THE MARKET CONCENTRATION AND BANKING INDUSTRY PERFORMANCE

Mohammed Salameh Anasweh*

Abstract

This study examines the structure-profit relationship in the Qatari banking industry. The study sample consists of all the local banks operating in the market (13 banks) listed in Qatar Stock Exchange (QSE) over the 2009-2014 period. The hypotheses related to the market power structure which includes the traditional Structure-Conduct-Performance Hypothesis (SCP), and the traditional Efficiency Hypothesis (EH). The empirical results generally support the (SCP) Hypothesis in Qatari banking industry. Thus, the main implication of these results for the policymakers, of Qatari banking sector, is to expand the ongoing deregulation efforts with the aim of reducing the industry concentration and enhancing the market competitiveness.

Keywords: Market Structure, Performance of Banks, Qatari Banking Industry

*College of Business Administration, Mutah University, Jordan

1 Introduction

All countries need efficient financial institutions to promote and support economic growth. Starting with King and Levine (1993), research on the link between finance and economic growth reveals that countries with "better" financial systems tend to grow faster. However, the existence of financial institutions per se is not enough; the quality and efficiency of these institutions are crucial for the transmission of funds in the economy. Financial institutions multiply and allocate society's savings, and the efficiency with which they intermediate capital has substantive repercussions on economic performance (Jayaratne and Strahan, 1996), (Demirgiic-Kunt and Maksimovic, 1998) , (Rajan and Zingales, 1998) and (Levine *et al*, 2000).

Wheelock and Wilson (1995), Studies on banking efficiency are relevant in constantly changing economies such as the Mexican case. Countries that undergo significant transformations in their financial institutions face different challenges from one year to another, and only efficient institutions will be able to face them successfully. The study of banking efficiency is important since efficiency measures are indicators of success. Banks, as any other firm, face numerous sources of competition from both other banks and other firms inside and outside their industry. An open and flexible banking environment not only provides more credit, but also better allocation of credit, leading to the funding of more positive net present value projects that contribute to economic growth (Diaz, 2011).

Financial intermediation is essential for economic development. The international banking industry has undergone substantial structural reforms over the last two decades. There have been fundamental changes in the behavior of banks with more emphasis on profitability and comprehensive asset management in recent period. It is particularly important for emerging countries to ensure that banking system is stable and efficient. Such a banking development should lead to private and infrastructural projects being financed effectively and allocated efficiently. As Albertazzi and Gambacorta (2009) argue, because of phenomena such as globalization, growing international financial markets, deregulation and advances in technology, identifying the determinants of bank performance is an important predictor of unstable economic conditions. Athanasoglou et al (2008) also point out that a profitable banking system is likely to absorb negative shocks, thus maintaining the stability of the financial system. In this respect, it is important to investigate the effectiveness of emerging banks. How banks are affected by increased competitive pressures, depends partly on how efficiently they are run. Banks can increase their profitability through either improvement of their cost efficiency or exerting their market power. The latter approach to make profit can reduce total social welfare (Mirzaei et al, 2011).

The market structure performances on the banks are rare and typically insufficiently robust as they are based on a limited number of countries only. Traditionally, market structure indicators, such as the number of banks and banking concentration, have been considered the major determinants of competition in the banking sector. This study aims to investigate the market structure-profit relationship on banks listed in (QSE). The specific objective of the

study is to analyze this relationship in terms of market share and banking concentration. Specifically the study will answer the following: Is there a statistically significant effect of the concentration or market share in the performance of banks listed in (QSE)?. Is there effect of concentration and market share in the performance?

2 Literature review and developments of hypotheses

From the theoretical point of view, the effect of banking development on the volatility of output is ambiguous. Morgan et al (2004) suggest that improved access to banking finance allows firms to smooth out their idiosyncratic shocks. However, the effect of banking development on volatility of economic growth can be affected by the stage of the development of the country (Aghion et al, 2004), the type of shocks that the economy faces, such as monetary or real shocks (Bacchetta and Caminal, 2000), or whether the economy faces credit demand versus credit supply shocks (Morgan et al, 2004), (Hoxha, 2013).

