Bank Market Structure and SMMEs' Access to Finance: A South African Perspective

Phillip Ngonisa *, Bahle Mgxekwa, Nomusa Ndlovu, Nomasomi Ngonyama and Courage Mlambo

Department of Economics, University of Fort Hare, East London 5201, South Africa
* Correspondence: pngonisa@gmail.com

Abstract: While the importance of the banking sector on various fundamental economic variables is well-documented in the literature, little is known about the relationship between the bank market structure and access to finance for opaque firms, particularly in developing economies such as South Africa. Using ordered probit and logit models, we investigate the impact of bank market structure on small, micro and medium enterprises (SMMEs)access to finance. Our results show that high bank concentration increases the obstacle to accessing finance for SMMEs in South Africa, and the relationship is non-linear. Thus, to a greater extent, our study validates the market power hypothesis, which argues that low competition diminishes firms' access to finance.

Keywords: bank concentration; bank competition; access to finance; market power hypothesis; SMMEs

1. Introduction

There is a consensus in the overwhelming majority of literature that a sophisticated financial system, particularly the banking system, is paramount in many facets of the economy. For instance, evidence shows that the banking sector is a backbone for economic prowess through the effective and efficient allocation of resources from surplus units to deficit units. Thus, the efficient allocation of scarce resources spurs and amplifies the pace of economic growth (Abedifar et al. 2016; Boukhatem and Moussa 2018; Guru and Yadav 2019; Ibrahim and Alagidede 2018; Paun et al. 2019), correct the imbalances in the labour markets through the creation of new opportunities and alleviate poverty (Bolarinwa et al. 2020, 2021; Inoue 2018; Zhang and Naceur 2019).

While the importance of a strong banking sector on various economic variables is well-documented in the literature, little is known about the relationship between the bank market structure and access to finance within the corporate finance landscape, in particular small, micro and medium enterprises (SMMEs). Globally, SMMEs contribute over 95% of all businesses (International Finance Corporation 2020). In South Africa, SMMEs contribute around 34% towards the gross domestic product and employ at least 60% of the total labour force (International Finance Corporation 2020). However, evidence shows that a majority of SMMEs fail due to a lack of access to finance, with 70% to 80% of the SMMEs failing within the first five years of operation (Ministry of Trade and Industry 2014). Furthermore, according to the (The Banking Association South Africa (2018)), the "low ratio of SMMEs financing relative to the overall private sector financing is out of norm" in South Africa.

Nonetheless, theories on market structure and access to finance make ambiguous predictions. On the one hand, the market power hypothesis postulates that access to finance for firms, particularly opaque ones, is diminished due to inefficiencies in highly concentrated or less competitive markets (Love and Martínez Pería 2015; Beck et al. 2004). This theory further asserts that in banking structures where consumer sovereignty is well pronounced (a feature of a highly competitive market structure), innovation and efficiency are promoted, which are essential in ensuring a low cost of financing and increased access to finance. On the other hand, the information hypothesis postulates that lenders are

incentivized to invest in soft information in market structures where consumer sovereignty is low (characteristic of a highly concentrated market). This reduces information asymmetry and opacity, thereby allowing lenders to understand the creditworthiness of the borrowers. The information hypothesis thus suggests that internalizing the information acquisition process is only feasible when borrowers have a limited chance to switch from one lender to the other. Thus, the information hypothesis argues that bank consolidation promotes access to finance even for opaque borrowers (Abadi et al. 2016; Ayalew and Xianzhi 2019; González and González 2008).

Similarly, the relationship between bank market structure and access to finance remains a bone of contention in the empirical literature. On one strand, evidence shows that bank competition is positively related to access to finance. This group of literature asserts that high competition is a catalyst for efficiency and innovation, which leads to a high supply of finance at a lower cost (Asiedu et al. 2013; Beck et al. 2004; Leon 2015; Love and Martínez Pería 2015). On the other hand, empirical evidence shows that lenders can efficiently invest in information acquisition in markets where borrowers' sovereignty is low, thereby narrowing the information opacity gap between the lenders and borrowers. This strand of literature further argues that bank concentration expands firm leverage as the bank-firms relationship eliminates information asymmetry and agency costs (Abadi et al. 2016; González et al. 2007).

Furthermore, the existing literature on the bank market structure and access to finance focus on cross-country and developed economies such as the United States of America. Literature provides less emphasis on this topic in developing economies such as South Africa, despite the South African bank market structure comprising of few large banks. Instead, many researchers investigated the macroeconomic effects of the South African banking sector and gave less emphasis on bank market structure and access to finance, particularly to opaque firms. This is important because theory, for example, the Stiglitz and Weiss (1981) model argues that the banking sector tends to financially exclude opaque firms such as SMMEs. This paper narrows this gap by investigating the impact of bank competition on SMMEs access to finance in South Africa. The paper further investigates whether or not the relationship between access to finance and bank competition is linear or non-linear. In particular, the paper seeks to answer the following research questions;

(i)   Is bank competition positively or inversely related to SMMEs' access to finance in South Africa?
(ii)   Is the relationship between bank competition and SMMEs' access to finance linear or non-linear in South Africa?

