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Regulatory Environment and SMES' Access to Financial Services: Evidence from Nigeria and South Africa

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ABSTRACT

The impact of financial access on SMEs led economic growth has been well documented in literature. Empirical studies and theory suggest a positive relationship between financial access and SMEs' performance. Hence SMEs constitute the mainstay of most developed economies contributing up to 75% of their GDP and also responsible for 80% of employment. SMEs consequently enjoy as much as 90% access to financial services in developed countries. What is however puzzling is that while SMEs enjoyed so much financial access in developed countries and contributes so much to economic growth and development, the reverse is the case with developing countries where SMEs' financial access is barely 15% and their contribution to economic growth has remained stunted. Previous studies have been preoccupied with the investigation of the role of SMEs in economic growth and impact of financial access on SMEs' performance. Studies investigating the relationship between regulatory environment and SMEs financial access have been very limited. In filling this gap, this paper used a dataset of 1,222 SMEs generated from South Africa and Nigeria. Non parametric and descriptive analyses revealed that bank charges r = (-0.72) ** , interest rates and borrowing cost were found to be the major hindrances to access to financial services, closely followed by product pricing, poor supervision and stringent requirements for opening a bank account. The overall results suggest a need for policy intervention to engender more developed institutions with low regulatory burdens to promote financial inclusion and create more favourable business environment for SMEs in the interest of sustainable medium and long term economic growth.

Keywords:
Small and Medium Enterprises, Financial Systems, Regulatory Framework, Access to Banking, Nigeria, South Africa

Jel Classification:

E61, F43, G21, O47

Introduction:

The small and medium enterprises (SMEs) are the mainstay of most developed economies in the world. Evidence suggests a strong positive association between the SMEs and GDP per capital growth. SMEs are found to contribute as much as 75% of GDP and also account for 80% of employment generation of most developed economies (Demirguc-Kunt, and Levine, 2005; Malouf, 2012; Ayyagari, Beck, and Demirguc-Kunt, 2007).

Whilst the SMEs contribute so significantly to the growth of developed economies of the world, the reverse is the case with developing economies. This is because SMEs in developing economies are confronted by myriads of challenges that stifle their growth capabilities perennially. Maalouf (2012) classify these obstacles into two – external and internal factors.

Other studies in addition to Malouf reveal that the external factors that impede growth of SMEs include limited access to financial services, competition, corruption, poor infrastructure, inflation, and other forms of barriers to trade whilst the internal factors include management incompetence, lack of skilled labour, poor marketing strategies, weak innovation level and low investments on technology (Beck, Demiruc-Kunt, and Maksimovic, 2003; Chavis, Klapper, and Love, 2010; Kuntchev, Ramalho, Rodriguez-Meza, and Yang, 2012). This study however will be focussed on the issue of limited access to financial services.

Recent studies have underscored the importance of the financial system in the growth and survival of SMEs in different countries. Empirical studies reveal that without a functional financial system, growth and sustainability of SMEs will be greatly hindered. Adequate attention needs to be focussed on the operation of the financial system of a country to ensure proper functionality of the system to ensure ease of access to users of financial services in the interest of the smooth running of the various business entities in the economic system (Beck and Demirguc-Kunt, 2006).

While over 70% of SMEs in the European Union have access to financial services, it is appalling to record that barely 20% of SMEs in sub Saharan Africa have such access (Maalouf, 2012). Ironically, to accelerate growth and reduce poverty, the World Bank Group and other international aid agencies provided targeted assistance to SMEs in developing economies. More specifically, evidence indicates that the World Bank Group in its pro-SMEs policy approved more than $10b in SMEs support programs over the period 1998 – 2002 and $1.3b in 2003 (Demirguc-Kunt, and Levine, 2005).

While such global institutions like the World Bank Group are concerned with sustainability of SMEs in developing countries, much has not been done in terms of improving various institutional frameworks to corroborate the efforts of such global institution and international agencies to improve SMEs access to financial services in developing economies.

A recent study by Dalberg Global Development Advisors (2011) reveals that barely 20% of SMEs in sub-Saharan Africa have access to formal financial services whereas a most recent study on financing SMEs and entrepreneurs 2015: An OECD scoreboard show that SMEs in OECD countries have up to 90% access to formal finance. It is thus against this background that this study seeks to investigate the factors that impose such restrictions to SMEs access to financial services in African leading economies.

