

## Does competition leads to efficiency: The study of Pakistani banks

<sup>1</sup> Dr. Aijaz Ali Khoso, <sup>2</sup> Dr. Muhammad Munir Ahmedani, <sup>3</sup> Dr. Abdul Subhankazi, <sup>4</sup> Dr. Muneer Ahmed,  
<sup>5</sup> Dr. Ahmed Khan, <sup>6</sup> Faheem Ali Khokhar

<sup>1</sup> Assistant Professor, Isra University, Hyderabad, Sindh, Pakistan

<sup>2</sup> Adjunct Assistant Professor, Isra University, Hyderabad, Sindh, Pakistan

<sup>3</sup> Associate Professor, Isra University, Hyderabad, Sindh, Pakistan

<sup>4</sup> Assistant Professor, Visiting Faculty, Bahria University Islamabad Campus

<sup>5</sup> Jamia Farooqia, Shah Faisal Colony, Karachi Sindh, Pakistan

<sup>6</sup> Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Pakistan

### Abstract

The main purpose of this research study is to measure the efficiency and market competition of Pakistani commercial banks and also show the relationship between competition and efficiency of banks. This study is based on secondary data, the data were collected through the financial statements. As in the economic sector of Pakistan banks are playing leading role in the development of country because main function of bank is to accept deposit and lend money to others. The results of the present study revealed that when market is monopolistic the efficiency of banks occurring less but when monopoly increase (power reduce) the competition increase the efficiency of banks in Pakistan.

**Keywords:** STBC, Xilinx ISE, QO OSTBC, Verilog HDL

### 1. Introduction

A safe and efficient financial procedure is essential for the development and longer-run development of the economic system. Mostly Competitors positive power for the increasing the value and efficiency of industry. The earlier twenty years method deregulation and liberalization of banking sector risen the improvement system and develop economic system efficiently. The banking sector plays an major role in the economic development, and banking sector is a part of financial sector facilitates the economic activities in capacity of intermediaries between lender and debtors, That is why the researchers as well because the policy-makers have been concerned with the problem of banking sector efficiency and competition. As in different industries, competitors in the banking industry can also be wanted for effectivity and maximization of social benefit. Banks as a provider industry make a contribution to economic development by using supplying monetary means must different industries to provide goods and services. Hence competitors within the banking enterprise helps economic growth by way of promoting capital increase. Some of the important monetary dimensions for making certain the success of a company or an enterprise is the effectivity with which it makes use of its assets. As the primary order effect, competitiveness within the banking sector expects to enhance the effectivity efficiently and competitors are closely related collectively. In competitive environment banking struggle to survive in the industry so automatically increase efficiency of banks. The absence of any such competitors results into higher prices, no one present in the market so that grab all share of market and operate the industry own way competition means number of firm (banks) operate in the market free entry and exit of firm occur in the

market and doesn't control over the price. Efficiency of banks is that how much use input resource to convert in to output. Potential of banks to achieve a correct capacity (economies of scale) for serving their customer. Few number of banks in the market could motivate the monopolization and oligopoly. Sometime competition among the banks possess failure because taking high risk in the market to grab a market share that's why peril occur in the market. "Vive (2000) argue that banks possess too high deposits rate when social failure cost is high. Cordella and Yeyati (1998) find that competition in depositing fees charging motivate banks to take risky investment". It was traditional knowledge that increased competition in a firm improves the welfare of the economy for which banks weren't exceptions. For that reason, mostly we feel that banks with monopoly vigor charge bigger interest charges on businesses and contributors when supplying loans at the same time as exercising their monopoly drive to draw deposits with the help of paying get smaller interest rates. The bigger expenses on one hand rationale the banks to be a lot much less influenced to screening pleasant of lenders. However, the simpler fees of finance hold down the companies from new funding as a consequence slowing down the firms' technological innovation and productiveness development price of capital accumulation associated with higher interest costs. For that reason, whether or not the competitive forces must be controlled or not had been a debate inside the bank competitor's literature.

### 2. Research objectives

- Objectives of our research is to measure the efficiency and market competition of commercial banks of Pakistan and show the relationship between competition and

efficiency of banks.

