DIJEFA
DINASTI INTERNATIONAL JOURNAL OF ECONOMICS, FINANCE & ACCOUNTING
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COMPETITION CONTRIBUTES TO PERFORMANCE IN THE BANKING INDUSTRY LITERATURE STUDY

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ARTICLE INFORMATION
Received: 20 December 2020
Revised: 10 January 2021
Issued: 21 January 2021

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DOI: 10.38035/DIJEFA

Abstract: The purpose of this research is to find out the trend of research in the field of competition in the banking industry, the synthesis of competition theory and stability theory. The study used bibliometric analysis and used Publish or Perish software with Google Scholar as a database. This study used systematic data to reveal competition contributes to banking performance measured by the size of the company's market forces can be measured using the Lerner Index, Herfindahl-Hirschman Index, or through structural behavioral performance hypotheses (SCP). Researchers typically use concentration ratio, market share or Herfindahl - Hirschman Index (HHI). Using the concentration of bank deposits as a measure of traditional competition. More specifically, total bank deposits by the three largest banks in a country are divided by the total deposits in the country. As. HHI is the sum of the square market share of each bank in a country.

Keywords: Competition, Banking, Herfindahl-Hirschman Index (HHI), *Panzar-Rosse* H statis

INTRODUCTION

Competition in the banking world plays an important role in its function because financial markets are efficient and its regulation has become one of the main objectives of financial policy (Wallace & Benbow, 2018). Trade-offs between rival banks and financial stability have always been controversial issues, both among policymakers and academics (Berger et al., 2009). These problems are very important for stability, access to finance, and economic growth (Beck et al., 2006). For academics, regulators, and policy makers, it is important to measure competition in the financial sector with reliable methods and well-established. Politicians, policy makers and regulators will also benefit from a thorough explanation about the need for anti-trust regulation and identification of measures of competition are the most reliable (Sengupta, 2007). In countries such as Mexico (Beck et al., 2006), the level of competition in banking is a question crucial for academics, policy makers, and the wider community, because it not only affects the level of interest rates paid

by non - financial companies and consumers, but also affect the availability of credit for employers. and new entrants in the market. Many strong claims have been made about the relationship of structure-ownership - efficiency-the price of credit and availability in Mexico, but there are few studies that use the methods of the border to assess the claim.

(Jiang et al., 2016) investigate the impact of competition of banks and the impact of the concentration of the bank towards stability, as well as the risk of the loan portfolio. And find proof of the relationship is non-linear between the stability index and the competition. It can be shown that in the case of bank of India, concentration and competition work simultaneously to support the view of the fragility of the competition. Increased concentration and decreased competition can lead to greater risk with greater instability. These studies show that it is important to understand the trade off between competition and concentration, and its impact on the risk of the loan portfolio and the stability of the bank to formulate measures to encourage competition in the industry.

Several rounds of banking reform in China aims to improve the conditions of the competition and further improve the stability of the banking sector in China, while the competition and the behavior of taking risk to increase profits in the banking sector so far has not been well studied. in the literature. This research contributes to the empirical literature by testing the impact of risk and competition on skills in the banking industry in China (State Banks, stock-stock-stock-stock, and city commercial) during the period 2003-20 at the bottom of the Public methods one-step estimation (GMATOR). These results do not show strong invention related to the impact of competition and risk on bank profits, while it was found that the greatness of the Chinese banks affected by the tax, the cost of productivity and inflation. This study provides policy implications on the banking industry in China and various types of ownership of commercial banks in China (Kroshus et al., 2017).

Consider the importance of competition and concentration in the determination of prices, efficiency, productivity and stability of the banking sector (Wallace & Benbow, 2018).

The purpose of this study is to explore the literature review of some of the journal about the competition in the banking industry that contribute to the performance. Then the research objectives are as follows:

RQ1: Research what has been done in the field of competition in the banking industry that include: theory, definitions, research themes, research methodology and the background?

RQ2: What is the plan of the research agenda in the future?

The paper is organized as follows the first Part describes the introduction which explains the background of the importance of this research. The second part of the study of literature about the definition, theory, systematic and literature review. The third part of the methodology used to perform the systematic review with step-by-step article search using the software Publish or Perish (PoP) and the database of Google Scholar (GS). The fourth section presents the results of the conclusion and the fifth is the cover and recommendations for research in the future.

