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How has financial liberalization improved the flow of external finance for SMEs in Nigeria

Abstract

This study examines how financial liberalization has improved access to external finance for small and medium scale enterprises (SMEs) in Nigeria. We used new coding rule to measure the extent of financial sector liberalization in Nigeria. Using principal component analysis (PCA), correlation among the financial liberalization components was interacted with the ratio of SMEs credit to GDP (PGDP) in order to measure the flow of credit to SMEs during the pre-liberalization and post-liberalization periods. The result from the PCA shows that the flow of credit to SMEs is mixed. The contributions of the first component are negative, followed by positive contributions in the next three components, thereafter showing positive and negative oscillations in the remaining components. An economic interpretation of the results vis-à-vis ratio of SMEs to GDP is that the contributions of behavior of credit to the principal components have been relatively unstable.

Keywords: financial liberalization, SMEs, external finance, Nigeria.
JEL Classification: E22, E44, G14.

Introduction

The absence of strong credit markets in developing countries is a major barrier to sustained economic growth. Productive economic activity is severely limited by poor external finance. In contrast, there is widespread access to credit in most developed countries, and it is relatively easy for entrepreneurs to get a loan to start a business; and for small businesses to get loan to expand their operations. Empirical studies have demonstrated that credit to the private sector plays a crucial role in economic growth, and developed countries enjoy higher growth rates partly because they have more vigorous credit markets (World Bank, 2001; Levine et al., 2000). The role played by financial system is fundamental both in the growth and the development of SMEs. In developing countries, financial systems are mostly regulated and controlled by the government and its agencies. Government over-regulation and control of the financial system in these developing countries restrict the ability of the financial system to efficiently and effectively allocate fund to investment. These restrictions were the source of financial repression.

Several developing countries have undertaken measures in liberalizing their financial sector by providing greater scope to market forces to determine the allocation of credit. The essence of liberalization is to abolish interest rate ceilings, high reserve requirements and quantitative restrictions in the credit allocation mechanism but the effect of liberalization on the access to external finance for SMEs is not well established.

The paper presents the case of Nigeria and examines whether the process of financial liberalization in the country has improved the flow of external finance for SMEs in Nigeria. To do this, we examined the sequencing of financial sector liberalization in Nigeria. Following this, we measured Nigeria financial sector liberalization to determine the extent of liberalization. We equally interact financial liberalization components with banking sector credit to SMEs. Using principal component analysis (PCA), the study revealed that the effect of the financial sector liberalization on the SMEs access to external finance is mixed. During the early reform, it is notable that the flow of external credit improved but later reduced.

The paper comprises six sections after the introduction. Section 1 presents the literature review. A brief description of the Nigerian financial sector reform is contained in Section 2. Section 3 describes SMEs in Nigeria before and during liberalization. In Section 4, some descriptive statistics are provided. This is followed by data sources and method of analysis. Section 5 provides result analysis and discussion. While the final Section gathers concluding remarks.

1. Literature review

The works of Goldsmith (1969), McKinnon (1973) and Shaw (1973) ascribed poor performance of investment and growth in developing countries to interest rate ceilings, high reserve requirements and quantitative restrictions in the credit allocation mechanism. These restrictions were sources of financial repression, the main indicators of which were low savings, credit rationing and low investment. In these developing countries, investments suffer not only in quantity but also in quality terms since bankers do not ration the available funds according to the marginal productivity of investment projects but according to their own judgment. Under these periods, the financial sector is likely to stagnate. They recommended what is known as financial liberalization, which can be briefly summarized as freeing financial market from any intervention and letting the market determine the allocation of credit. The essence of this is that the real rate of interest will adjust to its equilibrium level, while savings and investment will be balanced. This will help to eliminate low yielding investment projects so that the overall efficiency of investment is enhanced. Also as the real rate of interest increases, saving and the total real supply of credit increase, which induces a higher volume of investment. Economic growth would be stimulated not only through the increased investment but also due to an increase in the average productivity of capital. Moreover, the effects of lower reserve requirements reinforce the effects of higher saving on the supply of bank lending while the abolition of directed credit programmes would lead to an even more efficient allocation of credit thereby stimulating further the average productivity of capital.

Several studies have examined the impact of financial liberalization on access to external finance of firms. Using cross country context, Laeven (2003) uses a sample of 13 developing countries to study nearly 400 firms for the period of 1988-1998 and finds that, progress in financial liberalization reduces firms financing constraints, especially for small firms. In a cross-country study covering about 12 developing countries, Galindo et al. (2003) find evidence to support a significant and sizeable effect of financial liberalization on the efficiency of investment. Bekaert et al. (2005) find that financial liberalization affects growth particularly through its effect on financial development, thus emphasizing the importance of financial development for economic growth. Beck et al. (2004) use firm level survey data for a broad set of countries and show that financial development eases the obstacles that firms face to growing faster, and that this effect is stronger particularly for smaller firms. Recent empirical evidence also suggests that access to finance is associated with faster rates of innovation and firm dynamism consistent with cross-country finding that finance promotes growth through productivity increases (Ayyagari et al., 2006).