The novelty of this study is two folds. Firstly, while most empirical literature has focused on the effects of bank competition on macroeconomic variables, this paper focuses on the effects of bank structure on access to finance for opaque firms. The paper further tests whether the relationship is linear or non-linear in the context of South Africa.

2. Brief Overview of the South African Banking System

At the end of 2021, the South African banking industry had 35 banks. Of those, 18 were registered banks, 4 were mutual banks, and 13 were branches of foreign banks. There were also 29 representative offices of foreign banks. Of the 18 registered banks, 13 are locally controlled, and 5 are foreign-controlled banks. The four mutual banks include VBS bank, which is under liquidation. In 2001, South Africa had 41 registered banks, and by 2021 this number had declined by more than 50% per cent to 18 Banks. Over the past decade, mergers, acquisitions, and license changes led to a significant decline in the number of banks. The industry experienced substantial consolidation and concentration, with the share of total assets of local branches of foreign banks, other banks, and five large banks (Standard bank, First National Bank, ABSA, Nedbank and Capitec) accounting for 5.8%, 3.7%, and 90.5%, respectively, by 2019. In 2020, the share of local branches, other banks, and five large banks were 7%, 3.6%, and 89.4%, respectively. This level of dominance by the five large banks continues as they still controlled about 90.1% in 2021. Figure 1 shows consolidation in

the number of registered banks, both locally and foreign-controlled, from 2005 to 2021 as they fluctuated between 17 and 19. Figure 2 shows the level of concentration in the South African banking industry from 2014 to 2021. We use concentration ratios of the top five banks to indicate the level of concentration. The banking industry is also characterized by high fixed costs which cannot be attributed to a particular segment of their activities. This particular cost structure (i.e., high fixed and common costs) drives concentration in banking and places certain limits on the extent of competition. The concentration of banks produces an oligopoly structure which facilitates strategic interaction among the participants and confers on each of the banks a degree of market power at least sufficient to cover fixed costs (Competition Commission South Africa 2019).
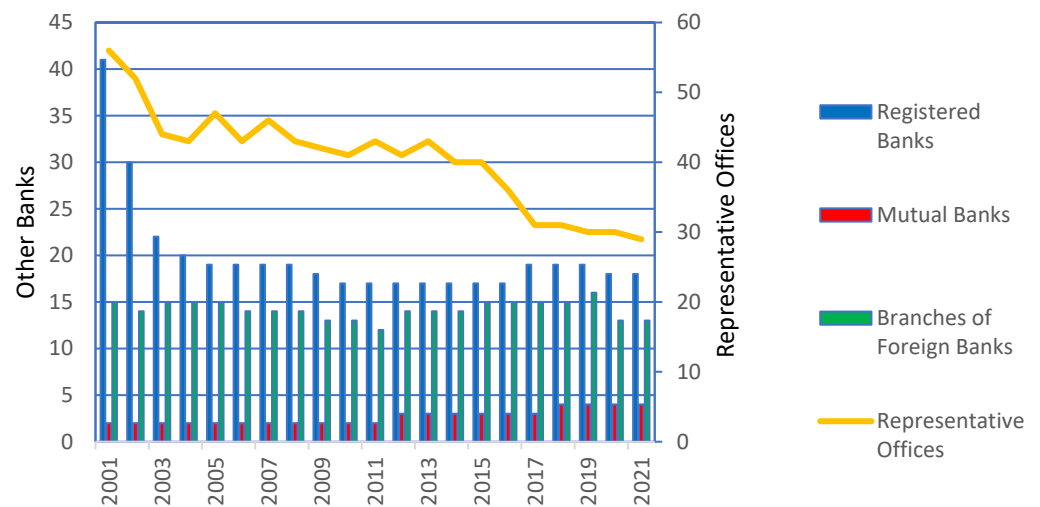
Figure 1. Number of banks 2001–2021. Source: South African Reserve Bank supervision and prudential authority annual reports (various years).
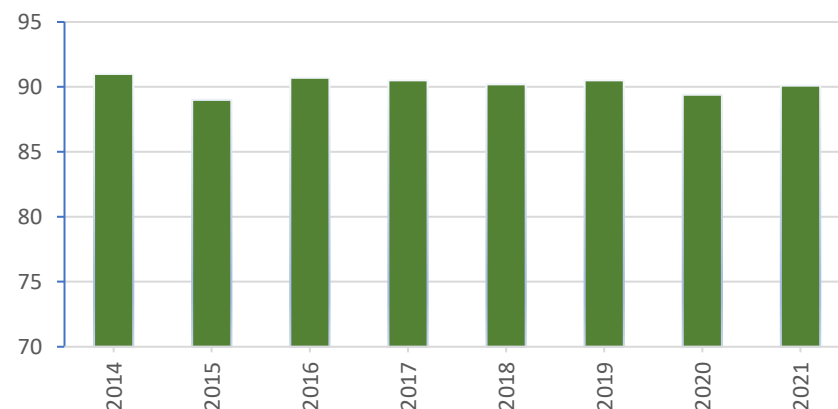
Figure 2. Concentration in the South African banking industry 2014–2021. Source: South African Reserve Bank supervision and prudential authority annual reports (various years).

