FINANCIAL DEVELOPMENT, IMPACT ON OUTPUT AND ITS DETERMINANTS: THE CASE OF THE ECONOMIC COMMUNITY OF WEST AFRICAN STATES

BY

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ABSTRACT

The role of financial development to influence the capital accumulation, productivity and hence economic growth, has continued to take a centre stage in the economic growth literature. The apparent low level of economic performance of the Economic Community of West African States (ECOWAS) region, low physical and human capital accumulations and low productivity have raised issues about the role of financial development to the economic growth process of the region and serve as the motivation of this study. The study investigates the impact of financial development on the output of eleven ECOWAS member states over the period from 1980 to 2011. The determinants of financial development in ECOWAS from 1996 to 2011 period are also examined. The study employs panel cointegration techniques, which involve panel cointegration tests by Pedroni (2000; 2004) and Kao (1999) and two panel cointegration estimators, namely; the fully modified OLS (FMOLS) and dynamic OLS (DOLS). Furthermore, the study adopts the Dumitrescu-Hurlin (2012) panel causality test to determine the causal relationship between financial development and output in ECOWAS. The findings show that broad money and financial sector deposits have negative and significant impact on the output, as found by Hakeem (2010) in sub-Saharan African region. On the other hand, banking sector deposits, domestic credit, bank credit and the ratio of bank credit to bank deposits are found to have positive and significant impact on output in ECOWAS. This is consistent with the findings of Ndebbio (2003) and Gaye (2013). These effects are largely transmitted through the physical capital accumulation channel, as found by Rioja and Valev (2003) in developing countries. The empirical evidence further shows that whereas unidirectional causality runs from GDP to broad money and bank deposits, the reverse is the case for bank credit and ratio of bank credit to bank deposits. Similarly, bidirectional causality is found to exist between financial sector deposit and domestic credit on one hand, and GDP on the other hand. These findings are consistent with that of Bangke and Eggoh (2010). For determinants of financial development, inflation, institutional quality and current account openness are found to be the major determinants of financial depth. While financial intermediation activities are determined by a combination of the previous factors and the level of income and human capital accumulation. These findings largely explain the connection between lack of access to finance by a larger segment of the household and private sectors in the ECOWAS and the low levels of output in the region. Hence, the major policy implications are that financial policies in the region should aim at eliminating and/or mitigating factors that hinder access to finance. These can be achieved through, economic, legal, political and other institutional reforms, which can also enhance financial development in the region and position it to better serve the real economy.