Literature shows that the level of financial intermediary development has a large effect on firm performance. Rajan and Zingales (1998) establish that in countries with less developed financial markets, industries that are more dependent on external finance grow more faster than other industries. Wurgler (2000) finds that in countries with deeper financial sectors, capital is better allocated in the sense that it tends to flow to growing industries. In contrast, in countries with poorly developed financial systems, industries that depend on external financing grow relatively more slowly (Carlin and Mayer, 2003). Some authors claimed that financial liberalization in developing countries failed to meet expected efficiency gains, because accompanying the rise in loan rates was a rise in the required finance premium for substantial class of borrowers (Gertler and Rose, 1994). Stiglitz (1994) criticizes financial liberalization on the ground that financial market is prone to market failure. He states that there exist forms of government intervention that will not only make these market functions better but will also improve the performance of the economy.

In evidence of the effects of financial liberalization on financing constraints in developing countries using panel data, several studies report that financial reform caused a reduction in financial constraints, for instance: Harris et al. (1994) for Indonesia, Haramillo et al. (1996) for Ecuador; Gelos and Werner (2002) for Mexico; Atiyas (1992) for Korea and Gallego and Loayza (2000) for Chile. For Indonesia, Harris et al. (1994) find evidence that the sensitivity to cash flow decreases for small firms after financial liberalization and that borrowing costs have increased, while for Ecuador, Jaramillo et al. (1994) report an increase in the flow of credit accruing to technically more efficient firms post liberalization, after controlling for other firm-specific features. These findings might be driven by the fact that the panel dataset in these studies was relatively short, while the effects of liberalization are felt over an extended time span. Gelos and Werner (2002) examine the impact of financial liberalization on financing constraints in Mexico and find that financial constraints were eased for small firms but not for large ones. They argue that large firms might have had stronger political connections than small firms and hence better access to preferential directed credit before financial deregulation. Atiyas (1992) presents evidence that small firms gained improved access to external finance after liberalization. Gallego and Loayza (2000) find evidence to support the easing of financial constraints during the period of deregulation of Chilean firms in the following sense: firm investment became more responsive to change in Tobin's Q, less tied to internal cash flow, and less affected by the debt-to-capital ratio. Hermes and Lensink (1998) using Chilean data report that reforms did not improve the access of small and young firms to external finance.

Nigeria is the largest and one of the fastest growing economies in Africa with a wide vibrant private sector, highly motivated entrepreneurs and large domestic market. It is however a unique country to test the effect of financial sector liberalization on SMEs access to external finance.

2. Financial sector liberalization in Nigeria

Before the financial sector reform which stated in 1986, the Nigeria financial sector was highly repressed. Evidence of this results in interest rate controls, selective credit guidelines, ceilings on credit expansion and use of reserve requirements and other direct monetary control instruments. New entry to the banking sector was restricted while government owned banks dominated the industry. The liberalization entailed the removal of some of the allocative controls and the easing of the entry restrictions into the sector. An outline of the sequencing of the financial liberalization in Nigeria is shown in Table 1.

To kick start the process of financial reform, a second-tier foreign exchange market (SFEM) was established in 1986. Bureau de change was allowed to operate from 1988. Following these, the monetary authority started the auction sales of foreign exchange to licensed dealers to restore appropriate exchange rates and correct the over-valuation of the domestic currency. The two foreign exchange markets were unified in 1987 with the establishment of single foreign exchange market (FEM).

The exchange rate was liberalized in 1987 by full deregulation of both deposit and loan rates. The liberalization of the interest rate was aimed at enhancing the ability of banks to charge market-based loan rate to guarantee the efficient allocation of resources. In 1991, high level of interest rates led to the re-imposition of interest rate controls. A ceiling of 21 per cent and 13 per cent was placed on lending and deposit rates, respectively. But after a year of controls, market forces were permitted again to determine all interest rates in 1992 and 1993 while in 1994, the pre-reform policy of controls has been retained. In the same year, the conditions for licensing new banks were relaxed. In contrast with the average of two entrants per year in the preceding decade, 9 ventures were launched in 1987, 16 the following year, 15 in 1989 and 25 in 1990. Of which merchant banks comprised more than half of new operations, reflecting a shift in both industry composition and the concentration of assets. The ratio of assets in commercial and merchants narrowed from approximately 5:1 to 3:1 within four years (Lewis and Stein, 1997). However, the banking environment that emerged from the reform is a lot inefficient, undercapitalized, less liquid with low return on assets (Sobodu and Akiode, 1994).

In 1988, banks were permitted to hold stock in non-financial enterprises and to engage in insurance brokerage. Nigerian Deposit Insurance Corporation (NDIC) was established in 1988 as an adjunct to Central Bank of Nigeria (CBN). NDIC augment CBN's resources in banking supervision and financial oversight.

Table 1. Sequencing of financial liberalization in Nigeria

1986:
- Two foreign exchange markets established.

1987:
- Interest rate controls completely removed.
- Bank licensing liberalized.
- Foreign exchange market unified.

1988:
- Foreign exchange bureaus established.
- Bank portfolio restrictions relaxed.
- Nigeria Deposit Insurance Corporation established.