As a step toward understanding the relationship between bank market structure and economic activity, first investigate the relationship of concentration in state banking systems on the growth of manufacturing industries in the first three decades of the twentieth century. As noted earlier, previous studies have used national bank concentration ratios to investigate the effects of banking market structure on industrial growth across countries. In this research focuses on variation within a single country, the United States, which allows us to control better for differences in financial development. Studies that examine cross-country variation, such as Rajan and Zingales (1988) and Cetorelli and Gambera (2001), assume that financial development is uniform within a country and attempt to identify cross-country differences. Following another studies, assumed that the level of financial development is uniform within the United States (although some of our fixed-effects specifications allow for the possibility that financial development varied across states).

The importance of the financial intermediaries for growth has not been established until at least the last two decades. In fact, Schumpeter (1911) argued that financial intermediaries are essential for technological innovation and economic development; however, for most of the last century financial development has been observed as being correlated with economic growth. One of the first studies that established causality between financial development and growth is King and Levine (1993), which was followed by Levine and Zervos (1998) which argued that bank credit and growth are positively correlated. One view suggests that markets with concentrated and less competitive banks are not growing at their best

potential, since firms do not have access to credit, which leads to less growth, (Pagano, 1993 and Guzman, 2000). According to conventional wisdom, the increase of competition should warrant an expectation for lower prices on bank services, and greater availability of credit, which would make it affordable for the small firms to borrow and invest more. Many empirical studies support this view, finding that higher concentration and more restrictions on competition lead to less new firm creation, and less economic growth (Berger, Hasan and Klapper, 2004. Cetorelli and Strahan, 2006). Allen and Gale (2000) find that an increase in bank market power leads to higher loan rates charged to borrowers, while Claessens and Laeven (2005) using a cross-section estimation method for bank competition, find that banking competition is important for the growth of industries dependent on external finance.

The study of Hamdan et al,(2014), aimed to investigate the relationship between banking market structure and profitability of banks of Bahrain and Kuwait , the study sample included local banks in the two countries, (23) bank during the period (2005-2010). Results of the analysis in general have confirmed support to the hypothesis structure-behavior- performance hypothesis explained the relationship between market structure and profitability of Bahraini banks, while the results did not provide support for the hypothesis structure - behavior - Performance in Kuwaiti banking market, and then exclude the alliance between most banks hypothesis concentrated, and the results do not support the hypothesis of conventional efficiency in the Kuwaiti banking market.In other study to Hamdan(2014), aimed to understand the restructuring of the banking sector in the United Arab Emirates and factors are instrumental in revenues, in terms of competition and monopoly and levels of efficiency, the study sample large proportion of UAE banks (96%) , during the period (2007- 2012) .The study found experimental evidence to support absence concentration hypothesis banking in the UAE banking market. The study suggests work in conditions of full competition, and other evidence supports excellence UAE banks efficiently cost and efficiency standard profit, that explain the returns of sectors. This confirms the absence of the banking monopoly conditions in the United Arab Emirates, while the banking sector returns interpreted through the structure of efficiency and not through force market. The recommendations of this study was to prevent concentration and monopoly by encouraging access to the market to encourage competition and to support the legislation that limit the emergence of any monopolistic practices policy, and in addition to maintaining the status of the banking market balance.

While in Brazil Resende (2005), investigated that the structure–conduct–performance (SCP) relation-ships in the context of the Brazilian manufacturing

industry in 1996. For that purpose, it considered a system with four equations pertaining concentration, advertising, R&D and profitability that was estimated with simultaneous equation models. In addition to the usual explanatory variables proxying barriers to entry and demand conditions, the article considered organizational practices and incentive schemes variables. The evidence indicated an important role for variables related to barriers to entry in affecting market structure, an important and nonlinear effect of concentration on advertising, a relevant impact of firm-size on the propensity to exert R&D effort and finally a significant positive impact of concentration on profitability, and were similar to the previous evidence for developed countries. Additionally, no important roles were detected for organizational practices and incentive schemes on the SCP relationships. Lam at el, (2007) , mentioned Market concentration on the major container shipping routes has the potential to reduce contestability, impede effective competition and, as a consequence, inhibit the positive relationship between trade and economic growth. This development could also hamper the ability of economic regions to realize their respective competitive and comparative advantages. Within this context, the structure- conduct-performance (SCP) framework is used to analyze liner shipping dynamics in the transpacific, Europe–Far East and transatlantic trade routes. The analysis finds no conclusive evidence that either the increased concentration of slot capacity or the attempts by shipping lines to boost potential slot capacity (mainly through collaborative arrangements) lead to improved financial performance. To conclude that, despite high and increasing concentration among carriers on each of the trade routes analyzed, these markets remain contestable.

