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Research Article

Financial System Development and Economic Growth: A Critical Analysis of the Literature

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Abstract

Any developing countries (DCs) want to achieve strong, sustained growth to ensure their sustainable development by 2030. Indeed, promoting economic growth is one of the targets of the majority of the Sustainable Development Goals (SDGs) set by United Nations member countries. In their agenda, financial system development cited as an effective means of enabling developing countries to achieve high rates economic growth. However, research into the relationship between finance and growth has produced controversial results, showing that financial development is not always conducive to economic growth. These non-consensual findings call for further research into the subject. With this in mind, the aim of this paper is to critically analyze the literature on the subject with reference to the characteristics of developing countries. We have used the stylistic facts observed in these countries to see whether the way in which studies are conducted is in line with reality. These facts revealed that, as conducted, theoretical and empirical work does not really illustrate the nature of this relationship in the case of developing countries. The authors do not take into account certain specificities of these countries. The studies focus mainly on the formal financial sector, whereas in developing countries, the majority of the population is unbanked, so they tend to turn to the informal financial sector for savings and credit. In Pagano's theoretical model, on which most empirical work is based, the efficiency of financial intermediation is assumed to be an exogenous variable. However, in developing countries, many factors influence this function: poor governance, prevailing corruption, inefficiency of the legal system, government intervention in the financial sector, culture of non-repayment. Banking sector development is generally captured by credit to the private sector. However, in developing countries, the majority of bank credit is allocated to large commercial enterprises that sell mainly imported products. The indicators generally used to capture financial markets development do not reflect the amount of financing actually obtained by listed companies. Rather, they measure the level of secondary market activity, whose mission is to ensure the liquidity of securities and determine their prices. Taking account of financial dualism and integrating factors linked to the institutional environment, borrower behavior and financial intermediaries into the resource allocation function would be a significant advance in the literature.

Keywords

Financial Development, Economic Growth, Financial Intermediaries

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1. Introduction

The relationship between financial development and economic growth has been the subject of several theoretical and empirical studies, the results of which are controversial. Beginning with the work of Schumpeter (1912) [59] and marked by that of McKinnon (1973) [48] and Shaw (1973) [60], the literature on the subject was revived in the early 90s with the work of Pagano (1993) [54], King and Levine (1993) [39], Berthelemy and Varoudakis (1994) [12]. The latter formalized this relationship, drawing inspiration from endogenous growth models. Empirical evaluation of these theoretical models has subsequently shown that the development of the financial sector can stimulate economic growth, just as it can act as a brake on it.

Financial crisis of 2007 rekindled the debate, and new approaches to analysis emerged. Two main findings emerge: Finance is growth-friendly only in the early stages of financial development [57, 44]; Too much finance can harm growth [18, 20, 50]. A recent study of Sub-Saharan African countries by Megnigang (2021) [50] shows that financial system development is a necessary but not sufficient condition for economic growth. Beyond the relevance of these results, the above mentioned studies present a number of limitations. This article therefore proposes a critical analysis of the literature. This analysis contrasts the linear relationship thesis (I) with the non-linear relationship thesis (II).

2. The Linear Relationship Between Financial Development and Economic Growth

2.1. The Theoretical Works on Linear Relationship

In the majority of works dealing with the linear relationship, causality runs in the direction from finance to growth. Financial development contributes automatically to economic growth, as the financial sector performs functions that are indispensable to the growth process. The improvement in these functions, which Levine (2005) [45] equates with financial system development, leads to an increase in economic activity through capital accumulation and productivity growth. On the basis of this positive relationship, McKinnon (1973) [58] and Shaw (1973) [60] developed financial liberalization theory as an indispensable means of improving the financial sector and boosting economic growth in developing countries. However, the results of these policies were generally disappointing, due to the macroeconomic instability and financial crises they engendered (Eggoh, 2011) [28]. According to McKinnon (1991) [49], this failure is linked to the failure to respect financial liberalization process, which must begin with reform of banking sector, followed by opening up of trade and finally opening up of capital account.

Drawing on the limitations of this theory, some authors have used endogenous growth models to formalize the theoretical framework for demonstrating the financial development effect on economic growth. This is notably the case of Roubini and Sala-i-Martin (1992) [56], who start from a utility function into which they introduce an indicator of financial intermediation activity. They make three assumptions: the marginal utility of money decreases with the level of financial sophistication, returns to scale are constant and the rate of capital depreciation is zero. Based on these assumptions, they build a model that shows that financial development increases the rate of economic growth by reducing households' preference for liquidity.

This is also the case with Pagano (1993) [54], who includes financial intermediation activity in the endogenous growth model. He assumes that: the economy is made up of several firms with the same production function (AK); the population grows at a constant rate; invested capital depreciates per period at a constant rate; and part of savings accumulated disappear into the circuit when transformed into investment. Based on these assumptions, Pagano builds a model that reveals improving financial services can promote growth by increasing the proportion of savings allocated to investment, and by improving the marginal productivity of capital and the savings rate.

However, some authors have pointed out the limitations of this model. According to Amable and Chatelain (1995) [4], Pagano was not very explicit about the theoretical content of the efficiency of financial intermediation, which can incorporate all imperfections likely to affect the saving and investment functions. As a result, they disaggregate this concept into three components: the efficiency with which intermediaries mobilize funds, allocate resources to firms and transform resources into investment. Eggoh (2011) [28] points out that Pagano has overlooked the savings collection process. Furthermore, King and Levine (1993) [39] build a model showing that financial development stimulates economic growth via productivity growth. In their view, the effect of this channel is greater than that of capital accumulation. The predictions of this theoretical work have been empirically evaluated.

