



A Literature Review on the Competition in the Banking Sector

Khaldoun M. AL-QAISI

Faculty of Business, Finance Department, Amman Arab University, Jordan, E-mail: khaldoun_21@yahoo.com

Abstract

Two of the key components in the fight against poverty are availability of financial services and competition. While competition improves markets, enables growth and productivity and also promotes innovation, access to financial services enables the poor people to save, and access other facilities such as insurance and credit giving them a chance too to contribute towards economic growth and even their consumption. Furthermore, with competition, finance becomes cheaper, further increasing accessibility of financial services. Therefore, this proposes a co-relationship between finance and competition in the area of banking. This sector's research is still in its early stages and there is little co-relation on the same whether a strong one or not. There is no harmony on the cause or on whether competition in the sector of finance is positive or negative for markets. This paper explores the literature connected to this relationship. It proposes that concentration (as a competition gauge amid others) does not necessarily mean that there lack completion in the banking industry and that the banking industry involves that many if not most of the banking sectors indicates a monopolistic competition. Due to the threat of entry into this industry, banks behave in a competitive way and the size of the institution enhances performance rather than impede the competition. However sketchy evidence shows that there exists collusion. The two, worldwide and within South Africa, commissions that deal with competition have efficaciously indicted cartels in the banking industry. This paper concludes that, by raising queries about the approaches and methods used to study competition in the banking industry and whether these methods cover sufficiently vital features of competition in the industry.

Keywords

Banking Competition, Literature Review, Financial Services

Received: 12 Feb 2018 © The Authors 2018

Revised: 12 Mar 2018 Published by Human Resource Management Academic Research Society (www.hrmars.com)

Accepted: 30 Mar 2018 This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: <http://creativecommons.org/licenses/by/4.0/legalcode>

Published Online: 25 Apr 2018

1. Introduction

The financial economics literature contains numerous research papers, which examine issues that concern the banking industry (Al-Qaisi, 2012). One of these issues is banking competition. Indeed, this paper's main focus is on studying empirical literature on the effect of banking competition on access to financial services. The intention is not to duplicate the outstanding studies that have been carried out by scholars on banking competition but instead to contribute by detecting the gaps in literature, accordingly, accessible to academics, policy makers and researchers. Due to the complexity in competition, there have been developments on the methodologies adopted to gauge it. There are two kinds of gauges; traditional gauge/measures and (New Empirical Industrial Organization) NEIO. The traditional gauges adopted have been criticized as they attempt to gauge using not so direct proxies, for example concentration. On the other hand, NEIO correct the critique and use more direct proxies to gauge competition for example input prices. Nevertheless, by researchers using more direct ways to gauge, empirical literature on the competition in the banking sector seem to get standard results on the level of competition across the globe. Both within South Africa and across the globe, competition commissions have managed to

successfully prosecute the cartels in the banking industry. It arouses concern therefore, as to whether the methods adopted today, to gauge competition in the banking sector are sufficient enough to explain the level or degree of competition. The literature found on whether competition in this sector promotes or hampers access to financial services is scarce and provides mixed results. The gauges for access to financial services are few together with mixed results. Also, in the aspect of innovation in the banking sector, the measurements to access financial services have not been smoothed out.

The paper begins with a short summary of the significance of competition in banking industry then, the approaches and methods used in the secondary research with an overview of how these methods have advanced with time.

2. The role of competition in banking sector

Many researches in the banking industry have stressed the significance of competition in this area stating its effects for social welfare, pricing, accessibility to financial services, stability and effectiveness (Claessens and Leavens, 2004; Bikker and Spierdijk, 2009). There are also other empirical researches that show that competition in the banking industry destabilizes financial stability (Keeley, 1990). The notion of banking competition is that the power of the market can be dangerous in banking or any other industry (Leon, 2015).

Competition reduces the costs incurred in banking for various stakeholders, and improves the access to the financial services, at the same time enables growth of an economy while increasing the efficiency. Consequently, it makes managers to in effect reduce costs incurred so that the businesses can remain profitable (Claessens and Laeven 2004; Buchs and Mathiesen 2005). Again, anti-competitive behavior in any sector will negatively affect the welfare of the consumers. The same will also discourage competition particularly in a growing economy, and slow down the progress of development (Shiroishi and Wu, 2013). Claessens and Laeven (2004) state that a decline in the competition level of any banking industry will in effect raise the costs of financial services thus, leading to reduced financing that hampers the growth on the economy. On the other hand, proponents of market power state that market power is beneficial in risk and stability in the banking industry (Kouki and Ali-Nasser, 2014). To add on to this, reduced competition can afford to include incentives to acquire relevant information on borrowers and be able to stabilize the financial system. The intent of this paper is to examine literature on competition in banking sector and how this competition affects the accessibility to financial services for the companies and individuals. Accessibility to financial services for the small and medium enterprises (SMME)s is vital for progression of growth in inclusivity of any economy, for creation of employment and ultimately poverty eradication.