Furthermore, over the past two decades, the rate of bank lending to the private sector decreased. For instance, between 2000 and 2020, lending to the private sector decreased by over than 45% as shown in Figure 3. The decline in the lending rate is even worrisome given the fact that it is differentiated depending on the creditworthiness of the borrowers.
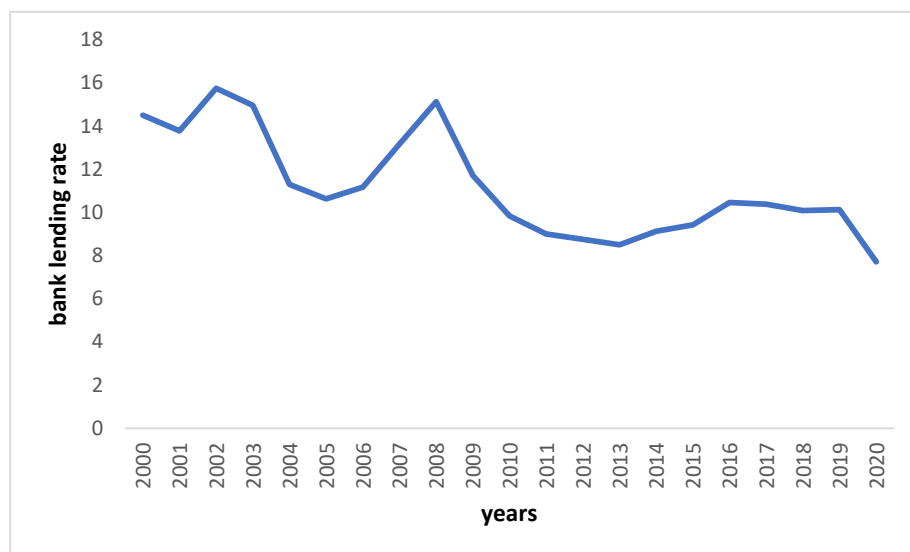
Figure 3. South African Bank lending rate 2000–2020. Source: The World Bank (2022).

3. A Review of the Literature

The conventional market power hypothesis and the information hypothesis are the two main theories underpinning the relationship between bank market structure and access to finance. Although these theories offer fundamental differences regarding the relationship between opaque firms' access to finance and bank market structure, these theories acknowledge the importance of access to finance and the growth of small firms. The main contestation between these theories revolves around the question: Which banking market structure promotes access to external finance? On the one hand, the market power hypothesis predicts that in highly competitive markets where borrower sovereignty is high, the supply of credit is increased through efficiency and low cost of finance. The market power hypothesis further suggests that high competition leads to a high supply of credit, leading to increased access. Thus, the theory argues for a positive relationship between high competition and access to finance (Beck et al. 2004; Love and Martínez Pería 2015; Moyo and Sibindi 2021; Ngonyama and Simatele 2017).

On the other hand, the information hypothesis argues that high competition associated with well-pronounced borrower sovereignty hinders banks from internalizing information acquisition activities because borrowers are highly likely to switch from one credit supplier to another. However, this hypothesis suggests that, in a low, competitive market structure, banks are incentivized to invest in the acquisition of soft information and build bank-borrow relationships, an important ingredient for reducing or eliminating risks associated with information asymmetries such as moral hazard. Thus, in sharp contraction to the market power hypothesis, the information hypothesis postulates that low competition or high bank concentration does not diminish the supply of credit but instead promotes access to credit, particularly for opaque firms. In other words, the information hypothesis implies a positive relationship between low competition and access to finance (Bernini and Montagnoli 2017; González and González 2008; Petersen and Rajan 1995; Schmieder et al. 2010).