Several studies have underscored the importance of financial access to the sustainability of SMEs' growth in any economy (Caggese, and Cunat, 2011; Trovato, 2002; and Yazdanfar, 2012). The studies posit that the performance of the financial system is best judged by the extent to which its financial intermediation services are accessible by all concerned stakeholders. This consequently translates to better economic performance for the entire country. Hence, it becomes critical to ensure that the financial system is running smoothly well.

A situation where SMEs could not easily access financial services (as has been the case in sub Saharan African countries) is counterproductive and requires urgent attention if the continent must get out of its economic doldrums. This concern informed the decision to embark on this study by investigating the factors that contribute to SMEs limited access to financial services in African leading economies.

Consequent upon the condition of inadequate access to financial services, SMEs are constrained to find alternative sources to external financial services in form of internally generated debt capital. Such capital however does not often meet the requirements of these SMEs as they are often insufficient and are often not available for an appreciable time period to effectively meet the needs of the firm sourcing it. This eventually is telling on the performance of the firm. (Carpenter and Petersen, 2002).

In view of the foregoing, an informed knowledge of how financial system affects the SMEs can adequately inform policy formulation and implementation to enhance optimal performance of SMEs in the interest of sustainable growth and development of the economy. A pivotal element of the financial system that requires critical attention in this regard is the regulatory framework which this study intends to assess.

The study is different from other similar studies whose foci rested on influence of SMEs on economic growth. Previous studies have been preoccupied either with the investigation of the role of SMEs in economic growth or analysis of the impact of financial access on SMEs' performance. None of the earlier studies has attempted to investigate the impact of regulatory environment on SMEs' access to financial services. This is the gap in knowledge this study intends to fill.

The paper proceeds as follows. Section 2 presents the literature review, section 3 deals with the review of related theories on which the work is anchored. Section 4 is centred on methodology, data presentation and estimation technique employed. Section 5 examines and discusses the empirical results of the study. The paper closes with concluding remarks and implications of the results of the study in section 6.

Literature Review

The small and medium enterprises constitute the mainstay of most developed economies. Their role in the growth of economies of nations cannot be overemphasized. SMEs as employers of labour help to reduce unemployment and beyond that, they also contribute immensely to the growth of GDP of most developed countries. Hence, they are best described as the engine room of development for any nation. The capacity of SMEs to maintain this role in different nations is however challenged (particularly in developing countries) by difficulty in accessing formal financial services.

SMEs Business Environment

The attention of many researchers have been drawn to the issue of survival of SMEs in recent times considering that they are the engine of growth and development in any nation.

However, market imperfections and institutional weaknesses have oftentimes impede their growth.

Beck, Demirguc – Kunt, and Maksimovic (2003) in their study of bank competition, financing obstacles, and access to credit covering 74 countries observe that bank concentration and financing obstacles is dampened in countries with well – developed institutions, higher levels of economic and financial development, and a larger share of foreign owned banks. The study further posits that financing remains a major obstacle to growth for SMEs in developing countries.

This argument of finance as a major obstacle for growth of SMEs was further corroborated by Chavis, Klapper, and Love (2010) who in their study of the impact of business environment on young firm financing covering 70000 firms spread across 100 countries systematically investigated the use of different financing sources for new and young firms in comparison to mature firms.

They find that SMEs in countries with stronger rule of law and better credit information use more bank finance compare to SMEs in developing countries where the rule of law is not so strong nor credit information is sufficiently available. In all cases access to external finance is proportional to the size of the soliciting firm.

Further, empirical studies argue in support of bigger firms being able to access financial services on better terms and conditions on the basis of their credit history and reputation which most SMEs may not boast of. Thus making access to financial services costlier for SMEs compared to mature firms (Bulan and Yan, 2007; Carpenter and Rondi, 2000). For instance, studies conducted in China, Italy and U.S. find that information asymmetry significantly limits the capacity of SMEs to access formal financial services.

In view of the constraints and challenges confronting SMEs in their bid to access formal financial services, most SMEs resort to informal sources. A previous study by Franklin, Chakrabarti, De, Qian, and Qian (2006) for example in their study on financing firms in India finds that family and friends provide affordable and accessible funding to Indian SMEs in start-up and growth phases. Such alternative sources however may be “unreliable, untimely and bearing significant non-financial costs (Simeon, Lieberman, Mukherjee, and Nenova, 2002).