2.2. Empirical Studies on Linear Relationship

Empirical work on the linear relationship leads to four results.

1) Financial development stimulates economic growth through capital accumulation and productivity growth.

The studies by King and Levine (1993) [39] and Levine and Zervos (1998) [46], covering 80 and 42 countries respectively, reveal a positive and significant effect of financial development indicators on Gross Domestic Product (GDP) growth rates. Levine and al (2000) [47] find that the effect of productivity growth is greater than that of capital accumula-

tion. Ndikumana (2000) [52] looks at 30 SSA countries and finds that financial development stimulates growth by increasing the investment level. Aka (2010) [2] looks at 22 SSA countries and finds that financial development stimulates growth through technical progress. The study by Gelbard and al. (2015) [32] also shows that financial development is positively and significantly correlated with economic growth in SSA countries. Beck and al. (2008) [10] study of 44 countries reveals that the positive effect of financial development on productivity growth is relatively higher in sectors made up of small businesses than in other sectors. The study by Beck and al. (2012) [9], based on a sample of developed and emerging countries, shows that the financial sector fosters growth, above all by alleviating companies' financing constraints. The work of Cournède and al. (2015) [21] and Benczúr and al. (2017) [11] shows that development of the banking sector stimulates growth if and only if credit is allocated to businesses.

2) *Financial development can hinder economic growth*

The study by Berthélemy and Varoudakis (1998) [13] is a pioneering contribution to the empirical literature arguing that financial system can develop at the expense of economic growth. Their study of 82 countries reveals that financial development effect on growth is negative in periods of financial repression and insignificant in post-financial reform periods. This result is due to the existence of multiple equilibria between financial and real sectors. In the same vein, Cournède and al. (2015) [21] show that in Organisation for Economic Co-operation and Development (OECD) and G20 countries, equity financing stimulates economic growth, while bank financing hinders it. Nevertheless, the negative impact of indirect financing is greater when credit to the private sector benefits households more than companies. Focusing in particular on high-income countries, Benczúr and al. (2017) [11] find that corporate credit and stock market financing have a positive impact on the GDP growth rate, while household credit and debt securities have a negative impact. This result is not dissimilar to that of Asteriou and Spanos (2019) [6], for whom financial development was detrimental to economic growth in the European Union after the subprime crisis.

3) Financial development has not effect on economic growth

Beck and al (2012) [9] study of a sample of developed and emerging countries reveals that financial development does not significantly influence growth when credit is allocated to households. Using the generalized method of moments, some authors [43, 53, 61] find that financial development has no significant effect on growth in Sub-Saharan Africa. This result would be linked to the underdevelopment of financial systems or the instability of growth rates [53] and the absence of good governance in this region [43].

4) Causality between finance and growth can be a two-way street

Empirical work on causality leads to contrasting results. Time-series studies show that the direction of causality can go from financial development to economic growth or vice versa, just as it can be two-way or non-existent. Focusing on the Sub-Saharan African region, the work of Ghirmay (2004) [33], Kpodar (2005) [41], Aka (2010) [2], Akinlo and Egbetunde (2010) [3] reveals that causality is two-way for some countries and one-way for others. Analyses based on panel data yield similar results. The study by Calderón and Lin (2002) [16] reveals that the direction of causality is from finance to growth in developing countries, which is the opposite in industrialized countries. Eggoh (2009) [27] finds that causality is bidirectional. However, causality from finance to growth is stronger in low-income countries, while reverse causality is stronger in middle-income countries.

2.3. The Shortcomings of Linear Relationship Studies

The work presented above has several limitations. King and Levine (1993) [39] model's is essentially adapted to developed countries, where companies compete on innovation, intermediaries and capital markets play a full role. In the majority of developing countries, capital markets do not exist, and when they do, they are not very active. Financial intermediaries play a limited role, mainly granting short-term credit. In Sub-Saharan Africa, for example, twenty-five countries have no stock market, and credit allocated to the private sector by financial intermediaries amounts to 18% of GDP [34]. In such a context, innovative activities have difficulty finding financing because they require long-term investment.

Pagano (1993) [54] model's does not take into account the heterogeneity of firms in the economy, demographic growth, existence of an informal financial system, labor factor in the production function, nor does it explain the efficiency of financial system. In fact, there are generally four categories of enterprise in developing countries: very small enterprises (VSE), small enterprises (SE), medium-sized enterprises (MSE) and large enterprises (HE). Larger companies are generally more likely to have access to financial services than other types of business. In Cameroon, almost 42% of HE access formal credit compared with 18% of ME and 11% of SE [29].The same applies to Senegal, where the respective proportions are 71%, 19% and 14%. Production factors and production technology also differ from one category of company to another. In VSE and SE, production is generally carried out using low-skilled family labor and rudimentary techniques. In contrast, HE use more sophisticated techniques and skilled labor.

