

Merger in Banking Industry in India: Case Study on Merger Between HDFC Bank and Centurian Bank of Punjab

Abstract

Merger is a combination of two or more companies into one company. In banking industry when two or more banks pool their resources together then merger took place. In HDFC bank liquidity position increases in post merger period than pre-merger period, efficiency, profitability and overall performance remains unchanged.

Keywords: Merger, Acquisition, Spread, Transferor Bank and Transferee Bank

Introduction

Merger is a combination of two or more companies into one company. In India, mergers are called as amalgamations, in legal terms. The acquiring company, (also referred to as the amalgamated company or the merged company) acquires the assets and liabilities of the target company (or amalgamating company). Typically, shareholders of the amalgamating company get shares of the amalgamating company in exchange for their existing shares in the target company. Merger may involve absorption or consolidation.

Why had we selected the study of Impact of Merger and Acquisition on the performances of some selected banks in India?

Merger is not a new thing in banking industry, particularly in post nationalization period in India. There were so many merging cases between the public sector with private sector or one private bank with another private bank or one public sector bank with another public sector bank to achieve some objectives like enhance the capital strength, to penetrate the market, to achieve synergetic effect, to take tax saving benefit etc.

But our main objectives is to study the impact of Narasimham committee's recommendation on merger in banking industry in the performances of the merged banks Further we want to compare the selected merged bank performances between pre and post merger period to identify the better and poor performance reasons.

Reasons for Merger

1. Merger of weak banks-Practice of merger of weak banks with strong banks was going on in order to provide stability to weak banks but Narasimham Committee opposed this practice. Mergers can diversify risk management.
2. Increase in market competition- Innovation of new financial products and consolidation of regional financial system are the reasons for merger.
3. Markets developed and became more competitive and because of this market share of all individual firm reduced so mergers and acquisition started.
4. Capability of generating economies of scale when firms are merged.
5. Transfer of skill takes place between two organization takes placed which helps them to improve and become more competitive.
6. Globalization of economy impact bank mergers.
7. New services and products- Introduction of e- banking and some financial instruments/ derivatives.
8. Technology- Removal of entry barrier opened the gate for new banks with high technology and old banks can't compete with them so they decide to merge.
9. Positive synergies- When to firms merge their sole motive are to create a positive effect which is higher than the combined effect of two individual firms working alone. Two aspects of it are cost synergy and revenue synergy.



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Cost synergy is the savings in operating costs expected after two companies that complement each other's strengths join. Revenue synergy is refers to the opportunity of a combined corporate entity to generate more revenue than its two predecessors stand-alone companies would be able to generate.

Data Base of the Study

The basic data that are required for the assessment of both transferor and transferee banks performance like deposits, loans, income, expenditure, spread, etc. are collected. We have collected officially published yearly data on financial condition of the banks for 1994-95 to 2013-2014. We have also collected data for total foodgrains, total non-foodgrains and all crops combined of the state in the form of index numbers, as published officially, and consumer price index for both agricultural and industrial labourers. For the states these indices have been expressed in terms of 1960-61 base year.

We had considered merger between Centurian Bank of Punjab and HDFC BANK

Methods for Measurement of Different Performance Parameters

We have fitted two trend equations, namely exponential ($\log y_t = a + bt$) and log quadratic ($\log y_t = a + bt + ct^2$). The estimated value of trend parameter b gives the growth rate as logarithms are considered at natural base.

In trend fitting we have also checked autocorrelation problem, which are likely to occur in time series analysis, using DW statistic. When there is no autocorrelation problem ($DW > d_u$) or the autocorrelation test is inconclusive ($d_l < DW < d_u$), then estimated b is accepted. But in other cases we have effected necessary correction in the model of trend fitting by considering auto-regressive scheme of either first order or second order.

On the other hand, the kinked trend equation has been fitted to estimate the sub-periods (Pre-merger and Post-merger) growth rates. More specifically, though log-quadratic or exponential trend equations have given the best fits to the whole period's data, only the kinked exponential equation has been fitted to estimate sub-period growth rates on the assumption that varying growth rates over a longer period of time can be approximated by constant growth rates over sub-periods.