2.1 SCP and TE hypothesis in Qatar Market

Bain (1951), mentioned that there are many concentrated markets because of low competition for reasons of alliance-type or monopolistic led to the development of inappropriate prices for consumers (for example, in the manufacture of high interest rates banks put on loans and lower interest rates on deposits compared with other competitive environment) this contribute to achieving high profits, which is known as bank concentration. According to this hypothesis, there are few monopolistic banks leads the rest of the banks towards the development of higher prices and lower costs, and then achieve the highest profit levels at the expense of consumers (Al-Zubi, 2005).

The SCP is composed of three parts; the first part is the (structure) which refers to the banking market structure characteristics in terms of the number of banks, the concentration ratio and the size of their

contribution to the market. The second part refers to (Conduct) the behavior of banks, which depend on economic characteristics, management of bank costs, and the trade-off between risk and reward, size efficiency and efficiency of the debts and obligations. The third part refers to (Performance) the level that is affected by each of the banking market structure and efficiency of the administration; it must be compared to the costs and profits of the bank (Al-Atyat, 2015). The banks concentration and other impediments to affect competition on the performance of banks in inappropriate ways and generate social loss with poor banking services and pricing, this resulting to the practice of banks market strength arising from the increased concentration levels according SCP hypothesis (Hamdan et al, 2014). The Traditional Efficiency Hypothesis was presented by (Demsetz, 1973), which is assumed that differences in organizations and dispersion within the market result in inequality in market shares, so that higher levels of efficiency associated with the largest market shares for a limited number of banks which leads to high levels of performance and then a positive relationship between market share and profit (Hamdan et al, 2014).

This hypothesis suggests that the most efficient banks increase in size and market share and then increase their ability to achieve high profits through market share concentration in a limited number of banks (Al-Atyat and Hamdan, 2015).

Based on SCP and TE hypothesis; the main hypothesis of the study is:

"There is no statistically significant effect of the market share and concentration of market on the performance of banks listed in Qatar Stock Exchange".

3 The methodology

3.1 Study population, sample and resources of data

The study sample covered is the banks listed in QSE which are 14 banks. The data was collected from the Investors' Guide by QSE and banks annual reports based on the following conditions: 1) all data is available, and 2) The bank did not merge with another bank or have been liquidated during the current study period. As a result, the final study sample became 13 banks starting from 2009 until 2014 signify 93% of the inventive study population.

3.2 Study model

The study used the following model to examine and express about market structure and banks performance with the addition of a set of control variables, so as to adjust the relationship between independent and dependent variables.

$$\pi_{i,t} = \beta_0 + \beta_1 Conc_{i,t} + \beta_2 MS_{i,t} + \sum_{k=1}^{n} \beta_k Z_{itk} + \varepsilon_{i,t} \qquad (1)$$

Where: $\pi_{i,t}$: Performance of bank (i) in the year of (t).

β_0: Constant

$\beta_{1,2,k}$: Slope or changes of markets structure.

$MS_{i,t}$: Market shares of bank (i) in the year of (t).

$Conc_{i,t}$: Concentration of bank (i) in the year of (t).

z_{itk}: Control Variables, include: Bank Size, Bank Age, Number of Branches

$\varepsilon_{i,t}$: Random error.