1989:
- Banks permitted to pay interest on demand deposits.
- Auction markets for government securities introduced.
- Capital adequacy standards reviewed upward.
- Extension of credit based on foreign exchange deposits banned.

1990:
- Risk-weighted capital standard introduced and banks' required paid-up capital increased.
- Uniform accounting standards introduced for banks.
- Stabilization securities to mop up excess liquidity introduced.

1991:
- Bank licensing embargoed.
- Central Bank empowered to regulate and supervise all financial institutions.
- Interest rates re-administered.

1992:
- Interest rate controls removed once again.
- Privatization of government-owned banks begun again.
- Capital market deregulation commenced.
- Foreign exchange market reorganized.
- Credit controls dismantled.

1993:
- Indirect monetary instruments introduced.
- Five banks taken over for restructuring.

1994:
- Interest and exchange rate controls re-imposed.

1995:
- Liberalization of capital flows.
- Continuation of interest controls initiated fiscal reforms.
- Exchange controls relaxed. Autonomous foreign exchange market introduced.

1996:
- Liberalization of capital market continues.
- Retention of interest controls continuation of fiscal reforms.
- Official fixed foreign exchange market operated by government transactions continued operation of the autonomous foreign exchange market.

Source: Ikhide and Alawode (2001) and various CBN publications.

From 1989 banks were permitted to pay interest on demand deposits. This effort was geared towards mopping up of excess liquidity outside the financial system. In the same year, the cash reserve requirement of banks was raised while they were prohibited from granting domestic loans on security of foreign exchange held abroad or in domiciliary accounts. While banks were also directed to provide supplementary credit for the purchase of shares in private companies. While government account moved from private banks to CBN.

The instability of the financial system in 1990 spurred efforts at re-regulation aimed at controlling sectoral growth and addressing problems of solvency. The Central Bank enforced a risk-weighted measure of bank capital adequacy. All banks were directed to maintain capital fund not less than 7.26% of total risk-weighted assets while at least 50% of a bank's capital must be in the form of core (primary) capital – paid-up or equity capital and disclosure reserves (see Ikhide and Alawode, 2001). The policy shift commenced at the end of the year when the CBN placed a suspension on further bank licensing. The measure was accompanied by CBN issuing prudential guidelines for licensed banks to enhance the quality of their risk assets and the soundness of their operations. These required banks to classify elements of their credit portfolio and to identify various types of non-performing assets. In order to detect early any deterioration in the quality of credit portfolio, banks are also under the guidelines mandated to review such credit portfolio on a continual basis (Ojo, 1993). Community Banking programme was established in the same year to promote locally owned private institutions. The total loans by both People's Banks and Community Banks accounted for less than 1% of total loans to the private sector by 1993, these show an insignificant contribution of their effort to expand access to credit. Loans and advances from Community and People's Banks were put at ₦822 million, against ₦92.5 billion in total banking credit to the private sector (CBN, 1994, pp. 17, 35). Although the Community Banks showed some initial success (more than half of Community Banks loans went to agriculture and commerce), many were vulnerable to abuse by local notables, and nearly half were insolvent by 1995.

In 1991, the regime promulgated the Central Bank of Nigeria Decree (CBN), No. 24 of 1991 and Banks and Other Financial Institutions Decree (BOFID), No. 25 of 1991, which superseded respective laws dating from 1958 and 1969 (Ikhide and Alawode, 2001). The decree strengthened the CBN's monetary authority and supervisory right, limited the Bank's advances to government and authorized greater use of market operations for monetary control. BOFID, on the other hand, concentrated on regulations that can promote the development of the financial sector in a regulated regime. The BOFID centralized the CBN's licensing authority and extended its regulatory reach. The CBN was also endowed with wider latitude for bank examination and control over failing or insolvent banks. The 1991 decree led to the improvement in accountability and regulatory oversight of the banking sector, along with more restrained and autonomous monetary management. However, the CBN did not fulfil this role due to internal deficiencies and government disregard of the decrees.

Interest rates responded positively to financial liberalization, real rates behaved differently. Real interest rates were general by positive in 1987 as well as in 1990 and 1991, while rates were negative in 1988 and 1989. In 1992 and 1993, only lending rates for merchant banks were positive. The maximum permissible spread between deposit and loan rates was fixed at five percentage points. In order to control the excess liquidity in the system, credit ceiling was redefined to include call money and certificates of deposit.

As liberalization advanced, federal control of the nation's leading banks became increasingly anomalous, and in 1992 the Technical Committee on Privatization and Commercialization (TCPC) scheduled a sale of government shares in seven commercial and five merchant banks. The essence of this move was to facilitate the autonomy of bank's management, thereby improving efficiency and encouraging innovation. The earlier political interference by the government obstructed the efficiency performance of these institutions which led to a wide margin between them and their privately owned counterparts. The privatization of government owned banks began in 1992, the withdrawal of government interest was aimed at facilitating the autonomy of bank's management thereby improving efficiency and encouraging innovation. In 1992, all controls on the capital market were removed in order to complete the deregulation exercise of the financial markets. Instead of the Securities Exchange Commission (SEC) carrying out the pricing of new issues in the market, it was allocated to various issuing houses while over-the-counter market was allowed to operate freely within the rules governing it.