Empirically, studies employed various estimation techniques such as generalized methods of moment (Abadi et al. 2016; Akande et al. 2021; Carbó-Valverde et al. 2005; González and González 2008; Owen and Pereira 2018), probit models (Moyo and Sibindi 2021), ordered probit (Beck et al. 2004; Bernini and Montagnoli 2017), direct and indirect approaches (Schmieder et al. 2010) among others, to investigate the relationship between bank market structure and firms' access to finance. However, similar to the foundational theories, the relationship remains a bone of contention as the findings from different estimation techniques boil down to two main contrasting conclusions; (i) bank competition promotes access to finance and (ii) bank concentration diminishes obstacles to accessing

finance. In other words, one strand of empirical findings supports the notion that high competition positively affects access to finance. For instance, Love and Martínez Pería (2015) argue that highly competitive banking sectors fundamentally lead to access to finance. In other words, the authors allude that there is a positive relationship between low bank competition and low access to finance, implying that low competition leads to reduced access to finance. In the same vein, Beck et al. (2004) show an inverse relationship between bank concentration and access to finance, implying that low bank competition is an obstacle to accessing finance. Beck et al. (2004) further assert that the impact of low bank competition on access to finance is inversely related to firm sizes; small firms bear the wrath of bank concentration compared to their counterparts. The findings by Leon (2015) validate the market power hypothesis. The author argues that highly competitive bank markets alleviate credit constraints and lessen the severity of loan approval decisions, thus promoting access to credit. Carbó-Valverde et al. (2005) argue that bank market competition increases access to finance.

The other strand of empirical evidence argues that bank concentration increases firms' access to finance by reducing information asymmetry and agency costs. For instance, Abadi et al. (2016) found a positive and significant relationship between concentration and firms' leverage, indicating that low competition improves firms' access to external finance in emerging economies. Their findings are consistent with the findings by González and González (2008), which show that high competition discourages the supply of credit, but bank consolidation positively and significantly increases firms' borrowing. Furthermore, Ayalew and Xianzhi (2019) show that bank competition diminishes access to finance in a cross-country study. Their results suggest that high competition increases financing constraints, thus supporting the information hypothesis. Bernini and Montagnoli (2017) show that firms operating in highly competitive environments face severe constraints in accessing finance. Petersen and Rajan (1995) support the information hypothesis by suggesting that there is more credit supply in concentrated markets due to the fact that it is easier to internalize the benefits attached to forming ties with borrowers, unlike in the competitive market. This is consistent with Lu et al. (2020) findings, which show a positive relationship between bank market concentration and credit availability.

Interestingly, in a recent study, Moyo and Sibindi (2021) suggest that the relationship between bank market structure and access to finance depends on the proxy for competition used. The authors found a positive relationship between the Lerner index and access to finance. This implies that low competition promotes access to finance, thus validating the information hypothesis. Furthermore, their results show a negative relationship between the Boone index and leverage, thus supporting the market power hypothesis. Their findings are validated by Akande et al. (2021), who argue a concave relationship between bank market structure and access to finance. The authors assert that bank competition is good but to a certain threshold, after which it becomes detrimental to access to finance in Africa. Schmieder et al. (2010) show that bank consolidation has no significant negative impact on financing in German.

4. Methodology

To achieve the study objectives, we combine firm-level data from the World Bank Enterprise Survey, country-level data from the World Bank and bank-level data from the Bankscope. The WBES survey data contains data on SMMEs from over 80 countries in the world. The data include access to finance, legal status, ownership, competition, capacity utilization, etc.

To measure access to finance, we use the responses given to the following question from the WBES data; "*Do you think that access to finance presents any obstacle to the current operation of your establishment*?" The responses given to this question vary from 0 (no obstacle), 1 (minor obstacle), 3 (major obstacle) and 4 (very severe obstacle).

We also control for other firm-specific variables such as collateral (expenditure on machinery, vehicles and equipment), efficiency, size, rivalry, age and its quadratic term,

age-squared. We use expenditure on machinery, vehicles and equipment as a proxy for collateral. This variable is expressed in South Africa's domestic currency. The purchase of these factors of production (machinery, vehicle and equipment) can be important as they can be pledged as a collateral instrument to access finance. Thus, we enter this variable as *collateral* in our baseline regression model. According to Love et al. (2016), movable assets account for a large proportion of SMMEs' assets thus we expect a positive relationship between collateral and access to finance.

In addition, the study uses capacity utilization as a measure of efficiency. The World Bank Enterprise Survey (2022) defines capacity utilization as the output level in relation to the firm's full production capacity. The microeconomic theory asserts that the more efficient a firm is, the higher the output level. Ceteris paribus, high output could lead to more revenues, thereby improving the financial position of firms. This could generate more internal finance. On the other hand, efficiency could lead to increase access to finance through the bank balance sheet channel. Thus, we expect either a positive or a negative relationship between efficiency and access to finance.

The study also controls for size using the logarithm of sales. According to theory, for example, the pecking order hypothesis, increased firm size reduces information opacity and promotes transparency. However, literature further shows that size can also inversely affect finance access as firms rebalance their capital structures to rely more on internally generated finance. Based on the a-priori, we expected a negative or positive relationship between access to finance and firm size.