Evidence suggest that firms are not only more likely to grow in countries with better access to external finance and better investor protection, they are also more likely to incorporate than to remain at the sole proprietor level (Demirguc-Kunt, Love and Maksimovic, 2006). Using firm level survey data for 52 countries, Demirguc et al. show that one of the reasons for the likelihood of incorporation of firms is the fact that incorporated firms face lower obstacles to their growth in countries with better developed financial sectors and efficient legal systems, strong share-holders and creditors rights, low regulatory burdens and corporate taxes and efficient bankruptcy processes. This advantage is greater in countries with more developed institutions and favourable business environments

In developing countries with less developed institutions and poor business environments, firms may resolve to informal financing in preference to formal route as a result of wanting to avoid the unwholesome advances of corrupt officials. In a study titled "when do enterprises prefer informal credit?" by Mehnaz and Wimpey (2007), the study reveal that SMEs in 29 countries covered by the study prefer to source financial services from informal sources in a bid to avoid paying bribes demanded by corrupt officials as one of the conditions to be fulfilled before they can access financial services.

Using survey data from interviews with entrepreneurs and non-entrepreneurs in seven Russian cities Djankov, Miguel, Qian, Roland and Zhuravskaya (2004) in their study titled "who are Russia's entrepreneurs" find that in addition to many other characteristics the perception of corruption and government officials' attitudes towards entrepreneurship affects the decision to become an entrepreneur.

Further, in a bid to investigate whether the different dimensions of the business environment are equally important, Ayyagari, Beck, Demirguc-Kunt (2006) using firm level survey data on the business environment across 80 countries assess the impact of access to finance, property rights protection, provision of infrastructure, inefficient regulation and taxation, and broader governance features such as corruption, macroeconomic and political stability on firm growth. Their results show that finance, crime, and political instability are the only obstacles that have a direct impact on firm growth with finance being the most robust of all the obstacles.

In view of the foregoing, firms use informal financing preferentially to formal financing. Meghana, Demirguc-Kunt and Maksimovic (2010) in their study centred on "formal versus informal finance: evidence from China" argue that only bank financing is associated with higher growth rates thus underscoring the necessity for banking services to be made available and accessible to SMEs to enhance their performance and sustainable contribution to economic growth.

The importance of finance in the enhancement of performance of SMEs cannot be overemphasized. Ferrando, Kohler-Ulbrich and Pal (2007) found evidence that firms' realised growth is limited by the availability of resources and, therefore, firms are less able to realise their industry – specific financing need or growth opportunities. Using an indicator of growth funding, it was also found that micro and small firms finance a smaller share of their investment and working capital with external financial sources than larger firms. It appears that firm size matters in the determination of ease of accessing financial intervention by SMEs (Beck and Demirguc-Kunt, 2006; Beck, Demirguc-Kunt, and Maksimovic, 2005; Laeven and Maksimovic, 2006).

The implication of this is that in the presence of financing constraints, the firm's realised growth is assumed to be limited by the restrictions in the availability of financing opportunities. Copious literature exist on the relationship between financing conditions, investment and firms' growth as firms in countries with developed financial institutions obtain more external financing than those with less developed financial institutions with a consequential effect firms' growth in the long run (Ayyagari, Demirguc-Kunt and Vojislav, 2006; Ayyagari, Demirguc-Kunt and Vojislav, 2011).

Ironically, the smaller the size of the firm, the more difficult it is for the firm to access financial intervention to enhance its performance despite the fact that the small firms constitute the engine of economic development. This is a reflection of the effect of the imperfection of the financial system (Demirguc-Kunt and Maksimovic, 2005).

Furthermore, Shiffer and Weder (2001) reveal through their study that small firms face higher growth obstacles than medium or large-sized firms. Similarly, Beck, and Demirgüç-Kunt (2006) showed that size, age, and ownership are the most reliable predictors of firms' financing constraints.

The constraints faced by SMEs in access to financing have been of immense concern to researchers over the years. Some stylised facts which might provide insight into financing constraints and growth. The pecking order theory of Myers and Majluf (1984) suggests that firms prefer raising funds from retained earnings owing to prohibitive cost of external relative to internal financing. This is as result of asymmetric information which results to high transaction costs. The argument being that the lender of the financial resource is sceptical as to the ability of the borrower to pay back the loaned sum and consequently decides to raise the cost of the loan to be granted.