Weekly auctions of foreign exchange were abolished and banks were permitted to obtain foreign exchange from any available source. The Central Bank was also an active participant, free to buy and sell foreign exchange at market determined rates. These arrangements functioned until December 1992, when banks were suspended following allegations of malpractices levelled against them. In the same year, all credit ceilings were dismantled as a result of ineffectiveness of direct credit controls. However, the deregulation of credit applied only to banks that met the Central bank's criteria relating to capital adequacy, asset quality, managerial competence, adequate earnings and liquidity levels. Thus, credit ceilings were enforced on banks classified as distressed by the CBN.

In 1993, indirect monetary instrument was initiated – open market operations (OMO). The introduction of OMO was to replace the use of direct controls for managing liquidity in the economy. Some measures of controls such as sectoral credit allocation, guidelines are still applied in some cases to some sector referred to as the preferred sector. OMO was conducted through licensed discount houses, which constitute open market for government securities while treasury bill was the principal instrument used. While open OMO continued as feature of domestic capital markets, the technique was generally ineffective at controlling liquidity in the banking system.

3. SMEs in Nigeria before and during financial sector liberalization

In Nigeria, SMEs account for 95 per cent of formal manufacturing and 70 per cent of industrial jobs (Kauffmann, 2005). SMEs contribute about 10-15 per cent to the total manufacturing output. Finance is identified as the most formidable problem facing SMEs in Nigeria (Udechukwu, 2003). In 2001, a study revealed that 50 per cent of the surveyed enterprises in the study received external finance while 79 per cent indicated lack of financial resources as a major constraint (Ogujiuba et al., 2004). Access to formal finance is poor because of high risk of default among SMEs and due to inadequate financial facilities.

Before the era of liberalization (1980-1986), the total credit to private sector was ₦75.8 billion with SMEs accounting for about ₦4 billion or 5.3 per cent of the total credit to private sector. Table 2 shows total credit to both private sector and SMEs in Nigeria.

Table 2. Bank’s credit to SMEs (1980-2004)

Years	DMB's loans to SMEs (₦)	DMB's total credit (₦)	Percentage allocation to SMEs (%)
1980	113.4	6,379.2	1.78
1981	185.0	8,604.8	2.15
1982	206.7	10,277.0	2.01
1983	351.3	11,100.0	3.16
1984	705.7	11,550.6	6.11
1985	972.2	12,170.3	7.99
1986	1,454.3	15,701.6	9.26
1987	3,587.3	17,531.9	20.46
1988	5,090.6	24,602.3	20.69
1989	5,789.5	28,108.8	20.60
1990	5,900.0	28,640.8	20.60
1991	7,572.3	32,912.4	23.01
1992	23,893.9	52998.8	45.08
1993	20,362.9	73245.8	27.80
1994	26,041.8	122809.1	21.21
1995	41,534.1	171758.2	24.18
1996	47,897.9	210381.5	22.77
1997	47,982.2	295273.5	16.25
1998	50,061.5	333186.1	15.03
1999	54,361.5	411348.7	13.22
2000	62,442.1	698906.6	8.93
2001	52,428.4	796164.8	6.59
2002	82,368.4	954628.8	8.63
2003	90,195.6	1084861	8.31
2004	71,089.5	1421667	5.00

Note: DMB represents Deposit Money Bank.
Sources: CBN Statistical Bulletin and Annual Reports (various issues).

During this period, the reserve requirements for the commercial banks in Nigeria were less than 10 per cent while credit is supplied to certain sector at subsidized rates. Both deposit and lending rates were fixed by the Central Bank of Nigeria (CBN). The agricultural, manufacturing and residential housing are seen to be the preferred sectors during this period. The less-preferred sectors are import and general commerce while the remaining sectors are classified as others (Nnanna, 2001). The classification allowed the monetary authorities to direct financial resources at concessionary rates to sector considered as priority areas. The interest rates to the priority sectors are below the CBN-determined minimum rediscount rate (MRR) which was low and equally not determined by market forces. Figure 1 below depicts the flow of banking credit to both private sector and SMEs before the liberalization of the financial sector. During the pre-liberalization era, a total of ₦10.8 billion was granted annually, on the average, as credit to private sector while a meager amount of ₦569.8 million was channelled to the SMEs yearly.

Figure 1 revealed that credit to the private sector had grown throughout the period, however, credit allocation to the SMEs sub-sector had increased marginally. This might not be connected with the inadequate incentives and the risky nature of the SMEs sub-sector. Irrespective of the CBN directives that favor credit allocation to the SMEs during this period, commercial banks were reluctant due to lack of collateral by the SMEs. So, as a result, credit growth rate to the SMEs is not proportional to that of the private sector. Irrespective of the credit directives from the CBN to the commercial banks, credit allocation by banks to the SMEs wasn’t encouraging. This and other distortions in the Nigerian economy led to the introduction of the adjustment programme in 1986.