OECD (2010) argues that competition in banking industry and low entry barriers can play a vital role in enhancing accessibility to financial services by adopting lower interest rates and providing better loan terms. Then again, global literature has not conclusively analyzed the effect of competition on accessibility to financial services. This paper therefore, will assist to identify the gaps in secondary research particularly in the South African case in which only limited empirical literature is available on competition in the banking industry. Furthermore, an inclusive financial structure is perceived desirable because it promotes the economic efficiency and provides welfare through giving opportunities for a wide part of the population to enhance secure and safe saving practices, at the same time facilitate the use of a number of accessible financial services (Sarma and Pais, 2008). By guaranteeing an extensive financial services outreach is also essential to ensure that the small entrepreneurs and poor households, together with SMEs (Small and Medium-sized Enterprises) with insufficient collateral and credit background are not overlooked in the formal credit market. Such exclusion of financial sector could occur because of imperfections in the financial sector such as information asymmetry or high costs in the transactions or even lack of adequate legal framework to enforce transactions. The constraints that arise out of credit consequently make it hard for the poorer households or small scale entrepreneurs to finance investments with a high rate of return, in effect reducing the effectiveness and efficiency of resource allocation in a situation or economy.

3. Measuring banking competition

3.1 Introduction

Measuring or gauging of banking competition has evolved with time, beginning with the traditional ways of measurement to the (New Empirical Industrial Organization) NEIO. The traditional gauging methods have faced criticism in literature which has resultantly led to other new gauging methods (direct measures) of banking competition. In the traditional method of measuring we distinguish between analysis of (Structure Conduct Performance) SCP and the studies on efficiency. The new empirical methods intend to measure directly the level of competition, thus, an outline of the different direct competition measures.

3.2. Traditional measures of bank competition

3.2.1 Analysing the structure conduct performance theory

The model of SCP centered on the relationship between competition in banking and efficiency rooted from the study of Mason, 1939; Bain, 1951). This model states that companies in markets that are highly concentrated enjoy high profits due to their market power. These profit earned could be attained through high price charges on loans and also offer lower interests on the deposits. Therefore, the model states that the framework of the market defines the conduct of the companies. In addition, in such a market scenario, the banks may collude with other companies to charge higher interests (Shepherd, 1982; Goddard, 2001). This agreement is likely to take place in a highly saturated industry where the companies can take advantage of the market power at expense of society's welfare. This theory has been tested empirically through a number of studies either supporting the theory or criticizing it.

The contrast argument to this theory is that, a higher market segment may be due to lower costs or high efficiency rather than the low competition level (Demsetz, 1973). The second theory Gilbert (1984), Reid (1987), and Vesala (1995) base their theory on one-way cause – from the structure of the market to performance. This argument that the SCP does not consider the likelihood of a bi-directional relationship between the performance and market structure.

The third argument (Mullineux and Sinclair, 2000) basically states that although prices can be a result of higher concentration, and consequently lower demand, the same does not necessarily transpire to higher profits. This argument states that in a free entry market and (contestable) exit, the profits derived in this market are highly likely to be nil. Contrary to the assumption that saturation may cause contradicting behavior, Baumol argues that the saturation does not necessarily imply lack of competition if there is no difficulty in the entry and exit. The SCP hypothesis can be analyzed through empirical studies using a measure of bank performance for example by use of bank profitability on the saturation of the market. To analyze the hypothesis of SCP the research uses bank performance as a measure for example, bank profitability on bank saturation. The market saturation represented by bank saturation ration or HH index. As follows:

$$\pi = \alpha_0 + \alpha_1 HHI_{jt} + \sum \gamma_k X_{ijt} + \epsilon_{ijt} \quad (1)$$

Where: π is a profitability gauge for l banks, in the banking industry j at time t , HHI is a gauge for saturation in the market j at time t and x gauges the control variables that may have an impact on the bank profits.

Many studies show a positive co-relation between the profitability and saturation thereby confirming the SCP model. Demirgiic,-Kunt, and Huizinga (1999) show the co-relation between profitability and interest margins in a sample of eighty nations for the developing and developed countries. The studies revealed that banking institutions with high non-interest earning chattels are not as profitable. The institutions that depend on deposit for their funding activities are not as profitable because deposits usually require high branching and other expenditures. Likewise, Berger and hannan (1989) reveal US retail deposit market. The research includes four hundred and forty banking institutions operating 195 localized markets in a period of 2 years. Their paradigm variables:

$$r_{ijt} = \beta_0 + \beta_1 CR_{jt} + \sum \gamma_k X_{k,t} + \mu_{ijt} \quad (2)$$

They used both the CR3 and HHI representations for the bank saturation and their results revealed a negative effect of bank saturation on deposit rates. Therefore, as the market becomes more saturated, the rate of deposits falls.

3.2.2. SCP paradigm evidence from developing countries

Several studies carried out in developing countries have revealed same results for instance: Flamini *et al.* (2009) using GMM in forty one Sub-Saharan countries, shows that a high return on chattels or assets takes place due to large bank size private ownership and diversification of activity. Their findings disagree with many studies. Chirwa (2003) in Malawi used co-inclusion VECM. Particularly, the research study investigates the co-relation between saturation in the banking industry and profitability of commercial banks. A positive co-relation was found between the market structure and profitability. Alley,(1993) for Japanese applies CR and finds out that high levels of saturation in Japanese banking industry. Further he shows that involvement takes place in Japanese banking industry. Bello and Isola (2014) for Nigeria using saturation measure (HHI) revealed a positive relation with the market performance.

