

Comparing Financial Markets in the Sub-Saharan Africa Region: South Africa, Kenya, Nigeria, and Ghana

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ABSTRACT

In recent years, the economy of the Sub-Saharan Africa region has developed rapidly. In this paper, I focus on the region's rapid economic growth and analyze the related determining factors from a financial theory perspective. Specifically, I consider the cases of South Africa, Kenya, Nigeria, and Ghana. The financial markets in the four countries are highly developed relative to the degree of economic development. It is important to note that, based on the indicators of "demand deposit/time deposit and saving deposit" and "claim on private sector credit of central bank/claim on private sector credit of deposit financial institution," financial developments depend on the nominal GDP per capita. In Kenya, Nigeria, and Ghana, commercial banks do not lend to industries demanding funds. However, this is not the case in South Africa. The difference lies in commercial banks' propensity to take risks. Nonetheless, loans are provided in the manufacturing industry in Kenya, Nigeria, and Ghana, because in this case commercial banks can make loans by setting up collaterals that eliminate risks.

Keywords: Sub-Saharan Africa region, Financial markets, Commercial bank, Industry.

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1. INTRODUCTION

In recent years, the economy of the Sub-Saharan Africa region has developed rapidly. For example, Figure 1 shows the trends in the nominal GDP of South Africa, Kenya, Nigeria, and Ghana. In 2013, the Nigerian GDP is still higher than that of South African, followed by Kenya and Ghana. From Figure 1, it is possible to see the prominent, rapid growth of the first two countries. The four countries can be roughly divided into two groups: one includes South Africa and Nigeria, while the other includes Kenya and Ghana. Figure 2 shows the trends in nominal GDP per capita. In 2013, South Africa presented the highest value, followed by Nigeria, Kenya, and Ghana. The value of South Africa is prominent in the point of nominal GDP per capita.

Comparing the nominal GDP, Nigeria has the economic problems, especially income disparity.

The question is whether the pattern of economic development of these areas is the same (e.g., in terms of availability of natural resources), and also whether financial markets in the Sub-Saharan Africa region are highly developed relative to the degree of economic development. In this paper, I aim to clarify the factors of economic development in the Sub-Saharan Africa region from a financial theory perspective. Research in this field has not sufficiently progressed yet. There are many points of discussion, and a lack of consistency in outcomes. Moreover, a theoretical framework regarding the pattern of economic development in the Sub-Saharan Africa region has not been established, besides constraints on data availability. Demetriades and James (2011), Gwatidzo and Ojah (2014), and Agbloyor et al. (2014) point out how the development of financial markets in the Sub-Saharan Africa region is important for the growth of national economies. Demetriades and James (2011) state that bank credit and economic development are linked, but bank credit to households and companies has not progressed sufficiently¹. Gwatidzo and Ojah (2014) highlight that it is difficult for companies to raise external funding. Since most companies are not listed on stock exchanges, securities cannot be issued². Agbloyor et al. (2014) claim that the impact of international capital flows on domestic economies in the Sub-Saharan Africa region depends on the development of financial markets³. Although Barai and Adhikary (2013) is not a discussion on Sub-Saharan Africa region, Barai and Adhikary (2013) consider microcredit in Bangladesh. Barai and Adhikary (2013) argue that microcredit can be evaluated as financial technology developed under the leadership of NGO, but Barai and Adhikary (2013) also point out that it has not been extended to areas beyond the limits of microcredit⁴.

In this context, this paper focuses on the following three points of discussion for the four countries. The first one relates to the origin of the demand for funds, and this approach considers the aspect of the contribution ratio to the change of nominal GDP. The second point investigates whether the national financial markets are highly developed as compared to the degree of economic development⁵. Focusing on deposits, I verify whether relative financial development is observed in the four countries. The third point concerns whether commercial banks lend to the industrial sector in presence of demand for funds, with particular attention to manufacturing

¹ Demetriades and James (2011), p. 265.

² Gwatidzo and Ojah (2014), p. 152.

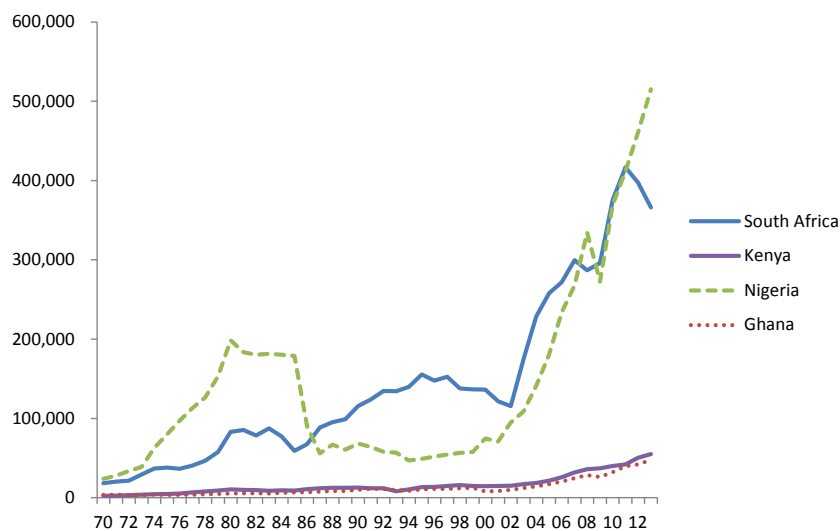
³ Agbloyor et al. (2014), p. 138.

⁴ Barai and Adhikary (2013), p. 487.

⁵ In this paper, GDP per capita is used as a measure for the degree of economic development.

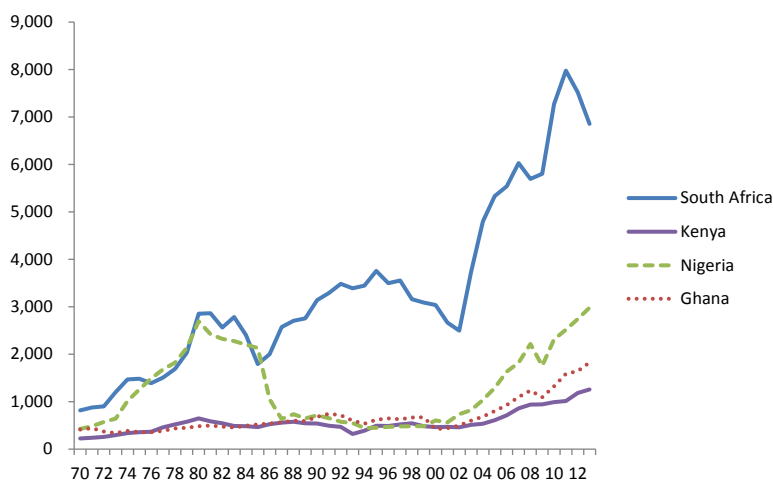
industry⁶. Starting from each country’s central bank publications, I study the trends in commercial bank lending.