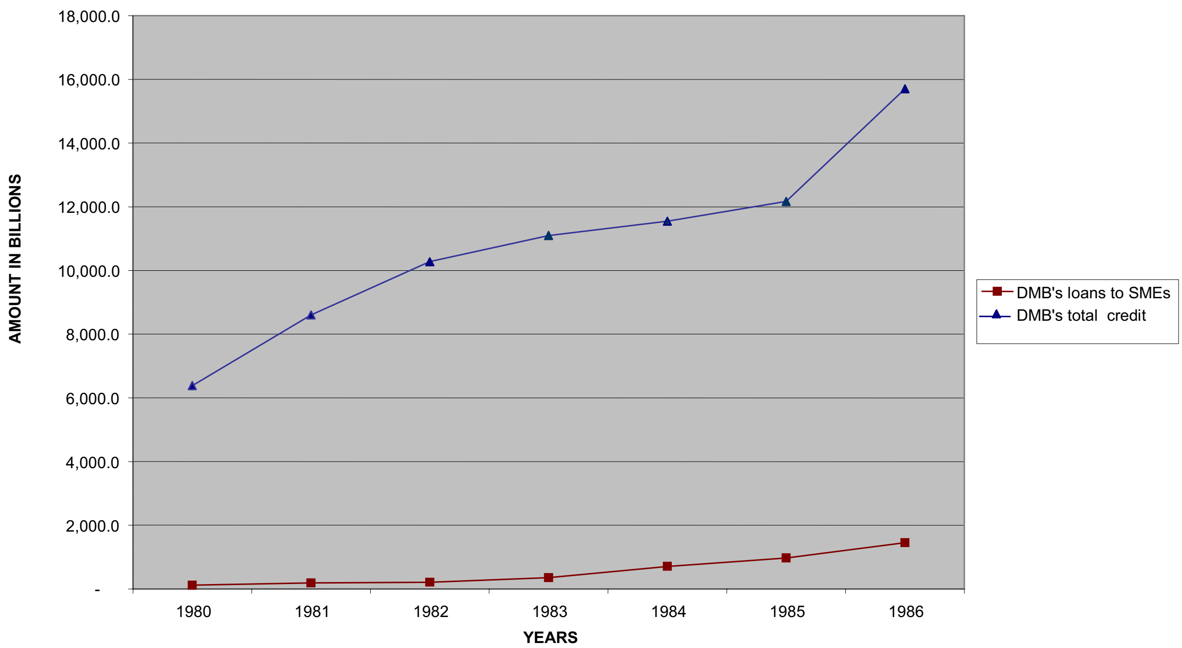

Fig. 1. Total credit to the private sector and SMEs between 1980 and 1986

After the adoption of structural adjustment programme in 1986, SMEs access was improved as depicted below in Figure 2 but fells in 1998 due to change in incentive structure by the CBN. Although present policy in place increased bank's credit to the private sector, the positive effect is not mirrored in loan to the SMEs sub-sector in Nigeria.

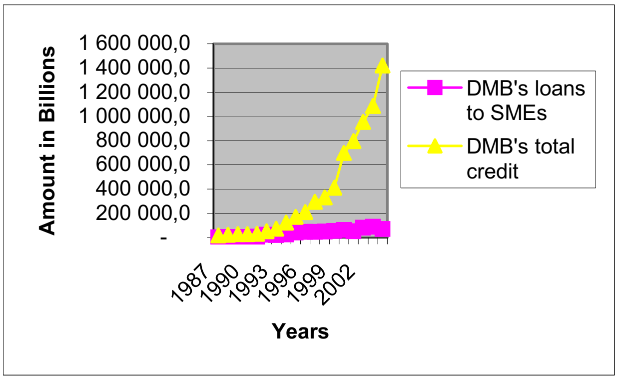

Fig. 2. Total credit to private sector and SMEs between 1980 and 2004

Figure 2 revealed that credit to the SMEs increased gradually between 1987 and 2004, thanks to the financial sector reforms. The percentage of SMEs credit to private sector credit grew 20.26 per cent in 1987 as against 9.26 per cent in 1986, but between 1987 and 1990 the increase stood at an average of 20.59 per cent. The increase reached its highest peak in 1992 which was 45.08 per cent but dropped drastically. As of 2004, the percentage increase is only 5 per cent.

To address the problem of external finance for SMEs, banks in 1999 formed a scheme called Small and Medium Enterprises Equity Investment Scheme (SMEEIS). SMEEIS requires all banks in Nigeria to set aside 10 per cent of their Profit After Tax (PAT) for equity investment and promotion of SMEs. The result of this is however not evident yet.

4. Methodology

To measure financial liberalization, we follow Abiad (2004), and Abiad and Mody (2005). They developed new model for measuring financial liberalization based on graded scores rather than a binary dummy variables. In their model, they developed seven aggregates of the degree of financial liberalization. These are:

- credit control (CC): directed credit towards favored sectors or industries, ceiling on credit toward other sectors, and excessively high reserve requirements;
- interest rate control (IRC): including cases where the government directly controls interest rates, or where floors, ceilings, or interest rate bands exist;
- entry barrier for bank (EB): including licensing requirements, limits to the participation of foreign banks, and restrictions relating to bank specialization or the establishment of universal banks;
- bank regulations (BR): such as income recognition, asset classification and provisioning norms for loans in line with international best practices and capital adequacy norms on the lines of the Basel Accord;
- privatization (PRIV): enabling banks to reduce

the majority of government shareholding in banks;
- ♦ international financial transactions (IFT): including restrictions on capital and current account convertibility, and use of multiple exchange rates;
- ♦ securities market (SM): such as the establishment of debt and equity markets, and the openness of securities markets to foreign investors.