While bank relationship revealed a negative performance thereby refuting the negative performance hypothesis likewise Nabieu (2013) finds out that saturation defines profitability in other nations such as Ghana, showing therefore, that SCP hypothesis is strong. Falkena *et al.* (2004) uses an HH index to examine the bank industry competition in the South African Banking industry. They found out that the banking sector in South Africa is highly saturated thereby having high costs with low access to services of the bank for SMEs. The argument is that the lack of accessibility to banking services and the high costs incurred could have something to do with many structural factors rather than the level of competition in the banking sector. Okeahalam (2001) reveal that due to high saturation in the banking industry, the retail customers in the South African nation are paying high prices and a likelihood that the bigger may collude, thereby inferring that SCP model applies in South Africa. Similarly, Maredza *et al.* (2012) discovers a positive co-relation between saturation and efficiency in the banking industry in South Africa.

The studies show that even though the banking industry in South Africa is highly dominated by the large four banks, the industry is productive. Nevertheless, even though the studies portray a tremendous contribution to empirical literature, they all suffer in that the saturation measures/gauges deduce the competition level from indirect proxies. Subsequently, Berger *et al.* (2004) in his literature review on saturation of banks and competition argue that a lot of literature has shifter from the traditional hypothesis of SCP to the empirical methods. Studies deduce that wider institutional structures need to be putting into consideration regulations of financial institutions and the nature of the economy. In addition, Bikker (2004), states that saturation measures are more than often becoming unreliable when the banks become less and whose competition level may be high in smaller nations. In his research he uses Bresnahan Lau (1982) and Panzer Rosse (1987) to investigate the competition level in the banking industry. He examines the competition level before and after an amalgamation and finds out that a decreasing completion after the amalgamation and higher saturation level after the amalgamation. Therefore his results show hypothesis of SCP. Furthermore, Claessens and Laeven (2004) reveal that the level of saturation may be a bad or poor representation for the contest of the banking industry. Love and Peria (2012) and Schaeck and Cihak (2010), state that competition measures the conduct of the market while saturation measures the structure of the market. The (New Empirical Industrial Organization) NEIO tries to measure the power of the market by addressing directly companies' behavior. Thereby, the measures used by the (New Empirical Industrial Organization) NEIO overcome the confines found in (Structural Conduct Performance) SCP. Performance (SCP). These measures include the Panzer Rosse (1987); Lerner Index (1984); Bresnahan Lau (1982). x (1984); Bresnahan Lau (1982).

3.3. The efficiency hypothesis theory

Contrary to the SCP, the efficiency theory states that bank sector competition improves greatly the performance of efficiency companies and weakens the inefficient company performances. This theory states tht the relationship between the performance and structure of the company is basically determined by the company's efficiency. Therefore, the hypothesis of efficiency states that only efficiency can

determine or explain the positive outcome between profits and market share (Bello and Isola, 2014). This theory however is criticized by Berger and Hannan (1997) and Berger (1995) who stated that the market share can not entirely be explained by efficiency. Consequently, Berger (1995) said that the two measures of efficiency can and should be used to explain efficiency in the banking industry. The two gauges are X-efficiency and Scale efficiency. The former takes place when the output produced by one bank costs less than that of the competitor. This could be a result of better and advanced technology than the competitor. As a result of these advantages, X-efficiency company will control the bigger share market (Zouari and Mensi, 2010; Garza-Garcia, 2012). Scale-Efficiency on the other hand states that efficiency originates from the belief that a bank can produce at a lower costs per unit against its competitor, consequently, gain more profits. According to Scale efficiency therefore, it is highly likely that banks may have similar management and technological expertise than have one that is more efficient than the other due to the fact that the scale of production leads to more profits and lower costs (Berger, 1995). Contrary, Seelanatha, (2010) reveals that efficiency plays a crucial role in determining the performance of bank in Sri Lanka. That performance does not depend on saturation of market or power of the market of a company or individual. Bello and Isola (2014) for Nigeria using the measure for concentration (HHI) revealed a positive relationship with the performance of the market. Whereas efficiency of bank revealed a negative relationship with the performance, thereby, disagreeing with the theory of efficiency-performance. Similarly, Maredza et al (2012) discover a positive co-relation between saturation and efficiency in the banking industry of South Africa. The conclusion is that even though the South African banking industry is massively dominated by the large four banks, this industry is highly productive.

3.4. Testing the direct measures of bank competition

3.4.1. Evidence in developed countries

Referring to the SCP model, are some research studies that engaged direct measures of competition in the bank. The developed nations De Bandt and Davis (2000) for Germany, Hondroyiannis *et al.* (1999); Coccoresse (2004), Bikker and Haff 2002 analysing 23 European countries; and Parera *et al.* (2006) all these show indication of monopolistic competition with different nations.