Figure 1. Trend in nominal GDP (million dollars)



Source: Created from UNCTAD, UNCTADSTAT.

Figure 2. Trend in nominal GDP per capita (million dollars)



Source: Created from UNCTAD, UNCTADSTAT.

2. CHARACTERISTICS OF ECONOMIC DEVELOPMENT IN THE FOUR COUNTRIES

2.1 Balance of payments statistics

⁶ In this paper, I mainly use 2011, 2012, and 2013 statistical data, because of significant restrictions in the verification of commercial bank lending.

In this section, I extract the characteristics of the economic development of the four countries in terms of balance of payments statistics, demand for funds, saving-investment balance, government finance structure, and foreign direct investment. First, using International Monetary Fund (IMF) country reports, I provide an overview of the balance of payments statistics for each country in 2013 (Tables 1 to 4)⁷.

As can be seen in Table 1, South Africa's current account is in deficit, and the value of current transfers over other data of South Africa is small compared to the other three countries. This means that in South Africa, remittances from foreign countries are less important. Moreover, unlike the other three countries, there is an item related to derivatives in the capital and financial account, which may indicate a higher financial development. In Table 1, portfolio investments are higher than foreign direct investments, suggesting the importance of the former. The current account is equal to the sum of the "capital and financial account" and "increase and decrease of foreign exchange reserves." Although the IMF country report does not include items on the increase and decrease of foreign exchange reserves, it is possible in principle to calculate the corresponding value, but this exercise is better avoided because of potentially large omissions and errors. The current account deficit is 21.1 billion dollars, and the foreign exchange reserves are 49.6 billion dollars. Hence, in case of problems with the current account deficit, it is possible to resort to foreign exchange reserves.

Looking at the balance of payments statistics of Kenya (Table 2), it can be noted that the current account is in deficit, as well as the trade balance of the current account. Focusing on the main items of exports, coffee, tea, and horticulture emerge as important⁸. This highlights the fact that, unlike the other three countries, Kenya lacks natural resources that can be exported. South Africa and Ghana have rich gold reserves, while Nigeria can count on oil reserves. The value of current transfers is relatively high compared to the other items in Kenya, highlighting the importance of remittances from foreign countries. Moreover, the financial account has a larger value for portfolio investments than for foreign direct investments. The current account in Kenya is -4,504 million dollars, and the increase and decrease of foreign exchange reserves amount to -1,001 million dollars. From this latter value, it is possible to infer that, in case of problems with the current account deficit, Kenya is not able to respond

⁷ IMF International Financial Statistics (IFS) data on the balance of payments are easy to handle because the format of items is unified. Although this is not the case for IMF country reports, it is still possible to retrieve the main export items. Given the detailed information contained, I use IMF country reports in Tables 1 to 4.

⁸ The main import is petroleum.

with at least a yearly level of foreign exchange reserves.

Moving to Nigeria (Table 3), unlike the other three countries, the current account is in surplus. The reason lies in the main item of export, i.e., petroleum. In Nigeria, oil reserves are plentiful, with oil revenue accounting for about 65.9% of government revenues in 2013. Additionally, the value of current transfers is high, suggesting, like in Kenya, a big role for remittances from foreign countries. Similar to South Africa and Kenya, the value of portfolio investments is higher than that of foreign direct investments, highlighting the importance of the former. Compared to the balance of payments statistics of the other three countries, it is important to note that in Nigeria, the value of omissions and errors is relatively large with respect to the values of other items.

Table 4 shows Ghana's balance of payments statistics. The current account is in deficit, as well as the trade balance. The main items exported are gold, petroleum, and cacao. Current transfers are higher than other items, implying that the domestic economy of Ghana, like Kenya and Nigeria, is strongly influenced by remittances from foreign countries. On the other hand, unlike the other countries, the value of foreign direct investments in Ghana exceeds that of portfolio investments. Ghana's current account is -5,704 million dollars, its capital and financial account is 5,368 million dollars, and the increase and decrease of foreign exchange reserves amount to 436 million dollars. Differently from Nigeria, the value of omissions and errors is low. As the current account deficit is remarkably large as compared to the increase and decrease of foreign exchange reserves, Ghana cannot respond with foreign exchange reserves if any problem arises with the current account deficit.

2.2 Demand for funds

In this section, I examine from which industries the demand for funds originates. By specifying such industries, in section 4 I can verify whether commercial banks lend to the industries asking for funds. Table 5 shows nominal GDP composition and contribution to GDP growth in the four countries. As for the latter one, calculations which are contribution ratio are made by comparing 2010 and 2013 data. Regarding South Africa's industrial structure (column "proportion of nominal GDP" in Table 5), it can be seen that major industries are "finance, insurance, and real estate" and "public administration and defense," representing 20.3% and 16.8% of nominal GDP, respectively. As for the existence of the demand for funds, it is important to pay attention to the column "contribution to the change in nominal GDP – 2010 and 2013 compared." My claim is that the demand for funds comes from industrial sectors that strongly contribute to GDP change. From this standpoint, South Africa is judged to be

in need of funds for “public administration and defense” and “finance, insurance, and real estate,” which contribute to a nominal GDP change by 4.0% and 3.8%, respectively.

Moving to Kenya, major industries are “agriculture, hunting, forestry, and fishing” (29.4% of nominal GDP) and “finance, insurance and real estate” (18.7%). Regarding the demand for funds, “agriculture, hunting, forestry, and fishing” has the highest (10.9%), followed by “finance, insurance, and real estate” is (6.4%). Thus, in both South Africa and Kenya, the financial industry is important for the economy.

In Nigeria, the major industries are “agriculture, hunting, forestry, and fishing” (21.0% of nominal GDP) and “wholesale, retail trade, restaurants, and hotels” (17.9%). The demand for funds is present in the “wholesale, retail trade, restaurants, and hotels” industry (6.4%) and in the “finance, insurance, and real estate” one (5.3%).

Table 1. South Africa balance of payments (billion dollars)

	2013
Current account	-21.1
Goods and services	-8.3
Exports	113.4
Imports	-121.8
Income	-9.6
Transfer	-3.2
Capital and financial account	14.0
Capital account	0.0
Financial account	14.0
Foreign direct investment	1.7
Liabilities	8.3
Assets	-6.7
Portfolio investment	6.0
Liabilities	7.2
Assets	-1.2
Financial derivatives	0.8
Liabilities	-19.5
Assets	20.3
Other investment	5.6
Liabilities	5.2
Assets	0.3
Errors and omissions	7.6
Gross reserve(end of period)	49.6

Note: The value of foreign exchange reserves is stock level data at the end of 2013.