3.2.1 The sub-models

The first sub-hypothesis is designed to test the relationship of market concentration of assets on performance of banks listed in QSE, according to SCP hypothesis; the following model has been put to the first hypotheses:

$$\pi_{i,t} = \beta_0 + \beta_1 Conc_{i,t} + \sum_{k=1}^{n} \beta_k Z_{itk} + \varepsilon_{i,t} \qquad (2)$$

The second sub-hypothesis is designed to test the relationship of market share of deposits in performance of banks listed in QSE, according to hypothesis of traditional efficiency; the following model has been put to the second hypotheses:

$$\pi_{i,t} = \beta_0 + + \beta_1 MS_{i,t} + \sum_{k=1}^{n} \beta_k Z_{itk} + \varepsilon_{i,t} \qquad (2)$$

3.3 Measurement of variables

The following Table 1 summarizes the measurement of the dependent, independent and control variables.

Table 1. Measurement of variables

Variables	Label	Definition and measurement
Dependent variable: Bank Performance.	π	Measured by the return on asset (ROA) and the measurement of the effectiveness of administration on using available resources and the extent of their ability to achieve return from various sources available.
Measuring Independents Variables: Market share	MS	It reflects market share of each bank deposits (Credit Facilities) and this indicator is used to measure the traditional efficiency hypothesis (Hamdan, 2014). Measured by the Credit Facilities of bank to the total Credit Facilities of banks through this equation:
Concentration	Conc	Measured by the total market share of assets of each bank, according to the following equation (Ahmadov,2012)
Measuring Control Variables: Company size	Size	Nature logarithm of total assets.
Company age	Age	Time span of the company.
Number of Branches	Branches	Measured by number of branches that the bank owned.

4 Testing of hypothesis

The current section contains three parts. The first part will hold testing the validity of data utilized in the research. While the second part will include the descriptive analysis followed by the third part which will hold the empirical analysis.

4.1 Validity of data

At the onset we have to examine validity of data for statistical analysis. For this purpose, we used normal distribution test, Multicollinearity test, Autocorrelation test, and Homoskedasticity test. Validity of the study models representing correlation between market Concentration and banking industry performance was secured. Thus, we can say that the study models in equations numbered (2 and 3) are

accurate. All variables on the right side express non-random variables excluding the last one $\varepsilon_i,2$; $\varepsilon_i,3$ which is supposed to belong to natural distribution with zero average and fixed variance is expressed in σ_2; σ_3. All these variables are independent ones. As for variable (π) they are dependent in the two models and have the same probability random error $\varepsilon_i,2$; $\varepsilon_i,3$ with a variance of σ_2; σ_3.

4.2 Descriptive statistics

Table 2 summarizes the descriptive statistics of banks performance, market share and concentration.

Table 2. Descriptive analysis

Variables	Label	Years	Minimum	Maximum	Mean	Standard deviation
Bank Performance	PER	2009	-46.556	24.240	1.300	2.091
		2010	-47.912	22.680	-4.693	2.100
		2011	-23.391	22.920	2.704	1.235
		2012	-49.155	21.480	1.716	1.906
		2013	-40.002	24.000	4.524	1.801
		2014	-44.002	26.400	4.976	1.981
Market Share	MS	2009	0.079	6.456	1.846	0.186
		2010	0.147	6.312	1.846	0.185
		2011	0.124	5.436	1.846	0.179
		2012	0.124	5.088	1.846	0.178
		2013	0.158	5.040	1.846	0.173
		2014	0.176	5.594	2.049	0.192
Concentration	Con	2009	4.644	12.216	12.116	0.206
		2010	11.470	12.180	13.195	0.000
		2011	10.769	10.692	10.413	0.021
		2012	8.916	10.692	12.883	0.037
		2013	10.961	8.040	10.556	0.031
		2014	12.430	9.117	11.971	0.035

The bank performance is measured by Return on Assets (ROA).where the maximum (ROA) was 4.98 in the year of 2014. The mean was unstable between the years and in the year 2011, so the study assumes that unstable of banks performance due to the consequences and impact of the global financial crisis. The mean of market share was stable the same in all years, which indicates that the market share of banks is difficult to move between dominant sectors and it could be a competition between the banks. The mean was increased in the second year 2010 than it started to decrease till the year 2013, This is due to that in the beginning it was concentrated in high market because the number of a few existing banks for the next year and banks was entry into the market so doing, at least the previous concentration on the banks because of the new banks enter to the market and also the stability of data from the year 2010 to 2014 this indicate that difficult to move between dominant sectors and it could be a competition between the banks.