In developing countries, populations are growing enormously. For over three decades, SSA populations have been growing at an average rate of almost 2.7% per year. In 2015, it stood at 1.7% in the Middle East and North Africa, 1.3% in South Asia and 1.1% in Latin America and the Caribbean [62]. All other things being equal, an increase in population

could lead to an increase in needs. This would lead to a drop in the capacity to save, a fall in level of investment and consequently a decline in the rate of growth. It could also lead to an increase in effective demand, thereby stimulating investment. The demographic growth effect on savings and investment have been highlighted in empirical work by Koudouovoh (1993) [40].

Still in these countries, part of the population turns to informal financial sector for their savings, credit, insurance and remittance needs. In SSA, 25% of the adult population save in the informal sector, compared with 15% in the formal financial sector. Similarly, 9% of the latter benefit from informal credit versus 7% for bank credit [35]. In 2017, almost 73% of adults who had saved in this region said they had used informal savings [35].

Microeconomic analysis highlights that production techniques integrate the labor factor in varying proportions depending on the type of business. Like DCs, SSA countries are generally capital-poor and unskilled labor-rich (Dontsi, 1994) [24]. Much of their skilled labor leaves the continent and doesn't necessarily return. Their companies produce mainly with an abundance of unskilled labor, which goes to show that innovation is rare. In Cameroon, there has been a steady decline in capital intensity of companies. Measured by the ratio of gross fixed assets to the number of employees, capital intensity here fell from 61.6 million FCFA in 2012 to 33.2 million in 2015 [38].

Finally, the Ø parameter that measures the efficiency of the financial system in Pagano's model is seen as "manna from heaven". This parameter cannot be exogenous, as factors linked to the environment in which financial intermediaries operate can influence their efficiency. In developing countries, there are bottlenecks which mean that a large proportion of household savings remain idle in the banking system. These include an inefficient legal system, poor governance, high levels of corruption and government intervention in the financial sector. Furthermore, empirical work uses financial development indicators that do not relate to the various functions of the financial system (Lévine, 2005) [45]. The imperfection of these indicators can be reduced to measurement errors, which the instrumental variables method is capable of resolving (Kpodar, 2007) [42]. These limitations can provide a basis for work on non-linear relationships.

3. Non-linear Relationship Between Financial Development and Economic Growth

3.1. Theoretical Works on Non-linear Relationship

Models developed within the framework of the non-linear relationship take account of the dual causality between finance and growth, and highlight the existence of threshold effects. This is the case of the Berthélemy and Varoudakis (1994) [12] model's based on the argument that financial intermediaries direct savings towards more productive uses, by collecting information on different investment projects. They endogenize the efficiency of financial intermediation by considering it to be an increasing function of the quality of real resources used by banks, in particular the quantity of labor they employ. The result is that the interaction between financial sector and real sector generates three equilibrium point (two stable and one unstable). The first stable equilibrium is characterized by a low level of financial development and negative growth, while in the second, the financial sector is developed and growth is strong. The unstable equilibrium serves as a transition and is characterized by negative growth and a developed financial sector.

The existence of multiple equilibrium is confirmed by Eggoh and Villieu (2013) [26], Dontsi and Megnigang (2022) [25]. They highlight two stable equilibrium, the first characterized by an underdeveloped financial sector and low growth, and the second by a developed financial sector and high growth. Eggoh and Villieu model's differs from the previous one in two respects: i) Existence of a positive growth rate whatever the equilibrium; and ii) the local and global indeterminacy of the model, since the low equilibrium is locally stable while the high equilibrium is stable in the saddle-point sense. Huang and al. (2010) [37] also argue that the non-linearity of the relationship between finance and growth is conditioned by the financial development level. The results of the nested generation model they developed show that the impact of finance on growth depends on the magnitude of each channel, which is strongly influenced by the initial level of financial development.

Aka (2005) [1] takes into account the existence of capital markets and points out that their emergence encourages financial intermediaries to take part in them by purchasing the financial products they offer. This enables them to diversify their portfolios in order to minimize risk. His model reveals that the extent of the positive effect of development of financial intermediation on growth depends on development of capital markets level: Economic growth is an increasing function of the banking sector development in the absence of capital markets. As soon as capital markets emerge, it becomes a decreasing function of the latter. Aka (2005) [1] argues that the coexistence of intermediaries and capital markets means that part of savings is captured by the markets, so that the impact of intermediaries on growth diminishes in favor of the markets if savings are directed towards productive investment. Conversely, when the resources mobilized by capital markets are used for speculation or are directed towards property rights markets, economic growth will be delayed.

Minea and Villieu (2010) [51] consider the role of institutions in the relationship between finance and growth to highlight the non-linearity. Their model shows that when the

quality of institutions falls below a certain threshold, financial system grows at the expense of the real sector. Above this threshold, the relationship between the two becomes positive. They also find that when financial system and institutions are initially developed, an improvement in their quality amplifies the positive effect of financial development on growth. In the opposite case, growth tends to decline as the financial system improves. Cecchetti and Kharroubi (2015) [18], model's reveals that strong credit growth reduces growth in total factor productivity and aggregate output.