3.4.2. Evidence in developing and emerging countries

For 55 developing and emerging countries, Wolfe and Amidu applies Lerner index. They find out that the power of the market is higher if banks use internal sources of funding to spread into non-interest activities for generating income. To add on, the studies show that high profitability is associated with a high level of market power. These findings support SCP model. Turk-Ariss (2009) examine the level of power in the market in (Middle East and North Africa) MENA using the methods applied such as Panzer Rosse (1987) method that shows that MENA region experiences monopolistic competition despite the high concentration level. The two scholars show same results as that of Turk-Ariss (2009). Other scholars with similar findings include Simpasa (2013) For Zambia and another study by Abel and Le Roux (2016) For Zimbabwe. Likewise Abdul-Majid and Sofian (2008) examine the level of competition and structure of the market in the Islamic banking industry in Malaysia in 2001-2005. The results reveal that the banking system in Malaysia is neither competitive nor a monopoly market. This infers that the banking industry in Malaysia characterized by monopolistic system. Korsah, Nyarko and Tagoe (2001) examine the degree of competition in banking industry of Ghana after it implemented liberalization. It was found out that the competition level in Ghana's banking industry is rising because of liberalization in finance and that the banking sector is also oligopolistic in that it gives way for other banks to enjoy abnormal profits. In similar context, Bikker and Spierdijk (2009) examined the competition level in 101 nations comprising the developing and developed nations applying a Panzer Rosse (1987). It was found that the competition level differs across the countries. In another third part of the countries, the study was unable to reject either a perfect cartel nor monopolistic, whereas in another third part, the research failed to reject perfect competition. It was however found in almost the entire region was dominated by monopolistic characteristic.

Further they explain that the variance in the competition level in other countries can be explained through contestability, antitrust regulation and cross-sector. For South Africa, works of Simbanagavi *et al.*,

(2014); Mlambo and Ncube (2011); Simatele (2015) indicate monopolistic competition in the banking system of South Africa. Additionally, (Bikker and Spierdijk, 2009; Claessens and Leaven, 2005; Bikker *et al.*, 2012; Mlambo and Ncube, 2011) included in their cross-country examination South Africa, in which their results were consistent to the result of authors named above. Fosu (2013) applying H-statistics to examine the overall extent of competition of banking industry in African sub-regional market in the periods of 2002 – 2009 in which findings revealed that African banks demonstrate monopolistic competitive behavior.

4. Cases of Anti- Competitive behaviour with the South African Banking Sector

Evidence reveals that there exists competition in respective banks in many nations worldwide including South Africa. Although, the study quotes cases that are convincing of the anti-competitive behavior found in South African case and also the high concentration level in many African countries. It is however acknowledged that the literature states that concentration in this sector does not indicate lack of competition. In 2015, there existed a threat by government to take action against certain banks for charging high bank fees. It is also revealed that South Africa's bank fees are the highest compared to many other countries (Sunday Times, 2015). The high charges have inferences in financial exclusion that also seem to be a problem in developing countries. The Competition Commission of South Africa recently fined seventeen banks suspected of creating cartel. It was found out that the banks implicated used Bloomberg chartrooms to make agreements with other third parties to fix prices of rand-dollar exchange while at the same time, divide the market by allocating the customers since 2007. It also revealed that many traders recognized the Commission Complaint were aware of forex trading. With the Citibank already owning up and admitting guilt, it further confirms extent of continued greed in the banking industry. The open regard for many others and their welfare is beyond measure noting that such kind of behavior by the banking institutions had the capacity to bring down global and national financial systems. In addition, such activities have caused massive pain to ordinary people as revealed by deep depression of 2008 – 2009 that was prompted by the reckless manner in which banks conducted business (Competition Commission, 2017).

5. Effects of bank competition on access to finance services

Competition in the banking industry can be assessed through its impact on accessibility to financial services also referred to as financial inclusion, a crucial factor for this paper. One of the problems emerging in the developing economies is financial inclusion. It is referred to as the manner in which companies and household individuals are included or not denied accessibility to fundamental financial services (Gopalan and Rajan, 2015). Connection exists between competition in the banking industry and financial inclusion through the financial intermediation role that commercial banks play in the economy. However, literature has not found the relationship agreeable.

The general perception that competition in the banking industry or any other industry is positive has been challenged. According to an article *information hypothesis*, grand bank competition fortifies financial hurdles and makes loan rates higher. This hypothesis is founded on the idea that lower completion makes it easier for banks to give incentives to invest in soft information, consequently, high competition levels lower monies in banking relationships leading to weaker access to credit. Therefore, unanimity on whether competition results to greater accessibility to financial services or whether it is detrimental for financial services has not been determined. Most of the research studies on the connection between accessibility to finance and completion in the banking sector use concentration ways to measure as representations for competition which yield mixed results. From US information, Petersen and Rajan (1994, 1995) find the small and medium enterprises more probable to get financing when the markets in credit are saturated. Likewise, using a German dataset survey, of production companies, Fischer (2000) establishes that more saturation leads to acquisition of more information and more credit availability. Conversely, Beck, Demirguc-Kunt, and Maksimovic (2004) using business survey data for seventy four countries established that more saturated banking industrial companies of all sizes face bigger financing hurdles and the effect of saturation decreases with the company size. Chong, Lu, and Ongena (2012) also established a positive correlation between saturation and constraints of credit, using a study survey on the financing of (Small and Medium Enterprises) joined with detailed information of the bank branch. Contrary to previous research studies that compare high saturation with lack of competition, many papers that apply direct bank