4.3 Models testing

Based on that Pooled Regression and the results of this test can be found in table (3).

The study hypothesis may be tested as follow:

Where the first hypothesis tested the relationship of market share of deposits in the performance of banks listed in QSE. This hypothesis will test how the banks will differ if they are having high market share and if they have low market share, and if they have high or low market share how they will impacted the performance of banks listed in QSE. This hypothesis formed based on what found in previous studies about the market share of banks and their relationship in the bank's performance. In contrast, the Efficient Structure (ES) hypothesis argues that the efficient firms outperform the others and therefore gain higher market share which results in a higher concentration of the market structure. The ES hypothesis was proposed by Demsetz (1973) and developed by Brozen (1982). According to this hypothesis, the explanation of the relationship between market structure and performance of the individual firm are the firm-specific efficiencies. This efficient bank is assumed, therefore, to gain a large market share that may result in high levels of concentration, and the Bank's efficiencies will be the driving force behind the process of the market concentration.

The second hypotheses tested the relationship of market concentration of banks assets and return on assets in the performance of banks listed in QSE, according to SCP. This hypothesis measured by the market share of the assets of each bank by (HHI). This hypothesis was formed based on what was found in previous studies regarding the market concentration of

banks in the performance of banks. As many studies like Molyneux (2006) states that the most frequently used measure of market structure is concentration ratio and the second most frequently used is the Herfindahl-HirschmanIndex (HHI). He indicates that the GCC banking industries are characterized by high market concentration. Overall, the high degree of concentration in GCC banking markets suggests that the strict licensing rules and restrictions on foreign bank entry have helped create these market structures.

Table 3. Pooled regression results

Variables	Model 1	Model 1.1	Model 1.2
Independent variables:			
Constant	1.791**	3.438**	2.751**
	(0.046)	(0.018)	(0.015)
Concentration (con)	1.417		1.579
	(0.224)		(0.219)
Market share (MS)	8.173***	4.692**	
	(0.000)	(0.000)	
Control variables :			
Numberof Branches	4.180***	3.025**	2.420**
	(0.000)	(0.013)	(0.010)
Bank size	3.214**	6.171***	4.937***
	(0.021)	(0.001)	(0.001)
Bank Age	1.096	2.104	1.683
	(0.406)	(0.279)	(0.223)
R	0.321	0.297	0.192
R-squared	0.103	0.088	0.037
F-statistics	9.691***	4.521***	3.617***
p-value (F)	0.000	0.000	0.000

Note: OLS: *t*-test (top), *p*-value (bottom); significance at: *10%; ** 5% and ***1% levels.

After testing the hypothesis, the results are summarized in table (3), that t-test of Market share was positive and p-value is less than 5% , the market concentration was positive and p-value is more than 5% and by testing both market share and the market concentration found that the market share positive and p-value is less than 5% which is significant by using the three models (MS, Con ,MS &Con) in table (3). This indicates that will accept the first hypothesis because the p-value is less than the 5% which mean that is significant, while rejected the second hypothesis because the p-value is more than the 5% which means that it's not significant. By accepting the first hypotheses about market shares relationship on bank performance therefore its mean that the banks with high market share will have better performance than other banks. The rejected hypotheses is the second that is about the market concentration and its effects in the performance of banks therefore its mean that is no concentration in the market of banks listed in QSE, this is linked to the laws and regulations listed in Central Bank of Qatar that prevent monopoly in the market. As many studies like Al-Muharrami and Matthewsm, (2009), conclude that there is little evidence that banks in the more concentrated GCC markets exhibit lower technical efficiency for the period 1993 to 2002. This is in contrast to Berger and Hannan (1997, 1998), who find evidence that CR3 proxies market power and those banks with more market power are less diligent in controlling costs. The results do not support the QL hypothesis and conclude that the empirical evidence supports the basic SCP version of the market power hypothesis that associates market concentration with profit performance.