Going by the principle of adverse selection and Perkin order theory, the higher the probability that the borrower will not be able to pay back the facility in the eye of the lender, the higher will be the cost of capital to be sourced. The smaller the size of the firm, the higher the probability of the firm not being able to pay back and consequently, the higher the cost of capital (Myers and Majluf, 1984). Conversely, the bigger the size of the firm the lower the probability that the borrower will not be able to pay back the facility in the eye of the lender, and as such the lower the cost of capital.

In his study of the factors affecting the growth of SMEs in Pakistan, Maalouf (2012) submitted that financing has continue to be one of the most noteworthy challenges confronting the existence and expansion of SMEs. Although some researchers argue that growth is not an objective for all SMEs, it has been suggested that firms with low or negative growth rates are more likely to fail (Phillips and Kirchhoff, 1989; Fatoki and Garwe, 2010). Firms' growth determinants can be broadly divided into two namely: internal determinants and external determinants. The internal determinants include such variables as firms' legal form, ownership structure, age, and location (Niskanen and Niskanen, 2007).

The external determinants on the other hand include such variables as legal system, political system, financial system and technological system. According to Storey (1994), availability and cost of funding constitute the most important external barriers for firms' growth. Berger and Udell (1998) submitted that small firms face specific constraints in raising external finance. Such firms in the words of Storey (1994) find it difficult to obtain outside capital and when they do it is at very high interest rates. This situation forces small firms to finance growth internally.

Carpenter and Petersen (2002) in their investigation of the relationship between internal finance and growth in a sample of small manufacturing firms find that the growth of most small firms in their sample is constrained by internal finance. Becchetti and Trovato (2002) posited that the availability of external finance is an important determinant of firm growth.

The relationship between financing conditions, investment and firms' growth has been well researched into. Empirical evidence shows that firms in countries with well-developed financial institutions obtain more external financing than those in countries with less developed financial institutions. Firms in countries with well-developed financial institutions were found to grow more than firms in countries with less developed financial institutions (Coleman, 2000; Beck, Klapper and Mendozae, 2010; Beck, Demirguc-Kunt and Maksimovic, 2005).

Studies on the relationship between firm size and access to banking have also been studied. Evidence suggests that small firms are the most affected by the imperfection in the financial and legal system despite the fact that they are considered to be the engine of economic development (Beck and Demirguk-Kunt, 2006).

Empirical studies reveal that SMEs despite their promising growth opportunities, find it difficult to raise external capital obtained at favourable terms and that they would finance their growth to a large extent through retained earnings (Gounder and Sharma, 2012; Maalouf, 2012; Yalcin, Bougheas, and Mizen, 2002; Carpenter and Petersen, 2002).

Moreover, corporate finance theory suggests that financial market imperfections, like asymmetric information, made external sourcing of finance at reasonable terms and conditions a difficult task for SMEs. This is in view of the fact that lenders of financial services are often sceptical of the ability of SMEs to be able to payback their loans hence the prohibitive terms and conditions of granting loans to SMEs by financial institutions.

Consequently, it is arguable that firms belonging to sectors that are more dependent on external financing sources have higher growth opportunities and as such grow relatively faster than firms which are less dependent on external financing.

Methodology

The data for this study were gathered via an opinionated survey of 1,222 SMEs (235 and 987 from South Africa and Nigeria respectively) randomly sampled across major economic nerve centres in Nigeria and South Africa. Given that the focus of the study is to investigate accessibility of formal financial services by SMEs, the questionnaire was designed to capture the views of respondents on obstacles hindering their access to financial services.

The survey was structured with a view to identify which of the SMEs do have bank accounts, the type number of account(s) held as well as to be able to also identify which of them (SMEs) do not have bank accounts and their reasons for not having bank account. To determine their ease of access to financial services, respondents were asked simply to select the choice that best expressed their response from a predetermined set of options confined to 1 (for very significant), 2 (for significant), 3 (for fairly significant) and 4 (for not significant) to questions drawn around specific regulatory elements. The aim of this aspect of the instrument is to determine the extent to which each of the regulatory issue covered is responsible for the reported ease of access.