In measuring these components, a set of coding rules are used:

- ♦ 0, if fully repressed;
- ♦ 1 or 2, if partially repressed;
- ♦ 3, if largely liberalized;
- ♦ 4, if fully liberalized.

Policy changes therefore denote shift in the country's score on this scale in a given year. In some cases, such as when all state-owned banks are privatized simultaneously, or when controls on all interest rates are simultaneously abolished, policy changes will correspond to jumps of more than one unit along that dimension. While reversals, such as the imposition of capital controls or interest rate controls, are recorded as shifts from a higher to a lower score. Given the detail construction of the financial liberalization index, the database allows a much more precise determination of the magnitude and timing of various events in the financial liberalization process.

Table 3. Correlation among financial liberalization components

CC	1						
IRC	0.60	1					
EB	-0.38	-0.70	1				
BR	-0.46	0.55	0.53	1			
PRIV	-0.38	0.70	-1	-0.53	1		
IFT	0.16	0.25	-0.10	-0.19	0.10	1	
SM	0.43	0.70	-0.27	-0.51	0.27	0.20	1

Table 3 shows the correlations among the seven components of financial liberalization. Some components show a high correlation, indicating that liberalization along these dimensions tended to occur together. The most frequently employed indicators of financial repression, bank regulations, credit controls, interest rate controls and securities market are all highly correlated with each other, with correlations ranging from 0.55 to 0.70. Less correlated are the measures of financial liberalization relating to entry barrier and international financial transactions. Entry barrier has an inverse relationship with some of the financial liberalization components. This is a result of restrictions on branching, restrictions for new entry for domestic banks and the limitations on the equity share of foreign bank which must not exceed 50 per cent. The international financial transaction (IFT) has a negative correlation with entry barrier (EB) and bank regulation (BR); this is a result of controls imposed on both capital inflows and outflows. Equally, Nigeria is yet to accept obligations of IMF article VIII. Privatization has the lowest correlation with all other components, an indication that privatization does not coincide with other reforms. The components that bear less correlation show that financial liberalization is not properly sequenced and timed along these dimensions.

To measure the extent of the financial sector liberalization in a particular year, we summed all the measures implemented in that year. The summation is done by calculating all the measures implemented in a year and the average of these measures implemented in that year is calculated to determine the extent of the financial sector liberalization. Figure 3 below revealed the scope of Nigeria financial sector liberalization.

The ratio of private sector credit to GDP has been justified to be the best measure of financial development among other measures of financial development indicators (see Denizer et al., 2000; King and Levine, 1993). We use the ratio of private sector credit to GDP to measure banking sector credit to SMEs (PGDP). We, however, replaced private sector credit with SMEs credit since the focus of this study is on SMEs (a subsector under private sector).

To isolate the impact of financial liberalization on access to external finance, Principal component analysis (PCA) developed by Kari Karhunen and Michael Loeve. PCA is a method of statistical analysis used in data reduction and interpretation of multivariate data sets (Jackson, 1991). Using this statistical technique, we interact the ratio of SMEs credit to GDP (PGDP) with financial liberalization components to determine the effect of financial liberalization on external finance to SMEs. In the analysis of principal components, the sets of variables were normalized to have zero means and unit variances, while the correlation matrix of the coded variables is calculated. Thereafter, eigenvector decomposition is undertaken to determine the eigenvectors, which reflect the coefficients of the principal components. PCA eigenvectors cumulatively account for all the variability in the data set. The relative significance of each component is shown by its eigenvalue. The order of the eigenvectors is such that the eigenvector corresponding to the largest eigenvalue is the coefficient for the first principal component.

