

Bank Concentration: An Analysis of Public Sector Banks in India

Shivam Dhawan *

Niharika **

Abstract

Research evidence has substantiated that consolidation in banking sector through mergers and amalgamations is responsible for concentrated banking structure in India, where public sector commercial banks dictate the Indian banking sector in terms of its market share. In this context, the present research study endeavors to assess the bank concentration by Herfindahl-Hirschman Index (HHI) in terms of total assets for all the public sector commercial banks in India for a ten year time period from 2008 to 2017. The research study also aims to analyze whether or not the bank concentration has shown growth during the said time period. The results indicated that State Bank of India has recorded the highest average market share in terms of total assets amongst all the public sector banks in India followed by Bank of Baroda, whereas State Bank of Mysore has registered the lowest average market share in terms of total assets. The trend analysis further revealed that even though the overall average HHI value (0.090) has been low for the said time period, but bank concentration in terms of total assets has increased amongst all the public sector banks of India as revealed by the positive growth percentage of HHI (20.22%) during the said time period.

Keywords: Bank Concentration, HHI, Public Sector Banks, Total Assets.

Introduction

The banking sector reforms initiated in the year 1991 aimed to create a competitive environment by deregulating the banking sector, thereby allowing entry of private players in the banking sector; liberalization in the structure of interest rates; curtailment of the required reserves so as to ensure transparency and efficiency in the Indian banking system. Post 1998, Narsimham Committee in its second report brought

further reforms in the banking sector, which recommended consolidation of Indian banks through mergers in order to strengthen their financial position. The committee was of that the reduction in number of banks due to bank consolidation leads to rise in the average size of the banks, which results in increased concentration in the banking sector (Demirguc-Kunt and Levine, 2000). In the context of the banking sector, "Concentration

* Ph.D. Research Scholar (UGC-JRF), Department of Economics, Panjab University, Chandigarh, India

indicates the magnitude of control of financial activity by large banks is evident at both global and national level. The increase in concentration levels could be due to considerable size enlargement of the dominant bank(s) and/or considerable size reduction of the non-dominant bank(s). Conversely, reduction in concentration levels could be due to considerable size reduction of the dominant bank (s) and/or considerable size enlargement of the non dominant banks” (Sathye, 2002). The theme concerning the measurement of the extent of bank concentration has been a focus of attention of many researchers and academicians. Most studies have acknowledged the use of concentration as a well accepted measure of banking structure that has a significant implication on the financial soundness of the banks in general. Triggered by the 2008 sub-prime lending crisis, the world witnessed rapid consolidation of banks in the form of mergers and acquisitions, which resulted in rise in the average size of the banks and their enhanced market power as observed by the Bank for International Settlement (Sharma & Bal, 2010). Consolidation which is positively associated with bank concentration assumed a lot of significance in India since the introduction of financial sector reforms in 1991. Subsequently, many government committees, policy frameworks, etc also suggested that consolidation should be executed in India in a phased manner through a well planned structured process. Research evidence points out that bank consolidation led by mergers and amalgamations is responsible for concentrated banking structure in India, where public sector commercial banks dominate the Indian banking system in terms of its market share. In this context, the present study makes a modest attempt to measure the concentration in terms of total assets for all the public sector banks in

India from 2008 to 2017 so as to assess whether or not the bank concentration has increased during the said time period.

2. Objectives of the Study

The present study attempts to measure the concentration in terms of total assets for all the public sector banks in India for a ten year time period from 2008 to 2017. The research work also aims to study the growth of bank concentration as well as to assess whether or not the bank concentration has increased during the said time period. Further, the study also envisages to identify which public sector bank has highest average share in the total assets for ten years.

3. Methodology

In the present study, the bank concentration in terms of total assets is measured by using “Herfindahl-Hirschman Index (HHI), which is a measure of the size of firms in relationship to the industry and an indicator of the amount of competition among them. It is defined as the sum of the squares of the market shares of each individual firm and is mainly sensitive to the degree to which market share is held by the largest firms (Honohan & Kinsella, 1982). Index ranges from 0 to 1. According to US merger guidelines (2010), the HHI index below 0.1 implies an un-concentrated market; HHI index between 0.1 to 0.18 indicates moderate level of concentration and HHI index above 0.18 reflects high concentration”.

$$HHI_{Ta} = \sum_{i=1}^n T_a_i^2$$

Where, T_a = Total Assets of the nationalised banks

The sum of the squares of the market shares of each individual public sector bank is

computed to calculate the HHI for total assets for each year for the time period from 2008 to 2017. Further, growth and average amount of the bank concentration has also been calculated and the statistical significance of

the latter is also tested using the one sample t-test.

Table 1: Total and Average Share of the Banks in Total Assets from 2008 to 2017

Name of the bank	Aggregate Share of the bank in Total Assets for 10 years (2008-2017)	Average Share of bank in Total Assets (%)for 10 years (2008-2017)
State Bank of Bikaner and Jaipur	0.122	1.220
State Bank of Hyderabad	0.191	1.909
State Bank of India	2.414	24.138
State Bank of Mysore	0.098	0.984
State bank of Patiala	0.158	1.578
State Bank of Travancore	0.135	1.346
Allahabad Bank	0.274	2.743
Andhra Bank	0.207	2.072
Bank of Baroda	0.715	7.147
Bank of India	0.652	6.521
Bank of Maharashtra	0.162	1.623
Canara Bank	0.610	6.095
Central Bank of India	0.379	3.788
Corporation Bank	0.258	2.580
Dena Bank	0.142	1.417
IDBI ltd.	0.446	4.459
Indian Bank	0.229	2.294
Indian overseas Bank	0.324	3.245
Oriental Bank of Commerce	0.287	2.869
Punjab and Sind Bank	0.115	1.152
Punjab National Bank	0.702	7.020
Syndicate Bank	0.324	3.241
UCO Bank	0.289	2.894
Union Bank of India	0.441	4.410
United Bank of India	0.161	1.612
Vijaya Bank	0.164	1.642