خلاصة البحث

لم يزل دور التنمية المالية في التأثير على تراكم رأس المال، والإنتاجية، وبالتالي النمو الاقتصادي، مستمرة لاحتلال مركز الصدارة في الكتابات حول النمو الاقتصادي. قد أثار الانخفاض الواضح في مستوى الأداء الاقتصادي لمنطقة الجماعة الاقتصادية لدول غرب أفريقيا (ECOWAS)، وانخفاض تراكمات رأس المال المادي والبشري، وانخفاض الإنتاجية عدة قضايا حول دور التنمية المالية في عملية النمو الاقتصادي في المنطقة، وهذا يعد بمثابة الدافع لهذه الدراسة. تهتم الدراسة بالبحث عن تأثير التنمية المالية على الإنتاج في دول الأعضاء، الإحدى عشرة التي تكونت منها الجماعة من عام 1980 إلى عام 2011م، كما درست محددات التنمية المالية في الجماعة من الفترة 1996 إلى 2011م. تم في إجراء هذه الدراسة توظيف تقنيات لوحة التكامل المشترك، الذي ينطوي على بيدروني (Pedroni) (2000، و 2004م)، وكاو (Kao) (1999م) لوحة اختبارات التكامل المشترك واثنين من مقدرات لوحة التكامل المشترك، وهي شريان الحياة المعدلة بالكامل (FMOLS) وعملية شريان الحياة الديناميكية (DOLS). وعلاوة على ذلك، تبنت الدراسة اختبارات لوحة السببية لدوميترسكو–حورلين (Dumitrescu-Hurlin) (2012م)؛ لتحديد العلاقة السببية بين التنمية المالية، والإنتاج في الجماعة. وتشير النتائج إلى أن مجموع النقد والودائع في القطاع المالي سيكون لها تأثير سلبي وكبير على الإنتاج، كما تحصل عليه حكيم (Hakeem) (2010م) في الفرعية جنوب الصحراء أفريقيا الكبرى. من ناحية أخرى، تم العثور على أن ودائع القطاع المصرفي والائتمان المحلي، والائتمان المصرفي، ونسبة الائتمان المصرفي للودائع المصرفية لها تأثير إيجابي وكبير على الإنتاج في الجماعة الاقتصادية لدول غرب أفريقيا (ECOWAS). هذا متسق مع نتائج بحث ندبيو (Ndebbio) (2003م) وغاي (Gaye) (2013م). وتنتقل هذه الآثار إلى حد كبير من خلال قناة تراكم رأس المال المادي، كما أظهرت نتائج بحث ريوجا (Rioja) وبالب (Valev) (2003م) في البلدان النامية. أظهرت الأدلة التجريبية أيضا أنه في حين أن العلاقة السببية أحادية الاتجاه تمتد من الناتج المحلي الإجمالي لمجموع النقد والودائع المصرفية، إلا أن العكس هو الحال بالنسبة لبنك الائتمان ونسبة الائتمان المصرفي إلى الودائع المصرفية. وبالمثل، وجدت علاقة سببية ثنائية الاتجاه بين ودائع القطاع المالي والائتمان المحلي من جهة، والناتج المحلي الإجمالي من ناحية أخرى. هذه النتائج متسقة بنتائج بحث بنغك (Bangke) وأيغو (Eggoh) (2010م). لمحددات التنمية المالية، والتضخم، والجودة المؤسسية والانفتاح الحساب الجاري وجدت أنها المحددات الرئيسة من العمق المالي، في حين يتم تحديد أنشطة الوساطة المالية من خلال مزيج من العوامل السابقة، ومستوى الدخل وتراكم رأس المال البشري. هذه النتائج تفسر إلى حد كبير العلاقة بين نقص فرص الحصول على التمويل من قبل أكبر شريحة من الأسر والقطاع الخاص في الجماعة الاقتصادية لدول غرب أفريقيا (ECOWAS) وانخفاض مستويات الإنتاج في المنطقة. وبالتالي، فإن الآثار المترتبة على السياسات الرئيسة هي أن السياسات المالية في المنطقة ينبغي أن تهدف إلى القضاء على العوامل التي تعيق الوصول إلى التمويل أو تخفيفها. ويمكن تحقيق ذلك من خلال الإصلاحات الاقتصادية والقانونية والسياسية وغيرها من الإصلاحات المؤسسية، التي يمكن أيضا أن تعزز التنمية المالية في المنطقة ووضعه لخدمة الاقتصاد الحقيقي على نحو أفضل.

APPROVAL PAGE

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DECLARATION

I hereby declare that this dissertation is the result of my own investigation, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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Signature……………………. Date …..

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……..……..…………… ……………………..
Signature Date

Dedicated To: Alh. Abubakar and Haj. Aisha (my parents), Aisha Umar (my wife) and Maryam and Fatimah (my daughters)

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LIST OF ABBREVIATIONS

ADB	African Development Bank
ADF	Augmented Dickey-Fuller (unit root test)
ADI	African Development Indicators (data base)
AIC	Akaike Information Criterion
APEC	Asia-Pacific Economic Cooperation
ARDL	Autoregressive Distributed Lag (model)
BCD	Ratio of Bank Credit to Bank Deposits
BCEAO	*Banque Centrale des Etates de l'Afrique de l' Ouest* (Central Bank of West African States)
BCR	Ratio of Bank Credit to GDP
BD	Ratio of Bank Deposits to GDP
BM	Ratio of Broad Money to GDP
BOAD	*Banque Ouest Africaine de Developpement* (West African Development Bank)
BVRM	*Bourse Régionale des Valeurs Mobilières* (West African Stock Exchange)
CBN	Central Bank of Nigeria
CFA	*Communauté Financière d'Afrique* (Financial Community of Africa)
CH	Channels (through which finance influence output)
CPI	Consumer Price Index
CPIA	Country Policy and Institutional Assessment
CV	Control Variables
DC	Ratio of Domestic Credit to GDP
DF	Dickey-Fuller (unit root test)
DOLS	Dynamic Ordinary Least Squares
ECB	European Central Bank
ECM	Error Correction Model
ECOWAS	Economic Community of West African States
FSD	Ratio of Financial Sector Deposits to GDP
EMU	European Monetary Union
EU	European Union
FD	Financial Development
FDI	Foreign Direct Investment
FGN	Federal Government of Nigeria
FMOLS	Fully Modified Ordinary Least Squares
FTA	Free Trade Area
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GFD	Global Financial Development (data base)
GMM	Generalised Method of Moments
GSE	Ghana Stock Exchange
H_a	Alternative Hypothesis
H_0	Null Hypothesis
HCD	Human Capital Development
HDI	Human Development Index