One of the most recent models is by Dontsi and Megnigang (2022) [25]. These authors have tried to improve Eggoh and Villieu model's by adding two parameters, namely the informal financial sector (IFS) and the quality of institutions set up by the state. Their theoretical analysis shows that improving existing institutions promotes financial development and vice versa; the effect of financial development on growth is conditioned by the financial sector efficiency of in allocating savings. when the IFS is fairly efficient, its development stimulates growth. When the IFS is not very efficient, its effect depends on the level of development of the formal financial sector (FFS): the development of a not very efficient IFS hinders growth when the FFS is not very developed, while it stimulates it when the FFS is fairly developed. Their model also shows that there are at most two equilibria. In contrast to Eggoh and Villieu (2013) [26], who emphasize that the transition from low to high equilibrium occurs through an instantaneous jump in the level of financial development, Dontsi and Megnigang (2022) [25] find that it's occasioned by an improvement in the quality of the institutions. All these theoretical studies have inspired a number of empirical studies.

3.2. Empirical Studies on Non-linear Relationship

Empirical studies confirm the existence of threshold effects in the relationship between finance and growth. They identify the level of financial development and the level of certain macroeconomic indicators as sources of the non-linearity between these two quantities.

1) The financial development level as a threshold variable

The work can be divided into two groups. The first group reveals that financial development does not influence economic growth in financially underdeveloped countries, whereas it does promote it in financially developed countries; the positive effect is relatively small in financially highly developed countries. Using a sample of 82 countries and the fixed-effects method, Berthélemy and Varoudakis (1998) [13] find that in countries with an underdeveloped financial system (M2/GDP<36.5%), there is no significant correlation between the M2/GDP ratio and the level of investment. This positive correlation becomes significant when M2/GDP>36.5%. Using the dynamic panel GMM method applied to a sample of 74 countries, Rioja and Valev (2004) [55] find that financial development does not significantly influence growth in financially underdeveloped countries, while it favors it in other countries, with a relatively weaker effect in countries with highly developed financial systems. Eggoh (2009) [27] finds that the threshold beyond which the positive effect begins to diminish is 81% of (GDP) for liquid assets and 50% of GDP for the variables credit to the private sector and banking assets. Using cross-sectional regressions, Aka (2005) [1] finds that the positive effect of banking sector development on growth is higher in countries with highly developed financial markets. This result is in line with that of Deidda and Fattouh (2008) [22]: the effect of financial development on growth is weaker when stock markets are developed.

The second group of studies stresses that too much financial development can be detrimental to economic growth. These studies which have abounded in the literature on the finance-growth link since the subprime crisis, focus for the most part on emerging and developed countries. Using the Generalized Method of Moment (GMM), Rousseau and Wachtel (2011) [57] find that strong financial development is detrimental to growth because of the increased incidence of financial crises caused by excessive growth in money and credit. Using the same method, Arcand and al (2012) [5] find that when credit represents between 80% and 100% of GDP, the banking intermediation development is detrimental to growth. This result would be due to economic volatility, the increasing probability of economic shocks and the misallocation of potential resources.

Cecchetti and Kharroubi (2012) [18] find that when credit to private sector exceeds 90% of GDP, any further increase in credit leads to a reduction in the growth rate of GDP per skilled employee in both developed and emerging countries. This is also the case for (OECD) countries when the financial sector represents more than 3.5% of total employment. This is linked to the fact that the financial system competes with the rest of the economy for limited resources. Overall, the threshold for relationship breakdown differs from one indicator to another. It is over 57% for the deposits/GDP ratio, over 75% for credit/GDP and over 86% for liquid liabilities/GDP [26, 44].

In the light of these results, we can summarize the relationship between finance and growth according to the financial development level in the graph below.

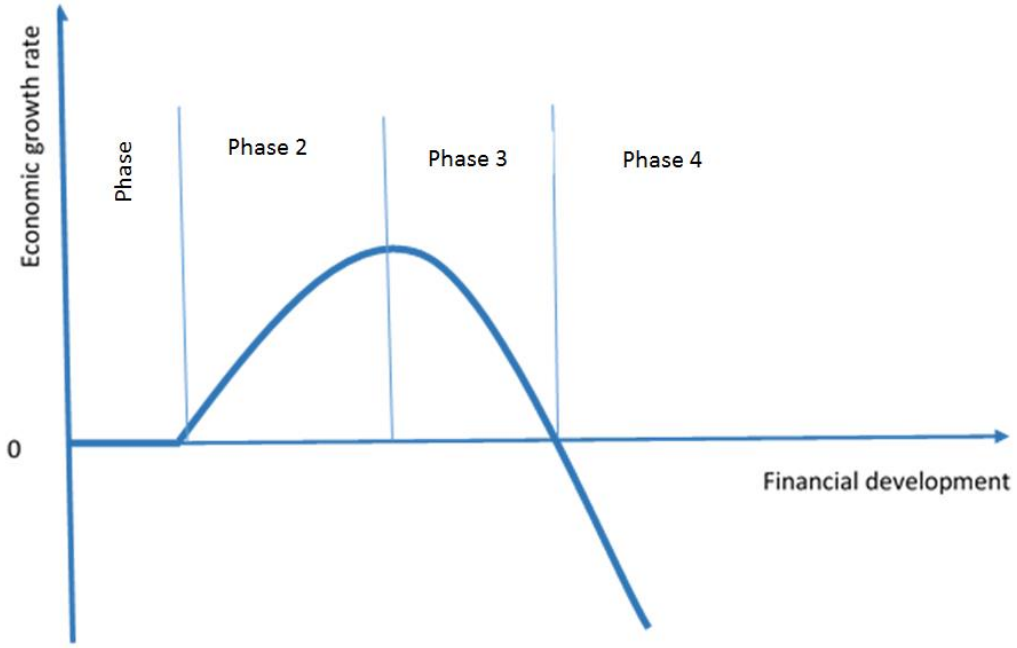

Figure 1. *Non-linear relationship conditioned by financial development level.*

In phase 1, the financial system is underdeveloped or embryonic, and its improvement has no influence on growth. In phase 2, it is fairly well developed, and growth increases with financial development level. In phase 3, the financial system is well-developed, and the growth rate declines (but remains positive) with it. In phase 4, when the financial system is highly developed, the growth rate continues to decline with financial development, becoming negative.