Source: Created from IMF (2016), *IMF Country Report*, No. 16/217, July 2016, p. 48.

Table 2. Kenya balance of payments (million dollars)

	2013
Current account	-4,504
Goods	-10,485
Exports	5,823
Coffee	216
Tea	1,125
Horticulture	770
Imports	-16,308
Oil	-3,899
Services	2,823
Income	365
Current transfer	3,522
Capital and financial account	5,167
Capital account	176
Financial account	4,991
Foreign direct investment	803
Portfolio investment	2,102
Other investment	2,611
Reserve assets (gross)	-1,001

Note: Estimated values, based on the fiscal year.

Source: Created from IMF (2014), *IMF Country Report*, No. 14/302, October, p. 38.

Table 3. Nigeria balance of payments (billion dollars)

	2013
Current account	20.1
Trade	43.8
Exports	95.1
Oil and gas	90.6
Imports	-51.4
Services	-20.1
Income	-25.7
Transfer	22.2
Capital and financial account	6.8
Capital account	0.0
Financial account	6.8
Foreign direct investment	4.4
Portfolio investment	10.4
Other investment	-8.0
Net international reserves	1.0
Errors and omissions	-27.9

Source: Created from IMF (2015), *IMF Country Report*, No. 15/84, March 2015, p. 28.

Table 4. Ghana balance of payments (million dollars)

	2013
Current account	-5,704
Trade balance	-3,848
Exports	13,752
cocoa	2,267
gold	4,966
oil	3,885
Imports	-17,600
oil	-3,550
Service	-2,444
Income	-1,351
Transfers	1,939
Capital and financial account	5,368
Capital account	349
Financial account	5,019
Foreign direct investment	3,226
Portfolio investment	659
Other investment	1,134
Changes in net reserves	436
Errors and omissions	-100

Source: Created from IMF (2015), *IMF Country Report*, No. 15/103, April 2015, p. 30.

Finally, in Ghana major industries are “agriculture, hunting, forestry, and fishing” (20.8% of nominal GDP) and “transport and communications” (12.0%). Regarding the demand for funds, “mining and quarrying” is 7.7%, while “agriculture, hunting, forestry, and fishing” is 7.5%. From the viewpoint of comprehensively interpreting the two indicators “proportion of nominal GDP” and “contribution to the change in nominal GDP – 2010 and 2013 compared,” it emerges that the important industries to grow economies are “finance, insurance, and real estate” in South Africa and Kenya, “wholesale, retail trade, restaurants, and hotels” in Nigeria, “agriculture, hunting, forestry, and fishing” in Kenya, Nigeria, and Ghana, and also “public administration and defense” in South Africa.

Table 5. Industrial structure and contribution to nominal GDP change (%).

Industry	South Africa		Kenya		Nigeria		Ghana	
	Proportion of nominal GDP	Contribution to the change in nominal GDP-2010 and 2013 compared	Proportion of nominal GDP	Contribution to the change in nominal GDP-2010 and 2013 compared	Proportion of nominal GDP	Contribution to the change in nominal GDP-2010 and 2013 compared	Proportion of nominal GDP	Contribution to the change in nominal GDP-2010 and 2013 compared
Agriculture, hunting, forestry, and fishing	2.3	0.2	29.4	10.9	21.0	4.7	20.8	7.5
Mining and quarrying	9.0	1.7	0.9	0.3	13.0	2.4	8.7	7.7
Manufacturing	13.2	1.9	11.9	3.5	9.0	4.6	4.9	1.9
Electricity, gas, and water	3.7	1.6	2.2	0.8	0.7	0.4	1.0	0.3
Construction	4.0	1.0	5.0	1.7	3.3	1.4	11.1	7.3
Wholesale, retail trade, restaurant, and hotels	14.8	3.2	10.3	3.4	17.9	6.4	10.8	5.3
Finance, insurance, and real estate	20.3	3.8	18.7	6.4	15.0	5.3	9.6	5.3
Transport and communications	10.0	2.8	10.3	3.6	11.7	3.4	12.0	6.5
Public administration and defense	16.8	4.0	4.9	1.7	3.0	0.5	5.4	2.3
Education	0.0	0.0	5.9	1.8	1.9	0.9	3.3	1.4
Health and social work	0.0	0.0	1.8	0.2	0.6	0.2	1.0	0.3
Other services	5.9	1.2	1.5	0.4	2.7	1.5	4.0	2.2
Less imputed service charges	0.0	0.0	-2.9	-1.2	0.0	0.0	-3.0	-1.4
GDP	100.0	21.4	100.0	33.5	100.0	31.8	100.0	57.0
Plus: indirect taxes/tax on products, less subsidies	11.4	3.4	11.2	3.2	1.1	0.1	6.2	1.9

Note: The proportion of nominal GDP is the 2013 value.

Source: Created from African Development Bank Group, African Union, and Economic Commission for Africa (2016), *African Statistical Yearbook 2016*, p. 190, p. 205, p. 270, p. 305.

2.3 Trend in the saving-investment balance

In section 2.1, it emerges that three out of four countries have current account deficits. In this section, I analyze the cause of such deficits, by focusing on the trend in the saving-investment balance and considering the structure of government finance. As of 2013, the current account of Nigeria is in surplus; however, it has been shrinking, largely due to the increase in the government deficit since 2008. For this reason, in my framework I consider trends in the current account with respect to the relationship with the Nigerian government fiscal structure. Government structural fiscal deficit as a cause of current account deficit is a common problem of the four countries. Nonetheless, there are big differences in the circumstances of government finance between South Africa and Kenya on one side, and Nigeria and Ghana on the other side. Although the first two countries can point out the existence of government finance as the cause of the current account deficit, the structure itself is different from that of the other two countries in terms of personnel expenses. Fiscal rebuilding has been advancing in South Africa and Kenya. In Nigeria and Ghana, the process of fiscal reconstruction is still a distant realization, because of the high impact of the government finance structure on current account deficit expansion (or surplus reduction), especially in terms of percentage of personnel expenses (62.0% and 66.0% of government revenue for Nigeria and Ghana, respectively)⁹.

Figures 3 to 6 show the trends in the saving-investment balance in the four countries. In South Africa, total investments began to exceed gross national savings in the early 2000s. As of 2013, the current account is in deficit. Government expenditure

⁹ The values are calculated by considering the government revenue in 2013 as 100.

has greatly exceeded revenue since 2009. Trends in the saving-investment balance during this period can be explained by the structure of government finance. The column “calculating government revenue as 100” in Table 6 reports items values by considering revenue as 100. Government finance is in deficit and personnel expenses account for 40.5%, while the proportion of tax revenues is 85.0%.