HIPC	Highly Indebted Poor Countries
HQ	Hannan-Quinn Criterion
IFC	International Financial Corporation
IMF	International Monetary Fund
INT	Institutional Quality (indices)
IPS	Im, Pesaran and Shin (panel unit root test)
IRF	Impulse Response Functions
Km^2	Kilometre Square
LLC	Levin, Lin and Chu (panel unit root test)
L	Natural Logarithm
MDRI	Multilateral Debt Relief Initiative
MEC	Macroeconomic Variables
MENA	Middle East and North Africa
MFIs	Micro Finance Institutions
MPR	Monetary Policy Rate
MU	Monetary Union
N	Number of cross sectional units in a panel
NSE	Nigerian Stock Exchange
OECD	Organisation of Economic Cooperation and Development
OLS	Ordinary Least Squares
OPN	Trade/Economic Openness
PCF	Private Capital Flow
PGDP	per Capita Real GDP
PP	Phillips-Perron (unit root test)
SACU	Southern African Customs Union
SADC	South African Development Community
SAP	Structural Adjustment Programme
SBC	Schwarz Bayesian Criterion
SMEs	Small and Medium Enterprises
SSA	sub-Saharan Africa
T	Time dimension of panel data
TFP	Total Factor Productivity
TGE	Total Government Consumption Expenditure
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNIDO	United Nations Industrial Development Organisation
USD	United States Dollars (US$)
WACH	West African Clearing House
WAEMU	West African Economic and Monetary Union
WAMA	West African Monetary Agency
WAMZ	West African Monetary Zone
WDI	World Development Indicators (data base)

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Recently, in the economic growth literature, the activities of the financial sector and its level of development have been re-emphasised as the potential determinants of long-term economic growth through their effect on physical capital formation and productivity. This line of argument was particularly championed by Schumpeter (1934/1983) who argued that the activities of banks facilitate investment in physical capital, the adoption of new technology and innovation, hence economic growth. Similarly, the advancement of the financial repression theory by McKinnon (1973) and Shaw (1973), together with the inspiration from the endogenous growth models add an impetus to and provide an analytical basis for the contribution of financial development in promoting long-term economic growth.

Financial intermediaries mobilize and pool savings, gather, process and evaluate information on prospective investment projects and allocate financial resources to projects where the marginal productivity of capital is highest. They also manage risks and induce investment in riskier yet more innovative and fruitful projects, enable monitoring of managers, exerting corporate control and easing borrowing constraints (Pagano, 1993; Chou and Chin, 2001). These functions of the financial sector enhance the accumulation of physical capital and productivity of investments, thus promoting output growth.

In view of these potentially influential roles of financial development in long term growth, the African countries, particularly the Economic Community of West

African States (ECOWAS)[1] members, have embraced development policies that prioritize the transformation of their financial systems (Esso, 2010). Nevertheless, the financial system in the ECOWAS remains largely under-developed, even relative to the standards of other developing countries in Africa. It is characterized by low levels of capitalization, liquidity and financial intermediation (Honohan and Beck, 2007; African Development Bank [ADB], 2011), these are corroborated in Table 1.1.

Table 1.1 Credit to the Private Sector and Broad Money in ECOWAS (% of GDP)

	2000		2004		2008		2010		2012	
Countries	CRD	BM	CRD	BM	CRD	BM	CRD	BM	CRD	BM
Benin	8.4	29.9	10.0	23.5	14.8	36.8	18.3	39.2	19.7	37.9
Burkina Faso	10.8	21.1	13.1	21.6	17.2	22.9	16.5	28.6	20.7	31.2
Cabo Verde	40.1	64.4	37.8	76.2	59.9	86.6	62.1	80.4	63.8	82.1
Cote d'Ivoire	15.2	22.2	13.7	23.6	15.7	28.6	17.3	36.6	16.6	39.0
Gambia	11.6	19.8	12.8	32.2	15.5	45.1	17.7	49.0	15.5	53.0
Ghana	11.7	28.2	11.6	32.7	13.6	27.5	13.7	29.6	32.3	31.3
Guinea	8.9	11.7	16.3	18.4	19.0	22.7	37.3	38.3	-	-
Guinea Bissau	18.1	42.7	4.3	15.8	7.4	23.6	7.7	28.6	13.1	33.2
Liberia	3.3	11.6	6.4	18.6	12.4	31.8	14.8	34.4	15.9	34.9
Mali	16.5	23.7	19.2	29.8	17.0	25.5	17.4	27.5	19.9	32.6
Niger	4.3	8.2	5.7	14.5	9.5	16.6	11.8	21.4	13.2	23.1
Nigeria	11.1	22.2	11.5	18.3	27.5	36.4	30.3	32.5	35.6	36.5
Senegal	16.5	23.7	19.3	34.0	22.4	33.5	24.5	39.9	31.3	40.4
Sierra Leone	1.9	16.4	3.8	18.6	5.8	22.7	9.2	29.4	14.0	20.5
Togo	15.7	26.8	15.7	30.0	17.8	37.5	20.7	45.3	30.1	46.4
Average	**12.9**	**24.8**	**13.4**	**27.2**	**18.4**	**33.2**	**21.3**	**37.4**	**24.4**	**38.7**