Source: RBI

4. Results and Analysis

Table 1 reveals that State Bank of India (24.14%) has recorded the highest average market share in terms of total assets amongst all the public sector banks in India followed by Bank of Baroda (7.15%). Similarly, Punjab National Bank had the third highest average market share of (7.020%) during the time period from 2008 to 2017. Table also shows that State Bank of Mysore with the average market share of (0.98%) in terms of total

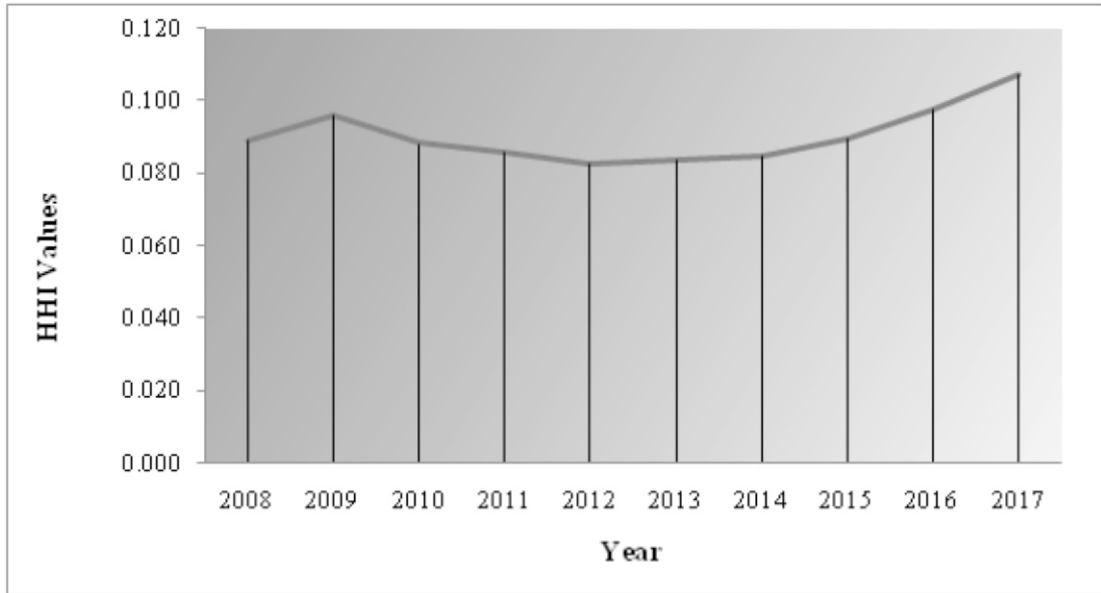
assets is the lowest followed by Panjab and Sind Bank (1.15%) and State Bank of Bikaner and Jaipur (1.22%) during the given time period of the study. From the above table, it is concluded that State Bank of India is enjoying the dominant position as far as the average market share in terms of total assets is concerned and there is a huge gap between the maximum average share and the minimum average share amongst all the public sector banks.

Table 2: HHI Values of Total Assets for Indian Public Sector Banks

Year	HHI_{Ta}
2008	0.089
2009	0.096
2010	0.088
2011	0.086
2012	0.083
2013	0.084
2014	0.085
2015	0.089
2016	0.097
2017	0.107
Avg	0.0904
One -Sample t-test	38.19 * (0.00)
Growth (%)	20.22 %

Note: * reflects 1% level of significance

Source: Computed from data mentioned in table 1



Graph 1 depicts the HHI values from 2008 to 2017

Table 2 and graph 1 show that the HHI value, which is an indicator of concentrated market structure, has remained low in terms of total assets from 2008 to 2017. The highest HHI values (0.107) and (0.09) were witnessed in the years 2017 and 2016, whereas the lowest HHI value (0.083) was found in the year 2012. The outcome of the one sample t-test reveals that the average amount of the bank concentration is found to be statistically significant at 1 per cent level. Further, from the trend analysis (graph 1), it can be deduced that HHI value increased in 2009 from the previous year but saw a declining trend from the years (2010 to 2012). From the year 2013 onwards, HHI value again registered an increase. Furthermore, graph clearly indicating that though the overall average HHI value (0.0904) is low for the given time period but concentration in terms of total assets has increased amongst all the public sector banks of India as revealed from the positive growth percentage of HHI (20.22%) during the said time period.

5. Concluding Observations

The theme of the present research work concerning the measurement of the extent of bank concentration has been a focus of attention of researcher, policy makers and academicians both at the domestic and global level. The present study has employed the popular “Herfindahl-Hirschman Index (HHI)” to assess the amount of concentration in terms of total assets for all the public sector banks from 2008 to 2017. The results revealed that State Bank of India has dominated as far as the average market share in terms of total assets is concerned as it has recorded the highest average market share in terms of total assets amongst all the public sector banks in India followed by Bank of Baroda. The analysis pointed out that State Bank of Mysore recorded the lowest average market share in terms of total assets followed by Panjab and Sind Bank. The trend analysis revealed that though, the overall average HHI value has been recorded to be low for the given time period, however concentration in terms

of total assets has increased increasing amongst all the public sector banks of India as revealed by the positive growth percentage of HHI value.

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