As for Kenya, Figure 4 shows that, in the early 2000s, total investments began to exceed gross national savings. Government deficit seems to be the cause of the current account deficit. Total investments and gross national savings largely diverge in response to the government fiscal deficit since the early 2000s. Table 7 shows the structure of government finance in Kenya. Similar to South Africa, personnel expenses cover 31.5% of revenues. Moreover, the role of local government is limited.

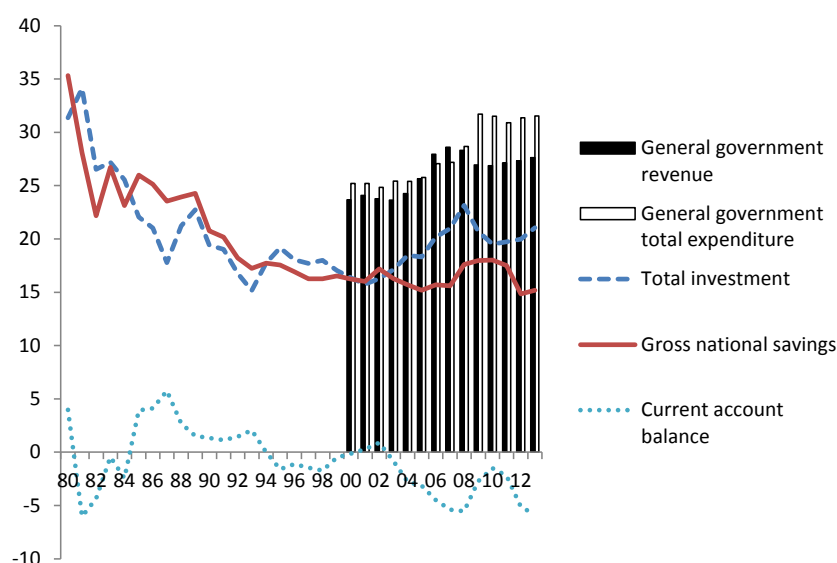
As of 2013, Nigeria, unlike the other three countries, has a current account surplus. However, since 2008, the progressive contraction of such surplus is evident. As shown in Figure 5, the gross national savings greatly exceeded total investments in the early 2000s. The cause is a surplus of the government fiscal structure. Table 8 shows Nigeria’s federal government finances¹⁰. For example, petroleum revenues account for 65.9% of total revenues. Compared to the other three countries, oil revenue is high, suggesting an extremely high impact on the Nigerian economy. Although this has greatly contributed to the surplus of government finance, federal government finance is in deficit. Personnel expenses are 62.0% of revenues, interest payment expense is 27.4%, and the total of personnel expenses and interest payment expenses are 89.4%. As a structural problem of government finance, the high level of personnel expenses contributes to the reduction of the current account surplus.

In 2013, Ghana’s current account is in deficit. Total investments have largely exceeded gross national savings since the early 2000s. The cause of the current account deficit is the government fiscal deficit. There is a large gap between total investment and gross national savings in response to the deficit expansion in government finance. Table 9 shows the government fiscal structure in Ghana. I use central government as government data¹¹. The central government is in deficit, with a high ratio of personnel expenses (66.0%).

¹⁰ Like South Africa and Kenya, I use general government’s financial data, but in the case of Nigeria, items such as personnel expenses are not included in the general government data. Therefore, for Nigeria, I use federal government data.

¹¹ I use central government data instead of general government data because of data constraints.

Figure 3. Trend in the saving-investment balance in South Africa (%)



Note: Relative to GDP.

Source: Created from IMF, World Economic Outlook Database, October 2016.

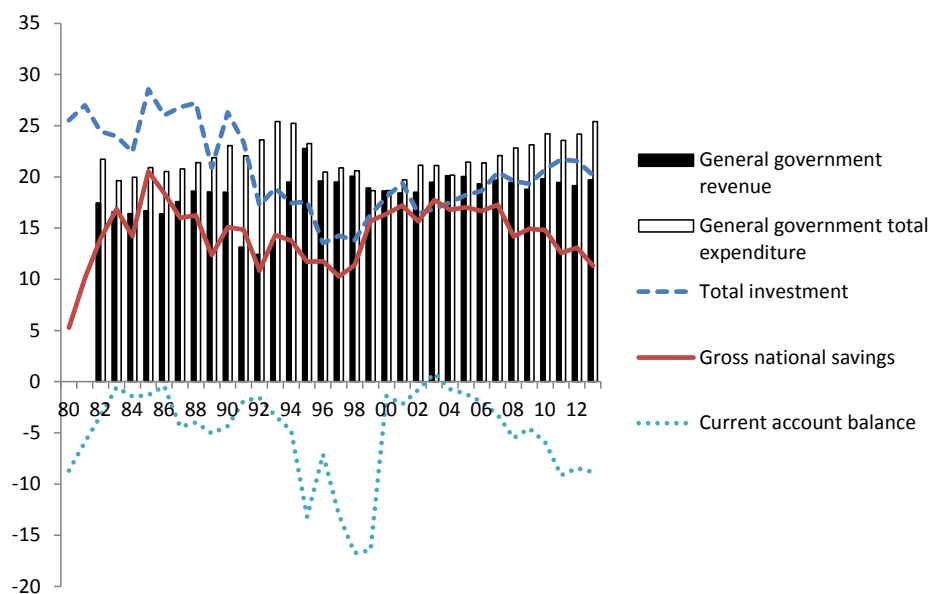
Table 6. South Africa government finance structure (billion rands, %)

	2013	Calculating government revenue as 100
Total revenue and grants	1,008.1	100.0
Tax revenue	856.6	85.0
Non-tax revenue	30.6	3.0
Total expenditure	1,144.1	113.5
Wages and salaries	408.2	40.5
Interest	109.6	10.9
Overall balance	136.0	13.5
Gross government debt	1,585.0	157.2

Note: Values based on 2013 fiscal year. The reference is to general government.

Source: Created from IMF (2016), *IMF Country Report*, No. 16/217, July 2016, p. 47.

Figure 4. Trend in the saving-investment balance in Kenya (%)



Note: Relative to GDP.

Source: Created from IMF, World Economic Outlook Database, October 2016.