Note: CRD and BM represent credit to the private sector and broad money.
Source: *Global Financial Development, The World Bank.*

[1]ECOWAS was formed in 1975, by sixteen member states, which include Benin, Burkina Faso, Cabo Verde (now Cabo Verde), Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania (withdrew in 2002), Niger, Nigeria, Senegal, Sierra Leone, and Togo.

As shown by Table 1.1, among the ECOWAS member countries, broad money as a ratio of GDP is lower at 37% in 2010 compared to 38% in other sub Saharan African (SSA) countries, while credit to the private sector as a ratio of GDP is 21% in the region as against 24% in other SSA (International Monetary Fund [IMF], 2012; World Bank, 2013d).

At the same time, the ECOWAS countries, exhibited the weakest economic growth performance in Africa. For instance, as shown in Table 1.2, the average GDP per capita of the ECOWAS region was only US$ 669.5 in 2010, placing the region into the low income group (African Statistical Yearbook, 2012; World Bank, 2013a).

Table 1.2 GDP per capita in ECOWAS (Constant 2005 USD)

Country	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**	**Average**
Benin	513.0	533.4	534.7	535.5	553.7	550.0	567.9	541.2
Burkina Faso	343.1	363.0	385.7	422.0	436.1	457.2	495.0	414.6
Cabo Verde	1690.7	1820.5	1926.8	2221.3	2548.7	2764.2	2745.3	2245.4
Cote d'Ivoire	1014.4	967.1	942.6	932.8	939.1	960.0	957.9	959.1
Gambia	437.9	421.5	452.7	425.8	438.3	466.7	444.2	441.0
Ghana	445.9	461.0	486.4	520.3	570.4	610.2	724.4	545.5
Guinea	288.6	304.2	304.0	307.2	311.6	300.4	308.2	303.5
Guinea Bissau	415.5	434.8	392.6	386.5	433.6	426.4	442.1	418.8
Liberia	166.8	253.0	155.5	175.8	207.2	242.6	275.7	210.9
Mali	380.2	418.6	432.2	467.4	480.1	498.5	476.4	450.5
Niger	255.0	261.6	256.4	263.4	276.3	233.7	246.2	256.1
Nigeria	678.6	675.6	783.1	831.8	889.4	972.5	1052.3	840.5
Senegal	702.3	701.7	750.9	770.0	792.4	796.1	799.4	759.0
Sierra Leone	276.1	298.3	316.6	325.7	353.8	370.4	435.4	339.5
Togo	411.4	380.7	387.3	387.1	384.4	392.9	412.8	393.8
Average	**534.6**	**553.0**	**567.2**	**598.2**	**641.0**	**669.5**	**692.2**	**593.9**

Source: *World Development Indicators Database, The World Bank*

From the late 1950s and up until early 1970s, the scope for policy makers to influence the long-run growth in their countries was limited by the prevalent of exogenous growth theories, which ascribed long-term growth to exogenous factors. Notably, in the neo-classical growth models of Harrod (1939)–Domar (1966) and Solow (1956), the rates of savings and technological progress are the main exogenous determinants of long-run rate of growth. The development of the new or endogenous growth models, especially by Romer (1986) and Lucas (1988), expand the scope for policy makers in their efforts to stimulate the growth of their economies. In these models, long-term growth is determined by endogenous variables which include the accumulation of physical and human capitals and productivity among others. From the perspective of these models, the weak economic performance in the ECOWAS can be located in the three identified engines of growth, namely human and physical capital accumulation and productivity.

In terms of human capital, of all the ECOWAS countries, only Cabo Verde and Ghana are classified in the medium human development group (with Human Development Index [HDI][2] of 0.586 and 0.558 respectively). The remaining 13 ECOWAS countries fall in the low human development group, having HDI below the African average (0.475). Ten of them fall in the least developed countries category with HDI score of 0.449 and below (United Nations Development Programme [UNDP], 2013).