measures pricing behavior give clearer findings on the connection between competition and accessibility to finance. Using Panzar and Rosse H-statistic (1982, 1987), that catches the pliability of bank proceeds to input prices, Claessens and Laeven (2005) found out that competition is positively linked to the nation's industrial growth carried out in a sample of sixteen countries in a period from 1980-1990. The authors of these studies state that many of the competitive banking sectors find it easier to provide banking services to the more dependent companies. Making use of a very detailed database on (Small and Medium Enterprises) in Spain and using the Lerner (1934) index – the variance in the bank prices and minimal costs relative to the prices – as a competition measure, Carbo-Valverde, Rodriguez Fernandez, and Udell (2009) also find indication that competition improves accessibility to finance. Similarly, the scholars establish that the results for Lerner index are inconsistent with results of concentration measures as representatives for competition. They come to a conclusion that saturation of banks is not an appropriate measure of competition. Rajan (1995) established that more competition was likely to channel reduced finances to companies because they have less incentive to capitalize in investments in close relationships with companies. His findings support the hypothesis on information. They argue that banks face high risk borrowers; particularly smaller companies face risk because they have small credit history. In a market with high competition, the banks are likely to charge higher prices in order to adjust because of the risk they face with the smaller companies, although this would enable many applicants to apply prompting the borrowers to have incentives to undertake riskier projects. If a bank has power of the market, the high risk can be recompensed by sharing the company's future profit streams instead of increasing the rates. This is because a successful company will not be "decoyed away" by a competitor, thus the bank will gain by lending to the company in future. Thus, the bank will be more willing to offer subsidized credit to create the lending relationship.

The availability of credit and the growth can thereafter improve in the markets that show market power. Beck, Demircuc-Kunt and Maksimovic (2003) established that low competition makes it more difficult to attain finance. The World Bank (2012) also argued that in South Africa's banking industry, lack of competition hampers accessibility to financial services. Again as Hannan (1991) argued and Corvoisier and Gropp (2002) people who borrow in markets with lower competition experience higher loan costs. The higher borrowing costs portray negatively on smaller businesses which still need to develop and which goes a mile to effect economic growth and employment. The costs incurred in retail banking services are perceived as an impediment to overcoming the financial exclusion challenge in South Africa (OECD, 2010). Fangacova *et al.* (2015) uses HHI, CR5 and Lerner and H-stats in twenty European countries that were chosen, they established that competition in the banks increase the credit costs. These findings coincide with information hypothesis that says that with more competition banking institutions will have little incentive to capitalize in building of relationship (Rajan and Peterson, 1995). Ryan, O'Toole and McCann, 2014 carried out studies in twenty European countries using Lerner index. In their study, they found out that with more power in the market, more hurdles for (SMEs) take place.

This study agrees with the hypothesis of market power. Beck *et al.* (2004) studied seventy four countries using study surveys he established that low competition deters access to financing in nations with lower degree of institutional and economic development. The negative effect of low competition is higher in smaller and medium companies. For China, Chong *et al.* (2013) using concentration ratio and Herfindahl-Hirschman index established that a banking competition is co-related to lower chances of small and medium enterprises facing constraints of credit. Beck *et al.* (2008) took a sample of sixty two countries Eastern Europe and Central Asia (15); Sub-Saharan Africa (14), Western Europe (9), Caribbean and Latin America (9); Northern Africa and Middle East (5); South Asia (5); East Asia (4); non-European developed country (1) Australia; by use of surveys the researchers established that high levels of banking barriers for example minimum balances of accounts, documentation requirements and fees are all linked to lower banking outreach levels. Further, they establish that these impediments are high in saturated banking industry, thereby providing evidence to the presumption that concentration can cause lower penetration. In Mexico, Marin and Schwabe (2013) employed HHI measure for concentration and OLS and established that in high saturated markets, people are less probable to adopt the use of basic financial services. The scholars said that the policy on competition should be regarded as a vital instrument in the financial inclusion and development mission. Beck *et al.* (2007) stated that the constraints related with credit that arise make it hard for poor families or small businesses to invest in high-return businesses, reducing the

resource allocation efficiency within the economy and subsequently, impact negatively on economic growth and alleviate poverty. Clarke *et al.* (2006) in thirty five chosen nations in the developing economies, uses studies to evaluate competition and its financial constraints. They established that all companies including SMEs report experiencing lower financial hurdles in nations that have higher levels of presence of foreign bank. Carbo *et al.* (2009) in a study of fourteen European countries applies Panzer Rosse and Lerner index to examine the connection between financial hurdles and competition. In this study, they established that assessment of bank competition will differ depending on the competition measure applied in assessing bank competition. Therefore, it may bring better results if they use more than one measure in the bank competition.