2) Macroeconomic indicators as a threshold variable

Several macroeconomic indicators may be at the root of the non-linear relationship between finance and growth. The work of Demetriades and Law (2004) [23], Gaytan and Rancière (2004) [31], Kpodar (2007) [42] and Eggoh (2009) [27] highlights the economic development level. They point out that financial development effect on growth depends on the level of income. In low-income countries, financial development does not have a significant influence on growth, whereas it favors growth in other groups of countries, with a higher effect in middle-income countries than in high-income ones. These studies show that, whatever the income level, financial sector development does not lead to negative growth rates.

Demetriades and Law (2004) [23], Yahyaoui and Rahmani (2009) [63], Kuipou and al. (2015) [43] emphasize that the quality of institutions in place in a country can also condition the relationship between finance and growth. Their empirical studies show that, when the quality of institutions is poor, financial development does not significantly influence growth; in the opposite case, it strongly stimulates it. Kuipou and al (2015) [43] explain the lack of significance of the effect of financial development on growth in the franc zone by the poor quality of institutions.

The study by Berthelemy and Varoudakis (1998) [13] and Eggoh (2009) [27] reveals that financial development only begins to promote growth once a certain level of education is reached. This threshold is 6% for secondary school enrolment and 9 years of secondary education in developing countries. Government spending is identified by Eggoh (2009) [27] as a source of non-linearity, the threshold being between 55% and 90% of GDP. The same applies to inflation, with a breakpoint between 12% and 20%. This is because the relationship between finance and growth is insignificant in countries with high inflation rates [37]. Using the Threshold Autoregressive method, Avoutou (2019) [7] finds that the positive impact of financial development on growth is weakened by ethnic fragmentation; this positive effect is only perceptible in countries where ethnic fragmentation is below a certain threshold. Above this threshold, financial development does not significantly influence growth.

3.3. The Shortcomings of Non-linear Relationship Studies

With regard to developing countries, studies on the non-linear relationship between finance and growth have number of shortcomings, the main ones being the explanation of the financial intermediation efficiency by a single factor, and the failure to take account of informal finance and demographic growth.

In their endogenous growth model integrating financial factor, Berthelemy and Varoudakis (1994) [12] just like Eggoh and Vilieu (2013) [26] assume that the technology of transforming savings into investment depends exclusively on labor quality employed in banking sector. This hypothesis seems very simplistic and unrealistic to us because the quantity of labor employed cannot be only or at least the main

variable explaining the effectiveness of financial intermediation in developing countries. In general, banking sector personnel who occupy strategic positions are quite well qualified and their qualifications are regularly supplemented by on-the-job training. Despite this, financial intermediaries are unable to finance a large part of bankable projects, yet they have outstanding liquidity with Central Bank.

Factors linked to the economic environment, individual behavior and financial system could also explain their effectiveness. According to bankers, the main factors preventing SME financing in developing countries are inadequate collateral, the risk of misappropriation of loans obtained, lack of accurate information on the borrower, and borrower dishonesty. The financing decision depends on a number of factors, including risk analysis. Financial intermediaries are very reluctant to take on any risk that is not covered by first-ranking financial guarantees or mortgages [15]. In these countries, many businesses operate informally, and their characteristics (small size, lack of accounting) mean that they are unable to provide all information required for credit applications. The agricultural sector, which employs majority of the population, is generally marginalized by banks in the financing operation because of its low productivity and the risks it entails.

Empirically speaking, studies on the non-linear relationship have the same limitations as those on the linear relationship. Authors focus on the quantitative effect of financial development (using, among other indicators, credit to the private sector and market capitalization) to detriment of its qualitative effect, yet the literature emphasizes that improving financial services quality is more conducive to growth than increasing their quantity. The study by Hasan and al (2009) shows that it's the quality of financial services that stimulates economic prosperity in Europe [36].

Banking sector development is generally captured by credit to the private sector as % of GDP. However, in developing countries, the majority of bank credit is allocated to large commercial enterprises whose main activity is the sale of imported products. In the WAEMU, for example, over the period 2004-2017, the "trade, hotels and catering" sector of activity absorbed an average of 33% of bank credit in the zone, compared with 19% for manufacturing industries and 3.6% for agricultural sector [8]. A small fraction of credit therefore goes to the industrial sector, which is the very basis of strong, sustained economic growth. Moreover, the majority of credit to economy here consists of short- and medium-term loans. This is the case, for example, in the franc zone African countries, where credit to economy is dominated by short-term loans, followed by medium-term loans (see table 1). This credit structure is not conducive to financing the heavy investments that are likely to boost a country's economic growth.