The kinked exponential trend equation used here is

$$\ln y_t = a + b_1 D_1 t + b_2 D_2 t,$$

Where $D_1 = 1$ for pre-merger period and 0 for post-merger period.

and $D_2 = 0$ for pre-merger and 1 for post-merger period.

Here $b_1 =$ Growth rate for the first sub-period, and

$b_2 =$ Growth rate for the second sub-period

To determine the significance of trend break between two sub-periods we have also fitted the equation: $\ln y_t = a + b_1 t + b_2 D_2 t$,

Where b_2 is the parameter signifying the trend break.

Growth rates have been estimated in all cases in nominal and also in real terms by fitting trend equations respectively on nominal series and also on nominal series deflated by the CPIAL.

Merger Between Centurian Bank of Punjab and HDFC Bank

The Reserve Bank of India has sanctioned the Scheme of Amalgamation of Centurian Bank of Punjab Ltd. with HDFC Bank Ltd. The Scheme has been sanctioned in exercise of the powers contained in Sub-section (4) of Section 44A of the Banking Regulation Act, 1949.

All the branches of Centurian Bank of Punjab will function as branches of HDFC Bank with effect from May 23, 2008. With RBI's approval, all requisite statutory and regulatory approvals for the merger have been obtained. Now in this section we are assessing the performances of both the transferor bank (CBOP) and transferee bank's (HDFC) performances from economic point of view.

Deposit Analysis

From the estimated values of parameters presented in Table 4.1, it is found that the growth rate of total deposit of both the transferor and transferee banks have been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of total deposit.

A sub-period trend analysis of growth rates of the total deposit amount of the transferee bank i.e. HDFC shows that the trend breaks between the growth rates of total deposit in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of total deposit.

To separate out the influence of inflation on the growth rate of deposit amount necessary adjustment in the nominal values of the deposit amount have been done by deflating the nominal values by the wholesale price index as then the chosen trend lines have been fitted. From the estimated parameters presented in Table 4.2, it is found The growth rates of real amount of total deposit of the transferor bank was significant at 1% probability level and transferee bank's was significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table 4.20. The important thing that in post merger period annual rate of growth of total deposit was lower than that in Pre-merger period.

Advance Analysis

From the estimated values of parameters presented in Table-4.3, It is found that the growth rate of total advances of both the transferor and transferee banks have been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of total advances.

A sub-period trend analysis of growth rates of the total advances amount of the transferee bank i.e. HDFC shows that The trend breaks between the growth rates of total advances in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of total advances. (Table-4.19)

From the estimated parameters presented in Table 4.4, it is found that real amount of total advances of CBOP has grown at the annual rate of

18% and at the time of 1999 to 2007 the annual growth rate of real amount of total advances of HDFC bank was 55.2%. The growth rates of real amount of total advances of the transferor bank was significant at 5% probability level and transferee bank's was significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table- 4.20. In post financial reform period (2008-2014), while the nominal amount of total advances of HDFC bank was increased at an annual rate of 18.7%, the real amount of total advances increased at an annual rate of 16.7%. The important thing that in post merger period annual rate of growth of total advances was lower than that in Pre-merger period.

Interest Income Analysis

From the estimated values of parameters presented in Table-4.5, it is found that the growth rate of Interest Income of both the transferor and transferee banks have been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of total interest income.

A sub-period trend analysis of growth rates of the Interest Income amount of the transferee bank i.e. HDFC shows that the trend breaks between the growth rates of Interest Income in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of Interest Income (Table-4.19).

From the estimated parameters presented in Table-4.6, it is found that real amount of Interest Income of CBOP has grown at the annual rate of -34.2% and at the time of 1999 to 2007 the annual growth rate of real amount of interest income of HDFC bank was 60.4%. The growth rates of real amount of interest income of both the transferor and transferee banks are significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table -4.20, in post financial reform period (2008-2014), while the nominal amount of interest income of HDFC bank was increased at an annual rate of 18.2%, the real amount of Interest Income increased at an annual rate of 16.3%. The important thing that in post merger period annual rate of growth of Interest Income was lower than that in Pre-merger period.

Other Income

From the estimated values of parameters presented in Table -4.7, it is found that the growth rate of **Other Income** of both the transferor and transferee bank has been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of **Other Income**.

A sub-period trend analysis of growth rates of the **Other Income** amount of the transferee bank i.e. HDFC shows that the trend breaks between the growth rates of **Other Income** in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of **Other Income**.

