omitted variables, the study introduced a lag of the dependent variable into the model to obtain equation 2 as follows:

$$\begin{aligned} \ln FSD_t = & \beta_0 + \beta_0 \ln FSD_{t-1} + \beta_1 \ln f_t + \beta_2 \ln \text{traopen}_t + \beta_3 \ln PD_t + \beta_4 \ln RGDP_t + \beta_5 \ln FDI_t \\ & + \beta_6 \ln GOVEXP_t + \beta_7 \ln \text{Finopen}_t + \beta_6 \ln \text{traopen}_t * \ln \text{Finopen}_t \\ & + \varepsilon_t \dots \dots \text{Equation 2} \end{aligned}$$

Based on equation 2, the study adopted ordinary least square technique to estimate the model.

The OLS technique has the following assumptions;

Assumption 1; the mean of the error term is zero, ie $E(\varepsilon_t) = 0$

Assumption 2; the variance of the error is constant, $\text{var}(\varepsilon_t) = \sigma^2$, homoscedastic assumption

Assumption 3; there should be zero covariance between 2 errors, $\text{cov}(\varepsilon_i \varepsilon_j) = 0$

Assumption 4; there should be zero covariance between the errors and the independent variable, $\text{cov}(\varepsilon_i X_j) = 0$

Assumption 5; there should be zero covariance between 2 independent variables, $\text{cov}(X_i X_j) = 0$ ie no multicollinearity

Assumption 6; the errors are normally distributed with mean zero and variance constant, ie $\varepsilon_i \sim N(0, \sigma^2)$, normality assumption

Data Description

The study relied on secondary data. The yearly data set was obtained from Global Financial Development Database, 2020 as well as World Bank's Africa Development Indicators, 2020 for the period from 1980 to 2020. Financial development data was sourced from Global Financial Development Database while macroeconomic variables were sourced from Africa Development indicators. Data on Political Development was obtained from Polity IV. Polity IV measures political dispensation. The state of political dispensation ranges from +10 to -10 with +10 being excellent democratic governance and -10 as worst form of autocratic governance. Financial liberalization index was obtained from Chinn-Ito Financial Index. This is "de jure" financial liberalization index of Chinn and Ito Index of liberalization - the index of capital accounts openness (KAOPEN). It is constructed from four binary dummy variables that codify restrictions on cross-border financial flows by employing IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). These four binary variables are based on the following; 1. variable indicating the presence of multiple exchange rates (k1); 2. variable indicating restrictions on current account transactions (k2); 3. variable indicating restrictions on capital account transactions (k3); and 4. variable indicating the requirement of the surrender of export proceeds (k4).

The rationale for the use of the data set for the period from 1980 to 2020 stemmed from the fact that Ghana's banking sector witnessed various reforms within that space of time. Those reforms were intended to strengthen the financial sector for economic transformation. Between 1980 and 2020, the banking sector in Ghana witnessed interest rate liberalization, decontrol of credit allocation, removal of non-performing assets to the Non-Performing Assets Recovery Trust (Antwi-Asare and Addison, 2000). The period did not only witness the influx of foreign banks into the Ghanaian economy but was also hit by the financial crises as well, and the recent COVID-19 pandemic which adversely affected bank operations.

Data Analysis

To explore and collect data for the objective of this task, the study used a quantitative research design method. Model identification, model estimate, and model diagnostics were the three phases of the data analysis process. The research began with model identification, which looked at the descriptive characteristics and distribution of each variable. Therefore, the study

employed tools such as Tables and graphs to analyse the data. Following these, the study used STATA 15 to do the estimation of the results.