Rivalry is also a regressor used in this study. We used the World Bank Enterprise Survey (2022) data on the number of competitors a firm has. The respondents were asked the following question; How many competitors do you face? To this question, responses given ranges from 0 (none), 2 (1), 3 (2–5) and 4 (more than 5). The general microeconomic theory of demand and supply suggests that ceteris paribus, high demand results in increased prices. Thus, we expect that an increase in competition leads to increases in demand for finance resulting in an increase in the cost of borrowing, ceteris paribus.

Age and its quadratic term are also explanatory variables entered in the model for access to finance. Age is the logarithm of firm's age in years. Age-squared is a quadratic term for age. According to Berger and Udell (2005) and La Rocca et al. (2009), age positively unlocks more financing tools. Thus, we expect a positive relationship between age and access to finance.

Furthermore, we control for a bank-level variable in measuring bank competition or concentration using the Boone index. Although there are various proxies for competition in literature, such as the Lerner index, the Boone index is more appealing in literature due to its robust theoretical foundation. This implies that it correctly captures the degree of competition even when competition becomes more intense, either through reduced entry barriers or when firms aggressively interact in the industry (Schiersch and Schmidt-Ehmcke 2012). A high(low) value of the Boone index indicates low(high) levels of competition. Thus, a negative relationship between the Boone index and the dependent variable indicates that high competition favours access to finance, thus supporting the market power hypothesis. The opposite is true under the information hypothesis.

The study also predicts the effects of the macroeconomic variable; foreign direct investment on access to finance. Foreign direct investment is the net inflows as a percentage of GDP. According to literature, foreign direct investment fills the savings gap in developing countries. Thus, foreign direct investment could promote access to finance. Thus, we expect a positive relationship between foreign direct investment and SMMEs access to finance.

Empirical Models

To achieve the study objectives, we use model (1) and model (2) expressed below.

$$Access_{j,k} = \alpha + \beta_1 Bank\ competition_t + \beta_2 foreign\ direct\ investment_t + \beta_3 collateral_{j,k} + \beta_4 efficiency_{j,k} \\ + \beta_5 size_{j,k} + \beta_6 rivalry_{j,k} + \beta_7 age_{j,k} + \beta_8 age2_{j,k} + \varepsilon_k \tag{1}$$

$$Access_{j,k} = \alpha + \beta_1 Bank\ competition_t + \beta_2 Bank\ competition2_t + \beta_3 foreign\ direct\ investment_t$$
$$+\beta_4 collateral_{j,k} + \beta_5 efficiency_{j,k} + \beta_5 size_{j,k} + \beta_7 rivalry_{j,k} + \beta_8 age_{j,k} + \beta_9 age2_{j,k} + \varepsilon_k \tag{2}$$

Model (1) estimates the impact of bank competition on access to finance. Model (2) investigates whether the relationship between the response variable and main regressor variable is linear or non-linear. In both models, the response variable is a polychotomous dependent variable with a natural order, thus, we empirically employ the ordered probit model. In the first model, the coefficient of interest is β_1; a negative coefficient would mean an inverse relationship between concentration and access to finance. This implies that high concentration (low competition) reduces access to finance. The opposite is true in the case of a positive coefficient of β_1.

Model (2) tests the linearity/non-linearity of β_1 and β_2 and access to finance. If the coefficients of β_1 and β_2 are both negative or positive, the results imply a linear relationship between bank competition and access to finance. On the other hand, if the signs of β_1 and β_2 are not the same, then that means the relationship is non-linear. The section below presents and discusses the study's empirical findings, starting with the results of the baseline regression model (model (1)). Furthermore, we used the ordered logit estimation technique for robustness checks in both models.

5. Results

The results in Table 1 show a negative relationship between the Boone index and access to finance. These results show that an increase in the Boone index or low competition diminishes SMMEs' access to finance in South Africa. This implies that high competition increases the chances for SMMEs to access finance. Thus, the results support the market power hypothesis and do not validate the information hypothesis. These results are consistent with the findings by Leon (2015); Love and Martínez Pería (2015); Beck et al. (2004), showing that a highly concentrated banking market structure deters access to finance for opaque firms.

Table 1. The impact of bank competition on SMMEs access to finance.

Variables	Ordered Probit
bank competition	−0.1803 **
	(0.0119)
foreign direct investment	2.7064 ***
	(0.370)
collateral	−0.5631 **
	(3.36×10^{-8})
efficiency	−0.0866
	(0.00465)
size	−0.3459
	(0.0887)
rivalry	0.0226
	(0.0459)
age	0.0463
	(0.0135)
age2	−0.0003
	(0.000136)
Constant cut1	1.072
	(0)
Constant cut2	1.672 ***
	(0.102)
Constant cut3	2.077 ***
	(0.145)
Constant cut4	2.688 ***
	(0.247)
Observations	294

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$.