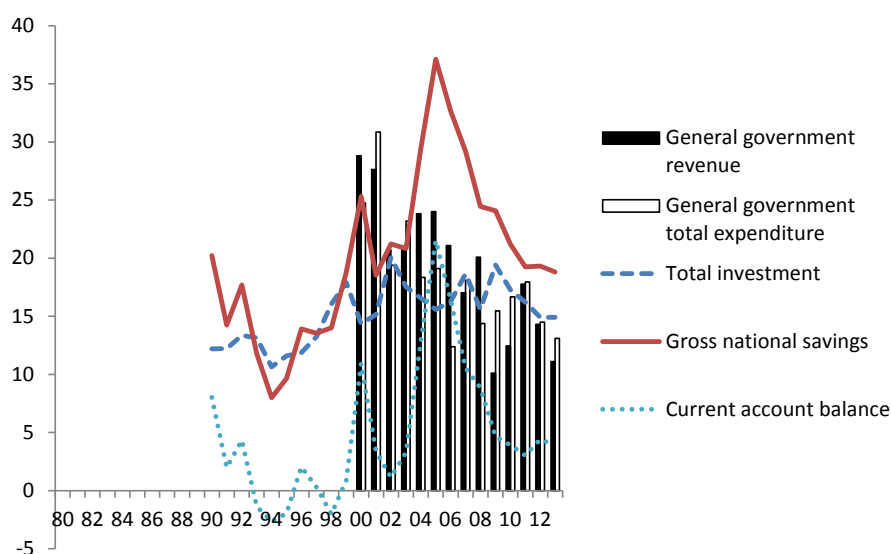
Table 7. Kenya government finance structure (billion shillings, %)

	2013	Calculating government revenue as 100
Revenues and grants	1,211.9	100.0
Central government revenues and grants	994.4	82.1
Tax revenue	851.8	70.3
Nontax revenue	117.4	9.7
Grants	25.3	2.1
Country revenues and grants	217.5	17.9
Local revenue	24.1	2.0
Grants from central government	193.4	16.0
Expenditure and net lending	1,450.6	119.7
Recurrent expenditure	1,135.3	93.7
Transfer to countries	193.4	16.0
Wages and salaries	382.3	31.5
of which: countries	93.8	7.7
Other	559.6	46.2
of which: countries	51.6	4.3
Balance	-238.6	-19.7

Note: Estimated values. Table 7 is based on 2013 fiscal year. The reference is to general government.

Source: Created from IMF (2014), *IMF Country Report*, No. 14/302, October, p. 35.

Figure 5. Trend in the saving-investment balance in Nigeria (%).



Note: Relative to GDP.

Source: Created from IMF, World Economic Outlook Database, October 2016.

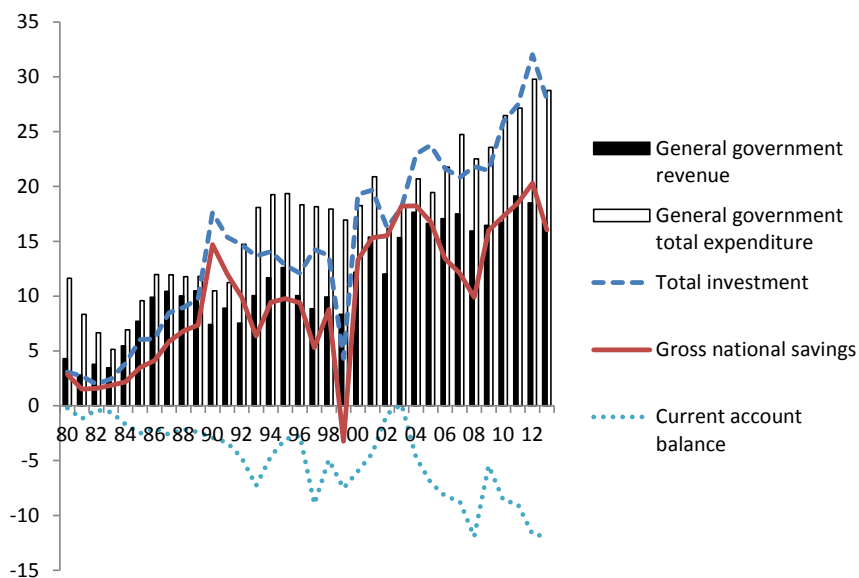
Table 8. Nigeria government finance structure (billion nairas, %).

	2013	Calculating government revenue as 100
Total revenue	3,000	100.0
Oil revenue	1,977	65.9
Non-oil revenue	1,023	34.1
Total expenditure	4,438	147.9
Personal	1,861	62.0
Overheads	526	17.5
Interest	822	27.4
Overall balance	-1,438	-47.9

Note: Values in 2013. The reference is to federal government.

Source: Created from IMF (2015), *IMF Country Report*, No. 15/84, March 2015, p. 29.

Figure 6. Trend in the saving-investment balance in Ghana (%).



Note: Relative to GDP.

Source: Created from IMF, World Economic Outlook Database, October 2016.

Table 9. Ghana government finance structure (million cedis, %).

	2013	Calculating government revenue as 100
Revenue	15,630	100.0
Taxes	13,284	85.0
Direct taxes	6,320	40.4
Indirect taxes	4,651	29.8
Trade taxes	2,331	14.9
Grants	438	2.8
Expenditure	25,458	162.9
Expense	21,166	135.4
Compensation of employees	10,312	66.0
Interest	4,397	28.1
Grants to other government union	2,032	13.0
Overall balance	-9,828	-62.9

Note: Values in 2013. The reference is to central government.

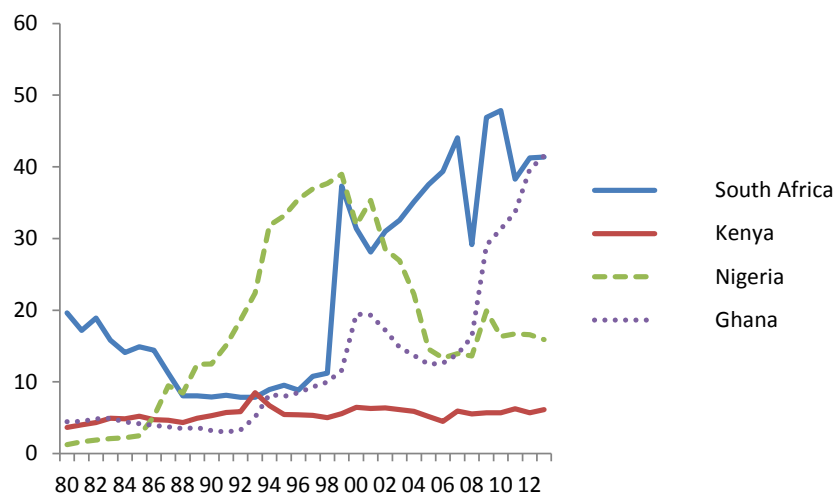
Source: Created from IMF (2015), *IMF Country Report*, No. 15/103, April 2015, p. 26.

