BANKING AND FINANCIAL MARKETS IN CAMEROON: THEIR CONTRIBUTION TO ECONOMIC GROWTH

[1]Jean-Pierre T. Mbappe and [2]François X. Ngatchou

[1]Senior Lecturer at the Faculty of Economics and Management, University of Ngaoundere; Higher Teachers Training College, University of Bertoua, Cameroon

[2]PhD Candidate in Economics, the Faculty of Economics and Management, University of Maroua, Cameroon

Abstract:

The Cameroon National Strategy (DSCE) set ambitious growth targets for 2020, aiming for a 5.5% growth rate. However, despite a slight increase in average growth from 3% under the PRSP during the period 2010-2020, the country fell short of its objectives. Several factors have been blamed for this, including the impact of falling oil prices and security issues in various regions. However, this paper shifts the focus to the financial system as the primary contributor to Cameroon's underperformance. Cameroon has historically maintained a bank-based financial system, with the Douala Stock Exchange (DSX) in operation from 2001 to 2019. Since 2019, it has become the host of the unified financial market for the six member countries of CEMAC after the merger of the BVMAC and DSX. However, the effectiveness of this financial market remains a subject of debate, and there is a notable lack of data regarding market performance and key variables that could aid in assessing the relative influence of banks and financial markets on economic growth in Cameroon.

Keywords: Cameroon National Strategy, Financial System, Economic Growth, Douala Stock Exchange, CEMAC Unified Financial Market

1.   Introduction

Do banks and market finance complement or compete in Cameroon? The question arises in the midst of the various causes of the missed targets of the 2020 objectives of the Cameroon National Strategy (DSCE). From 3% under the PRSP, the average growth slightly grew during the period 2010-2020 which still below the expected 5.5% growth rate according to the DSCE. Suspicions are placed upon the fall in oil prices and security shocks on the far north, east, north-west and south-west regions of the country. This paper rather considers failures in the financial system to be the striking cause of the poor performances of Cameroon.

Cameroon's financial system has long been bank-based, although the Douala Stock Exchange (DSX) has been operating during 2001 to 2019. Since 2019, Cameroon hosts the single financial market of the six Africa Countries members of CEMAC[4] after the BVMAC and the DSX merged. Its proper functioning is still subject to many controversies. Moreover, there lack data on the market performances and market significant variables which could help assess the relative importance of banks and financial market on economic growth.

Several economic studies have found out five channels through which finance influences economic development: (i) production of ex ante information about possible investments, (ii) monitoring of investments and implementation of corporate governance, (iii) trading, diversification, and management of risk, (iv) mobilization and pooling of savings, and (v) exchange of goods and services (Levine, 2004, 2005).

Early researches focused primarily both on the correlation and the causality between finance and growth (Goldsmith, 1969; Robinson, 1952; Schumpeter, 1934) to certify that finance contributes to growth. As studies investigate on the relationship in developing countries, many other considerations arise to mitigate the early certitudes that financial development could positively impact economic growth of a country. Crises were linked to

financial development strengthened by financial liberalization (Abdala & Fouda, 2015); some countries faced recessions after financial liberalization, where financial markets existed. Recent studies either question the threshold level from which financial development starts being pro-growth (Allegret & Azzabi, 2012; Minea & Villieu, 2010) or assess the relative efficiency of each type of financial institution in strengthening growth (Beck, 2010; Sene & Thiam, 2018).

Most studies emphasizing the relative importance of banks and markets are limited to North, South, East or West Africa. The lack of stock exchanges data in central Africa has been the main reason. Our study, on this regard, seeks to fill the gap concerning central Africa and explain the mitigated results of the DSCE by the financial failures. We therefore overcome the lack of financial market data problem by simulating market integration in Cameroon with that of a similar country in West Africa (Ivory Cost).

The rest of the article is structured as follows. Section 2 reviews the literature on the role of each structure and section 3 unveils the methodology to assess their relative importance. Section 4 presents the main results. We discuss the results in a fifth section and conclude in section 6.