From the estimated parameters presented in Table-4.8, it is found that real amount of **Other Income** of CBOP has grown at the annual rate of

16% and at the time of 1995 to 2014 the annual growth rate of real amount of **Other Income** of HDFC bank was 65.8%. The growth rate of real amount of **Other Income** of the transferor bank was significant at 5% probability level and transferee bank's was significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table 4.20 shows that in post financial reform period (2008-2014), while the nominal amount of **Other Income** of HDFC bank was increased at an annual rate of 14.6%, the real amount of **Other Income** increased at an annual rate of 10.7^a%. The important thing that in post merger period annual rate of growth of **Other Income** was lower than that in Pre-merger period.

Interest Expended

From the estimated values of parameters presented in Table 4.9, it is found that the growth rate of Interest expense of both the transferor and transferee banks have been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of total expense.

A sub-period trend analysis of growth rates of the Interest expense amount of the transferee bank i.e. HDFC shows that the trend breaks between the growth rates of Interest expense in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of Interest expense (Table-4.19).

From the estimated parameters presented in Table-4.10, it is found that real amount of Interest expense of CBOP has grown at the annual rate of -35.8% and at the time of 1999 to 2007 the annual growth rate of real amount of Interest expense of HDFC bank was 60.0%. The growth rates of real amount of total advances of both the transferor and transferee banks are significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table -4.20 shows that in post financial reform period (2008-2014), while the nominal amount of interest expense of HDFC bank was increased at an annual rate of 20%, the real amount of Interest expense increased at an annual rate of 18.1%. The important thing that in post merger period annual rate of growth of Interest expense was lower than that in Pre-merger period.

Operating Expenses

From the estimated values of parameters presented in Table- 4.11, it is found that the growth rate of **Operating Expenses** of both the transferor and transferee banks have been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of **Operating Expenses**.

A sub-period trend analysis of growth rates of the **Operating Expenses** amount of the transferee bank i.e. HDFC shows that the trend breaks between the growth rates of **Operating Expenses** in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of **Operating Expenses** (Table-4.19).

From the estimated parameters presented in Table -4.12 ,it is found that real amount of **Operating Expenses** of CBOP has grown at the annual rate of -28.1% and at the time of 1995 to 2014 the annual growth rate of real amount of **Operating Expenses** of HDFC bank was 58.3%. The growth rates of real amount of **Operating Expenses** of both the transferor and transferee banks are significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table -4.20 shows that in post financial reform period (2008-2014), while the nominal amount of **Operating Expenses** of HDFC bank was increased at an annual rate of 17.3%, the real amount of **Operating Expenses** increased at an annual rate of 15.4%. The important thing that in post merger period annual rate of growth of **Operating Expenses** was lower than that in Pre-merger period.

Total Income

From the estimated values of parameters presented in Table 4.13, it is found that the growth rate of **Total Income** of the transferor was increasing at an accelerating rate and transferee banks had been increasing at diminishing rate. This implies encouraging trend of growth of transferor and a discouraging trend in the inter temporal growth of **Total Income of transferee bank**.

A sub-period trend analysis of growth rates of the **Total Income** amount of the transferee bank i.e. HDFC shows that the trend breaks between the growth rates of **Total Income** in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of **Total Income (Table-4.19)**.

From the estimated parameters presented in Table-4.14. ,it is found that real amount of **Total Income** of CBOP has grown at the annual rate of -30% and at the time of 1999 to 2007 the annual growth rate of real amount of **Total Income** of HDFC bank was 61.6%. The growth rates of real amount of **Total Income** of both the transferor and transferee banks are significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table- 4.20 shows that in post financial reform period (2008-2014), while the nominal amount of **Total Income** of HDFC bank was increased at an annual rate of 17.6%, the real amount of **Total Income** increased at an annual rate of 15.7%. The important thing that in post merger period annual rate of growth of **Total Income** was lower than that in Pre-merger period.

Total Expenses

From the estimated values of parameters presented in Table- 4.15, it is found that the nominal amount of **Total Expenses** of CBOP has increased at an annual rate of 10.3% during the period 1999-2007 and this growth rate is significant at 5% probability level. During the same period growth rate of nominal amount of **Total Expenses** of HDFC bank (transferee bank) was 64.2% and this growth rate was significant at 1% probability level. It is also found that the growth rate of **Total Expenses** of both the transferor and transferee banks have been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of total expense.