2.4 The impact of foreign direct investments on domestic economy

In this section, I focus on foreign direct investments. Figure 7 shows how foreign

direct investments in the four countries affect the domestic economy. The degree of influence is measured by dividing foreign direct investments by GDP¹². Among the four countries, South Africa has the largest nominal GDP per capita, and it has been rising since the late 1990s. In contrast, Nigeria, GDP per capita with the second largest value, peaked in the late 1990s and then trended downward. Kenya and Ghana, characterized by low nominal GDP per capita, are moving in contrasting ways. While Kenya exhibits almost no change (around 5%), Ghana is experiencing major changes. In other words, Ghana, nominal GDP per capita with the small value, has been on an increasing trend since the late 1990s, and has risen sharply (more than in the three other countries) since the late 2000s. From Figure 7, it is not possible to state whether foreign direct investments have a specific impact on the domestic economy. However, comparing the four countries, large contrasts are present among them. The trends of South Africa and Nigeria, where the nominal GDP per capita is large, are different. Further, the trends of Kenya and Ghana, where the nominal GDP per capita is small, are also different. Kenya has little change in trends, while Ghana is experiencing rapid change. There are the big differences in the forms of economic development in the rapidly advancing Sub-Saharan Africa region.

Figure 7. The impact of foreign direct investments on domestic economy (%).



Note: FDI stock/GDP. Foreign direct investments are inflows.

Source: Created from UNCTAD, UNCTADSTAT.

3. COMPARISON OF THE FINANCIAL MARKETS IN THE FOUR COUNTRIES

¹² Here GDP is nominal GDP.

3.1 Characteristics of the financial markets in the four countries

In this section, I organize the characteristics of the financial markets of the four countries in Sub-Saharan Africa region according to three criteria. First, concerning the scale of the entire financial market, I look at the following indicators: “loan/deposit,” “total banking sector asset/GDP,” “central bank asset/commercial bank asset,” “total securities stock/GDP,” and “holding bank account ratio.” Second, I consider banks’ financial indicators like “ROA,” “ROE,” “capital adequacy ratio,” “NPL ratio,” and “non-interest expense/income.” Third, focusing on the relevance of the central bank’s role, I choose indicators such as “claim on foreign assets of central bank/claim on foreign assets of deposit financial institution,” “claim on government asset of central bank/claim on government asset of deposit financial institution,” and “claim on private sector credit of central bank/claim on private sector credit of deposit financial institution.” The conclusion can be summarized by the following three points. First, the degree of financial development in Kenya is very high as compared to its economic scale. Second, it is difficult to interpret the banks’ financial indicators. Third, credit provision by the deposit financial institution to the private sector is correlated with economic development.

Table 10. Characteristics of the financial markets in the four countries (%).

	South Africa			Kenya			Nigeria			Ghana		
	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Loan/deposit	113.2	119.0	118.7	77.8	76.9	80.5	56.2	54.8	57.4	57.9	63.2	69.5
Total banking sector asset/GDP	115.4	115.1	111.2	57.6	58.1	60.7	30.4	29.2	30.1	38.1	37.3	39.6
Central bank asset/commercial bank asset	10.6	11.6	13.0	27.1	29.9	30.5	86.4	97.1	62.0	62.8	65.9	70.8
Total securities stock/GDP			172.7			28.2			10.9			8.4
Holding bank account ratio			53.6			42.3			29.7			29.4
ROA	1.5	1.5	1.4	3.3	3.8	3.6	0.2	2.3	2.3	3.9	4.8	6.2
ROE	21.0	20.5	18.6	32.2	34.2	28.9	2.2	21.2	18.9	27.2	34.6	42.5
Capital adequacy ratio	15.0	15.9	15.6	19.4	21.9	23.2	17.9	18.3	17.1	17.4	18.6	18.5
NPL ratio	4.7	4.0	3.6	4.4	4.5	5.0	5.3	3.5	3.4	14.1	13.2	12.0
Cost-efficiency (non-interest cost/income)	54.2	55.0	56.3	44.6	37.8	41.7	24.4	64.8	68.1	59.8	53.8	48.2
Claim on foreign assets of central bank/claim on foreign assets of deposit financial institution	47.0	48.8	51.1	69.4	78.8	77.2	77.3	78.6	77.1	81.0	82.4	79.9
Claim on government asset of central bank/claim on government assets of deposit financial institution	10.0	8.4	10.3	13.1	9.6	9.7	12.2	11.4	13.1	36.5	38.4	40.6
Claim on private sector credit of central bank/claim on private sector credit of deposit financial institution	0.0	0.0	0.0	0.5	0.2	0.3	0.1	0.1	0.1	4.4	5.8	5.8

Note: With regard to ROA, ROE, capital adequacy ratio, NPL ratio, and cost efficiency (non-interest cost/income), Nigerian data refer to the fourth quarter; Ghana ROA and ROE are measured before tax, while, regarding cost efficiency, interest costs might be included in expenses; holding bank account ratio and total securities stock/GDP are reported as average values from 2011 to 2013; and the holding bank account ratio exceeds 15 years.

Source: Total banking sector asset/GDP and loan/deposit are created from IMF (2016), *Regional Economic Outlook, Sub-Saharan Africa*, OCT 16, pp. 118-119. As for ROA, ROE, capital adequacy ratio, NPL ratio, and cost efficiency (non-interest cost/income), South African data for 2012 and 2013 are created from IMF (2016), *IMF Country Report*, No. 16/217, p. 50; while 2011 data are created from IMF (2014), *IMF Country Report*, No. 14/338, p. 47. Kenyan data are created from the IMF (2014), *IMF Country Report*, No. 14/302, p. 40; Nigerian data from IMF (2015), *IMF Country Report*, No. 14/302, p. 36; and Ghanaian data from IMF (2015), *IMF Country Report*, No. 15/103, p. 34. Ghana’s cost efficiency data are from Bank of Ghana (2014), *Annual Report 2014*, p. 22. Holding bank account ratio and total securities stock/GDP are created from World Bank (2015), *Global Financial Development Report, Long-Term Finance*, pp. 149-154. Claim on foreign assets of central bank, claim on government asset of central bank, claim on private sector credit of central bank, claim on foreign assets of deposit financial institution, claim on government asset of deposit financial institution, and claim on private sector credit of deposit financial institution are created from IMF (2016), *International Financial Statistics Yearbook 2016*, pp. 469-470, pp. 381-382, pp. 625-626, pp. 751-752.

Going into the details of the first point, the five indicators (i.e., “loan/deposit,” “total banking sector asset/GDP,” “central bank asset/commercial bank asset,” “total securities stock/GDP,” and “holding bank account ratio”) suggest that the highest degree of financial development is in South Africa, followed by Kenya. This is consistent with the characteristics of the industrial structures in the two countries, in which the “finance, insurance, and real estate” industry is important. From the point of view of the economy scale in terms of GDP per capita, it can be pointed out that the size of the financial industry in Kenya is relatively larger than the one in the other countries. Moving to the second point, an example of the difficulties in interpreting bank’s financial indicators can be found in Table 10, where banking operations in Ghana turn out to be higher than those in South Africa. However, this result is not consistent with the previous discussion. Finally, considering the third point, the role of the central bank is considered to weaken as finance develops. In this respect, the three aforementioned indicators suggest a high degree of financial development in South Africa and Nigeria. The fact that Kenya and Ghana exhibit lower GDP per capita is consistent with the relationship between economic scale and the degree of financial development.