Zarutskie (2006) using United States data establishes that saturation in the banking sector does improve accessibility to credit while, Chong Lu and Ongena (2012) established during studies taken on seventy four countries established that saturation is not good for accessibility to financial services for the SMEs in China. Likewise, Claessens and Laeven (2005) apply the Panzer Rosse competition measure for sixteen nations over a period between 1980–1990. They established that competition improves accessibility to financial services for the dependant companies and assist industries to grow faster. In addition, Demirguc-Kunt and Martinez Peria (1998) applying data for two hundred and nine banks in sixty two nations revealed that impediments such as loan balances, minimum account balances and documentation and account fees required for financial accessibility are much higher than countries in which there were more limitations on the banking activities and entry, media freedom and less disclosure. They also established that for the customers, limitations were higher where the state owns the banking system and lower in banks that allowed more foreign participation. Although Gopalan and Rajan (2015) established that competition is ideal for financial inclusivity. However the effect changes in high saturated places. This argument stirs the argument on the competition measurement, whereas in many systems, saturation is presumed to be enough representation for competition.

6. Conclusions

This paper analyzes literature on the competition in banking and its effect on accessibility to financial services. The study of financial intermediation states that the banking industry plays a significant role in passing funds from excess to deficit units that should then promote economic development through financial inclusivity and through job creation. The empirical literature on competition in banking sector has continued to evolve with time. Changing from usage of traditional measures of competition in banking, to the new measures that are presumed to explain direct competition, however, there seem to be similarity in results (monopolistic competition) in almost all the nations. These results resulted in queries whether the measures and sufficient to get the level of competition in the different countries banking sectors. The foundation of this question arises from the fact that similar evidence show that there is collusion in South Africa and across the globe in the banking sector. Recently, the South African Competition Commission was successful in indicting cartels in the banking industry. Most of the empirical literature on the co-relation between competition in banks and accessibility to financial services applies saturation representation to measure competition whose findings bring forth mixed results. The aspect of measuring financial inclusivity have not been streamlined in literature (Pande, 2005; Brune *et al.*, 2011; Allen *et al.* (2013) and Amidzic, Massara and Mialou, 2014). Due to changes in the financial area over a period of time, particularly with regard to financial innovation, Sarma (2008; 2010; 2012) and Chakravarty and Pal (2010) state that financial inclusivity should be examined in a way that will include variables for different banking sectors to reveal the level of availability, accessibility and usage.

References

1. Abel, S., and Le Roux, P. (2016). An evaluation of the nexus between banking competition and efficiency in Zimbabwe. *Studies in Economics and Econometrics*, 40(3), 1-19.
2. Abdul Majid, M. Z. and Sufian, F. (2008), *Market Structure and Competition in Emerging Market: Evidence from Malaysian Islamic Banking Industry* », MPRA Paper No. 12126.