A sub-period trend analysis of growth rates of the **Total Expenses** amount of the transferee bank i.e. HDFC shows that the trend breaks between the growth rates of **Total Expenses** in the pre and post-merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of Interest expense (Table-4.19).

From the estimated parameters presented in Table-4.16 ,it is found that real amount of **Total Expenses** of CBOP has grown at the annual rate of 8.6% and at the time of 1995 to 2014 the annual growth rate of real amount of **Total Expenses** of HDFC bank was 61.4%. The growth rates of real amount of **Total Expenses** of both the transferor and transferee banks are significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table -4.20 shows that in post financial reform period (2008-2014), while the nominal amount of **Total Expenses** of HDFC bank was increased at an annual rate of 17.3%, the real amount of **Total Expenses** increased at an annual rate of 15.3%. The important thing that in post merger period annual rate of growth of **Total Expenses** was lower than that in Pre-merger period.

Spread analysis

From the estimated values of parameters presented in Table- 4.17, it is found that the growth rate of **Spread** of both the transferor and transferee banks have been increasing at diminishing rates. This implies a discouraging trend in the inter temporal growth of **Spread**.

A sub-period trend analysis of growth rates of the **Spread** amount of the transferee bank i.e. HDFC shows the trend breaks between the growth rates of **Spread** in the pre and post- merger period is negative and statistically significant at 1% probability level. This result signifies that during the post-merger period there has been significant fall in the nominal amount of **Spread (Table-4.19)**.

From the estimated parameters presented in Table-4.18. ,it is found that real amount of **Spread** of CBOP has grown at the annual rate of -20.2% and at the time of 1995 to 2014 the annual growth rate of real amount of **Spread** of HDFC bank was 61.3%. The growth rates of real amount of **Spread** of both the transferor and transferee banks are significant at 1% probability level.

The results of estimated trend growth for two sub-periods are presented in Table -4.20 shows that in post financial reform period (2008-2014), while the nominal amount of **Spread** of HDFC bank was increased at an annual rate of 16.3%, the real amount of **Spread** increased at an annual rate of 14.4%. The important thing that in post merger period annual rate of growth of **Spread** was lower than that in Pre-merger period

Conclusions

From the above discussion I can conclude that HDFC bank being transferee bank in post merger period able to reduce growth rates of deposit, operating expense as well as total expense beside the growth rate of advances, interest earned also deteriorates. Therefore in post merger period HDFC

bank's liquidity position improve, but efficiency as well as profitability position not deteriorates in post merger period.

Suggestions

1. Growth rate of advances in post-merger period is lower than pre-merger period; so more and more stress should be given on credit disbursement
2. Stress should be given on raising total income and of which major component is interest earned whose growth rate is lower in post merger period of the transferee banks; therefore more and more interest to be earned through credit disbursement
Although growth rate of total expenses is lower in post –merger period than pre-merger, but still it is higher than growth rate of total income. Therefore expenses are to be further reduced.
3. In total expense lion share occupied by the interest expense (more than 80%), its growth rate in post merger period has reduced, but considering the high growth rate of deposits in post merger period, interest expense is still higher, hence it should be controlled. Growth rate of operating expense in post merger period is lower than pre-merger period due to rise in employees productivity and branch productivity in post merger period; but still it should be reduced by raising volume of business.

Table- 4.1: Calculation of Growth Rate of Nominal amount of Deposit of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration /Deceleration
Centurian Bank of Punjab	.630** (.3736)	.330	16.5** (.218)	-42.4*** (.021)
HDFC Bank	.996* (.15130)	.924	67.8* (.025)	-.00213* (.001)

Notes: "*" implies significant at 1% probability level; "**" implies significant at 5% probability level, and "***" implies significant at 10% probability level; Figures in the parentheses under R² columns indicate observed value of F statistic; all other figures within the paranthesis are standard error. All the values of DW statistic indicate the absence of autocorrelation problem in the disturbance term. Acceleration / Deceleration in growth rate is represented by the estimated co-efficient 'C' of the log-quadratic trend. $Y_t = a + bt + ct^2 + u_t$. Growth rates are represented in the form of percentage per annum.