As required by UNISA (University of South Africa) Ethics Committee, respondents were conspicuously advised that their responses will be treated with strict confidentiality and will be used strictly for academic purposes and also that participation is totally voluntary.

The questionnaire being a self-developed instrument was validated. Prior to the validation of the instrument, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was conducted.

The 0.808 coefficient obtained for the KMO test is considered strong enough to conduct the factor analysis. Also, the p – value obtained for the Bartlett test (0.000) is also indicative of strong enough correlation structure to support factor analysis. Factor analysis was thus carried out on the variables using principal components extraction method. Thereafter, the reliability statistics computed at 0.6 is considered acceptable for the instrument. Thus, the questionnaire was thus administered.

The questionnaire consists of three parts. Part "A" sought information on respondents' biographic details such as nationality, age, gender, education, status, and business income level. Part "B" captures information on access to banking services by the SME represented by the respondent. The questions asked were aimed at obtaining information concerning number and types of bank account(s) held, nearness of the nearest bank branch, types of products subscribed to, availability and accessibility of the product and challenges encountered in the course of obtaining bank services. The part "C" of the instrument was designed to source information on hindrances to their access to banking services.

The instrument was validated by a pilot study and the reliability of Cronbach's alpha of 0.9 was considered acceptable to be used for the study.

In total we obtained complete and valid data on 1,222 SMEs operating across the two countries of which 987 were from Nigeria and 235 from South Africa. Considering that the data is primary and cross-sectional in nature, it was thus subjected to non-parametric analyses.

Data analysis

Analysis of the data began with data verification and cleaning. This action was required to ensure that the data collected are clean, correct and useful. Considering that the data are of the nominal and ordinal types, simple frequency was used for verification and cleaning of the data. By the cleaning exercise, erroneous values were replaced by system missing values.

Thereafter, various analyses were carried out in pursuit of the study objectives. The descriptive analysis was undertaken to investigate the spread of banked and unbanked SMEs in both countries. The results are as contained in table1.

Table 1: Spread of banked and unbanked SMEs in South Africa and Nigeria

Statistics

Values	South Africa		Nigeria	
	No of accts	Type of accts	No of accts	Type of accts
Valid	235	235	987	987
Missing	0	0	0	0
Mean	2	2	3	2
Std. Error of Mean	0.114	0.038	0.049	0.035
Standard Deviation	1.743	0.503	1.529	0.933
Kurtosis	-1.008	63.557	-1.593	4.728
Std. Error of Kurtosis	0.159	0.356	0.156	0.183
Median	1	2	3	2
Skewness	0.952	6.583	0.132	2.239
Std. Error of Skewness	0.159	0.184	0.078	0.092

Source: Researchers computation

The mean results in table 1 indicate that in South Africa, the average number of accounts held by SMEs is two whereas in in Nigeria, the average is three. This suggests that it is relatively easier for SMEs to open bank account in Nigeria compared to South Africa. This can be inferred from the more restrictive regulatory environment that subsists in South Africa compared to Nigeria considering the regulatory framework statements of the respective countries. In the case of number of accounts, the standard error of Mean (SEM) for South Africa (0.114) indicates that the corresponding population mean lays somewhere in-between 2-0.114 = 1.886 and 2+0.114 = 2.114. The SEM for Nigeria (0.049) indicates that the corresponding population mean lays between 2.951 and 3.049. These results reveal that for both countries, the deviation of sample mean from the population mean is less compared to South Africa. The standard deviation (SD) of 1.743 for South Africa and 1.529 for Nigeria indicate how each respondent's rating vary with respect to the mean rating of all respondents to this particular question. The SD results reveal that the deviation of South African respondents is more than that of Nigeria.

The Kurtosis statistics reveal the "peakness" of the distribution. A normal distribution is expected to have Kurtosis of 0. For the number of accounts held by SMEs in both South Africa and Nigeria, the Kurtosis statistics is less than 0 in both cases being -1.008 (South Africa) and -1.593 (Nigeria). Both are therefore platykurtic which is indicative of a non-normal distribution with values are widely spread around the mean. The standard error of Kurtosis is comparable for number of accounts in both countries with that of South Africa slightly higher than Nigeria. It reveals the deviation that can exist between the values of Kurtosis in multiple samples from the same underlying population distribution as the sample of analysis. A zero value suggests that the deviation of values of Kurtosis between multiple samples is zero.