The results further show that foreign direct investment is positive and significant to SMMEs access to finance. These results show that foreign direct investment promotes

access to finance for SMMEs in South Africa. These results support validate literature which shows that external financial flows narrow the wedge between domestic demand and supply for finance (Kapingura 2016). Further, the positive relationship between foreign direct investment and SMMEs access could be due to the spillover effect from improvement in financial development due to FDI injection (Majeed et al. 2021).

The results show a negative relationship between access to external finance and the value of the collateral. At first, these results seem puzzling because one would anticipate that an increase in collateral unlocks more supply of external finance as suggested in the pecking order theory. These results could, however, mean that as collateral value increases (acquiring of new capital machines), SMMEs in South Africa could then rebalance their capital structure to use internally generated finance. This is not a new phenomenon, as evidence shows that SMMEs do rebalance their capital structure as they evolve along their growth continuum (Berger and Udell 2005; La Rocca et al. 2009).

Table 2 shows the results of the second objective of the study. The results show that there is a non-linear relationship between access to finance and the Boone index. The results show that there is a non-linear relationship between bank market structure and access to finance for SMMEs in South Africa. These results confirm the findings by Akande et al. (2021), who argue that there is a concave relationship between bank market structure and access to finance. These results show that bank concentration is good, but it diminishes access to finance in Africa to a certain extent.

Table 2. Testing for non-linearity.

Variables	Ordered Probit
bank competition	0.9973 **
	(0.0593)
bank competition2	−3.3049 ***
	(0.000513)
foreign direct investment	2.3103 ***
	(0.0012
collateral	−4.5939 **
	(3.36×10^{-8})
efficiency	−0.0861
	(0.00465)
size	−0.3435
	(0.0883)
rivalry	0.0322
	(0.0459)
age	0.0451
	(0.0135)
age2	−0.0019
	(0.000136)
Constant cut1	−7.823
	(0)
Constant cut2	−7.223 ***
	(0.102)
Constant cut3	−6.818 ***
	(0.145)
Constant cut4	−6.207 ***
	(0.246)
Observations	294

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$.

6. Robustness Checks

In this section, we checked for the sensitivity of the estimation techniques using the ordered logit estimation technique. The results of the ordered logit (see Tables 3 and 4) confirm the findings of the ordered probit regression model. The key findings from these results show that bank competition is negatively related to access to finance for SMMEs in South Africa as shown in Table 3. The results further show that the relationship is, however, non-linear. This confirms the order probit estimation results. Furthermore, the pseudo r-squared (McFadden's pseudo R^2) results show that the estimated models are a good fit.

Table 3. Model 1 robustness checks.

Variables	Ordered Logit
bank competition	−0.5531 **
	(0.0296)
foreign direct investment	6.1749 ***
	(0.339)
collateral	−7.2413 **
	(6.02×10^{-8})
efficiency	−0.1487
	(0.00823)
size	−0.5772
	(0.158)
rivalry	0.0322
	(0.0867)
age	0.0991
	(0.0243)
age2	−0.0229
	(0.000234)
Constant cut1	2.374 ***
	(0.572)
Constant cut2	3.419 ***
	(0.549)
Constant cut3	4.198 ***
	(0.503)
Constant cut4	5.563
	(0)
Observations	294
Pseudo R^2	0.2

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$.

Table 4. Model 2 Robustness checks.

Variables	Ordered Logit
bank competition	2.0483 ***
	(0.0828)
bank competition2	−7.6944 ***
	(0.000611)
foreign direct investment	5.7778 ***
	(0.502)
collateral	−7.2413 **
	(6.02×10^{-8})
efficiency	−0.1484
	(0.00823)
size	−0.5748
	(0.158)
rivalry	0.0322
	(0.0867)
age	0.0982
	(0.0243)
age2	−0.0226
	(0.000234)
Constant cut1	−19.23 ***
	(0.572)
Constant cut2	−18.18 ***
	(0.549)
Constant cut3	−17.40 ***
	(0.503)
Constant cut4	−16.04
	(0)
Observations	294
Pseudo R^2	0.2

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$.

7. Conclusions

The study investigated the impact of bank market structure on access to bank finance for opaque firms in the case of South Africa. We further tested the linearity/non-linearity between bank structure and access to finance. Our empirical results show that high

competition in the banking sector increases access to finance for SMMEs in South Africa. Further, we found a non-linear relationship between bank market structure and access to bank finance. These results imply that bank concentration is good but to a smaller extent, and high competition promotes access to finance for opaque firms to a greater extent in South Africa. Thus, to a greater extent, policymakers should focus on policies that aim to promote high competition in the banking sector. One of the limitations of this study emanates from the fact that even though the study managed to show that the relationship between bank competition and access to finance is non-linear, it did not go further to show the thresholds or the point at which the impact is changing from positive to negative. Thus, there is a need for future research to look at the threshold through which this relationship becomes non-linear. Also, similar studies could be conducted to investigate whether the relationship between bank structure and SMMEs access to finance depends on location heterogeneity or firm's owner gender differences.