3. Alley, W. A. (1993). Collusion versus efficiency in the Japanese regional banking industry. *The Economic Studies Quarterly*, 44(3), 206-215. Bain, J. (1951). Relation of Profit Rate to Industry Concentration. *Quarterly Journal of Economics*, No. 65, 293-324. Bain, J. (1956). *Barriers to New Competition*. Mass: Harvard University Press. Bank.
4. Abel, S., and Le Roux, P. (2016). An evaluation of the nexus between banking competition and efficiency in Zimbabwe. *Studies in Economics and Econometrics*, 40(3), 1-19.
5. Al-Qaisi, K. (2012). BANKING COMPETITION AND EFFICIENCY IN JORDAN: A NOTE. *The International Journal of Banking and Finance*, Volume 9 (Number 2) 2012: pages 77-88.
6. Baumol, W. (1982). Contestable Markets: An Uprising in the Theory of Industry Structure. *American Economic Review*, Vol. 72, 1-15.
7. Beck, T, Demirgüç-Kunt, A and Maksimovic, V.(2004). Bank Competition, Financing Constraints and Access to Credit. *Journal of Money Credit and Banking*, No. 363, No. 2, pp. 627-48. Bello, M., and Isola, W. A. (2014). Empirical analysis of structure-conduct-performance paradigm on Nigerian banking industry. *The Empirical Econometrics and Quantitative Economics Letters*, 3(3), 24-34.
8. Berger, A.N. and Humphrey, D.B., (1997). Efficiency of Financial Institutions: International survey and directions for future research. *European Journal of operational research*. Berger, A.N. (1995). The Profit-Structure Relationship in Banking - Tests of Market Power and Efficient-Structure Hypothesis. *Journal of Money, Credit, and Banking* 27, 404-431.
9. Berger, A. N., and Hannan, T. H. (1989). The price-concentration relationship in banking. *The Review of Economics and Statistics*, 291-299. Bikker, J., and Haaf, K. (2002). Competition, Concentration and their Relationship: An Empirical Analysis of the Banking Industry. *Journal of Banking and Finance*, Elsevier, Vol. 26(11) , 2191-2214.
10. Bikker, J.A and Spierdijk, L. (2009). Measuring and explaining competition in the financial sector. Tjalling C. Koopmans Research Institute, Discussion Paper Series nr: 09-01, Utrecht School of Economics.
11. Bikker, J.A., Shafer, S., and Spierdijk, L., (2012). Assessing Competition with the PanzarRosse Model: The Role of Scale, Costs, and Equilibrium. Forthcoming, *Review of Economics and Statistics*.
12. Bollard, A, Hunt, C and Hodgetts, B. (2011). The role of banks in the economy - improving the performance of the New Zealand banking system after the global financial crisis. A speech delivered to New Zealand Shareholders Association Annual Meeting in Tauranga.
13. Bowdery, R. (2015). Demand Estimation and Competition in the South African Banking Industry.
14. Boyd, J. and De Nicolo, G. (2005). The theory of bank risk taking and competition revisited. *Journal of Finance*, vol. 60, No. 3 pp.1329-1343.
15. Boyd, J.H., De Nicoló, G. and Al Jalal, A. (2006). Bank Risk Taking and Competition Revisited: New Theory and New Evidence', Working Paper, Carson School of Management, University of Minnesota.
16. Bresnahan, T. (1982). The Oligopoly Solution Concept is identified. *Economics Letters* 10, 87-92. Burns, R (2000). *Introduction to Research Methods*, London, Sage Chirwa, E. W. (2003). Determinants of commercial banks' profitability in Malawi: a cointegration approach. *Applied Financial Economics*, 13(8), 565-571. Church, J., and Ware, R. (2000). *Industrial Organisation: A Strategic Approach*. New York: Irwin Mcgraw-Hill.
17. Claessens, S. (2009). Competition in the Financial Sector: Overview of Competition of Competition policies. IMF, working paper.
18. Claessens, S., and Laeven, L. (2004). What Drives Bank Competition? Some International Evidence. *Journal of Money, Credit and Banking*, Vol. 36, No. 3, pp. 563-583.
19. Coccorese, P. (2004). Banking competition and macroeconomic conditions: a disaggregate analysis. *Journal of International Financial Markets, Institutions and Money*, 14(3), 203-219. Competition Commission (2017). Competition Commission prosecutes banks (currency traders) for collusion, Media statement<Available Online> <http://www.compcom.co.za/wpcontent/uploads/2017/01/Competition-Commission-prosecutes-banks-currency-traders-for-collusion-15-Feb-2016.pdf>.
20. Corvoisier, S., and Gropp, R. (2002). Bank concentration and retail interest rates. *Journal of Banking and Finance*, 26(11), 2155-2189.
21. Demirgüç-Kunt, A., and Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: some international evidence. *The World Bank Economic Review*, 13(2), 379-408.

22. De Bandt, O., and Davis, E. P. (2000). Competition, contestability and market structure in European banking sectors on the eve of EMU. *Journal of Banking and Finance*, 24(6), 1045-1066.
- Demsetz, H. (1973). Industry Structure, Market Rivalry and Public Policy. *Journal of Law and Economics*, No. 3.
- Falkena, H. et al. (2004). Competition in South African Banking. Task Group Report - The National Treasury and the South African Reserve, April.
- Flamini, V., Schumacher, M. L., and McDonald, M. C. A. (2009). The determinants of commercial bank profitability in Sub-Saharan Africa (No. 9-15).
23. International Monetary Fund. Fosu, S. (2013). Capital structure, product market competition and firm performance: Evidence from South Africa. *The quarterly review of economics and finance*, 53(2), 140-151.
24. Gilibert, P.L. and Steinherr, A. (1989). The Impact of Financial Market Integration on the European Banking Industry.
25. EIB Papers no. 8, European Investment Bank. Greenberg, J.B. and W. Simbanegavi, (2009). Testing for Competition in the South African Banking Sector, Faculty of Commerce University of Cape Town. 4 November.
26. Grigorian, D.A. and Manole, V. (2002). Determinants of Commercial Bank Performance in Transition: An Application of Data Envelopment Analysis, World Bank Policy Research Working Paper 2850, June 2002
- Gopalan, S., and Rajan, R. S. (2015). How Does Foreign Bank Entry Affect Financial Inclusion in Emerging and Developing Economies? (No. 2015-04). HKUST Institute for Emerging Market Studies.
27. Hannan, T. H. (1991) Foundations of the Structure-Conduct-Performance Paradigm in Banking. *Journal of Money, Credit and Banking*, 23(1).
28. Hondroyannis, G., Lolos, S., and Papapetrou, E. (1999). Assessing competitive conditions in the Greek banking system. *Journal of International Financial Markets, Institutions and Money*, 9(4), 377-391.
29. Iwata, G. (1974). Measurement of Conjunctural Variations in Oligopoly *Econometrica*, No. 42.
- Jimenez, G., Lopez, J.A., and Saurina, J. (2013). How does competition affect bank risktaking? *Journal of Financial Stability*, vol. 9, pp.185-195.
30. Keeley, M.C. (1990). Deposit insurance, risk and market power in banking. *American Economic Review*, vol. 80, No. 5 pp. 1183–1200.
31. Korsah, K. B., Nyarko, E. K., and Tagoe, N. A. (2001). Impact of financial sector liberalisation on competition and efficiency in the Ghanaian banking industry. In IFLIP Research Paper 012. International Labour Organisation (ILO).
- Kouki, I., and Al-Nasser, A. (2014). The implication of banking competition: evidence from African countries. *Research in International Business and Finance*.
- Lau, L. (1982). On Identifying the Degree of Competitiveness from Industry Prices and Output Data. *Economics Letters* Vol. 10(1).
- Leon, F. (2014). Measuring competition in banking: A critical review of methods. *Series Etudes et documents du CERDI*.
32. Leriba consulting (2013). The risk of unsecured lending in South Africa. Occasional research report.
33. Leuvensteijn, M., Bikker, J.A. Rixtel, V and Sorensen, K.C (2007). A New Approach to Measuring Competition in the Loan Markets of the Euro Area. European centralbank. Working paper series, No 768, June.
34. Love, I., and Martínez Pería, M. S. (2014). How bank competition affects firms' access to finance. *The World Bank Economic Review*, 29(3), 413-448.
35. Maredza, A, Kapingura, F. and Mishi, S. (2012). Exploring the nexus between Bank Competition and Productivity in the South African Banking Sector.
36. Maredza, A. and Ikhide, S. (2013). The Impact of the Global Financial Crisis on Efficiency and Productivity of the Banking System in South Africa. Working paper.
- Mason, E. S. (1939). Price and production policies of large-scale enterprise. *The American Economic Review*, 29(1), 61-74.
- Mathisen, M. J., and Buchs, T. D. (2005). Competition and efficiency in banking: Behavioral evidence from Ghana (No. 5-17). International Monetary Fund.
37. Mboweni, T.T. (2004). The South African Banking Sector-An overview of the past 10 years. Address by Governor of the South Africa Reserve Bank, at the Year-end media cocktail function, Johannesburg, 14 December.
38. Mensi, S., and Zouari, A. (2010). Efficient Structure versus Market Power: Theories and empirical evidence.