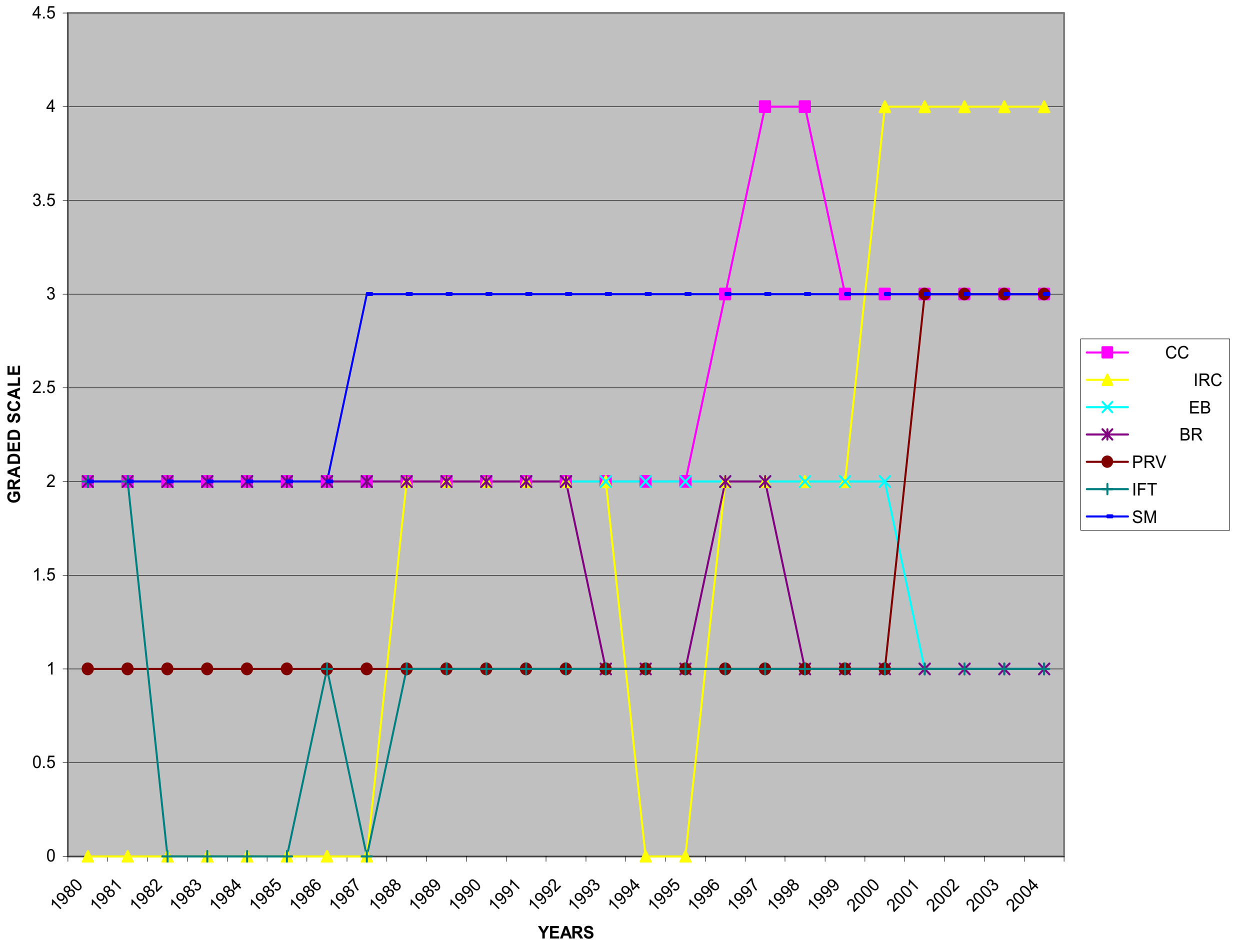

Fig. 3. Scope of financial sector liberalization

Information on identifying the various policy changes included in the database was culled from Ikhide and Alawode (2001), Nnanna (2001), and Lewis and Stein (1997). Nevertheless, frequent use of other resources, such as CBN annual reports and website, IMF country reports, books and journal articles was made when information was unclear or incomplete.

5. Result analysis and discussion

5.1. Result analysis. The results of the PCA, interacting with the ratio of credit of SMEs to GDP by DMBs show that the first principal component has an eigenvalue of 3.776 and represents 47.2 per cent of the total factors. The first three (3) factors have eigenvalues of approximately 1.0 and above and represent 80.5 per cent of the total factors. Table 4 presents the eigenvalues and eigenvector of each principal component.

The eigenvector decomposition corresponding to the directional principal components and eigenvalue shows that the major eigenvectors are IR, PRV, CC and SM with eigenvalues of 0.463, 0.439, 0.348 and 0.324, respectively. This forecloses any significant volatility impact on credit to SMEs in the first component that has relative significance of 47.2 per cent.

In the second and third principal components (ratio of credit to SMEs to GDP) PGDP, SM, IR and EB have the major positive contributions in terms of their net eigenvalue contributions. An economic interpretation of the results vis-à-vis ratio of credit to SMEs to GDP is that the contributions of behavior of credit to the principal components have been relatively unstable. Contributions to the first component are negative, followed by positive contributions in the next three components, thereafter showing positive and negative oscillations in the remaining components.

Table 4. Principal component analysis of financial liberalization component and DMBs credit to SMEs

Correlation of PGDP, BR, CC, EB, IFT, IRC, PRIV, SM								
	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8
Eigenvalue	3.776	1.667	0.997	0.762	0.520	0.180	0.098	0.000
Variance prop.	0.472	0.208	0.125	0.095	0.065	0.022	0.012	0.000
Cumulative prop.	0.472	0.680	0.805	0.900	0.965	0.988	1.000	1.000
Eigenvectors:								
Variable	Vector 1	Vector 2	Vector 3	Vector 4	Vector 5	Vector 6	Vector 7	Vector 8
PGDP	-0.043	0.706	0.260	0.238	-0.066	0.394	-0.464	0.000
BR	-0.388	-0.057	0.034	0.118	-0.887	0.055	0.203	0.000
CC	0.348	-0.004	-0.231	-0.739	-0.264	0.436	-0.140	0.000
EB	-0.439	0.275	-0.240	-0.307	0.093	-0.258	-0.065	-0.707
IFT	0.145	0.087	-0.872	0.438	-0.043	0.129	-0.030	0.000
IRC	0.463	0.117	0.016	-0.001	-0.345	-0.700	-0.403	0.000
PRIV	0.439	-0.275	0.240	0.307	-0.093	0.258	0.065	-0.707
SM	0.324	0.571	0.041	-0.059	-0.021	-0.106	0.743	0.000

Notes: PGDP represents the credit to SMEs. PC represents principal component. The eigenvalues are the variance of the principal components. The eigenvectors give the coefficients of the standardized variables.