Table 1. *Credits to the economy by maturity.*

	EMCCA				WAEMU			
	2014	**2015**	**2016**	**2017**	**2014**	**2015**	**2016**	**2017**
Short term	63.1	62.3	60.0	60.5	55.5	54.5	51.4	49.9
Middle Term	34.6	35.2	37.8	36.9	40.6	41.4	43.5	44.8
Long term	2.2	2.4	2.3	2.6	3.9	4.1	5.1	5.2

Source: Bank of France, Franc zone annual Report, 2017

The level financial markets development is generally captured by market capitalization as % of GDP and the ratio between the value of market shares and market capitalization. These two indicators do not reflect the amount of financing actually obtained by listed companies. In fact, they measure level of activity on the secondary market rather than the primary market, whose mission is to finance the economy on the basis of newly-created securities. The secondary market's mission is to ensure the liquidity of securities and determine their price. To be more realistic, it would be necessary to use primary market indicators to determine the actual level of corporate financing. For example, the number of listed companies could be a good proxy for financial markets development level.

While financial development is a multidimensional concept [14], the literature focuses primarily on financial depth to the detriment of its other aspects. A one-dimensional measure does not give an idea of the overall level of financial system development and therefore does not allow for good international comparisons. Evaluating the effect of financial development on growth would be all the more relevant if all its aspects were taken into account. A few authors have taken account of its multidimensional nature by constructing a composite indicator. This is the case of Chouchane Verdier (2004) [19], who focuses solely on the financial intermediaries development in African countries. This is also the case of Gelbard and al. (2015) [32] and Sahay and al. (2015) [58], who assume that all aspects of the financial system considered

are of equal importance. Furthermore, they do not take into account the quality of financial institutions, which ensure the proper functioning of financial institutions and markets. This aspect of financial development was taken into account in the work of Megnigang (2021) [50] carried out on SSA countries. This author constructed a composite index of financial development using principal component analysis.

4. Conclusion

This article shows that the relationship between financial development and economic growth is complex. Some authors stress that financial development systematically generates growth through the reduction of money demand in the economy, the reduction of informational problems, capital accumulation, technical innovation, risk reduction and risk sharing. Other authors [26, 17] assert that financial development does not always lead to economic growth; there would be threshold effects in this relationship conditioned by financial development level. When the latter reaches a certain threshold, it becomes detrimental to economic growth. The direction and/or magnitude of this relationship may also depend on level of income, quality of the institutions in place and the level of inflation.

This work has a number of theoretical and empirical limitations. Theoretical models take into account only the formal financial sector, and their authors explain the efficiency of the intermediation process in terms of the quantity of labor employed in the banking sector. This function also depends on the characteristics of the environment in which the financial system operates. These include administrative slowness, a culture of non-repayment, corruption embedded in the judicial system and a deficient business environment. Empirically speaking, the multidimensional nature of financial development is rarely taken into account in the literature, and the most widely used indicator does not really reflect the situation in developing countries.

It's therefore necessary to develop theoretical models that are better suited to the realities of these countries. These models must take account of financial dualism, especially as the informal financial sector absorbs a significant proportion of household savings and also finances economic activities. They must also integrate factors linked to institutional quality, borrower behavior and financial intermediaries into the resource allocation function. Empirical work meanwhile, needs to focus on the qualitative effect of financial development, using a composite indicator that combines several aspects of the financial system. According to an IMF study [30], the efficiency dimension combined with profitability and the access dimension gives an idea of the quality of the financial sector.

Abbreviations

DCs: Developing countries

EMCCA: Economic and Monetary Community of Central Africa

FFS: Formal Financial Sector

GDP: Gross Domestic Product

GMM: Generalized Moment Method

HE: Hight Enterprise

IFS: Informal Financial Sector

ME: Medium Enterprise

OECD: Organisation for Economic Co-operation and Development

SE: Small Enterprise

SSA: Sub Saharan Africa

SDGs:Sustainable Development Goals

VSE: Very Small Enterprise

WAEMU: West African Economic and Monetary Union

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Aka B. E. (2005), le rôle des marches de capitaux dans la croissance et le développement économiques, [the role of capital markets in economic growth and development], Thèse de Doctorat en Sciences économiques, Université Clermont Ferrand I, CERDI.

[2] Aka B. E. (2010),"Développement financier, croissance économique et productivité globale des facteurs en Afrique Sub-Saharienne"[Financial development, economic growth and total factor productivity in Sub-Saharan Africa], *Revue Africaine de Développement*, 22 (1), 23-50.

[3] Akinlo A-E., Egbetunde T. (2010), «Financial development and economic growth: the experience of 10 Sub-Saharan African Countries Revisited», *Banking and Finance Review*, 02(1), 17-28.

[4] Amable B., Chatelain J-B. (1995), «Efficacité des Systèmes Financiers et Développement Economique» [Efficiency of Financial Systems and Economic Development], *Economie Internationale*, (61), 99-130.

[5] Arcand J. L., Berkes E. and Panizza U. (2012), "Too Much Finance?", IMF Working Paper, N°161, Juin.

[6] Asteriou D. and Spanos K. (2019), "The relationship between financial development and economic growth during the recent crisis: Evidence from the EU", *Finance Research Letters*, (28), 238-245.