Table-4.2: Calculation of Growth Rate of Real amount of Deposit of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/ Deceleration
Centurian Bank of Punjab	.380** (.4405)	.878	13.8** (.057)	41.9*** (.102)
HDFC BANK	.992* (.17030)	.549	55.2* (028)	-.00111* (.001)

Notes: See Notes of Table- 4.1

Remarking

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Table-4.3: Calculation of Growth Rate of Nominal amount of Advance of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/ Deceleration
Centurian Bank of Punjab	.807* (.3302)	.348	20.6** (.068)	-65.2** (.019)
HDFC Bank	.966* (.15130)	.988	67.8* (.025)	-.0013* (0.001)

Notes: See Notes of Table- 4.1

Table- 4.4: Calculation of Growth Rate of Real amount of Advance of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate (B)%	Acceleration/ Deceleration
Centurian Bank of Punjab	.431** (0.218)	.661	18.0** (.068)	06.4** (0.018)
HDFC Bank	.992* (.1547)	.549	55.2* (028)	-.00111 (.114)

Notes: See Notes of Table- 4.1

Table- 4.5: Calculation of Growth Rate of Nominal amount of Interest Earned of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration /Deceleration
Centurian Bank of Punjab	.431** (.218)	.661	86.2* (.068)	06.4** (0.018)
HDFC Bank	.973* (.358)	.374	63.2* (.059)	-.0013* (.003)

Notes: See Notes of Table- 4.1

Table-4.6: Calculation of Growth Rate of Real amount of Interest Earned of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleratin/ Deceleration
Centurian Bank of Punjab	.405a (.394)	.842	34.2 (.051)	.042** (.018)
HDFC Bank	.969* (.30)	.354	60.4* (.059)	-.00127* (.003)

Notes: See Notes of Table- 4.1

Table-4.7: Calculation of Growth Rate of Nominal amount of Other Income of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/ Deceleration
Centurian Bank of Punjab	.589** (.44560)	.493	18.7** (.067)	46.6a (.025)
HDFC Bank	.973* (.377)	.0844	71.3* (.062)	-.00160* (.003)

Notes: See Notes of Table- 4.1

Table- 4.8: Calculation of Growth Rate of Real amount of Other Income of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.380** (.514)	.305	16.0** (.066)	4.60a (.025)
HDFC Bank	.965* (.312)	.857	65.8* (.062)	-.00156* (.003)

Notes: See Notes of Table- 4.1

Table- 4.9: Calculation of Growth Rate of Nominal amount of Interest Expenses of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.046a (.4173)	.131	19.9 (.059)	35.7a (.024)
Hdfc Bank	.950* (.4277)	.299	67.2* (.080)	-.00128* (.004)

Notes: See Notes of Table- 4.1

Table- 4.10: Calculation of Growth Rate of Real amount of Interest Expenses of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.405a (.714)	.842	-35.8 (.051)	.042** (.018)
Hdfc Bank	.942* (.0416)	.284	60* (.081)	-.00127* (.004)

Notes: See Notes of Table- 4.1

Table- 4.11: Calculation of Growth Rate of Nominal amount of Operating Expenses of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.925* (.1791)	.778	21.8* (.037)	35.4** (.010)
HDFC BANK	.995* (1.50)	.626	61.0* (.025)	-.00115* (.001)

Notes: See Notes of Table- 4.1

Table- 4.12 : Calculation of Growth Rate of Real amount of Operating Expenses of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.766* (.2838)	.952	19.1* (.037)	—
Hdfc Bank	.995* (.129)	.626	58.3* (.024)	-.00113* (.001)

Notes: See Notes of Table- 4.1

Table- 4.13: Calculation of Growth Rate of Nominal amount of Total Income of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.523** (.3342)	.803	10.3** (.054)	42.7*** (.019)
Hdfc Bank	.974* (.358)	.524	64.4* (.058)	-.00134* (.003)

Notes: See Notes of Table- 4.1

Table- 4.14: Calculation of Growth Rate of Real amount of Total Income of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.177a (.141)	.843	-30 (.054)	4.22* (.159)
Hdfc Bank	.970* (.358)	.305	61.6* (.059)	-.00132* (.003)

Notes: See Notes of Table- 4.1

Table- 4.15: Calculation of Growth Rate of Nominal amount of Total Expenses of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.428*** (.341)	.459	10.3** (.048)	30.4a (.019)
Hdfc Bank	.977* (.338)	.371	64.2* (.054)	-.00133* (.003)

Notes: See Notes of Table- 4.1

Table- 4.16: Calculation of Growth Rate of Real amount of Total Expenses of all the selected banks during the period of 1995-2014.