5.2. Discussion. *5.2.1. The scope of financial development and financial liberalization in Nigeria.* During the period referred to as the control regime, the ratio of credit of SMEs to GDP between 1980 and 1983 lagged behind the depth of financial sector development. The period between 1983 and 1988 witnessed a monotonically increasing change in the level of financial development as government made efforts to develop the financial system, especially following the economic collapse of the early 1980s owing to collapse of world oil prices. The period therefore witnessed tremendous credit administration, and in spite of weakness in the economy in terms of intermediation, the SMEs credit saw a jump. Figure 4 discloses the extent/scope of financial development and financial liberalization in Nigeria.

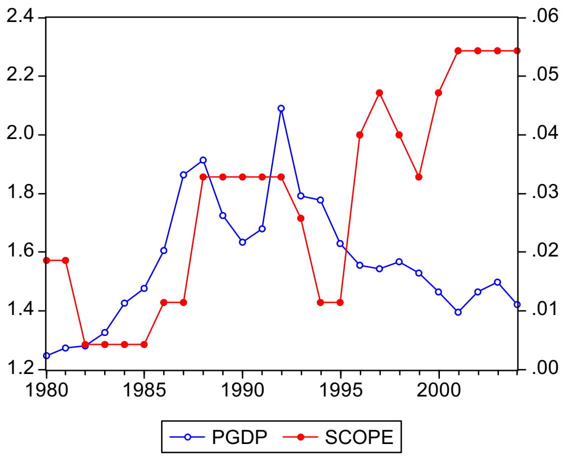

Fig. 4. The extent/scope of financial development and financial liberalization in Nigeria

Notes: PGDP represents ratio of SMEs credit to GDP. SCOPE – extent of financial liberalization.

As economic recovery began, coinciding with the new era of indirect control regime in 1993, credit continued to expand in spite of the restrictions that were put in place to checkmate a weakening banking sector, foreign exchange infractions by banks and money laundering. This however, showed a downward movement reflecting the economic cycles in the economy. Since 1995 that saw improvement in financial liberalization indicators, for instance, universal banking that was introduced in 2001, enhanced supervisory oversight, capital adequacy restrictions in line with international best practices; there have been little incentives to step up credit to SMEs. This was precipitated by existing obligor limits that were set at 8 per cent, withdrawal of public sector deposits from banks to the Central Bank and poor credit administration of banks which led to high volume of non performing credits.

This development explains while the principal component indicates a strong contribution of over 80 per cent for the first three components. It also shows that the relationship between financial liberalization and credit to SMEs vis-à-vis GDP (financial development) has been mixed.

Conclusion

Findings on the effect of financial liberalization on access to external finance are mixed. Its advocators believe that it will help to raise the rate of financial innovation thereby increasing the efficiency of financial intermediation which in turn leads to efficient resource allocation (Chou and Chin, 2004). Before the era of financial liberalization in Nigeria, credit to SMEs is found to be growing. This can be attributed to be policies pursued by the government in reducing constraints to external finance for SMEs. During this period, the government used a direct monetary control in aggregate credit to the economy and prescribed the interest rate at a lower rate in order to make external finance available to the preferred sector of which SME is inclusive. However, the percentage of credit to SMEs during this period is relatively small.

The liberalization of the Nigeria financial sector is expected to promote competition in the banking industry, encourage deposit mobilization and improve access to finance by private sector, especially the SMEs, but findings of this paper show that its impact is ambiguous. Thus, in spite of the growth in absolute terms, it is however, not sufficient to jump-start the growth of the economy. It is perhaps expected that as the consolidation exercise has been concluded in the late 2005, a new outlook in terms of domestic and international financing of SMEs would become evident.

It is obvious from these findings that the liberalization of the financial sector alone is not enough to improve access to external finance for SMEs. Other reforms are necessary, for example, the government or its agencies need to expose the SMEs to the importance of the use of external finance in financing their business. To minimize the risk faced by the financial sector in financing SMEs in Nigeria, the study suggests that the financial institutions should ensure credit to SMEs through the credit insurance risk. In order to achieve this objective, the government needs to restructure and strengthen the insurance companies. We also recommend that SMEs need to self-regulate their activities among themselves. This will involve having a database where all SMEs records are kept; this can be done regionally to avoid clumsiness. In the database, the data on the performance, productivity and profitability of each SME should be published. From the published database, each SME should be ranked according to their performance. This will give the financial sector the opportunity to invest in them thereby minimizing their risk. Finally, we suggest that both SMEs and financial institutions should set up a pool whereby SMEs can keep a certain percentage of their profit with the financial services institutions. This will strengthen their relationship with the financial institutions as well as reduce constraints in financing them when they are assessing external finance through the financial institutions.

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