LITERATURE RIVIEW

(Beck et al., 2013), the theory of Monopolistic competition, competition argue that in the banking industry is not perfect but Monopoly which is then coupled with collusion to set the price competition and non-price. Next (De Roode et al., 2005) theory of the effect of the transmission of competition supports the statement Chandler by stating that the bank may not be in a situation that really compete because in a situation of pure competition the new bank is threatening to go bankrupt and this will be the Macro Economy due to the collapse of a bank can be transmitted other banks (the effects of contention). (Fu et al., 2014), theory of

the stability of the competition, the competition is low generate more market power for banks, which generate the amount of interest on lending activity. This causes the borrower prefers project at risk. (Frank, 2003), the theory of competition the fragility, the study found that the deregulation of banking that occurred in the United States led to an increase in competition and financial instability because it has a negative influence on the value of the Franchise of the bank. (Hirth, 2013) with the theory of market power relative (RMP) and the size of the performance a performance that shows how great the company's ability to raise prices above marginal cost. (Jiang et al., 2016), the theory of competition this generates a moral hazard, in show competition to compete for deposits will advertise profitability of the banking sector and encourage the emergence of the impetus for the interests of the great moral to take big risks in the best load given by the government.

(Demsetz et al., 2011), the Franchise value is the profit for the owners of the bank from operating activities in the future, or the present value of the expected flow of profits in the future so that it represents the oportunity cost the occurrence of bankruptcy. Next is (Nicolaisen et al., 2001) the Theory of market power as the ability of the company to affect the price of goods or services on the market. (Berger et al., 2009), with the Theory of competition and the stability of the bank to reflect credit risk, which is to Become very important to use a measure of bank risk that can accurately reflect the credit risk or the risk of the bank so that the test empirical relationships of competition and the stability of the bank can be keen to show evidence whether the one theory or the second theory is that simultaneously in accordance with the facts on the ground.

METHODOLOGY

To apply (De Bandt & Davis, 2000) H-statistics and the evaluation of the level of competition the bank with an estimate of how large changes of the input price is reflected in the income earned by the bank. Next, connect the size of the competitiveness with the structure of the battery is low (HHI and CRn) to test the structure-performance hypothesis, which assumes that the banking system can interfere in the competition. The panel regression Model is used to handle the estimation of the empirical. Findings-the findings reveal that the banking system of India operate in conditions of income and the response of the competitive reply as if under monopolistic competition. And find evidence that banks in India competitive, even under a market structure which is concentrated. This observation runs, on the contrary, with the predictions of the hypothesis of the structure conduct performance. The findings also show differences in the status of the approximate value of H after considering the specification error of the model P-R.(Olivero et al., 2011), (Al-Muharrami et al., 2006) Discuss limits to competition in the banking market in sub-Africa. A dynamic version of the model Panzar-Rosse adopted in addition to the static model, to assess the level of competition overall bank in branch banking market during the period 2002 to 2009. Consistent with other developing countries, the Results show that bank-bank of Africa in general shows the behavior of the monopolies competitive. Although the evidence shows the statistics of Panzar-Rosse H static bias to the bottom compared with the power of dynamic, competitive nature identified remains robust to the estimation alternatives.

(Fosu, 2013) this Paper investigates the competitive aspect of the banking operations of multi-product. Expand the model of (Shaffer & Spierdijk, 2015) for the case of a banking company's multi-product, we show that the scope of the high economic in the banking multi-products associated with the size of the competition, the Panzar-Rosse low in the banking sector. To test the implications of this empirical and determine the impact of multi-production in the electricity market, we use a new data set in the banking industry of Brazil.

Consistent with theoretical predictions, and find a bank, offering products of classic banking (e.g., credit card and credit card) and banking products other (i.e., the service of the capitalist, insurance and capitalization companies) have a market power that is much higher than the classic products. These results indicate a positive bias in the traditional estimates of competition in which the actions of the multi-output is not considered.

In order to identify the level of competition and banking efficiency, as well as the relationship between the two, performed quantitative analysis using several methods as shown in Chart 1 below.