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References

Abadi, Farzin, A. N. Bany-Ariffin, Ryszard Kokoszczynski, and W. N. W. Azman-Saini. 2016. The Impact of Banking Concentration on Firm Leverage in Emerging Markets. *International Journal of Emerging Markets* 11: 550–68. [CrossRef]

Abedifar, Pejman, Iftekhar Hasan, and Amine Tarazi. 2016. Finance-Growth Nexus and Dual-Banking Systems: Relative Importance of Islamic Banks. *Journal of Economic Behavior and Organization* 132: 198–215. [CrossRef]

Akande, Joseph, Ntokozo Patrick Nzimande, Joseph Chisasa, and Sunde Tafirenyika. 2021. Bank Competition or Concentration: Which Is More Important for Access to Finance in Africa? *African Review of Economics and Finance* 13.

Asiedu, Elizabeth, Isaac Kalonda-Kanyama, Leonce Ndikumana, and Akwasi Nti-Addae. 2013. Access to Credit by Firms in Sub-Saharan Africa: How Relevant Is Gender? *American Economic Review* 103: 293–97. [CrossRef]

Ayalew, Misraku Molla, and Zhang Xianzhi. 2019. Bank Competition and Access to Finance: Evidence from African Countries. *Journal of Industry, Competition and Trade* 19: 155–84. [CrossRef]

Beck, Thorsten, Asli Demirgüç-kunt, and Vojislav Maksimovic. 2004. Bank Competition, Financing and Access to Credit. *Journal of Money, Credit and Banking* 36: 627–48. [CrossRef]

Berger, Allen N., and Gregory F. Udell. 2005. The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle. *SSRN Electronic Journal*. [CrossRef]

Bernini, Michele, and Alberto Montagnoli. 2017. Competition and Financial Constraints: A Two-Sided Story. *Journal of International Money and Finance* 70: 88–109. [CrossRef]

Bolarinwa, Segun Thompson, Abiodun Adewale Adegboye, and Xuan Vinh Vo. 2020. Is There a Nonlinear Relationship between Financial Development and Poverty in Africa? *Journal of Economic Studies* 48: 1245–66. [CrossRef]

Bolarinwa, Segun Thompson, Olumide Olusegun Olaoye, Wajahat Ullah, and Babatunde Agbi. 2021. Does Financial Development Really Matter for Poverty Reduction in Africa? *Forum for Social Economics* 51: 415–32. [CrossRef]

Boukhatem, Jamel, and Fatma Ben Moussa. 2018. The Effect of Islamic Banks on GDP Growth: Some Evidence from Selected MENA Countries. *Borsa Istanbul Review* 18: 231–47. [CrossRef]

Carbó-Valverde, Santiago, Francisco Rodríguez-fernández, and Gregory F. Udell. 2005. Bank Market Power and SME Financing Constraints. *Review of Finance* 13: 309–40. [CrossRef]

Competition Commission South Africa. 2019. *Banking Market Inquiry*. Pretoria: Competition Commission. Available online: https://www.compcom.co.za/wp-content/uploads/2017/11/2-Market-power_non-confidential1.pdf (accessed on 3 March 2022).

González, Raquel Lago, Jose A. Lopez, and Jesús Saurina. 2007. *Determinants of Access to External Finance: Evidence from Spanish Firms*. Working Paper Series; San Francisco: Federal Reserve Bank of San Francisco, pp. 1.000–42.000. [CrossRef]

González, Víctor M., and Francisco González. 2008. Influence of Bank Concentration and Institutions on Capital Structure: New International Evidence. *Journal of Corporate Finance* 14. [CrossRef]

Guru, Biplab Kumar, and Inder Sekhar Yadav. 2019. Financial Development and Economic Growth: Panel Evidence from BRICS. *Journal of Economics, Finance and Administrative Science* 24: 113–26. [CrossRef]

Ibrahim, Muazu, and Paul Alagidede. 2018. Effect of Financial Development on Economic Growth in Sub-Saharan Africa. *Journal of Policy Modeling* 40: 1104–25. [CrossRef]

Inoue, Takeshi. 2018. Financial Development, Remittances, and Poverty Reduction: Empirical Evidence from a Macroeconomic Viewpoint. *Journal of Economics and Business* 96: 59–68. [CrossRef]

International Finance Corporation. 2020. *SME Finance*. World Bank Group. Washington, DC: World Bank. Available online: https://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Financial+Institutions/Priorities/SME+Finance (accessed on 10 July 2022).

