

## **HAS BANK CONCENTRATION INCREASED FOR INDIAN NATIONALISED BANKS?**

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### **Abstract**

Research evidence has pointed 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, present study attempts to measure the bank concentration using the Herfindahl-Hirschman Index (HHI) in terms of total assets for all the nationalised 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. The results revealed that Bank of Baroda has recorded the highest average market share in terms of total assets amongst all the nationalised banks in India followed by Punjab National Bank, whereas Bhartiya Mahila Bank registered the lowest average market share in terms of total assets. The trend analysis revealed that although the overall statistically significant average HHI value (0.065) has been recorded to be low for the given time period, however concentration in terms of total assets has witnessed an increase amongst all the nationalised banks of India as revealed from the positive growth percentage of HHI (6.35%) during the said time period.

**Keywords:** Bank Concentration, HHI, Nationalised Banks, Total Assets,

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## 1. 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 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

nationalised 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 nationalised 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 nationalised 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”.

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

Where,  $T_a$  = Total Assets of the nationalised banks

The sum of the squares of the market shares of each individual nationalised 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.

#### 4. Results and Analysis

**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)
Allahabad Bank	0.398	3.983
Andhra Bank	0.301	3.010
Bank of Baroda	1.037	10.369
Bank of India	0.947	9.473
Bank of Maharashtra	0.236	2.360
Bhartiya Mahila Bank	0.001	0.011
Canara Bank	0.886	8.857
Central Bank of India	0.551	5.505
Corporation Bank	0.375	3.746
Dena Bank	0.206	2.057
IDBI ltd.	0.648	6.477
Indian Bank	0.333	3.334
Indian overseas Bank	0.471	4.709
Oriental Bank of Commerce	0.417	4.171
Punjab and Sind Bank	0.167	1.672
Punjab National Bank	1.020	10.204
Syndicate Bank	0.471	4.714
UCO Bank	0.420	4.203
Union Bank of India	0.641	6.411
United Bank of India	0.234	2.343
Vijaya Bank	0.239	2.389

Source: RBI

Table 1 reveals that Bank of Baroda (10.36%) has recorded the highest average market share in terms of total assets amongst all the nationalised banks in India followed by Punjab National Bank (10.20%), which has given a stiff competition to Bank of Baroda. Similarly, Bank of India

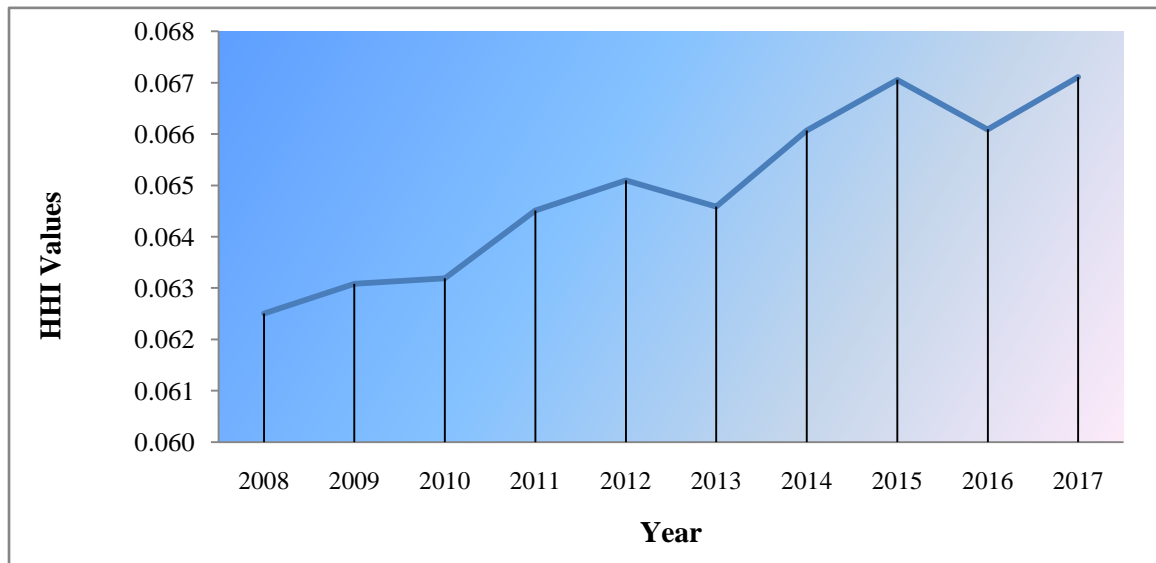
has the third highest average market share of (9.47%) during the time period from 2008 to 2017. Table also shows that Bhartiya Mahila Bank with the average market share of (.01%) in terms of total assets is the lowest followed by Panjab and Sind Bank (1.67%) and United Bank of India (2.38%) during the given time period of the study. From the above table, it is concluded that Bank of Baroda 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 nationalised banks.

**Table 2: HHI Values of Total Assets for Indian Nationalised Banks**

<b>Year</b>	<b>HHI<sub>Ta</sub></b>
2008	0.063
2009	0.063
2010	0.063
2011	0.065
2012	0.065
2013	0.065
2014	0.066
2015	0.067
2016	0.066
2017	0.067
<b>Avg</b>	<b>0.065</b>
<b>One-Sample t-test</b>	<b>131.47* (0.00)</b>
<b>Growth (%)</b>	<b>6.35%</b>

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 value (.067) in the years 2015 and 2017 is above the average HHI value (.065), whereas the lowest HHI value (.063) from 2008 to 2010 is below the average HHI mark. The outcome of the one sample t-test revealed that the average amount of the bank concentration was found to be statistically significant at 1 per cent level. Further, from the trend analysis (graph 1), it can be deduced that HHI value which was constant in the initial years (2008 to 2010), increased during the middle years (2013 to 2015) and after recording a slight decrease for the year 2016, the HHI value registered an increase in 2017, thereby clearly indicating that though the overall average HHI value (0.065) is low for the given time period but concentration in terms of total assets is increasing amongst all the nationalised banks of India as revealed from the positive growth percentage of HHI (6.35%) 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

nationalised banks from 2008 to 2010. The results revealed that Bank of Baroda 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 nationalised banks in India followed by Punjab National Bank. The analysis pointed out that Bhartiya Mahila Bank 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 nationalised banks of India as revealed by the positive growth percentage of HHI value.

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