2. Literature review

Beck (2010) and Sene & Thiam (2018) concluded that there is no choice to make between the bank-oriented system and the financial market-oriented system; rather there are complementarities between the banking system and the financial markets. However, there has been a long tradition of opposing pro-banks and pro-markets literature.

2.1. Pro-markets literature

The pro-markets literature is backed by the arguments of Greenwood & Smith (1997), Holmström & Tirole (1993) and Levine (1991). Financial markets are the source of an efficient allocation of capital which in turn back up the economic growth. A developed financial market ensures the mobilization of savings and encourages the acquisition of information to help investors gain high profitability and devote more resources in order to find out innovative projects. Moreover, a developed financial market facilitates risk diversification and helps prevent liquidity risk thereby guaranteeing the diversification of portfolios and supporting long term investment and fostering economic growth.

The empirical verification of these arguments are provided by Demirgüç-Kunt & Levine (1996) and Levine & Zervos (1998) for cross-sectional studies and Campos et al. (1999) for panel analysis. They find a strong correlation between the development of the financial market and long-term economic growth or a positive relationship between capitalization of financial markets and economic growth.

2.2. Pro-banks literature

The pro-banks literature considers that the financial markets have some imperfections that banks can remedy. Drawing from Rajan & Zingales (1998), Allen & Gale (1997), Sirri & Tufano (1995), Greenwood & Jovanovic (1990), Stiglitz (1985), Ramakrishnan & Thakor (1984) and Schumpeter (1934) this literature insists on the facts that banks manage risks and information so as to improve investments efficiency. They have better monitoring processes and can (for bigger ones) force clients to pay their debts.

The empirical verification of these arguments are provided by King & Levine (1993), Levine (1998, 1999) and Levine et al. (2000) using dynamic panels. They agree at a strong correlation between financial intermediaries and growth, and a positive causal relation between intermediation development and the growth rate.

3. Methodology

3.1. The model and the financial variables

We estimate a model inspired by Beck (2010) which takes into account both banks and financial markets. It is based on the literatures on the determinants of growth and on the relationship between finance and growth. The following equation constitutes the basis of our empirical analysis:

$$y_t = \beta_0 + \beta_1 CBP + \beta_2 TURNOVER + \beta_3 FIN + \beta_4 INV + \beta_5 OUV + \beta_6 CONPUB + \beta_7 INFL + \varepsilon_t \qquad (1)$$

Where y is the growth rate of per capita GDP; CBP is the credit provided by banks to the private sector; TUROVER is the stock market turnover ratio; FIN represents the sum of the market capitalization and the total assets of banks;

INV is the private investment; OUV is the commercial openness; CONPUB is the expenditures on public consumption and INF represents the inflation rate.

CBP only reports on the financial resources that local banks provide to private companies.

TURNOVER measures the efficiency of the equity market or market activity relative to its size. A small but active financial market will have a very high turnover.

FIN is a summary measure of financial development which takes into account the development of both banks and financial markets. It is used to see if there is a complementary relationship between the two sources of funding.

3.2.   Data sources and estimation methods

The aim of this paper is to investigate the relationship between finance and growth in general, but specially to assess if banks and markets compete or complement in strengthening growth in Cameroon.

The data on financial variables are driven from the Financial Development and Structure Dataset developed by Beck, Demirguc-Kunt, Levine, Cihak and Feyen updated in July 2018. To overcome the lack of data for the financial markets in Cameroon, we simulated market integration similar to Ivory Coast. The other macroeconomic control variables are gotten from the World Development Indicator. The data were available from 1990 to 2017. We extended the span two years earlier using the mobile average technique to get 30 years of time series.

We start by performing the unit root test on the individual series and the cointegration test on our model after presenting the descriptive statistics and the correlation matrix. We use the OLS and also test the normality of the resid after estimating equation (1) above. We both regress the long term and short term relations.

The results of the econometrics works are presented in the following section.