39. Mlambo, K., and Ncube, M., (2011). Competition and Efficiency in the Banking Sector in South Africa. *African Development Review*, 23, pp. 4 – 15.
- Mullineux, A., and Sinclair, P. (2000). *Oligopolistic Banks: Theory and Policy Implications*.
40. National treasury (2011). *A safer financial sector to serve South Africa better* OECD (2010). *Competition, Concentration and Stability in the Banking Sector*. daf/comp(2010)9 Unclassified. Competition law and policy.
41. Okeahalam, C. (2001). *Structure and Conduct in the Commercial Banking Sector of South Africa*. Presented at TIPS 2001 Annual Forum.
42. Panzar, J.C., and Rosse, J.N., (1987). Testing for Monopoly. *Equilibrium. The Journal of Industrial Economics*. Vol. 35, No. 4, 443-456.
43. Perera, S., Skully, M., and Wickramanayake, J. (2006). Competition and structure of South Asian banking: a revenue behaviour approach. *Applied Financial Economics*, 16(11), 789801.
44. Reid, G. (1987) *Theories of Industrial Organization*. Basil Blackwell: Oxford.
- Rosse, J.N., and Panzar, J.C., (1977). Chamberlin vs Robinson: An empirical study for monopoly rents. *Bell Laboratories Economic Discussion Paper*, No. 90.
45. Sahut, J. M., Mili, M., Krir, M. B., and Teulon, F. (2011). Factors of competitiveness of Islamic banks in the new financial order. In 8th International Conference on Islamic Economics and Finance, Doha, Qatar. Retrieved from <http://conference.qfis.edu.qa/app/media/261>.
46. SARB (2011). *Banking Sector Overview*. Bank Supervision Department Annual Report.
47. Sarma, M., and Pais, J. (2008). *Financial inclusion and development: A cross country analysis*. Indian Council for Research on International Economic Relations, 1-28.
48. Schaeck, K., and Čihák, M. (2010). *Competition, efficiency, and soundness in banking: An industrial organization perspective*.
49. Seelanatha, L. (2010). Market structure, efficiency and performance of banking industry in Sri Lanka. *Banks and Bank Systems*, 5(1), 20-31.
- Shepherd, W.G. (1972). *The Elements of Market Structure*. *Review of Economics and Statistics*, 54(1), pp. 25-37.
50. Simpasa, A.M. (2010). *Performance of Zambian Commercial Banks in the Post Liberalisation Period: Evidence on Cost Efficiency, Competition and Market Power*. University of Cape Town, South Africa.
51. Simpasa, A.M. (2010). *Competition and market structure in the Zambian Banking Sector*. African development group. Working paper 168.
52. Turk-Ariss, R. (2009). Competitive behavior in Middle East and North Africa banking systems. *The quarterly review of economics and finance*, 49(2), 693-710.
53. Uchimura-Shiroishi, H., and Wu, H. (2013). *Raising Awareness of Anticompetitive Behavior in the Financial Sector of the People's Republic of China*. Asian Development Bank.