5 Discussion of conclusion and recommendations

The main objective of the study is to investigate the profit relationship of market structure on performance of the banks listed in QSE. The study also aimed to analyse this relationship in terms of market share and banking concentration. There are few studies that the relationship of market structure on bank performance in GCC, one of these study by (Hamdan *et al*, 2014) they study Market Structure - profit relationship in Bahrain and Kuwait. These studies were supported by different theories, had different sample size as well as different model. Conducting this study in Qatar aimed to benefit shareholders, investors, bankers and other stakeholders taking financial decision. Also, it is beneficial to know what really affects banks performance in this area and whether market share and market concentration really affect bank performance.

Our Study built three different regression models to study effect of market structure on bank performance. The first model used Market Share (MS) as an indicator of performance, the second model used market concentration as an indicator of performance and the third model used both market share and market concentration as an indicator of performance.

The Study notices that t-statistic of Market share (MS) was positive and p-value is less than 5%, this result due to banks with high market share will have better performance than other banks. Market concentration was positive and p-value is more than 5%, this result indicates that is no concentration in the market of banks listed in QSE, this is linked to the laws and regulations listed in Central Bank of Qatar that prevent monopoly in the market. Finally; there is statistically significant effect of market share on performance of banks listed in QSE.

Study recommends Qatar regulators and supervisors of banking sector limit the impact of market power of concentration, through putting more legislation, to regulations and constantly update to keep pace with developments in banking business, and limit concentration of banks, as this has a significant economic and social impact. Encourage banks to efficiently manage its financial resources, and to use of advanced technologies in banking business to support and enhance their ability to compete in local and global markets and improve their returns. Our Study recommends doing courses for bankers about the impact of market structure on bank performance to be ready for any changing factors that influence banks performance.

However, with a small sample size, caution must be applied, as the findings might not be generalizable. This research has thrown up many questions in need of further investigation; it is recommended that further research be undertaken in the following areas: The market structure-profit relationship in the GCC's Banking Industry.