4.   **Results**

Descriptive statistics (table 1) show a low and negative growth rate during the 30 years pan in Cameroon with a maximum growth rate of 3.98%. The financial variables (mainly for CBP) also present average values similar to those of similar west Africa countries like Ivory Coast, Ghana and Nigeria (Sene & Thiam, 2018) justifying our decision to simulate Cameroon financial market's variables with those of Ivory Coast. Inflation has also been moderate in average.

Table 1: Descriptive statistics

Variables	Y	CBP	TURNOVER	FIN	INV	OUV	CONPUB	INFL
Mean	-0.401538	12.16047	4.756764	32.56133	21.08166	8.281359	11.63422	3.519044
Median	1.149915	9.386990	2.826689	30.49500	21.39065	10.25073	11.51694	1.947917
Maximum	3.977432	26.41866	32.89058	55.59000	24.23623	25.22369	14.39682	39.80023
Minimum	-10.62726	5.938795	0.265178	12.58000	14.30539	-21.15115	10.29452	-1.819083
Std. Dev.	4.059514	5.972007	7.565618	13.40549	2.420508	10.18957	0.916083	7.271240
Skewness	-1.488399	1.415109	3.160836	0.355654	-0.976240	-1.182559	0.935117	4.327814
Kurtosis	3.935516	3.885001	11.68384	1.943718	3.496891	4.158669	4.066852	22.16213
Jarque-Bera	12.17065	10.99170	144.2157	2.027113	5.073852	8.670374	5.794938	552.6337
Probability	0.002276	0.004104	0.000000	0.362926	0.079109	0.013099	0.055163	0.000000
Sum	-12.04615	364.8141	142.7029	976.8400	632.4498	248.4408	349.0266	105.5713
Sum Sq. Dev.	477.9101	1034.281	1659.919	5211.505	169.9070	3010.993	24.33705	1533.257
Observations	30	30	30	30	30	30	30	30

Source: Authors computation

We find a strong correlation between the GDP and all the variables of the model. Among the financial variables CBP has the highest coefficient. The banks are negatively correlated to the growth of GDP per capita and the financial market is positively correlated to growth (table 2).

Over the period, the unit root test (see table 3) shows that the variables of the specified econometric model do not have the same orders of integration. Two variables are stationary in level (the inflation rate and the growth rate of GDP per capita).

Table 2: Correlation matrix

Variables	Y	CBP	TURNOVER	FIN	INV	OUV	CONPUB	INFL
Y	1.000000							
CBP	-0.629131	1.000000						
TURNOVER	0.179221	-0.265476	1.000000					
FIN	0.120739	0.439242	-0.354996	1.000000				
INV	0.691831	-0.330805	-0.069866	0.349498	1.000000			
OUV	0.676910	-0.694505	0.170562	-0.021343	0.719171	1.000000		
CONPUB	-0.426301	0.306562	-0.080429	0.184779	-0.331852	-0.368555	1.000000	
INFL	-0.390306	-0.200898	-0.005359	-0.249228	-0.242505	-0.062707	0.489904	1.000000

Source: Authors computation

Table 3: Results of the unit root tests on individual variables

Variables	ADF	PP	Final Decision
Y	I(0) 0.0028	I(0) 0.0027	I(0)
CBP	I(1) 0.0003	I(1) 0.0003	I(1)
TURNOVER	I(1) 0.0000	I(0) 0.0315	I(1)
FIN	I(1) 0.0002	I(1) 0.0002	I(1)
INV	I(1) 0.0000	I(1) 0.0000	I(1)
OUV	I(1) 0.0000	I(1) 0.0000	I(1)
CONPUB	I(1) 0.0000	I(1) 0.0000	I(1)
INFL	I(0) 0.0005	I(0) 0.0002	I(0)

Notes: Probabilities provided to reject the null hypothesis of variable having a unit root with no intercept or trend included in the test equation.