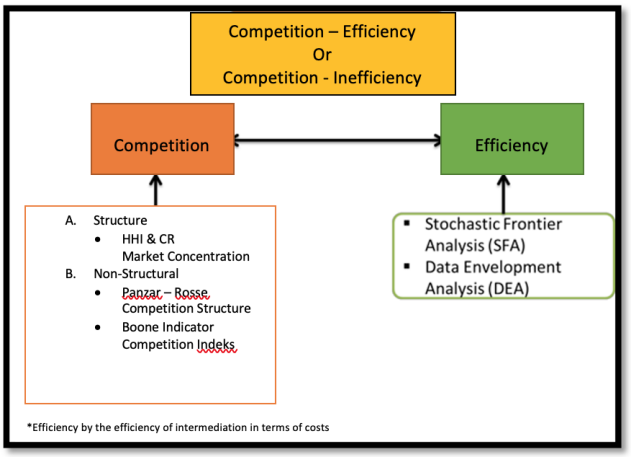

Figure 1. The Method Of Identification
The level of Competition and Banking Efficiency

There are two approaches used for the analysis of the level of competition, which is the structural approach and nonstructur. In the structural approach will be used in the method of Herfindahl-Hirschman index (HHI) to analyze the level of concentration of the bank's business by using the respective section of the bank. The level of HHI indicates low competition. On the approach nonstruktrural will be used two methods, namely the Panzar – Rosse and indicators of Boone. Panzar-Rosse used to analyze the structure of competition on the approach to banking use intermediaries. In this case the change in the input price from the bank (labor, physical capital, and interest costs) will affect the income of the bank. The market is a monopoly(no competition low), while the Panzar-Rosse worth 0 (zero). Indicators Boone used to calculate the index of competition is the result of the relationship between the stock market relative (MS) and the value of the marginal (MC). The stock market shows the competition and the marginal cost is a proxy for efficiency.

This indicator shows that the high marginal cost leads to increased competition. In order to analyze the efficiency will be used two methods, namely Stochastic Frontier Analysis and Data Envelopment Analysis. Stochastic Frontier Analysis (SFA) is used to analyze the level of efficiency of the bank obtained through the intercept of the equation of the relationship between the factors of cost, profit or production of the inputs, outputs, and environmental factors. The high intercept indicates the condition that no more efficient if compared with the intercept lower. Data Envelopment Analysis (DEA) approach is non-parametric to search for frontier efficiency based on a combination of input-output of which is optimum.

DISCUSSION

This study involves data of all banks in Indonesia from 2015 to 2020. Analysis of the Level of Competition Herfindah – Hirschman Index (HHI) and Concentration Ratio (CR). The HHI and CR is the structural approach used for the analysis of the level of concentration. The ability of the ratio of the concentration in the reflect the structural condition of the market make the ratio of the concentration as a statistical tool often used in the structural model to explain the competition of banks (Bikker and Haaf, 2000). As for the formula used to calculate the HHI is as follows:

$$HHI = \sum_{i=1}^{n} si2$$

Description:

s = the share of the individual bank

n = number of banks

The HHI increases indicate the level of concentration of banking increased. The tendency of increase of level of concentration of banking showing of market power increased. As a result, the bank can be a monopoly, which in theory indicated by the bank's ability to set prices higher than marginal cost. When there is one or some banks are doing monopolistic practices, as a result of the competition be decreased.

The market is dominated by banks that have market power high.

$$\text{HHI} \uparrow \rightarrow \text{the level of concentration} \uparrow \rightarrow market\ power \uparrow \rightarrow (p > mc) \rightarrow \text{competition} \downarrow$$

Based on the threshold of the HHI issued by the US Horizontal Merger Guidelines 2010, the results of the calculation of the HHI at the level of unconcentrated. In the end, the level of concentration that is decreasing indicates the level of competition interbank market increased. For more complete it can be seen in the following Table.

Table 1. Threshold HHI and Market Type

Threshold HHI berdasarkan US Horizontal Merger Guidelines 2010	
Market type	Threshold HHI
Unconcentrated	< 1500
Moderately concentrated	1500 < HHI < 2500
Highly concentrated	> 2500

In addition, the calculation of concentration ratio (concentration ratio) some of the largest banks, namely the 4 largest banks (CR – 4), 10 the largest banks (CR – 10), and the 14 largest banks (CR – 14). As for the formula of the ratio of the concentration to the k largest banks is as follows.

$$CRk = \sum_{i=1}^{K} si$$

Description:

s = the share of the individual bank

k = the number of the largest banks

This method uses non-structrural to identify the structure of the General competition Bank. With the approach to intermediation, Panzar-Rosse stated that a change in the input price from the bank (labor, physical capital, and interest) will affect the income (interest) from the bank.

In this case, the Panzar–Rosse is the sum of the coefficients of the input price.

$$Panzar\text{ - }Rosse\ Index = \sum_{i=1}^{3} \beta i$$

The table above explains that the variables used in the model, while and explained that the interpretation of the Panzar–Rosse based on the threshold of his.