The next table is the frequency distribution table. It focuses on the spread of the number and type of accounts held by SMEs across the two countries selected for the study. The findings are as shown in the table below.

Table 2: Spread of banked and unbanked SMEs in South Africa and Nigeria

Frequency Table

No of accts.	**South Africa**		**Nigeria**			**South Africa**		**Nigeria**	
	Freq.	**%**	**Freq.**	**%**	**Type of acct.**	**Freq.**	**%**	**Freq.**	**%**
0	61	26	359	36.4	Check	9	3.8	78	7.9
1	156	66.4	130	13.2	Savings	223	94.9	843	85.4
2	9	3.8	340	34.4	Domiciliary	1	0.004	3	0.3
3	8	3.4	125	12.7	Cert. of deposit	1	0.004	2	0.2
>3	1	0.4	33	3.3	Money market	1	0.004	61	6.2
Total	235	100	987	100		235	100	987	100

Source: Researchers computation

From table 2, the results show that 26% and 36.4% of SMEs do not have bank account in South Africa and Nigeria respectively. Also, 3.8% and 7.9% of the SMEs have checking accounts in South Africa and Nigeria respectively. The implication of this is that since it requires a checking account to access bank loan, it means only 3.8% and 7.9% of the SMEs in South Africa and Nigeria respectively are qualified to access bank loan from the respective countries. This is far too little for progressive and sustainable economic growth when compared to what obtains in the developed countries where as much as 90% of the SMEs can access formal financial services to boost their operations.

We proceed to investigate the possible causes of such poor access to formal finance. This was done by running a frequency distribution of the responses to the thematic question "to what extent has each of the following factors hinder your accessibility to banking services?" The results are as shown in tables 3, 4, and 5.

Table 3: Factors hindering SMEs' access to banking services

(Statistics – South Africa)

Factors	Mean	SEM	SD	MODE	SK	SES	KURT	SEK
HPP	3.44	0.068	1.042	4	-1.620	0.159	1.022	0.316
TR	2.05	0.052	0.794	2	0.995	0.159	1.096	0.316
SR	1.93	0.049	0.754	2	1.080	0.159	1.738	0.316
SC	2.70	0.059	0.909	3	-0.808	0.159	-0.216	0.316
WS	2.08	0.087	1.328	1	0.576	0.159	-1.511	0.316
LC	2.46	0.062	0.943	2	0.607	0.159	-0.779	0.316
FI	1.68	0.073	1.116	1	1.354	0.159	0.182	0.316
IR	1.63	0.071	1.084	1	1.459	0.159	0.497	0.316
BC	1.69	0.075	1.148	1	1.298	0.159	-0.048	0.316

Source: Researchers computation

Note: PP- Product pricing, TR-Tight regulations, SR-Stringent requirements to open a bank account, SC-Strict conditions to operate a bank account, WS-Weak supervision, LC-Lack of confidence in the banking system, FI-Fear of inflation, IR-High interest rates, BC-High borrowing cost.

Table 4: Factors hindering SMEs' access to banking services

(Statistics – Nigeria)

Factors	Mean	SEM	SD	MODE	SK	SES	KURT	SEK
PP	2.81	0.030	0.931	3	-0.643	0.078	-0.364	0.156
TR	3.29	0.031	0.976	4	-1.130	0.078	0.034	0.156
SR	3.28	0.032	1.016	4	-1.175	0.078	0.055	0.156

SC	3.36	0.028	0.881	4	-1.405	0.078	1.237	0.156
WS	3.51	0.025	0.778	4	-1.670	0.078	2.323	0.156
LC	3.41	0.029	0.911	4	-1.503	0.078	1.232	0.156
FI	2.06	0.030	0.957	2	0.547	0.078	-0.663	0.156
IR	1.96	0.029	0.906	2	0.857	0.078	0.080	0.156
BC	2.07	0.030	0.944	2	0.724	0.078	-0.288	0.156

Source: Researchers computation

From tables 3 and 4, the overall results suggests a more stringent regulatory environment obtains in South Africa compared to Nigeria considering that out of nine factors that were used to proxy regulatory environment, only one (product pricing) impose a fairly significant hindrance on SMEs' access to financial services while the remaining eight factors (strict condition to operate a bank account, lack of confidence in the banking system, weak supervision, tight regulation, stringent requirements to open bank account, borrowing cost, fear of inflation, and interest rate) impose significant hindrance on SMEs' access to financial services in that increasing order with high interest rate imposing the greatest restriction with 1.96 mean value.