Table 4: Relative importance of banks and financial market in fostering growth in Cameroon

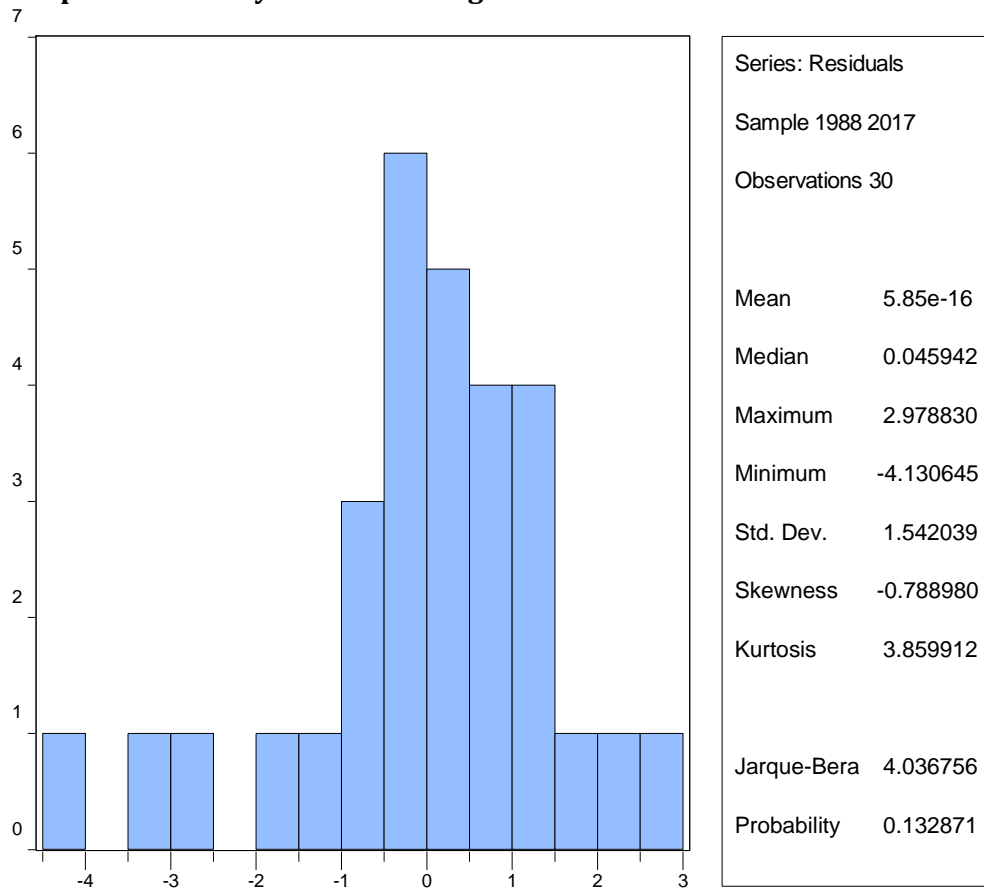| Dependant variable :	Growth rate of GDP per capita
Complementary check	Competition check

Variables	Long term relation	Short term relation	Bank-based	Market-based
CBP	-0,565755***	-0,246262**	-0.485614***	- TURNOVER 0,062954 0,028432 - 0.074949
FIN	0,081281***	0,057081	-	-
INV	0,652157***	0,602742***	0.825247***	0.618570*
OUV	-0,080192	-0,097869**	-0.060473	0.143308*
CONPUB	0,254093	-0,685025*	0.628445	-0.140641
INFL	-0,243642***	-0,189129***	-0.275517***	-0.146280*
C	-11,65098	0,133904	-17.73493***	-12.83431
Resid(-1)	-	-0,731699***	-	-
R²	0,855708	0,842252	0.819276	0.639485
Adjusted R²	0,809797	0,775831	0.781625	0.564377
F-Statistic	18,63836	12,68062	21.75982	8.514279
Prob F-Stat	0,000000	0,000004	0.000000	0.000095