Table 2. Interpretation Of The Panzar–Rosse

Threshold	The Panzar-Rosse Interpretation (H)
H ≤ 0	The balance of the monopoly: each bank operates independently and profit maximization under conditions of monopoly or cartel the perfect
0 < H < 1	The balance of competition and monopoly with the conditions of free entry (many companies compete with each having market power is not the same)
H = 1	Perfect competition. Equilibrium free entry with the utilization of the full capacity of efficient

This method is the method of approach is non-structural which generates competition in banking. Boone (2008), Schaeck and Cihak (2010), Leuvensteijin et al (2011) stated that the indication of the Boone is the result of the relationship between the relative market and the stock price (MC). MC is a proxy of the level of efficiency of the bank. To model an indicator that Boone is as follows.

$$lnMSit = \alpha t + \beta t.\ lnMCit + vt, \text{ with } \beta t = indicator\ Boone$$

The expectation value for the ßt is negative indicating that the lower the marginal cost that must be issued by a bank relative to other banks that are competitors then will be increasingly high market share of the bank. It can also be interpreted that the larger the negative value of the indicator Boone then the market is increasingly competitive. The value of the marginal cost used in the model is obtained through a translog cost function (Leuvensteijn, et al, 2007). Total Cost (TC) is a function of several variables as follows.

$$lnTCit = f(loans, securities, oth\ er\ exp.\ , personnel\ exp.\ , interest\ exp.\ , equity) + \varepsilon it$$

The Model is estimated using the method of General Method of Moments (GMM). The estimation results show the value of the indicator of Boone which tends to be increasingly negative from year to year. The negative value of the indicator Boone shows the level of competition in banking is increasing. In addition to this analysis, the correlation between the HHI and the indicators of Boone. The calculation results show high correlation between the two. This indicates that the high level of competition causes the market is increasingly concentrated.

(Al-Muharrami et al., 2006), in this case to discuss the evolution of market concentration and tests the market competition of the banking industry of Nepal to the panel is not balanced 15-25 banks for the period 2001-2009. Market concentration is measured by the ratio of the Hirschman Herfindahl and concentration, and market competition is tested with the approach of Panzar-Rosse. This is a measure of the concentration showed a tendency to decrease and the level of market concentration is low in the banking industry of Nepal during the sample period. Tests competition market market market market market using the approach of Panzar-Rosse both of them reject the hypotheses for monopoly and perfect competition that shows the behavior of a monopoly market between the Nepal Bank. In addition, the market interest based income is found more competitive than the market for income-based fee. The next result shows that the size of the effect of Banks is positive, and the capitalization of stock has a negative impact on revenue generation. The results are robust to various specifications and estimation techniques are different.

(Shaffer & Spierdijk, 2015), the Goal is to assess empirically the level of competition banking in the European Union (EU) in the three economic blocks (i.e. EU-27, EMU-17 and EU countries remaining). Furthermore, this paper assesses the impact of the ongoing nancial crisis (2008-2011) on the pattern of competition of the banking sector in the European Monetary Union (EMU) as a whole, where only little attention is given paid by the relevant literature. Analysis using the (Elinur et al., 2010) the Journal of Industrial Economics, 35, 443 and refers to a collection of panel data bank of the European Union, which covers the period 1996 to 2011. The empirical findings are robust, provide the latest evidence that supports the monopolistic pattern of competition in all the economic block of the UE is investigated. The level of competition in the EMU countries triggered by the consolidation of banks seems to have declined slightly, despite a significant decrease, after the adoption of the euro currency and the financial crisis that is underway. (Bikker & Haaf, 2002), Assessing competition in the entire banking system in emerging market economies. Analysis using the methodology of (Olivero et al., 2011), which covers the period 2000-2012. The analysis emphasizes the impact of the recent financial crisis this against the level of competition in the banking system. The empirical findings are strong and consistent with the research about earlier, provide sufficient evidence that supports the monopolistic competition in all countries investigated. The level of competition in the banking sector may experience a significant decrease after the financial crisis that occurred recently. These findings received strong support from the approach of methodological alternatives. .We use the model of (Bikker et al., 2012) and (Fosu, 2013) to test competition in the banking sector of South Africa. We find evidence that is consistent with monopolistic competition in the banking sector of South Africa.