### 3. Role of commercial banks in the economy of Pakistan

Till the end of 1980s, Pakistan's banking sector was heavily operated in different areas of activities. The activities of different banks of Pakistan totally handled by government and also developed, implement the strategy. When government operated and nationalized the different banks and made an industry of banking in the economy that time management was unaware of competition. Forced by the structural improvement plan and the desire to strengthen its financial system, Pakistan moved towards liberalization and financial sector deregulation in 1990. the government take action about increasing affectivity of banking sector in Pakistan and make few strategy to improve the financial system by increasing the assets and also increase the ratio of earning, In addition, interest fee deregulation, elimination of credit controls and further trends in capital market have also led towards an extra aggressive banking environment.

The market of bank is diverse because many banks operated in the economy government bank private and foreign also personal banks and overseas banks. In 1993, there were 33 commercial banks in Pakistan 14 being local and 19 overseas. With the aid of the top of 2001, the number of banks has elevated to 43, 24 being nearby and 19 as foreign. The regulation of banks which set by government and competitive environment task for the bank, most effective banks would survive and less efficient bank out of the market. This phenomenon of deregulation market liberalization raises the questions like: Has approach deregulation privatization and rules of bank move to the direction of efficiency. Has the response to such phenomenon been same for private views-à-is state-owned and foreign banks? The reply to these questions will also be sought by means of measuring the effectivity of banks in Pakistan.

### 4. Significance of Research

This study will clearly show and explain that is competition among the Pakistan banks that increase the performance of banks or improve the system of banks or does competition leads efficiently of banks or not. This study will obviously outline and explains that whether the competitors amongst banks is most important the banks to perform extra successfully or not. As there's no any research carried out till but regarding competitors and effectivity.

### 5. Literature Review

The theoretical literature about the relationship between competitors and efficiency and many research paper about the efficiency of banks and competition of the market. Hicks (1935) consider monopoly power as a marvelous quandary to enhance the efficiency of management. In his eyes, monopoly power easily grab share of the market without much effort and additional charges. So goes a famous sentence from Hicks: "The exceptional of all monopoly earnings is a quiet lifestyles." however, Hicks had no longer explained naturally the intent why the managers in monopolistic organization would exert less management effort than those in an aggressive competition. Then after Leibenstein (1966) and Demsetz (1973) present opposite theories to create longer the work of Hicks. Leibenstein (1966) clarifies the underlying logics between the affectivity and the level of competitors of a

manufacturer using the proposal of X-inefficiency. In his concept, the X-inefficiency is the end result of imperfection of the team of the corporation. Demsets (1973) proposes an alternative assumption, i.e. the "affectivity-structure" speculation. He sees the easily as a determinant of the extent of opponents the most effective firms more traditionally have the bottom fee and best potential in market competitors, therefore best market share. however higher market share would facilitate the company to extr Hicks (1935) consider monopoly power as a marvelous quandary to enhance the efficiency of management act the advantage of scale economic climate and extra reduce its cost, as a consequence take hold of the market share to a better extent. As for the banking industry, the story potentially somewhat bit exclusive from above, which refers to general construction markets. Almost always talking, the banking corporation has an imperfection rival's market constitution, which is derived from the understanding irregularity between the financial tuition and the borrower in credit score diversion. To improve the ethical hazard and aggressive determination challenge induced via utilizing information asymmetry, the financial institution tends to type an improved-time period fiscal tuition-borrower relationship. however, the competition in banking enterprise could cut back the time period of financial institution-borrower relationship, as a result has a bad have an effect on the effectivity of banks. So the designated qualities of the banking enterprise would theoretically hint bad relationship between the competitors and effectivity.

The usual fiscal argument for the positive affect of opponents on companies' effectivity is that the existence of monopoly rents offers managers the capabilities of taking pictures just a few of them within the form of relaxed or inefficiency (see Nickell *et al.*, 1997). Competition (or lack of it) is most regularly proxies by way of accelerated awareness, which ends up in producers' surplus and non-competitive pricing. The existence of a hyperlink between market structure and effectivity used to be as soon as quickly as first planned by means of making use of Hicks (1935) and the "quiet existence speculation". Hicks (1935) argued that monopoly energy allows for managers a quiet existence free from competition and consequently improved awareness have got to lift a number of scale back in effectivity .

Leibenstein (1966) present reasons that inefficiencies are decreased by way of accelerated opponents as by giving task. Berger and Hannan (1998) <sup>[6]</sup> tell they have an impact on of market structure on effectivity to a pair associated explanations: (1) excessive levels of market concentration would allow businesses to cost expenditures in means over aggressive phases and allow manages to talents from higher expenses not always as larger valuable houses however as "quiet lifestyles" (i.e. They don't have to work complex to keep bills beneath manage); (2) market energy would permit managers to pursue ambitions instead then enterprise optimistic aspects (3) administration would use assets to collect and maintain market vigor; and (4) the better fees charged when exploiting market vigor allow inefficient managers to persist. Berger and Hannan (1998) <sup>[6]</sup> conclude that market vigor could enable for managerial incompetence to persist and for this reason negatively influence price efficiency.