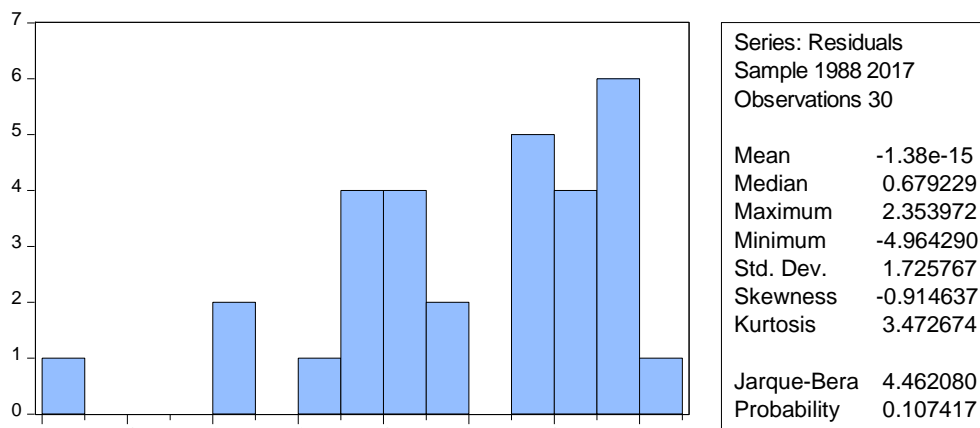*** Significant at 1% level; ** Significant at 5% level.

Long-term estimation shows the unexpected negative effect on growth of the credit provided to the private sector by banks. The same result is repeated for the short term relation and the bank-based estimation. The coefficients are high enough and highly significant over 5%. The coefficients of the turnover ratio are too small and not significant. The finance activity (measuring the combined effect of both) is significant in the long run at 1% level.

The results of the normality tests are presented on the following graphs. The probabilities show that the long run estimation has normal resids, just like the estimation using only the banking system as financial variable, and unlike the estimation using only the financial market.
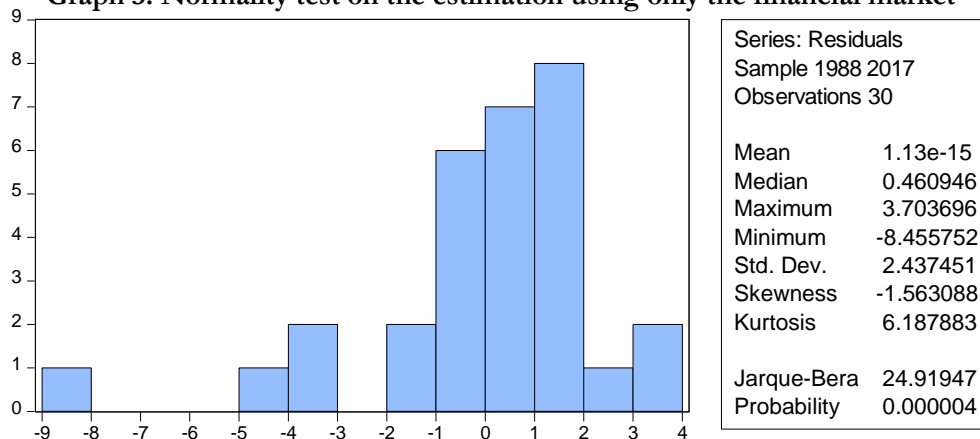
Graph 1: Normality test on the long term estimation

Series: Residuals	
Sample 1988 2017	
Observations 30	
Mean	5.85e-16
Median	0.045942
Maximum	2.978830
Minimum	-4.130645
Std. Dev.	1.542039
Skewness	-0.788980
Kurtosis	3.859912
Jarque-Bera	4.036756
Probability	0.132871