FINDINGS

Descriptive Statistics

Table 1 describes the data used in the study. FSD (dependent variable) is proxied by bankprcr with a mean of about 9.1 for the period from 1980 to 2020. This means, during the period under study, banking sector private credit was about 9.1% on average. Dispersion was about 5.6 with minimum and maximum values of 1.4 and 17.9 respectively. Trade openness (traopenness) indicated an average of 62.7% for the period and a standard deviation of 28.4. The maximum was 116.0. On the contrary, real GDP per capita that measures income distribution of the country for the period was 655.3 Cedis on average basis, with the best performance of the economy recording 1782.3 Cedis and the least was about 321 Cedis. The other variables in the study included inflation (infl), foreign direct investment (fdi) and government expenditure (govexp). Also included is political development (PD) and financial openness (finopenness). The data indicates that, inflation for the period on average basis was 26.7% with lowest being 4.8% and highest of 122.9%. Foreign direct investment (fdi) for the period averaged 3% of GDP, while that of government expenditure (govexp) was about 9.8% of GDP. Ghana registered an average of 2.24 in political development, with a highest value of 8 and lowest of -7. Finally, financial sector openness (finopenness) was a low average of -1.38 during the period as shown on Table 1. Thus, the study relates these set of explanatory variables to financial sector development.

Table 1: Descriptive Statistics

Variables	Obs	Mean	std.dev	Minimum	maximum
Bankprcr	41	9.100459	5.618132	1.38853	17.8764
Traopenness	41	62.68544	28.41664	6.32034	116.048
Rgdpc	41	655.2579	480.6533	320.772	1782.34
Infl	41	26.66813	25.10372	4.8654	122.8745
Govexp	41	9.843552	2.303847	5.86129	15.30817
Fdi	41	3.007463	2.90001	0.45328	9.466664
Finopenness	41	-1.38225	0.40503	-1.8639	-0.11232
PD	41	2.243902	6.236107	-7	8

Analysis of the Impact of Socio-Economic Variables and the Role of Openness on Financial Sector Development in Ghana

The study evaluated the impact of inflation, bank private credit, real GDP, government expenditure, foreign direct investments, trade openness and financial sector liberalization on the financial sector development in Ghana.

From Table 2, inflation does not only revealed its theoretical expected negative sign, but it was also statistically significant. More specifically, a 1% increases in inflation results in about 0.8% decreases in financial sector development. The implication is that increase in inflation introduces uncertainty in the financial system causing the level of confidence in the market to reduce. Also, inflation reduces returns on assets thereby compelling market agents to substitute financial asset with real asset (Adrian, 2023). To determine if the negative effect of inflation on the financial sector development was by chance, models 1, 2,3,4,5 and 6 were estimated by adding variables one after the other. The test results affirmed the reversed effect of inflation on financial sector development (FSD), therefore the study posits that inflation has significant negative effect on financial sector development in Ghana. The high inflationary trends in Ghana could possibly be the reason for the under development of the financial sector of the country. Studies that found similar results include Bittencourt (2011), Andrianaivo and Yartey (2010), BenNaceur and Ghazouani (2005) and Boyd, Levine and Smith (2001).

Furthermore, real GDP per capita (a measure of income distribution) shows significant direct effect on financial development in models 3, 4, 5, 6 and 7. The findings reflects the theoretical expectation of the study. Specifically, the result indicates that 10% increase in income results in about 1.8% increase in the development of the financial sector. As per capita income of Ghanaians increases, more surplus funds are generated to be channeled into the financial system. As more surplus funds are channeled into the financial sector, the resultant effect leads to efficient management and proper financial intermediation, thereby causing the financial sector to develop (Adu, 2013).

Additionally, government expenditure as a proportion of GDP revealed statistically significant negative effects on financial sector development in Ghana in models 6 and 7. It reveals that spending by government of Ghana is detrimental to the growth of the financial system. Specifically, a 1% increases in Ghana government's expenditure will lead to about 0.44% reduction in the development of the financial sector of Ghana. This result has intuitive implications. If government finances its expenditure largely through borrowings from the public (individuals and organisations) then private funds are channeled to the government rather than saving it in the financial sector to boost financial intermediation. This process reduces intermediation activities of the financial sector thereby reducing development in the sector.