Jensen and Meckling (1976), the proprietor of a monopoly has the same motivation to realize his managers than the

proprietor of an aggressive institution and as a result concentration supposed for each does now not normally aid slack administration.

The “effective structure speculation” (Demsetz, 1974) [10] however, posits a reverse causality between rivals and affectivity. In retaining with the amazing constitution speculation, extra strong companies have scale down fees, which in turn over affect in better gains. Therefore, probably the most effective companies are ready to increase their market share, resulting in higher realization. Most effective a handful of experiences straight address the concern of the connection between the intensity of rivals and affectivity. It was frequently predicted that accelerated rivals would in flip foster efficiency via imparting incentives to managers to minimize costs with a purpose to stay profitable. Up to date learn has however indicated that the connection between competitors and banking method efficiency is extra complicated and that the view that opponents is unambiguously good is extra inexperienced in banking than in different industries (Claessen and Leaven, 2004). The empirical proof on the links between awareness and banking sector effectivity does not advocate a decidedly optimistic – or terrible – relationship (Demirgüç-Kunt and Levine, 2000) [5].

In addition, there are conflicting outcomes on the influence of expanded financial institution consciousness – via M & as – on easily, deposit charges and bank profitability (Berger and Humphrey, 1992; tablet off, 1996. They find little proof that banking method concentration negatively pertains to competitiveness nonetheless advocate that traditionally basically essentially the most mighty banking strategies are moreover the least aggressive.

In step with Classes *et al.* (2004), competition in the fiscal sector when you consider that it influences the effectivity of construction of monetary offerings, the nice of financial products and the measure of innovation within the sector. They argue that the measure of competitors within the monetary sector can have an impact on the entry of firms and households to monetary choices which in flip influences whole financial development. As a result higher competition in fiscal sector lowers cost of intermediation. Further, Besanko and Thakor (1992) additionally find that extra competitive banking process outcome in bigger progress premiums Panzar and Rosse (1987) [12], and Bresnahan (1989), test aggressive habits and the usage of market energy in inspecting banks’ aggressive behaviour in absence of structural measures.

Bresnahan (1989) makes use of the difficulty of traditional market equilibrium model the place the natural proposal is that profit-maximizing firms in equilibrium will choose fees and parts such that marginal bills equal their (perceived) marginal gains, which coincides with the demand rate underneath first-class rivals or with the enterprise’s marginal beneficial properties under satisfactory collusion. The replacement method is Panzar and Rosse (1987) [12]. This system makes use of fiscal college stage knowledge and investigates the extent to which a metamorphosis in factor enters prices is mirrored in (equilibrium) revenues earned through utilizing a potent bank. Under best competitors, an increase in enter prices raises each and every marginal charges and complete revenues via the matching broad variety as the upward push in costs. Beneath a monopoly, a broaden in enter costs will broaden marginal expenditures, scale down equilibrium output and, consequently, diminish entire revenues.

## 6. Methodology

Our research is based on secondary data, we collect the data through the financial statement of banks and also banking survey. Financial statements of these banks are prepared and registered chartered accounted firms and data is compiled by state bank of Pakistan’s Statistics. A time series analysis is made of the data for 7 years from 2008 to 2014. The data for our research was collected by state bank of Pakistan.

| Sector (Industry) | Total Companies | Sample Size | Years Observed |
|-------------------|-----------------|-------------|----------------|
| Banking Industry  | 33              | 6           | 7              |

## 7. Sample size

The Dependent Variable in our research is

**A) Efficiency:** And Independent Variable is

**B) Competition:** Descriptive statistics can be calculated for each and every banks to be able to know percentage of Market Share Capital, Deposits, Advances & Loans & Portfolio investments an enterprise have. Competitors is calculated via Herfindahl-Hirschman Index we select year of calculation 2008 to 2014 reason for selection of the year is because mostly bank operated and boom position of banks occurs. we calculated competition of banks through the formula of Herfindahl-Hirschman Index square of market share of each bank and get result.

Correlation coefficient is being analyzed to be able to realize the force of correlation between the stylish and impartial variable.