Kapingura, Forget Mingiri. 2016. External Financial Flows, Domestic Savings and Economic Growth in the Southern African Development Community (SADC) (1980–2013). Ph.D. dissertation, University of Fort Hare, Alice, South Africa.

La Rocca, Maurizio, Tiziana La Rocca, and Alfio Cariola. 2009. Small Business Financing. Financial Preferences throughout the Life Cycle of a Firm. Ph.D. dissertation, University of Calabria, Rende, Italy. Available online: http://www.efmaefm.org/0EFMAMeetingS/EFMA_Annual_Meeting/2009-milan/EFMA2009_0476_fullpaper.pdf (accessed on 3 March 2022).

Leon, Florian. 2015. Does Bank Competition Alleviate Credit Constraints in Developing Countries? *Journal of Banking and Finance* 57: 130–42. [CrossRef]

Love, Inessa, and María Soledad Martínez Pería. 2015. How Bank Competition Affects Firms' Access to Finance. *World Bank Economic Review* 29. [CrossRef]

Love, Inessa, María Soledad Martinez Pería, and Sandeep Singh. 2016. Collateral Registries for Movable Assets: Does Their Introduction Spur Firms' Access to Bank Financing? *Journal of Financial Services Research* 49: 1–37. [CrossRef]

Lu, Zhiqiang, Junjie Wu, and Jia Liu. 2020. Bank Concentration and SME Financing Availability: The Impact of Promotion of Financial Inclusion in China. *International Journal of Bank Marketing* 38: 1329–49. [CrossRef]

Majeed, Abdul, Ping Jiang, Mahmood Ahmad, Muhammad Asif Khan, and Judit Olah. 2021. The Impact of Foreign Direct Investment on Financial Development: New Evidence from Panel Cointegration and Causality Analysis. *Journal of Competitiveness* 13: 95–112. [CrossRef]

Moyo, Busani, and Athenia Bongani Sibindi. 2021. Bank Competition and Credit Access: The Case of Informal Firms in Sub-Saharan Africa. *Southern African Business Review* 25. [CrossRef] [PubMed]

Ngonyama, Nomasomi, and Munacinga Simatele. 2017. *Literature Review Banking Competition and Access to Financial Services*. Alice: University of Fort Hare.

Owen, Ann L., and Javier M. Pereira. 2018. Bank Concentration, Competition, and Financial Inclusion. *Review of Development Finance* 8: 1–17. [CrossRef]

Paun, Cristian Valeriu, Radu Cristian Musetescu, Vladimir Mihai Topan, and Dan Constantin Danuletiu. 2019. The Impact of Financial Sector Development and Sophistication on Sustainable Economic Growth. *Sustainability* 11: 1713. [CrossRef]

Petersen, Mitchell A., and Raghuram G. Rajan. 1995. The Effect of Credit Market Competition on Lending Relationships. *Quarterly Journal of Economics* 110: 407–43. [CrossRef]

Schiersch, Alexander, and Jens Schmidt-Ehmcke. 2012. Empiricism Meets Theory: Is the Boone-Indicator Applicable? *SSRN Electronic Journal*. [CrossRef]

Schmieder, Christian, Katharina Marsch, and Katrin Forster-van Aerssen. 2010. Does Banking Consolidation Worsen Firms' Access to Credit? Evidence from the German Economy. *Small Business Economics* 35: 449–65. [CrossRef]

Stiglitz, Joseph, and Andrew Weiss. 1981. Credit Rationing in Markets with Imperfect Competition. *American Economic Review*. Available online: http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=1&sid=15b16e6d-4805-4cfd-8881-1e6e69de115d%40sessionmgr4007 (accessed on 3 March 2022).

The Banking Association South Africa. 2018. Hurdles Faced By Financial Institutions in Smme Financing-Final Report Hurdles Faced By Financial Institutions in Financing Small and Medium Enteprises (Smme). The Banking Association South Africa. Available online: http://www.banking.org.za/wp-content/uploads/2019/04/Hurdles-in-SME-Financing-Final-Report.pdf (accessed on 3 March 2022).

The World Bank. 2022. Lending Rate. The World Bank. Available online: https://data.worldbank.org/indicator/FR.INR.LEND (accessed on 3 March 2022).

World Bank Enterprise Survey. 2022. Full Survey Data. World Bank. Available online: https://login.enterprisesurveys.org/content/sites/financeandprivatesector/en/library.html (accessed on 3 March 2022).

Zhang, Ruixin, and Sami Ben Naceur. 2019. Financial Development, Inequality, and Poverty: Some International Evidence. *International Review of Economics and Finance* 61: 1–16. [CrossRef]