The SEM show that there is not much difference between the sample mean and the population mean for all the regulatory variables as it range from 0.049 to 0.087. The distribution is not normal as the skewness reveal with some being negatively skewed and others positively skewed. This was affirmed by the Kurtosis statistics which reveal platykurtic distribution (Kurtosis less than 0) in some of the variables and leptokurtic distribution (Kurtosis more than 0) in some other variables. This informed the adoption of non-parametric analytical methods involved in this study.

The results in the case of Nigeria reveal that the magnitude of restriction imposed by each of the variables increase as follows: Weak Supervision, Lack of confidence in the banking system, Strict condition to operate a bank account, tight regulation, Stringent requirements to open a bank account, Product price, Borrowing cost, Fear of inflation, and Interest rate.

Table 5: Factors hindering SMEs' access to banking services – Frequency distribution (Nigeria & South Africa)

Factors	Significant		Cumm. (%)		Not Significant		Cumm. (%)	
	SA	Nig	SA	Nig	SA	Nig	SA	Nig
PP	63	773	26.8	78.3	172	214	73.2	21.7
TR	214	416	91.1	42.1	21	571	8.9	57.9
SR	219	406	93.2	41.1	16	581	6.8	58.9

SC	205	437	87.2	44.3	30	550	12.8	55.7
WS	170	353	72.3	35.8	65	634	27.7	64.2
LC	182	368	77.4	37.3	53	619	22.6	62.7
FI	198	890	84.3	90.2	37	97	15.7	9.8
IR	202	893	86.0	90.5	33	94	14	9.5
BC	196	869	83.4	88	39	118	16.6	12

Source: Researchers computation

The results in table 5 show that in the case of South Africa, the identified variables exert constraints to SMEs access to financial services in the following increasing order PP (26.8%), WS (72.3%), LC (77.4%), BC (83.4%), FI (84.3%), IR (86.0%), SC (87.2%), TR (91.1), and SR (93.2). The same order was not preserved in the case of Nigeria where the order in which the variables exert constraints to SMEs access to financial services is WS (35.8%), LC (37.3%), SR (41.1%), TR (42.1%), SC (44.3%), PP (78.3%), BC (88%), FI (90.2%), and IR (90.5%). The results indicate that the although the framework in both countries are significantly restrictive by their net effect, that of South Africa is more restrictive when compared with that of Nigeria.

Further, non-parametric analysis was conducted for purposes of confirming the reproducibility of the results and findings. In the analysis, business income, number and type of account were correlated with the nine variables that proxy for regulatory environment using the Spearman method. The result was tabulated in table 6.

Table 6: Non-parametric correlation (South Africa and Nigeria)

Variables	Business Income		No. of accts		Type of acct.	
	South Africa	Nigeria	South Africa	Nigeria	South Africa	Nigeria
PP	(-0.492)**	(-0.182)**	(-0.424)**	(-0.379)**	(0.126)	(-0.448)**
TR	(-0.002)	(-0.462)**	(0.059)	(-0.476)**	(-0.043)	(-0.376)**
SR	(-0.039)	(-0.507)**	(0.048)	(-0.552)**	(-0.144)	(-0.357)**
SC	(-0.412)**	(-0.470)**	(-0.327)**	(-.0.512)**	(0.081)	(-0.263)**
WS	(-0.428)**	(-0.321)**	(0.398)**	(-0.298)**	(-0.266)**	(-0.319)**
LC	(-0.098)	(-0.387)**	(0.186)*	(-0.428)**	(-0.096)	(-0.322)**
FI	(-0.588)**	(-0.331)**	(0.473)**	(0.494)**	(-0.178)*	(-0.078)*
IR	(-0.384)**	(-0.362)**	(0.291)**	(0.301)**	(-0.077)	(0.128)**
BC	(-0.720)**	(-0.322)**	(0.536)**	(0.264)**	(-0.105)	(0.026)

Correlation coefficients are in parentheses
** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Table 7: Chi-square statistics table