For trying out the assumption, the relationship between competitors & effectivity will likely be examined making use of linear regression analysis. Graphical illustration will also be used to show the relationship between unbiased and well-dressed variables.

## 8. Measurement of competition among banks

A most perfect and well known method is Herfindahl-Hirschman Index formula, which give the result is accurate other than method and measure the market competition of banks. It’s calculated through the squaring of market share of firm and add these answer. The answer occur in range between 0 to 10000, so according to result we know about the market competition occur just like if result get 10000 (100<sup>2</sup>) means monopoly market (only one firm holds total market share 100%) and if result get zero 100 perfect completion occur in the market, answer between in the 0 and 10000 the oligopoly are monopolistic competition occur in the market. The formula of this method given below.

$$HHI = s_1^2 + s_2^2 + s_3^2 + \dots + s_n^2 \text{ (where } s_n \text{ is the market share of the } i\text{th firm).}$$

## 9. Measurement of efficiency among banks

This study makes use of the intermediation procedure when you consider that it allows monetary university like financial institution to be perceived as a producing unit, converting inputs into output. Example Deposits into loans and investments. Inputs used within the gain knowledge of are deposits (D) and capital (k) while the outputs signify portfolio funding (I) and loans and advances (L). Deposits are the overall assets to be had to banks for carrying on their pursuits like lending and funding and are one of the vital valuable

predominant inputs. Capital is an essential element of creation for a financial institution because with help of capital every firm do anything in either unfavorable condition. The outputs chosen for the study signify probably the most major routine of banks that channel their cash into investments or lending for profitability explanations. One of the most primary inputs of banks not viewed here is labour. Both labour as input

variable and fee of labour would not be integrated within the study as knowledge related to such variables would no longer be determined in the balance sheets of the banks. This is the only one possibility to collect data through the survey but due some constraint resource and some firm didn't provide data because data is combinational, that's why we firm didn't allow to provide data.

**10. DATA**

Overall data occur in the table and clearly give the information about banks Amount in Million's

**Data 2008**

| Banks    | Market Share | Square of Market Share | Sales  | Equity  | Deposit | Loan and Advances | Investment |
|----------|--------------|------------------------|--------|---------|---------|-------------------|------------|
| NBP      | 14           | 196                    | 413076 | 121,443 | 726,513 | 475338            | 217,596    |
| HBL      | 16           | 256                    | 456356 | 84,370  | 682,750 | 454662            | 216,468    |
| UBL      | 13           | 169                    | 377945 | 67,319  | 503,832 | 362080            | 137,735    |
| ABL      | 7            | 49                     | 213020 | 29,920  | 328,873 | 237383            | 94,673     |
| MCB      | 9            | 81                     | 262134 | 72,313  | 367,581 | 253248            | 169,485    |
| BAF      | 7            | 49                     | 191572 | 21,683  | 324,743 | 188022            | 94,673     |
| FAYSAL   | 3            | 9                      | 83512  | 12,893  | 123,470 | 91346             | 56,459     |
| ASKRI    | 4            | 16                     | 128818 | 14,988  | 205,913 | 135040            | 66,886     |
| BAH      | 3            | 9                      | 100217 | 14,221  | 189,148 | 105986            | 110,907    |
| MEEZA    | 1.5          | 2.25                   | 39529  | 10,211  | 100,331 | 44188             | 24,370     |
| HMB      | 4            | 16                     | 108261 | 18,752  | 142,185 | 102293            | 111,380    |
| SCB      | 4            | 16                     | 128992 | 48,699  | 206,916 | 129460            | 83,264     |
| NIB      | 3            | 9                      | 80344  | 41,348  | 92,839  | 84021             | 59,497     |
| SONHERI  | 1.6          | 2.56                   | 47575  | 7,803   | 73,548  | 48727             | 29,537     |
| DIB      | 0.7          | 0.49                   | 18074  | 6,040   | 27,981  | 20590             | 2,823      |
| JS       | 0.3          | 0.09                   | 9680   | 5,655   | 21,314  | 11690             | 9,536      |
| ALBARKA  |              |                        |        | 2,753   | 22,636  | 14755             | 1,703      |
| BOK      | 0.4          | 0.16                   | 12664  | 5,962   | 26,286  | 11836             | 17,926     |
| ISLAMI   | 0.4          | 0.16                   | 6528   | 4,735   | 27,912  | 13282             | 6,653      |
| CITY     | 1.4          | 1.96                   | 41857  | 8,526   | 58,147  | 28245             | 33,122     |
| SMBHA    | 0.2          | 0.04                   | 6163   | 7,076   | 12,521  | 9724              | 5,808      |
| BARCLAYS | 0.3          | 0.09                   | 9679   | 6,846   | 29,920  | 18034             | 11,625     |
| FWB      | 0.1          | 0.01                   | 3304   | 1,093   | 8,757   | 3274              | 4,097      |
| DB       | 0.2          | 0.04                   | 6335   | 5,169   | 6,005   | 3457              | 491        |
| BOT      | 0.1          | 0.01                   | 4093   | 4,088   | 2,740   | 2199              | 0          |
| RBS      | 2.3          | 5.29                   | 67910  | 8,805   | 63,636  | 48502             | 27,358     |
| HSBC     | 0.9          | 0.81                   | 25303  | 5,511   | 40,797  | 23248             | 5,432      |
| MYB      | 0.7          | 0.49                   | 20940  | 5,105   | 26,849  | 17429             | 10,038     |
| ATLS     | 0.7          | 0.49                   | 20451  | 2,396   | 26,173  | 19221             | 4,369      |
| AHBL     | 0.5          | 0.25                   | 15759  | 4,054   | 31,308  | 18504             | 12,446     |
| OIB      | 0            | 0                      | 277    | 2,848   | 690     | 387               | 0          |
| EGIB     | 0.3          | 0.09                   | 7777   | 3,494   | 15,081  | 9439              | 3,357      |