3.2 Financial development of the four countries in terms of deposits

In this section, I compare the level of development of financial markets in the four countries relative to the extent of the economic development. For a basic view on the deposit structure, I consider four indicators, i.e., “deposit/GDP,” “central bank asset/deposit,” “cash reserve/deposit,” and “demand deposit/time deposit and saving deposit.” Among these indicators, the last one is the most important for the analysis in this paper. Table 11 verifies the degree of financial development of the four countries from the viewpoint of deposits. First, “deposit/GDP” shows whether the size of deposits increases in each country. The values for South Africa and Kenya are higher than those for the other two countries. I obtain a similar result with the “central bank asset/deposit” indicator, which looks at the size of deposits against the assets of the central bank.

Table 11. The degree of financial development of the four countries in terms of deposits (%).

	South Africa			Kenya			Nigeria			Ghana		
	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Deposit/GDP	91.6	91.7	91.5	35.6	37.4	29.9	21.1	21.8	21.2	25.5	25.0	24.1
Central bank asset/deposit	13.4	14.6	16.1	40.0	42.7	46.1	124.8	130.4	87.7	89.0	96.0	114.1
Cash reserve/deposit	3.3	3.4	3.4	10.9	11.3	11.1	9.1	11.6	18.6	18.1	17.7	16.2
Demand deposit/time deposit and saving deposit	23.8	24.1	25.6	77.0	74.4	72.5	75.3	62.9	60.0	86.4	94.0	89.6

Note: Cash reserves include cash and central bank checking account.

Source: GDP is created from IMF (2016), *International Financial Statistics Yearbook 2016*, p. 384, p. 472, p. 628, p. 755. Other country data (excluding South African central bank assets) are created from Central Bank of Nigeria, *2014 Statistical Bulletin*; Bank of Ghana (2014), *Statistical Bulletin December 2014*, p. 12, pp. 14-15; Central Bank of Kenya (2014), *Statistical Bulletin December 2014*, p. 10, pp. 15-16; and South African Reserve Bank (2013), *Bank Supervision Development Annual Report 2013*, p. 56, p. 60. South African central bank assets in 2012 and 2013 are created from South African Reserve Bank (2012), *Annual Report 2012/2013*, p. 90, while 2011 data are created from South African Reserve Bank (2011), *Annual Report 2011/2012*, p.75.

As for “cash reserve/deposit,” expressing whether banks increase their cash reserves in line with the expansion of deposits, the lowest value is reported for South Africa (3.4%), followed by Kenya (11.1%). Considering the “cash reserve/deposit” value in relation to the above-mentioned “deposit/GDP” value, the two countries do not increase cash reserves despite the increase in size of deposits, suggesting the presence of important issues in the corresponding financial systems.

Finally, the “demand deposit/time deposit and saving deposit” indicator shows whether a highly developed financial market corresponds to a large economic scale in terms of GDP per capita in the four countries. This indicator describes the long-term aspect of deposits. The values are 25.6% for South Africa, 60.0% for Nigeria, 72.5% for Kenya, and 89.6% for Ghana. This ranking is consistent with the economic scale in terms of GDP per capita. In other words, the development of financial markets in the four countries in the Sub-Saharan Africa region is positively related to the size of the corresponding economies. To conclude, South Africa is remarkably developed as compared to the other countries, and is followed by Kenya. However, from the “demand deposit/time deposit and saving deposit” indicator, financial development seems to relate to the economic scale.

4. VERIFICATION OF COMMERCIAL BANK LENDING

In this section, I focus on commercial banks' lending in the four countries. Following the considerations in section 2.2 about the existence of the demand for funds from the viewpoint of the contribution to the change in nominal GDP, I examine the trends in commercial bank loans in the four countries (Tables 12 to 15). Specifically, the upper part of the tables shows the composition ratio of nominal GDP, the middle part shows the composition ratio of the balance of commercial bank loans, and the lower part indicates whether commercial banks lend to each industry demanding funds. Looking at this last part in more detail, if the composition ratio of loans outstanding is higher than the composition ratio of nominal GDP, I consider commercial banks as making loans, with the symbol “1” denoting this case. As for the demand for funds in South Africa, it comes from “public administration and defense” and “finance, insurance, and real estate” (section 2.2). Commercial banks lend to the

latter industry (Table 12). Moreover, they do not lend to manufacturing companies. As for Kenya, while the demand for funds comes from “agriculture, hunting, forestry, and fishing” and “finance, insurance, and real estate,” commercial banks do not provide loans to these industries, and rather fund manufacturing (Table 13). Similarly, in Nigeria commercial banks do not fund the industries asking for funds (i.e., “wholesale, retail trade, restaurants, and hotels” and “finance, insurance, and real estate”), but provide loans to “manufacturing” (Table 14). The same occurs in the case of Ghana, where industries requiring funds (i.e., “mining and quarrying” and “agriculture, hunting, forestry, and fishing”) are not financed, while “manufacturing” is (Table 15).

This section can be summarized as follows. First, commercial banks in Kenya, Nigeria, and Ghana do not lend to industries where there is demand for funds, while this is not the case in South Africa. As seen in section 3, in terms of the relationship between economic scale and the degree of financial development, South Africa presents the most advanced financial development among the four countries, with commercial banks taking risks. Second, while commercial banks in Kenya, Nigeria, and Ghana fund the manufacturing industry, this does not occur in South Africa. Manufacturing is an important industry for economic growth, as it supports long-term economic development and creates employment, which contributes to a decline in the unemployment rate. In this industry, banks can make loans at no risk by setting up collaterals.

Table 12. Verification of commercial banks' lending in South Africa (%)

(A) Nominal GDP composition ratio	2011	2012	2013
Manufacturing	13.3	13.1	13.2
Finance, insurance, and real estate	20.7	20.6	20.3
Public administration and defense	16.5	16.4	16.8
Total	100.0	100.0	100.0
(B) Lending composition ratio	2011	2012	2013
Manufacturing	4.3	4.5	5.0
Finance, insurance, and real estate	31.5	29.5	28.3
Total	100.0	100.0	100.0
If (B) is larger than (A), fill in 1	2011	2012	2013
Manufacturing			
Finance, insurance, and real estate	1	1	1

Note: The African Development Bank industry classification differs from the one used by the South African Reserve Bank. Table 12 is based on the first classification. For example, while the African Development Bank assumes one category for “finance, insurance, and real estate,” the South African Reserve Bank distinguishes between “finance and insurance” and “real estate.” In Table 12, the sum of “finance and insurance” and “real

estate” is reported.