Next is the literature that focus on indicators of "structure does not pass" as the statistics of Panzar-Rosse H, indekkner, and indicators of Boone. For example, if it is a project management tool, You can access your company information. For example, if it is a tool of information management, the use of the information on the Information Management and information management in the field of Information Management (Detlor, 2010).

The analysis of the evolution of competition and efficiency of the banking sector in South Africa.using the data on enterprise level for the period 1999-2008. With the approach of the adoption of the estimate in three steps. First, we measure efficiency using the methodology of the analysis of the data envelope. Second, we use the approach of Panzar-Rosse to get the statistics of H to the conditions of competition in banking. In the third stage, We take into account the role of managerial ability in competition by estimating the model of Panzar-Rosse, with the efficiency score from DEA as a variable that is absolute.

(Olivero et al., 2011), Analysis of the level of competition in the banking industry of Angola using the model of Panzar-Rosse from 2005 to 2014. The competition is an important aspect of the banking market and therefore important in policy-making. The results reveal that the competition of the banking Angola monopolies and therefore competition is low found on the Bank of Angola.

(Jiang et al., 2016). By way of analyzing the impact of competition and concentration on stability of banks in the banking industry of Turkey during the period 2002-2012. Indicators Boone and Lerner formalized with the efficiency that is used as a measure for competition, whereas the ratio of loans to unmatched (NPL) and the Z-score used as a measure for the stability of the bank. The main results show that competition negatively related to the NPL ratio but positively related with Z-score. Results of the study further show that the concentration of a greater positive impact on the NPL and have a negative impact on Z-score. We also use the term square of the size of the competition to capture the possibility relation is non-linear between competition and stability. (Sengupta, 2007) this study determines the level of competition in the banking sector between 1990 and 2009 using methane Panzar and Rosse (PR). The Data for this study were obtained from the annual report and statement of accounts of fifteen commercial banks in Nigeria selected purposely for the study. Next is research that explicitly test the behavior of the market banks by using panel data a quarter of the 30 banks from 2004 to 2012 and using the approach of Panzar - Rosse, Bresneger-and Hall-RO and Boone to learn the strength of the market, (Beck et al., 2013). Next is to assess the challenges and competition system *mobile banking* in Thailand. The analysis of the competitive landscape of innovation *mobile banking* based on that manages the migration path. Empirical studies focusing on the leading banks in Thailand: Bangkok Bank, Kasikorn Bank, Siam Commercial Bank, Krung Thai Bank and Bank of Ayudhya. The study discusses about the strategy, SWOT analysis industry mobile banking in the movement towards *m-money economy* (McLeay et al., 2014).

(Berger et al., 2009), this study examined the influence of competition on the financial stability of the bank-General Bank The Association of Southeast Asian Nations (ASEAN) during the period 1990 to 2014. Panzar-Rosse H-statistic, Lerner index and Herfindind Hirschman Index (HHI) is used as a measure of competition, while the Z-score, the ratio of Non-performing loans (NPLS) and the ratio of equity used as a measure of financial stability. Estimates of the method of general moments (GM) system the two-step show competition which is measured by statistics-H positively related with the ratio of Z-score and equity, and negatively related to the ratio of bad loans. On the contrary, market power measured by Lerner negatively related with Z-score and the ratio of equity and positively related to the NPL ratio.

Among the main approaches to measuring competition, the review begins with the paradigm of structure-behavior-behavior (SCP), which has been widely used in the literature. Over time, researchers have developed a new method as a way to cope with the problems posed by the paradigm of the SCP; the new methods then known as Industrial Organization empirical new. This new method focuses on one industry, and introduce a theoretical model to analyze the behavior of the company in such a way that the power level of the market can be identified and estimated (Nicolaisen et al., 2001).

CONCLUSION

Competition contributes to the performance of banking is derived from the synthesis of the theory of competition and stability theory (stability theory). Competition among banks to win the business aims to increase sales and earn greater profits and contribute to the

performance of the banking system. Competition contributes to bank performance as measured by the magnitude of the market power of companies can be measured using the index of Lerner, Herfindahl-Hirschman index. Panzar-Rosse H-statistic, Lerner index and Herfindind Hirschman Index (HHI) is used as a measure of competition, while the Z-score, the ratio of Non-performing loans (NPLS) and the ratio of equity used as a measure of financial stability. The strength of the banking market reinforce the negative impact of regulatory capital against risk-taking of banks. The competition contributes to the performance of the banking industry, as the behavior of the companies in the industry, and performance (performance) is a measure of the efficiency of the social which is usually defined by the ratio of the power market.

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