Graph 2: Normality test on the estimation using only the banking system

Series: Residuals	
Sample 1988 2017	
Observations 30	
Mean	-1.38e-15
Median	0.679229
Maximum	2.353972
Minimum	-4.964290
Std. Dev.	1.725767
Skewness	-0.914637
Kurtosis	3.472674
Jarque-Bera	4.462080
Probability	0.107417

Graph 3: Normality test on the estimation using only the financial market

Series: Residuals	
Sample 1988 2017	
Observations 30	
Mean	1.13e-15
Median	0.460946
Maximum	3.703696
Minimum	-8.455752
Std. Dev.	2.437451
Skewness	-1.563088
Kurtosis	6.187883
Jarque-Bera	24.91947
Probability	0.000004

The methods used to regress all the relations except the last one, using only the financial markets indicator, are then robust. We discuss the findings in the following section.

5. Discussion: What if Cameroon had a financial market developed as that of Ivory Coast?

The relative importance of bank-based and market-based finance appears clearly in this paper. Whatever the model, the bank activity coefficient is significant and negative but the finance activity is not significant though positive. However, when the two are combined, finance does positively affect economic growth in Cameroon and the coefficient is significant at 1% level in the long run. The results indicate that bank activities did harm the growth process and that if the financial market did perform correctly, growth rates would definitely increase.

The banking system has the major impact on growth in Cameroon during the period under study. Its coefficient is five times higher than that of the financial markets'. However, while the markets-based coefficient is positive, the bank-based coefficient has a negative sign. The explanations for the negative signs of the bank activity coefficients could be justified by some findings on the pro-banks literature. Schumpeter (1934) pointed out that it's only when banks function well that they stimulate technological innovation and growth by identifying and financing companies with the best chances of success in their innovative activity. The negative effect of banking activity in Cameroon is then typically a sign that the banking system works poorly in Cameroon. It does not manage information asymmetries perfectly and end up rationing credit and it still bears the consequences of the banking crisis of the 1980s and 1990s (Avom & Eyeffa Ekomo, 2007).

The mitigated results of the DSCE in terms of growth rate could thus be attributed to the shortcomings of the financial system of Cameroon, which is typically bank-based. If Cameroon could have a financial market just as developed as

that of Ivory Coast, that could have accelerated economic growth and assist in achieving the new goals of the 2030 National Development Strategy.

6. Conclusion

This paper aimed at investigating the relative importance of each financial structure for growth in Cameroon. We considered the Beck (2010) model and overcame the lack of financial markets' data by simulating a development similar to that of Ivory Coast. We also regressed several estimations to assess whether banks and financial markets compete or complement during the 1988-2017 period.

The results showed that, during the period, banks (separately) negatively affected growth and financial markets (separately) did not significantly affect growth rate. But combining both banks and financial markets, finance could have a significant positive effect on economic growth. The study then calls for improvements in the CEMAC's financial market activity to reach the desired economic growth target.

7. References

Abdala, Z., & Fouda, S. (2015). Développement financier et déficits publics dans la CEMAC. Editions Universitaires Européennes.

Allegret, J.-P., & Azzabi, S. (2012). Finance, Growth and Threshold Effects. Panoeconomicus, 5, 553–581. https://doi.org/DOI: 10.2298/PAN1205553A.

Allen, F., & Gale, D. (1997). Financial Markets, Intermediaries, and Intertemporal Smoothing. Journal of Political Economy, 105(3), 523–546. https://doi.org/https://doi.org/10.1086/262081.

Avom, D., & Eyeffa Ekomo, S. M.-L. (2007). Quinze ans de restructuration bancaire dans la cemac : qu'avons-nous appris ? Revue d'économie Financière, 89(HOMMAGE À YVES ULLMO PERSPECTIVES FINANCIÈRES EUROPÉENNES (JUILLET 2007)), 183–205. https://www.jstor.org/stable/42904466

Beck, T. (2010). Développement de la finance et croissance économique : banques versus marchés financiers. Revue de Proparco, 5 (Mars).

Campos, N. F., Hanousek, J., & Filler, R. K. (1999). Do Stock Markets Promote Economic Growth? (WP 151; CERGE-EI Working Papers).