[7] Avoutou M. (2019), «Lien entre développement financier et croissance économique: la fragmentation ethnique, un handicap?» [Link between financial development and economic growth: ethnic fragmentation, a handicap?], *Revue Repères et Perspectives Economiques*, 3(5), 39-51.

[8] BCEAO (2017), note d'information [information note], 4eme trimestre, N °52, 55 pages.

[9] Beck T., Buyukkarabacak B., Rioja F., Valev N. (2012), "Who gets the credit? And does it matter? Household vs. firm lending across countries", *B. E. Journal of Macroeconomics*, 12, (1), 1–44.

[10] Beck T., Demirguc-Kunt A., Laeven L., Levine R. (2008), "Finance, Firm Size, and Growth", *Journal of Money, Credit, and Banking*, 40, 1379– 1405.

[11] Benczúr P., Karagiannis S., Kvedaras, V. (2017), "Finance and economic growth: financing structure and non-linear impact" JRC Working Papers in Economics and Finance, 2017/7.

[12] Berthélemy J-C. et Varoudakis A. (1994), «Intermédiation financière et croissance endogène» [Financial intermediation and endogenous growth], *Revue économique*, 45(43), 737-75.

[13] Berthélemy J-C., Varoudakis A. (1998), «Développement financier, réformes financières et croissance: une approche en données de panel» [Financial development, financial reforms and growth: a panel data approach], *Revue économique*, 49(1), 195-206.

[14] Bertho F. (2015), «renforcer les systèmes financiers des pays d'Afrique Subsaharienne pour financer le futur agenda pour le développement durable» [strengthen the financial systems of sub-Saharan African countries to finance the future sustainable development agenda], *Revue d'économie Financière*, 4(116), 81-96.

[15] Botata G. (1998), innovations dans la finance informelle: enjeux et issues [innovations in informal finance: challenges and outcomes], thèse de Doctorat, Université des Sciences et Technologies de Lille.

[16] Calderón C., Lin L. (2002), «The direction of causality between financial development and economic growth", Central Bank of Chile Working Papers, N °184, October.

[17] Cecchetti S. and Kharroubi E. (2012), "Reassessing the impact of finance on growth", BIS Working Papers, N° 381, Bank for International Settlements.

[18] Cecchetti S. and Kharroubi E; (2015), "Why does financial sector growth crowd out real economic growth?", BIS Working Paper N °490, Bank for International Settlements.

[19] Chouchane-Verdier, A. (2004), «Une analyse empirique de l'impact de la libéralisation financière en Afrique subsaharienne sur la période 1983-1996» [An empirical analysis of the impact of financial liberalization in sub-Saharan Africa over the period 1983-1996], *Tiers-Monde*, 45(179), 617-641.

[20] Cournède B., Denk O. (2015), "Finance and economic growth in OECD and G20 countries", *OECD Economics Department Working Papers*, N °1223, OECD Publishing, Paris.

[21] Cournède B., Denk O., Hoeller P. (2015), "Finance and inclusive growth in OECD" *Economic Policy Papers*, N °14, OECD Publishing, Paris.

[22] Deidda L., Fattouh B. (2008), «Banks, Financial Markets and Growth», *Journal of Financial Intermediation*, 17(1), 6-36.

[23] Demetriades P., Law S. H. (2004), «Finance, Institutions and Economic Growth», University of Leicester, Working Paper in Economics, N °04/5.

[24] Dontsi (1994), «La théorie HOS et le paradoxe de la situation des pays de l'Afrique au Sud du Sahara» [HOS theory and the paradox of the situation of African countries south of the Sahara], *Revue Monde en développement*, 22(86), 45-55.

[25] Dontsi and Megnigang D. G., (2022), "Modélisation de la relation non-linéaire entre le développement financier et la croissance économique » [Modeling the non-linear relationship between financial development and economic growth], *Finance et Finance Internationale*, N °24, Juin 2022.

[26] Eggoh J. C., Villieu P. (2013), «un réexamen de la non-linéarité entre le développement financier et la croissance économique» [a re-examination of the non-linearity between financial development and economic growth], *Revue d'économie politique*, (123), 211-236.

[27] Eggoh J. C. (2009), croissance économique et développement financier: éléments d'analyse théorique et empirique [economic growth and financial development: elements of theoretical and empirical analysis], thèse de Doctorat en Sciences économiques, Université d'Orléans.

[28] Eggoh J. C. (2011), «Récents développements de la littérature sur la finance et la croissance économique» [Recent developments in the literature on finance and economic growth], Mondes en Développement, 3(155), 141-150.

[29] Enterprise survey data base 2016, World Bank.

[30] FMI (2016), Perspectives économiques régionales: l'Afrique Subsaharienne: un changement de cap s'impose, études économiques et financières, Rapport FMI, Avril.

[31] Gaytan A. and Rancière R. (2004), «Wealth, Financial Intermediation and Growth», Available at SSRN: http://ssrn.com/abstract=860925

[32] Gelbard E., Gulde A-M., Maino R. (2015), «Développement financier en Afrique subsaharienne: les enjeux pour une croissance soutenue» [Financial development in sub-Saharan Africa: the challenges for sustained growth], *Revue d'économie Financière*, (116), 19-43.

[33] Ghirmay T. (2004), "Financial Development and Economic Growth in Sub - Saharan African Countries: Evidence from Time Series Analysis", *African Development Review*, 16(3), 415-432.

[34] Global Financial Development (2015) data base, World Bank.