**Data 2011**

| Banks   | Share | Square | Sales  | Equity | Investment | Deposit | Loan and Advance |
|---------|-------|--------|--------|--------|------------|---------|------------------|
| NBP     | 16    | 256    | 527109 | 135794 | 319527     | 927,415 | 527,109          |
| HBL     | 14    | 196    | 457368 | 109587 | 418604     | 933,632 | 457,368          |
| UBL     | 10    | 100    | 341140 | 85921  | 301107     | 633,889 | 341,140          |
| ABL     | 7     | 49     | 244440 | 43479  | 195790     | 399,561 | 244,440          |
| MCB     | 7     | 49     | 225795 | 91654  | 319006     | 491,147 | 225,795          |
| BAF     | 6     | 36     | 198469 | 25903  | 166649     | 401,246 | 198,469          |
| FAYSAL  | 5     | 16     | 148162 | 19213  | 93409      | 214,615 | 148,162          |
| ASKRI   | 5     | 25     | 150713 | 17882  | 133655     | 291,499 | 150,713          |
| BOP     | 4     | 16     | 127130 | 10773  | 92581      | 237,897 | 127,130          |
| BAH     | 3     | 9      | 114863 | 20011  | 223105     | 302,097 | 114,863          |
| MEEZA   | 2.11  | 4.4521 | 58956  | 14837  | 99950      | 170,022 | 58,956           |
| HMB     | 3     | 9      | 109657 | 24581  | 147459     | 185,281 | 109,657          |
| SCB     | 4     | 16     | 137309 | 55659  | 104040     | 235,875 | 137,309          |
| NIB     | 1.83  | 3.3489 | 60862  | 13665  | 47786      | 85,472  | 60,862           |
| SONHERI | 1.96  | 3.8416 | 65340  | 10977  | 45776      | 99,734  | 65,340           |
| SUMMIT  | 1.68  | 2.8224 | 56000  | 6156   | 36134      | 89,615  | 57,313           |