Table 2: Main results of the Study

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Lnbankprcr	Lnbankprcr	Lnbankprcr	Inbankprcr	Inbankprcr	Inbankprcr	Inbankprcr
Inbankprcr _{t-1}	0.856*** (0.0496)	0.736*** (0.108)	0.581*** (0.150)	0.595*** (0.160)	0.582*** (0.200)	0.328* (0.173)	0.343** (0.148)
Lninfl	-0.0553* (0.0313)	-0.0670** (0.0316)	-0.0726** (0.0309)	-0.0724** (0.0313)	-0.0722** (0.0329)	-0.0980*** (0.0305)	-0.0846** (0.0332)
Lntrade	0.121** (0.0582)	0.130** (0.0591)	0.213*** (0.0745)	0.206** (0.0783)	0.215* (0.117)	0.469*** (0.117)	0.351** (0.131)
PD		0.0144 (0.0124)	0.0182 (0.0131)	0.0205 (0.0150)	0.0209 (0.0147)	0.0206 (0.0130)	0.0177 (0.0126)
Lnrgdppc			0.130* (0.0688)	0.131* (0.0702)	0.132* (0.0757)	0.139** (0.0626)	0.180** (0.0673)
Lnfdi				-0.0150 (0.0379)	-0.00965 (0.0656)	0.0292 (0.0437)	0.0213 (0.0397)
Lnfinopeness					-0.0197 (0.140)	-0.0292 (0.104)	0.0883 (0.120)
Lngov						-0.498*** (0.138)	-0.441*** (0.131)
Lntrafinopen							-0.00221* (0.00129)
Constant	0.0188 (0.191)	0.219 (0.268)	-0.630 (0.507)	-0.633 (0.514)	-0.682 (0.726)	-0.0575 (0.549)	-0.0597 (0.541)
Observations	40	40	39	39	38	38	38
R-squared	0.971	0.972	0.974	0.974	0.973	0.982	0.983

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Moreover, foreign direct investment (FDI) reveals a positive effect on financial sector development. Models 6 and 7 indicate that more foreign direct investments have the ability to propel financial sector development of Ghana. More precisely, a 1% foreign direct investment inflow will lead to about 0.021% development in the financial sector in the baseline model. Foreign inflow will find its way into the financial system thereby triggering development in the sector. Surprisingly, this variable is not statistically significant. The study argues that perhaps the foreign inflows into Ghana are not sufficient to exert statistically significant influence on the financial sector of Ghana. Considering models 4 and 5, a reverse effect of foreign direct investment (fdi) is noticed on the financial sector development. Though these coefficients are

not statistically significant, this observation is consonance with the aprior expectation of this study.

The influence of trade openness on the financial sector development in Ghana was equally examined. From Table 2, the influence of trade openness on the financial sector development was not only statistically significant at 5% level but it also showed a positive effect in line with theoretical expectation of the study. The coefficient shows that a 1% increases in trade openness causes financial sector development (FSD) to increase less than proportionately by 0.35%. The implication of the result is that, more trade openness means more foreign capital inflows into the economy through the financial system (Bernanke et al. 2022). The net effect of foreign inflows and outflows contributes significantly to the financial sector expansion and development in Ghana. As can be observed from Table 2, trade openness variable is positive and statistically significant from model 1 to 6. Thus, the study posits that trade openness is an important factor in explaining financial sector development in Ghana. This finding corroborates the work of Mahawiya (2015).

Financial openness (finopenness) revealed a direct influence on the progress of the financial sector of Ghana in the baseline model 7. The results show that more liberalization in the financial sector causes the sector to develop, however, these coefficients are not statistically significant.

The control variables included political development (PD). The coefficient of this variable in Table 2 is positive from models 1, 2, 3, 4, 5, 6 and 7. It all indicate that the higher the level of good governance (political development) the higher the financial sector development of Ghana. As democratic dispensations are improved, institutions of rule of law, property rights and legal system will all develop leading to public confidence in the financial system and thus, its development. However, this variable is not statistically significant throughout all models. One possible reason of the insignificance of this political variable is that the democratic dispensation of Ghana is at the developing stages with teething problems. This result even though statistically insignificant corroborates the findings of Degryse et al. (2018) who argue that good governance leads to more development in the banking sector.

CONCLUSION AND RECOMMENDATIONS

To conclude, the study revealed that the most important explanatory variables that affect financial sector development in Ghana include trade openness, real GDP per capita, inflation, government expenditure and the complementarity effect of trade openness and financial liberalization. However, the other variables such as political development and FDI are statistically insignificant.