[35] Global Findex (2018) data base, World Bank.

[36] Hasan I., Koetter M. and Wedow M. (2009), "Regional growth and finance in Europe: Is there a quality effect of bank efficiency?", *Bank of Finland Research Discussion* Papers, N °13.

[37] Huang H., Lin S., Kim D. H., Yeh C. C. (2010), "Inflation and the Finance-Growth Nexus", Economic Modelling, 27, 229-236.

[38] INS (2017), étude économique et financière des entreprises en 2015, 15e edition.

[39] King R., Levine R. (1993)," Finance, Entrepreneurship, and Growth: Theory and Evidence", *Journal of Monetary Economics*, 32, 513-542.

[40] Koudouovoh M. D. (1993), Influence de la croissance de la population sur l'épargne et l'investissement au Togo [influence of population growth on savings and investment in Togo], Mémoire de Maîtrise année 1992-1993, Facultés des Sciences Economiques et de Gestion, Université du Benin Lome-Togo.

[41] Kpodar K. (2005), Manuel d'initiation à Stata (version 8), document de travail, Centre d'Etudes et de Recherches sur le Développement Internationale (CERDI), Clermont-Ferrand.

[42] Kpodar K. (2007), Développement Financier, Instabilité Financière et Croissance Economique: Implications pour la Réduction de la Pauvreté [Financial Development, Financial Instability and Economic Growth: Implications for Poverty Reduction], Thèse de Doctorat en Sciences économiques, Université d'Auvergne, CERDI.

[43] Kuipou T. C., Nembot N. L., Tafah E. (2015), «Développement financier et croissance économique dans les pays africains de la zone Franc: le rôle de la gouvernance» [financial development and economic growth in African countries of the Franc zone: the role of governance], *European Scientific Journal*, 11(4), 131-159.

[44] Law S. H., Singh N. (2014), "Does too much finance harm economic growth?", *Journal of Banking and Finance*, 41(1), 36–44.

[45] Levine R. (2005), "Finance and Growth Theory and Evidence" in P. Aghion et S. Durlauf (Eds.), Handbook of Economic Growth, The Netherlands: Elsevier Science, 2005.

[46] Levine R., Zervos S. (1998), "Stock Markets, Banks, and Economic Growth", *American Economic Review*, 88(3), 537-558.

[47] Levine R., Loayza N., Beck T. (2000), "Financial Intermediation and Growth: Causality and Causes", *Journal of Monetary Economics*, 46(1), 31-77.

[48] McKinnon R. I. (1973), *Money and Capital in Economic Development*, Washington DC: the Brookings Institution.

[49] McKinnon R. I. (1991), "The order of Economic Liberalisation: Financial control in Transition to a Market Economy", *The Johns Hopkins University Press*, Baltimore and Londres.

[50] Megnigang D. G., (2021), « Le rôle du développement du système financier dans la croissance économique: étude empirique sur les pays de l'Afrique Sub-Saharienne » [role of financial sector developement on economic growth: empiritical study on Sub Saharan Africa Coundtries], *Journal of Academic Finance*, Vol.12, N°2, *PP. 50-72*.

[51] Minea A. et Villieu P. (2010), «Développement financier, qualité institutionnelle et croissance: un modèle simple avec effet de seuil» [Financial development, institutional quality and growth: a simple model with threshold effect], Région et Développement, (32), 32-58.

[52] Ndikumana L. (2000), "Financial Determinant of Domestic Investment in Sub-Saharan Africa: Evidence from Panel Data", *World Development*, 28(2), 381-400.

[53] Ngongang E. (2015), "Financial Development and Economic Growth in Sub-Saharan Africa: A Dynamic Panel Data Analysis", *European Journal of Sustainable Development.* 4(2), 369-378.

[54] Pagano M. (1993), «Financial Market and Growth: An Overview», *European Economic Review*, 37, 613-622.

[55] Rioja F., Valev N. (2004), «Finance and the Sources of Growth at Various Stages of Economic Development», *Economic Inquiry*, 42, 127-140.

[56] Roubini N., Sala-I-Martin X. (1992), «Financial Repression and Economic Growth», *Journal of Development Economics*, 39, 5-30.

[57] Rousseau P. L., Wachtel P. (2011), "What is happening to the impact of financial deepening on economic growth?" *Economic Inquiry*, 49, 276–288.

[58] Sahay R. and al. (2015), "Rethinking Financial Deepening: Stability and Growth in Emerging Markets", IMF Staff Discussion Note 15/08, IMF, Washington.

[59] Schumpeter J. (1912), "The theory of economic development", Leipzig Dunker et Humblot, translate by Redvers Opie, Cambridge, MA: Harvard University press.

[60] Shaw E. (1973), *Financial Deepening in Economic Development*, New York: Oxford University Press.

[61] Tochukwu T., Ajibola R. (2019), "Investigating the banking sector development transmission mechanism of financial development to growth: evidence from Sub-Saharan Africa (SSA)", *Journal of Economics and Behavioral Studies*, 11(2), 120-131.

[62] World Development Indicators (2018) Data base, World Bank.

[63] Yahyaoui A., Rahmani A. (2009) "Développement financier et croissance économique: Rôle de la qualité des institutions" [Financial development and economic growth: Role of institutional quality], *Panoeconomicus*, 56(3), 327-357.