|          |      |        |        |       |       |        |        |
|----------|------|--------|--------|-------|-------|--------|--------|
| SILK     | 1.5  | 2.25   | 49936  | 5639  | 17548 | 64,072 | 49,936 |
| DIB      | 0.72 | 0.5184 | 23889  | 6234  | 12937 | 38,492 | 23,341 |
| JS       | 0.54 | 0.2916 | 18030  | 8781  | 22907 | 40,174 | 18,030 |
| ALBARKA  | 0.88 | 0.7744 | 29155  | 6524  | 26179 | 61,559 | 27,611 |
| BOK      | 0.67 | 0.4489 | 22288  | 10365 | 36685 | 45,548 | 22,288 |
| ISLAMI   | 0.74 | 0.5476 | 24665  | 5307  | 20892 | 50,469 | 20,110 |
| CITY     | 0.57 | 0.3249 | 18820  | 10766 | 60399 | 61,679 | 18,820 |
| SMBHA    | 0.48 | 0.2304 | 15831  | 8182  | 9664  | 17,669 | 15,831 |
| BARCLAYS | 0.63 | 0.3969 | 20998  | 6924  | 23791 | 44,665 | 20,998 |
| FWB      | 0.23 | 0.0529 | 7701   | 1720  | 4730  | 13,815 | 7,701  |
| DB       | 0.09 | 0.0081 | 2987   | 6036  | 5587  | 11,119 | 2,987  |
| ICBC     | 0.09 | 0.0081 | 26.42  | 3010  | 1484  | 1,524  | 26     |
| BOT      | 0.07 | 0.0049 | 2215   | 51555 | 0     | 1,992  | 2,215  |
| HSBC     | 0.62 | 0.3844 | 20794  | 7506  | 22120 | 46,171 | 20,794 |
| Burj     | 0.32 | 0.1024 | 10,509 | 5805  | 9983  | 20,341 | 10,509 |
| OIB      | 0.02 | 0.0004 | 571    | 3,132 | 0     | 721    | 571    |

Data 2014

| Banks    | Share | Square | Sales  | Equity | Investment | Deposit | Loan and Advance |
|----------|-------|--------|--------|--------|------------|---------|------------------|
| NBP      | 14.9  | 222.01 | 731980 | 182593 | 561768     | 1234405 | 630230           |
| HBL      | 13.5  | 182.25 | 661476 | 170103 | 924307     | 1524538 | 595295           |
| UBL      | 10.5  | 110.25 | 514283 | 137505 | 519602     | 951902  | 467365           |
| ABL      | 6.7   | 44.89  | 325868 | 81565  | 429397     | 667864  | 306058           |
| MCB      | 6.6   | 43.56  | 322759 | 136269 | 516898     | 688270  | 304001           |
| BAF      | 6.2   | 38.44  | 304848 | 44819  | 324319     | 605963  | 290597           |
| FAYSAL   | 4.2   | 17.64  | 204676 | 26303  | 155211     | 283346  | 181225           |
| ASKRI    | 4.1   | 16.81  | 198670 | 24026  | 217415     | 387535  | 170501           |
| BOP      | 4     | 16     | 197083 | 19357  | 154944     | 342291  | 170273           |
| BAH      | 3.8   | 14.44  | 187973 | 33027  | 331738     | 446311  | 181357           |
| MEEZA    | 3.7   | 13.69  | 183286 | 23878  | 114089     | 380422  | 175712           |
| HMB      | 3.1   | 9.61   | 150164 | 34769  | 221645     | 319948  | 134176           |
| SCB      | 3.1   | 9.61   | 150025 | 61900  | 188992     | 304306  | 128575           |
| NIB      | 2.5   | 6.25   | 117654 | 16932  | 59671      | 105103  | 93673            |
| SONHERI  | 2.3   | 5.29   | 113729 | 17039  | 75716      | 163250  | 106084           |
| SUMMIT   | 1.6   | 2.56   | 77804  | 12332  | 45330      | 105222  | 66455            |
| SILK     | 1.3   | 1.69   | 64417  | 8501   | 18105      | 68770   | 58967            |
| DIB      | 1.2   | 1.44   | 60350  | 7439   | 18259      | 83884   | 58840            |
| JS       | 1.2   | 1.44   | 58775  | 16197  | 85762      | 107430  | 65716            |
| ALBARKA  | 1     | 1      | 49834  | 5901   | 19561      | 80223   | 47023            |
| BOK      | 0.9   | 1.81   | 34243  | 14920  | 72431      | 92264   | 40057            |
| ISLAMI   | 0.9   | 0.81   | 41698  | 6873   | 30511      | 90331   | 41097            |
| SINDH    | 0.8   | 0.64   | 41204  | 14102  | 59467      | 61884   | 41185            |
| CITY     | 0.6   | 0.36   | 31621  | 10534  | 39327      | 48144   | 28196            |
| SMBHA    | 0.5   | 0.25   | 23916  | 11255  | 19953      | 31642   | 21812            |
| BARCLAYS | 0.3   | 0.09   | 15331  | 6925   | 23733      | 33920   | 14545            |
| FWB      | 0.2   | 0.04   | 9401   | 2212   | 7301       | 13449   | 8345             |
| DB       | 0.2   | 0.04   | 7034   | 5163   | 834        | 12664   | 6603             |
| ICBC     | 0.1   | 0.01   | 6087   | 4508   | 63075      | 9501    | 6087             |
| BOT      | 0     | 0      | 2257   | 3832   | .          | 3271    | 2257             |

11. Analysis & results

After calculating competitor’s power and effectivity of commercial banks of Pakistan through Herfindahl Hirschman Index and efficiency method and making a regression evaluation we've got analyzed our knowledge as under.