In terms of policy recommendation, the study offers the following suggestions based on the current findings:

Since it is clear from the study that inflation is detrimental to financial development, the study recommends a contractionary monetary policy by the Monetary Policy Committee (MPC), this can be done by increasing the policy rate and the reserve ratio of the banks as well as conscious effort at controlling credit by the banking sector. Similarly, the study recommends contractionary fiscal policy in the form of reduced government unproductive expenditures and also reduce the fiscal deficit. Since trade openness shows a direct influence on financial sector development, the study further suggests that more external openness should be pursued to trigger financial sector development.

In terms of scope, the study was centered on Ghana for the period of 1980-2020. It covers financial development, inflation, international trade openness, financial openness, government expenditure, foreign direct investment and political development. It is recommended that further studies could examine a comparative analysis of the role of openness on the financial sector of two (2) of more countries in Sub-Saharan Africa.

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APPENDICES

Heteroskedasticity Test: Breusch-Pagan-Godfrey

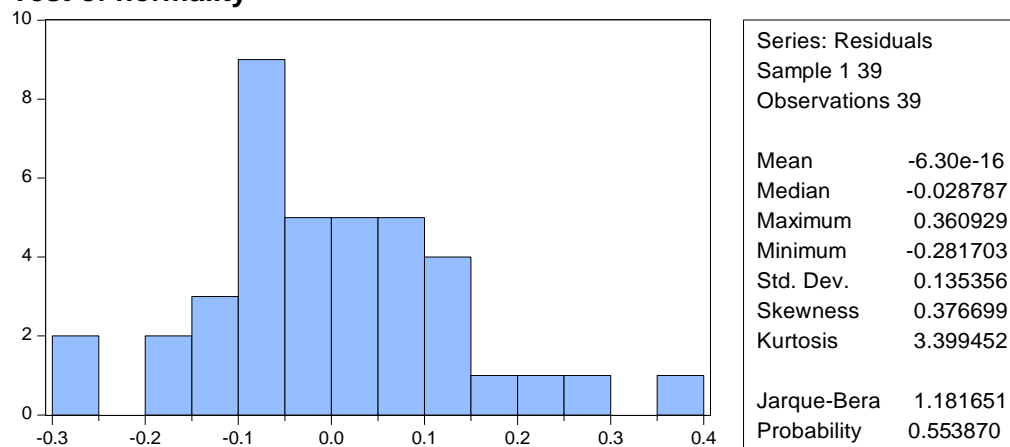
F-statistic	1.195049	Prob. F(8,30)	0.3349
Obs*R-squared	9.424962	Prob. Chi-Square(8)	0.3077
Scaled explained SS	6.690754	Prob. Chi-Square(8)	0.5703

Test Equation:
 Dependent Variable: RESID^2
 Method: Least Squares
 Date: 11/07/22 Time: 17:11
 Sample: 1 39
 Included observations: 39

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.229607	0.150399	-1.526655	0.1373
LNINFL	0.012711	0.008579	1.481685	0.1489
LNTRADE	-0.011955	0.029066	-0.411308	0.6838
POLITY2	1.32E-05	0.001590	0.008311	0.9934
LNRGDP_PC	0.014281	0.013375	1.067741	0.2942
LNFDI	0.002344	0.006600	0.355132	0.7250
FIN_OPENESS	-0.006062	0.032221	-0.188141	0.8520
LNGOV	0.063937	0.025002	2.557228	0.0158
TRAFINOPEN	-0.000142	0.000484	-0.293793	0.7709

R-squared	0.241666	Mean dependent var	0.017851
Adjusted R-squared	0.039443	S.D. dependent var	0.028014
S.E. of regression	0.027456	Akaike info criterion	-4.153312
Sum squared resid	0.022614	Schwarz criterion	-3.769413
Log likelihood	89.98958	Hannan-Quinn criter.	-4.015572
F-statistic	1.195049	Durbin-Watson stat	2.280939
Prob(F-statistic)	0.334868		

Test of normality



Parameter Stability Test