Source: Lending is created from South African Reserve Bank (2013), *Bank Supervision Development Annual Report 2013*, p. 84. GDP is created from the African Development Bank Group, African Union, and Economic Commission for Africa (2016), *African Statistical Yearbook 2016*, p. 305.

Table 13. Verification of commercial banks’ lending in Kenya (%)

(A) Nominal GDP composition ratio	2011	2012	2013
Agriculture, hunting, forestry, and fishing	29.3	29.1	29.4
Manufacturing	13.1	12.3	11.9
Finance, insurance, and real estate	17.9	18.1	18.7
Total	100.0	100.0	100.0

(B) Lending composition ratio	2011	2012	2013
Agriculture	5.2	4.9	4.4
Manufacturing	13.2	13.5	12.9
Financial services and real estate	16.9	17.2	17.7
Total	100.0	100.0	100.0

If (B) is larger than (A), fill in 1	2011	2012	2013
Agriculture, hunting, forestry, and fishing			
Manufacturing	1	1	1
Finance, insurance, and real estate			

Note: The African Development Bank industry classification differs from the one used by the Central Bank of Kenya. Table 13 is based on the first classification. While the African Development Bank defines the two categories “agriculture, hunting, forestry, and fishing” and “finance, insurance and real estate,” the Central Bank of Kenya uses as corresponding categories “agriculture,” “financial services,” and “real estate.” In Table 13, the sum of “financial services” and “real estate” is reported.

Source: GDP is created from the African Development Bank Group, African Union, and Economic Commission for Africa (2016), *African Statistics Yearbook 2016*, p. 205. Commercial bank lending is based on Central Bank of Kenya, *Bank Supervision Annual Report 2013*, p. 29; *Bank Supervision Annual Report 2012*, p. 32; and *Bank Supervision Annual Report 2011*, p. 27.

Table 14. Verification of commercial banks’ lending in Nigeria (%)

(A) Nominal GDP composition ratio	2011	2012	2013
Manufacturing	7.2	7.8	9.0
Wholesale, retail trade, restaurant, and hotels	16.8	17.0	17.9
Finance, insurance, and real estate	13.1	14.3	15.0
Total	100.0	100.0	100.0

(B) Lending composition ratio	2011	2012	2013
Manufacturing	14.4	13.1	11.8
General commerce: exports and imports	10.8	9.3	7.7
Credit to financial institutions, real estate, and construction	10.3	9.7	10.5
Total	100.0	100.0	100.0

If (B) is larger than (A), fill in 1	2011	2012	2013
Manufacturing	1	1	1
Wholesale, retail trade, restaurant, and hotels			
Finance, insurance, and real estate			

Note: The African Development Bank industry classification differs from the one used by the Central Bank of Nigeria. Table 14 is based on the first classification. While the African Development Bank considers the two categories “wholesale, retail trade, restaurant and hotels” and “finance, insurance, and real estate,” the Central

Bank of Nigeria uses as corresponding categories “real estate and construction,” “general commerce (Export and Import),” and “credit to financial institutions,” with no possibility to further separate values. In Table 14, the sum of “real estate and construction” and “credit to financial institutions” is reported.

Source: GDP is retrieved from the African Development Bank Group, African Union, and Economic Commission for Africa (2016), *African Statistics Yearbook 2016*, p. 270. Lending is created from Central Bank of Nigeria, *2014 Statistical Bulletin*.

Table 15. Verification of commercial banks’ lending in Ghana (%)

(A) Nominal GDP composition ratio	2011	2012	2013
Agriculture, hunting, forestry, and fishing	26.0	23.6	23.2
Mining and quarrying	8.6	9.9	9.7
Manufacturing	7.1	6.0	5.5
Total	100.0	100.0	100.0
(B) Lending composition ratio	2011	2012	2013
Agriculture, forestry, and fishing	5.7	4.8	4.1
Mining and quarrying	4.3	1.1	1.0
Manufacturing	8.9	11.0	8.8
Total	100.0	100.0	100.0
If (B) is larger than (A), fill in 1	2011	2012	2013
Agriculture, hunting, forestry, and fishing			
Mining and quarrying			
Manufacturing	1	1	1

Note: The African Development Bank industry classification differs from the one used by the Bank of Ghana. Table 15 is based on the first classification. While the African Development Bank uses the category “agriculture, hunting, forestry, and fishing,” the Bank of Ghana corresponding category does not include “hunting.” Moreover, the total value of loans also includes cocoa marketing.

Source: GDP value is created from the African Development Bank Group, African Union, and Economic Commission for Africa (2016), *African Statistics Yearbook 2016*, p. 190. Lending is created from Bank of Ghana (2014), *Statistical Bulletin December 2014*, p. 16.

5. CONCLUSION

In this paper, I focus on the rapid economic development in the Sub-Saharan Africa region and analyze the related determining factors from a financial theory perspective. Specifically, I consider the cases of South Africa, Kenya, Nigeria, and Ghana. The main conclusions can be summarized by the following three points. The first point concerns the origin of the demand for funds in the four countries. As clarified in section 2, the demand for funds in South Africa relates to “public administration and defense” and “finance, insurance, and real estate.” In Kenya, “agriculture, hunting, forestry, and fishing” and “finance, insurance, and real estate” are the economic activities from which the demand for funds comes, while in Nigeria they are “wholesale, retail trade, restaurants, and hotels” and “finance, insurance, and real

estate.” In Ghana, the demand for funds comes from “mining and quarrying” and “agriculture, hunting, forestry, and fishing.” The second point is whether the financial markets in the four countries are highly developed relative to the degree of economic development. As verified in section 3, in South Africa the degree of financial development is remarkable. With respect to the economic scale, financial development in Kenya is also very high. However, it is important to note that, based on the indicators of “demand deposit/time deposit and saving deposit,” financial developments depend on the nominal GDP per capita. Additionally, there is a correlation between credit to the private sector by deposit financial institutions and nominal GDP per capita. Therefore, in this paper I conclude that financial development is highly developed in response to the size of the economy in terms of “demand deposit/time deposit and saving deposit” and “claim on private sector credit of central bank/claim on private sector credit of deposit financial institution.” The third point of discussion, analyzed in section 4, is whether commercial banks lend to the industrial sector in presence of demand for funds, and specifically whether they lend to companies in the manufacturing industry. In Kenya, Nigeria, and Ghana, commercial banks do not lend to industries demanding funds. However, this is not the case in South Africa. The difference lies in commercial banks’ propensity to take risks. Nonetheless, loans are provided in the manufacturing industry in Kenya, Nigeria, and Ghana, because in this case commercial banks can make loans by setting up collaterals that eliminate risks.

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