Physical capital accumulation is also low in the ECOWAS region. In 2010 the average gross fixed capital formation for the region amounted to only 22% of GDP (World Bank, 2013a). These low levels of human capital development and physical capital accumulation apparently lead to low productivity growth. According to the

[2] The HDI measure the overall human development; it is a composite statistic with three dimensions (health, education and standard of living) and four indicators namely GNI per capita; mean years of schooling; expected years of schooling and life expectancy. HDI is expressed by a range of score between zero and one (UNDP, 2013).

United Nations Industrial Development Organisation [UNIDO], *World Productivity Database*, the 2010 estimated average annual growth rate of total factor productivity in the eleven ECOWAS countries covered in this study was 0.439 (Isaksson, 2007).

The poor financial development performance of the ECOWAS countries might have a direct bearing on its physical and human capital accumulation, thus resulting in a poor economic performance. Therefore, with the low level of the development of the ECOWAS financial sector and the role that it might have played in retarding output growth by dampening the accumulation of physical and human capitals and productivity growth. Then the need to extensively explore the connection between financial development and output growth in the region is very significant for policy making.

Given that, financial development has been widely recognized to promote economic growth, both in theory and practice[3]. The poor performance of the ECOWAS financial system and its real economy has raised several important issues pertaining to the regions' quest for growth. These include, whether the region's financial system is having any influence on its real economy and if so, what are the channels through which this influence is transmitted. Other important issues are, which of financial development and output growth precede the other and what actually determine the depth, size, and efficiency of the financial system in the region. These issues motivate this study, which seek to empirically explore the determinants of financial development and its impact on output in the ECOWAS region.

[3] Greenwood and Jovanovic (1990); Pagano (1993); King and Levine (1993a); Beck and Levine (2001); Kiran, Yavuz and Güriş, (2009) and Ahmed, (2010) among others, provided theoretical and empirical evidences of finance promoting economic growth.

1.2 STATEMENT OF THE RESEARCH PROBLEM

The role of a well-developed financial system in effectively mobilizing and allocating financial resources to enhance the process of economic growth is clearly emphasised, both theoretically and in the empirical literature. This role is even more essential in the ECOWAS region, where according to data from the Global Financial Development Database (2012), only 3.86% and 13.32% respectively of total adults borrow from and have accounts with formal financial institutions. For the firms in the region, only 19.51% maintain a line of credit and 56.73% of them identified access to finance as their major constraint.

In the case of ECOWAS, the absence of well-developed and well-functioning financial sector to effectively mobilize and allocate available resources for investment, result in the countries to face the risk of stagnating economically. The issue of low levels of financial development and lack of access to finance is in the region, is aggravated by a closed group of incumbents who make major investment and other economic decisions (Honohan and Beck, 2007; Rajan and Zingales 2003).

The under-developed financial system of the ECOWAS region and the low levels of capital accumulation and productivity, underscored the need to explore the dynamics of financial development and how it influences the growth process in the region. According to, Allen, Carletti, Cull, Qian and Sembet (2010) majority of the African countries have a tendency of having lower levels financial development relative to their projected fundamentals. On average an African country falls 13% short of its predicted level of liquid liabilities as a ratio of GDP and 12% for private credit as a ratio of GDP.

The above issues indicate structural problems surrounding financial development and its subsequent influence on output in the ECOWAS region. The persistent low levels of financial development and output growth are major policy concerns in the ECOWAS region. Therefore, determining how and to what extent financial development contributes to output growth and identifying the determinants of financial development, will provide a basis for policy making in the region. This study aims to investigate the impact of financial development in the ECOWAS, as well as to examine the determinants of financial development in the region. Its findings will serve as policy tools to financial and monetary authorities in the region and beyond.

1.3 OBJECTIVES OF THE STUDY

Broadly, this study seeks to investigate the effect of financial development on output growth as well as its determinants in the ECOWAS region. On the basis of recent available data and rigorous and appropriate econometric techniques, the study attempts to achieve the following specific objectives:

1. **To determine the impact of financial development on output in ECOWAS region:** Here the study examines the effect of monetary and financial development (banking sector) indicators on output growth. These indicators measure the depth and financial intermediation activity of the financial system. The financial depth indicators are broad money, financial system deposits and the banking sector deposits (i.e. liquid liabilities of commercial banks), all taken as ratios of GDP. Financial intermediation activities are measured by the ratios to GDP of domestic private credit by commercial banks, domestic private credit by the financial sector and the ratio of bank private credit to bank deposits.
2. **To identify the channels through which the effect of financial development is transmitted to the real economy:** Determining the effect