- Regression Analysis of Competition & Efficiency
- Overall performance of Banks through competition time

Regression Analysis of Competition of Competition & Efficiency from 2008 to 2014

| Year | Competition | Efficiency |
|------|-------------|------------|
| 2008 | 887.9       | 0.8921     |
| 2011 | 798.6321    | 0.89412    |
| 2014 | 762.92      | 0.93771    |

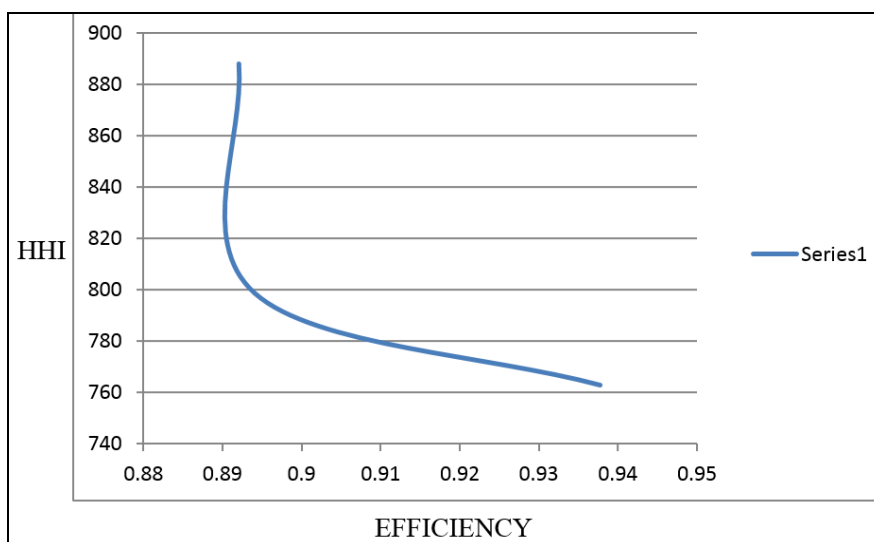


Fig 1: Overall performance of banks through competition time

**2008**

The profit earlier than tax of banks included on this survey has expanded by way of 22.3% to Rs. 5. Three billion in 2009 from Rs. 77.9 billion in 2008. Contributing to approximately Rs. 16 billion broaden in profit before tax. The return on average fairness (revenue earlier than tax as a percentage of average equity) of banks included within the survey has multiplied by way of 1.5% to 15.7% at 31 December 2009 compared to 14.2% at 31 December 2008. Average net interest income of big size banks in 2009 was 5.1% compare to 5.0% in 2008. Average net interest income of average size banks in 2009 was 3.6% compare to 3.9% in 2008. Average net interest income of small size banks in 2009 was 2.2% compared to 2.4% in 2008. Operating cost to net interest income ratio of the banks included in the survey has improved to 66.3% in 2009 from 69.1% in 2008 due to increase in net interest income and lesser increase in operating costs. During the year total assets of banks under review have increased by 15.7% from Rs. 5,247.8 billion at 31 December 2008 to Rs. 6,071.0 billion at 31 December 2009. Total loans and advances of banks under review have increased by 2.2% from Rs. 2,922.5 billion at 31 December 2008 to Rs. 2,985.6 billion at 31 December 2009. The total average advances to total average deposit ratio of banks included in this survey has decreased by 2% to 64.7% from 66.7% in 2008. As explained earlier, this decrease is not reflective of true position due to classification of advances against instruments as investments. If these are considered as part of advances, there is no significant change in the ratio in 2009. Deposits for banks included in this survey increased by 13.2% to Rs. 4,517.4 billion at 31 December 2009 compared to Rs. 3,990.8 billion at 31 December 2008.

**2011**

The profit before tax of banks included in this survey has increased by 6.38% to Rs. 179.4 billion in 2012 from Rs. 167.9 billion in 2011. Total loans and advances of banks under review have increased by 13.2% (2011: 2.6%) to Rs. 3,781 billion at 31 December 2012 (2011: Rs. 3,342 billion). The total average advances to total average deposits ratio of banks included in this survey has decreased to 48.6% from 52.4% in 2011 due to growth rate of deposit being higher than growth

rate of advances. Deposits for banks included in this survey increased by 17.5% to Rs. 7,404 billion at 31 December 2012 compared to Rs. 6,305 billion at 31 December 2011.