Variables	**Pearson Chi-Square Statistics**					
	South Africa			Nigeria		
	Business Income	No. of Accounts	Types of Accounts	Business Income	No. of Accounts	Types of Accounts
PP	(73.800)***	(64.413)***	(40.154)***	(200.129)***	(526.364)***	(322.839)***
TR	(76.770)***	(128.476)***	(48.718)***	(285.083)***	(406.128)***	(351.107)***
SR	(63.241)***	(184.693)***	(44.539)***	(241.311)***	(455.912)***	(328.883)***
SC	(56.759)***	(118.103)***	(32.984)***	(199.628)***	(357.896)***	(210.103)***
WS	(50.426)***	(118.777)***	(39.048)***	(154.913)***	(167.786)***	(197.686)***
LC	(88.987)***	(111.554)***	(45.103)***	(237.003)***	(330.828)***	(392.694)***
FI	(99.166)***	(162.519)***	(59.695)***	(131.133)***	(537.137)***	(202.164)***
IR	(55.331)***	(142.552)***	(57.107)***	(169.040)***	(386.178)***	(200.156)***
BC	(111.259)***	(195.547)***	(39.988)***	(143.007)***	(303.950)***	(143.705)***

Chi-square statistics are in parentheses (*10% significance; ** 5% significance; ***1%)

The results obtained in the table 7 show that the relationships between each of the nine variables used to proxy regulatory framework and the explained variables are all significant at 1% level. This confirms the results obtained from the earlier analyses thus underscoring the fact that each of the nine variables has significant capacity to influence SMEs access to financial services in both countries selected for the study.

Discussion

The interaction of regulatory environment with SMEs' financial access has been systematically examined in this study. The results of the analyses are presented in tables 1 – 7. The study employed primary data generated from operators and owners of SMEs sampled across the two countries. Owing to the nature of data collected for the study (ordinal), the data could not be subjected to parametric estimation and as such non-parametric methods of analyses were adopted for the study. Descriptive analysis was used to investigate the spread of account holdership of the 1,222 SMEs covered by the study as well as to identify the factors that impede SMEs' access to financial services. Correlational and Chi-square analyses were used to establish the level of association between the study variables.

The study find that nine elements used to proxy regulatory environment have statistically significant influence on limiting SMEs' access to financial services. This finding on a general note aligns with the corporate finance theory which informed SMEs' resolve to made use of internal finance as opposed to external finance to fund their growth owing to the prohibitive terms and conditions envisaged from accessing formal finance owing to asymmetric information.

This finding agree with that of Demirguc-Kunt, Love and Maksimovic (2006) whose study provide evidence that suggests that firms are not only more likely to grow in countries with better access to external finance but are also more likely to incorporate as supported by low regulatory burden in countries with well-developed institutions and favourable business environment

On a more specific note, this study finds that one of the reasons that hinder financial access by SMEs is lack of confidence in the banking system as a result of corruption. This is in line with the finding of Mehnaz and Wimpey (2007) who in their study titled “when do enterprises prefer informal credit?” find that in a bid to avoid paying bribes demanded by corrupt officials as one of the conditions to be fulfilled before they can access financial services SMEs opt for internal finance.

Further, the finding of this study also concur with the Perkin order theory of Myers and Majluf (1984) which rationalises the preference of firms to make use of their retained earnings on the prohibitive cost of external relative to internal financing. By this theory, the lender of a financial resource is sceptical as to the ability of the borrower to pay back the loaned sum and consequently decides to raise the cost of the loan.

Going by the principle of adverse selection and Perkin order theory, the higher the probability that the borrower will not be able to pay back the facility in the eye of the lender, the higher will be the cost of capital to be sourced.

The finding that high interest rate constitutes a bottleneck to SMEs in their bid to access formal finance is shared both by Berger and Udel (1998) as well as Storey (1994) who in their respective studies on SMEs constraints in raising external finance posit that it has been difficult for firms to raise external finance and when they do it is at very high interest rates – a situation that forces firms to finance growth internally.

Conclusion

The effect of regulatory framework on access to formal finance has been investigated by this study. The study argue that regulatory framework plays a significant role in the inhibition of SMEs access to formal financial services a situation that has resulted in poor performance of most SMEs in most developing countries. To restore SMEs to its rightful position as vibrant employers of labour and notable contributor to economic growth and development, policy intervention is required to engender more developed institutions with low regulatory burdens to promote financial inclusion and create more favourable business environment thereby improving SMEs access to formal financial services in the interest of national economic growth and development.

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