References

1. Al-Atyat, Y., & Hamdan, A. (2015). The structure of islamic Banks Market and Its Relation to Profitability : A Comparative Study of the GCC Countries. Public Administration Journal, 55(2), 330-333.
2. Albertazzi, U. &Gambacorta, L. 2009, "Bank profitability and the business cycle",Journal of Financial Stability, vol. 5, no. 4, pp. 393-409.
3. Al-Jarrah, I. (2010a). The Market Structure-Profit Relationship in the Jordan's Banking Industry. Dirasat Journal of Administrative Sciences, 37(1), 251-261.
4. Al-Jarrah, I. (2010b). Competition in the Jordanian's Banking Sector. Dirasat Journal of Administrative Sciences, 37(2).
5. Allen, Franklin, and Douglas Gale (2000) Comparing Financial Systems, Cambridge, MA and London: MIT Press.
6. Al-Muharrami, S., & Matthews, K. (2009). Market power versus efficient-structure in Arab GCC banking. Applied Financial Economics.
7. Al-Zu'bi, K., & Balloul, M. (2005). Structure, Competitiveness and Efficiency Aspects of Jordanian Banking Industry. Dirasat, Administrative Sciences, 32(1), 230-249.
8. Ashton, J. K. (2001). A test of perfect competition in the UK retail-banking deposit market. The Service Industries Journal, 21(4), 119-132
9. Athanasoglou, P.P., Brissimis, S.N. & Delis, M.D. 2008, "Bank-specific industryspecificand macroeconomics determinants of bank profitability", Journal ofInternational Financial Markets, Institutions and Money, vol. 18, no. 2, pp. 121-136.
10. Athanasoglou, P.P., Delis, M.D. &Staikouras, C. 2006, "Determinants of BankProfitability in the South Eastern European Region", Journal of Financial DecisionMaking, vol. 2, pp. 1-17.
11. Bain, J. S. (1951) The relation of profit rate to industry concentration: American manufacturing, 1936–1940,Quarterly Journal of Economics, 65, 293–324.
12. Berger A (1995) The profit-structure relationship in banking—tests of market-power and efficientstructure hypotheses. J Money Credit Bank 27(2):404–431
13. Berger, Allen N., Iftekar Hasan, and Leora F. Klapper (2004) "Further Evidence on the Link Between Finance and Growth: An International Analysis of Community Banking and Economic Performance," Journal of Financial ServicesResearch 25, 169-202.
14. Bikker, J., Finnie, P., & Spierdijk, L. (2007). The impact of market structure, contestability and institutional environment on banking competition. DNB Working Paper.
15. Bourke, P. 1989, "Concentration and Other Determinants of Bank Profitability inEurope, North America, and Australia", Journal of Banking and Finance, vol. 13,no. 1, pp. 65-79.
16. Cetorelli, Nicola, and Philip E. Strahan (2006) "Finance as a Barrier to Entry: Bank Competition and Industry Structure in Local U.S. Markets," Journal ofFinance 61, 437-461.
17. Chowdhury, T., & Ahmed, K. (2009). Performance Evaluation of Selected Private Commercial Banks in Bangladesh. International Journal of Business and Management, 4.
18. Claessens, Stijn, and Luc Laeven(2005) "Financial Dependence, Banking Sector Competition, and Economic Growth," Journal of the European EconomicAssociation 3, 179-207.
19. Diaz Avilez, V. (2011). Evidence on banking efficiency: An analysis of financial intermediation in mexico(Order No. 3459845). Available from ProQuest Central. (875770973).
20. Hamdan, A. (2014). The impact of market power and efficiency in the UAE banking industry performance: An Empirical Study assessment of the Federal Emirates experience in the banking market regulation for the period 2007-2012. Emirates Center for Strategic Studies and Research.
21. Hamdan, A., Shaheen, A., & Anasweh, M. (2014). The Market Structure - profit relationship in Bahrain and Kuwait. The Academic Publication Council, 40(152), 344-371.
22. Ifeacho, C., &Ngalawa, H. (2014). Performance of the south african banking sector since 1994. Journal of Applied Business Research, 30(4), 1183-n/a.
23. Kammoun, N., &Ammar, A. (2012). The evolution of competition in banking in a transition economy: An empirical analysis of the tunisian banking sector. International Journal of Business and Social Science, 3(13).
24. King, Robert G., and Ross Levine (1993) "Finance and Growth: Schumpeter Might Be Right," Quarterly Journal of Economics 108, 717-738
25. Kirkwood, J., & Nahm, D. (2003). Australian banking efficiency and its relation to stock returns.

26. Kirkwood, J., &Nahm, D. (2006). Australian banking efficiency and its relation to stock returns. Economic Record, 82(258), 253-267.
27. LAM, J., YAP, W., & CULLINANE, K. (2007). Structure, conduct and performance on the major liner shipping routes. Maritime Policy & Management, 34(4), 359-359.
28. Levine, Ross (1999) "Law, Finance and Economic Growth," Journal of Financial Intermediation 8, 8-35.
29. Levine, Ross, and Sara Zervos (1998) "Stock Markets, Banks, and Economic Growth," American Economic Review 88, 537-558.
30. Mirzaei, A., Liu, G., & Moore, T. (2011). Does Market Structure Matter on Banks' Profitability and Stability? Emerging versus Advanced Economies. Economics and Finance Working Paper Series.
31. Rajan, Raghuram G. and Rodney Ramcharan, 2009. "Land and Credit: A Study of the PoliticalEconomy of

Banking in the United States in the Early 20th Century." NBER Workingpaper no. 15083
32. Raoudha, A. (2014). Market structure and bank fragility: Application to the tunisian banking system. Zagreb International Review of Economics & Business, 17(2), 1-20.
33. Resende, M. (2005). Structure, Conduct and Performance: A Simultaneous Equations Investigation for the Brazilian Manufacturing Industry. Instituto De Economia, Universidade Federal Do Rio De Janeiro.
34. Schumpeter, Joseph A. (1911) The Theory of Economic Development, Cambridge, MA: Harvard University Press.
35. Worthington, A. (1998), "The Determinants of Non-bank Financial Institution Efficiency:A Stochastic Cost Frontier Approach", Journal of Econometrics, 8, pp. 279 – 289.