**2014**

The Profit before tax of banks included in this survey has increased by 46.7% to Rs. 245.6 billion in 2014 from Rs. 167.4 billion in 2013 mainly due to increased net interest income. Total loans and advances of banks under review have increased by 9.9% in 2014 (2013: 8.5%) to Rs. 4,897 billion at 31 December 2014 (2013: Rs. 4,458 billion). The total average advances to total average deposits ratio of the banks included in this survey has decreased to 50.2% in 2014 from 52.0% in 2013 due to growth rate of deposits being higher than growth rate of advances.

Deposits of banks included in this survey increased by 11.5% to Rs. 9,248 billion at 31 December 2014 compared to Rs. 8,291 billion at 31 December 2013.

**12. Conclusion**

Competition is generally consider as an encouraging force, often associated with higher the efficiency higher the economic benefit. In banking sector it's more controversial issue However, in the banking sector it is a more controversial issue because no one know about how much affect competition on the efficiency of banking system. Policy maker always confuse about, is competition aggressively impact on the performance of bank or not.

In the Pakistan economy banking sector play leading role in development of country because main function of bank is accept deposit and lend money to others, and improve welfare of the economy so that's why measure of efficiency of bank is important for us.

Result shows that when market is monopoly the efficiency of bank occurring less but when monopoly decrease (power reduce) means competition increase the efficiency of banks in Pakistan rises, we see in the graph above first monopoly then efficiency of banks is less after some time when competition increase smaller effect on the efficiency of banks but with passage of time fastly risen up the efficiency of banks automatically.

Efficiency is expanded as in 2008 competition is to be 887.91 and degree of efficiency banks was once 0.8921 and having view on outcome for the year 2011 when new banks and overseas banks entered into the market and the market competition increase means monopoly decrease to 798.6321, the efficiency level for the current banks additionally multiplied to the level of 0.89412. In 2014 with more accelerated competitors stage of 762.92 the efficiency level used to be once more expanded to 0.93771. This increased efficiency with the increased competition and decreased monopoly shows a positive relation between competition and efficiency, which means banks are now struggling more to capture the market share from the competitors to increase their market share and increased profit and customer base. Also overall performance of the banks is increased with the increased competition among banks. Utilizing financial institution stage stability sheet knowledge for the essential Pakistan business banking markets this paper give much knowledge about banker and market structure of the economy and prepare yourself what action to be taken in different condition the market. This paper compare the good judgment of the competitive model and argument situated on "competitive pressure" and find the case for highest efficiency below competitors. We can see that how a lot relationship arise between competition and efficiency. And by way of the data we evaluation that competition straight involving the effectivity. Certainly, competition does not show perfect competition totally remove inefficiency of banks but show up to certain level efficiency of banks increase. Pakistan has indicate unconcentrated banking market; for illustration, the largest six banks account for greater than 50 per cent of the market in banking process. Formal measures of concentration in banking (such as the Herfindahl-Hirschman Index) are frequently in a range that facets to what economists would interpret as a low medium or high measure of market awareness.

### 13. Recommendation

This research based on competition and efficiency of bank, and now a day competition increase so that authorities of banker know about what to do with competition and what priorities set to face with competition to capture the market, without effort banker authorities does not capture market so if he work or use of resource so efficiency automatically increase. Through the research data we get answer competition of market directly related to the efficiency of banks in Pakistan so that's why this research helpful for regulatory of banker. Competition law is relevant to all sectors of the economic system. Investigations into assumed infringements of competitor's legislation could also be large in scope and could involve complex analyses. Via prioritizing their enforcement movements, competitor's authorities are able to make more effective use of their reserved assets, accordingly increasing efficiency in their functioning and operation, even as focusing their efforts on deterring and influencing behavior that poses the greatest chance to competition and consumers. At a normal degree priority environment refers to the capability of the Authorities to priorities and plan their work. This involves the definition of priorities from a coverage point of view, in to other words, the components of long, medium or quick-term strategic plans relating to the Authorities' total portfolios and the allocation of assets across their areas of

responsibility. However, priority surroundings also refers back to the capability of the Authorities to use specific levels of procedure to do work with competition in the market so that's why research is helpful.

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