Demirgüç-Kunt, A., & Levine, R. (1996). Stock Market Development and Financial Intermediaries: Stylized Facts. The World Bank Economic Review, 10(2), 291–321. https://www.jstor.org/stable/3990064.

Goldsmith, R. W. (1969). Financial Structure and Development. CT: Yale Univesity Press.

Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. Journal of Political Economy, 98(5–1), 1076–1107.

Greenwood, J., & Smith, B. D. (1997). Financial markets in development, and the development of financial markets. Journal of Economic Dynamics and Control, 21(1), 145–181. https://doi.org/10.1016/0165-1889(95)00928-0.

Holmström, B., & Tirole, J. (1993). Market Liquidity and Performance Monitoring. Journal of Political Economy, 101(4), 678–709. https://www.jstor.org/stable/2138744.

King, R. G., & Levine, R. (1993). Finance and growth: schumpeter might be right. Quarterly Journal of Economics, 108(3), 717–737. https://doi.org/10.2307/2118406.

Levine, R. (1991). Stock Markets, Growth, and Tax Policy. Journal of Finance, 46(4), 1445–1465. https://doi.org/https://doi.org/10.1111/j.1540-6261.1991.tb04625.x.

Levine, R. (1998). The Legal Environment, Banks, and Long-Run Economic Growth. Journal of Money, Credit, and Banking, 30, 596–613.

Levine, R. (1999). Law, Finance, and Economic Growth. Journal of Financial Intermediation, 8, 36–67.

Levine, R. (2004). Finance and Growth: Theory and Evidence (No. 10766; NBER Working Paper). www.nber.org/papers/%0Aw10766.

Levine, R. (2005). Chapter 12 Finance and Growth: Theory and Evidence. In Handbook of Economic Growth (Vol. 1, Issue SUPPL. PART A, pp. 865–934). Elsevier. https://doi.org/10.1016/S1574-0684(05)01012-9.

Levine, R., Loayza, N., & Beck, T. (2000). Financial intermediation and growth: Causality and causes. Journal of Monetary Economics, 46(1), 31–77. https://doi.org/10.1016/S0304-3932(00)00017-9.

Levine, R., & Zervos, S. (1998). Stock Markets, Banks, and Economic Growth. The American Economic Review, 88(3), 537–558. https://www.jstor.org/stable/116848.

Minea, A., & Villieu, P. (2010). Développement financier, qualité institutionnelle et croissance: un modèle simple avec effet de seuil. Région et Développement, 32, 31–57.

Rajan, R. G., & Zingales, L. (1998). Financial Dependence and Growth. The American Economic Review, 88(3), 559–586. https://www.jstor.org/stable/116849.

Ramakrishnan, R. T. S., & Thakor, A. V. (1984). Information Reliability and a Theory of Financial Intermediation. The Review of Economic Studies, 51(3), 415–432. https://doi.org/https://doi.org/10.2307/2297431.

Robinson, J. (1952). The Rate of Interest and Other Essays. MacMillan.

Schumpeter, J. A. (1934). The Theory of Economic Development. Harvard University Press.

Sene, B., & Thiam, I. (2018). La relation entre finance et croissance revisitée dans les pays de l'Afrique subsaharienne: Banques versus marchés financiers. L'Actualité Economique, 94(1), 91–119. https://doi.org/https://doi.org/10.7202/1065757ar.

Sirri, E. R., & Tufano, P. (1995). The Economics of Pooling. In D. B. Crane, K. A. Froot, S. P. Mason, A. F. Perold, R. C. Merton, Z. Bodie, E. R. Sirri, & P. Tufano (Eds.), The Global Financial System : A Functional Approch (Harvard Bu, pp. 81–128).

Stiglitz, J. E. (1985). Credit Markets and the Control of Capital. Journal of Money, Credit and Banking, 17(2), 133–152. https://doi.org/https://doi.org/10.2307/1992329.