Parameters	Adj. R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.165a (.3709)	.118	8.6* (.048)	—
Hdfc Bank	.974* (.357)	.351	61.4* (.055)	-.00131* (.303)

Notes: See Notes of Table- 4.1

Table- 4.17: Calculation of Growth Rate of Nominal amount of Spread of all the selected banks during the period of 1995-2014.

Parameters	Adj.R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.956* (.1446)	.775	21.9* (.046)	50.4* (.008)
Hdfc Bank	.988* (.242)	.513	64.0* (.040)	-.00131* (.002)

Notes: See Notes of Table- 4.1

Table- 4.18 : Calculation of Growth Rate of Real amount of Spread of all the selected banks during the period of 1995-2014.

PARAMETARS	Adj.R-2	Dw	Growth rate(B)%	Acceleration/Deceleration
Centurian Bank of Punjab	.678* (.471)	.734	19.3* (.423)	—
Hdfc Bank	.986* (.294)	.488	61.3* (.040)	-.00129* (.002)

Notes: See Notes of Table- 4.1

Table 4.19: Calculation of Sub period (1995-2008 and 2009-2014) Growth Rate of Nominal amount of Different Parameters of HDFC (transferee bank).

Parameters	Adj.R ²	Dw ⁺	Growth rate(β)%		Trend Break (L)
			Pre-Merger	Post-Merger	
Deposits	.985* (.2492)	.762	40.3* (.015)	16.2* (.037)	-24.1* (0.02)
Advances	.987* (.2743)	.899	46.8* (.017)	18.7* (.040)	-28.1* (0.02)
Interest Earned	.957* (.4549)	1.019	41.9* (.028)	18.2** (.067)	-23.7* (0.04)
Other Income	.954* (.4979)	.806	45.4* (.030)	14.6* (.073)	-30.8* (0.04)
Interest Expense	.930* (.5834)	1.054	40.9* (.035)	20.0** (.086)	-20.9* (0.05)
Operating Expense	.990* (.2181)	1.014	45.4* (.013)	14.6* (.032)	-26* (0.02)
Total Income	.957* (.4572)	.977	42.5* (.028)	17.6* (.067)	-24.9* (0.04)
Total Expense	.962* (.4318)	.991	42.6* (.026)	17.3* (.063)	-25.3* (0.04)
Spread	.977* (.3381)	.996	43.3* (.020)	16.3* (.050)	-27* (0.03)

Notes: See Notes of Table- 4.19

Notes: Sub-periods' growth rates are estimated by fitting Kinked exponential trend (shifting origin to the break point i.e., the joining point of two sub-periods): $\ln Y_{jt} = a + b_1 t D_1 + b_2 t D_2$ (where dummy variable $D_j = 1$ for j th sub-period and = 0 for the other sub-period; $j = 1, 2$). Trend equation is estimated by fitting trend equation $\ln Y_{jt} = a + bt + LtD_2$. Others are same as those mentioned in Table 4.1.

Table 4.20: Calculation of Sub period Growth Rate of Real amount of Deposit of all Transferee banks during the period of 1995-2014.

Parameters	Adj.R ²	Dw ⁺	Growth rate(β)%		Trend Break (L)
			Pre-Merger	Post-Merger	
Deposits	.983* (.2531)	.746	37.7* (.015)	14.3* (.037)	-23.4* (0.02)
Advances	.985* (.2781)	.879	44.2* (.017)	16.7* (.014)	-27.5* (-0.03)
Interest Earned	.951* (.4573)	1.008	39.4* (.028)	16.3** (.067)	-23.1* (0.04)
Other Income	.939* (.5039)	.792	40.3* (.031)	10.7a (.074)	-29.6* (0.04)
Interest Expense	.919* (.5858)	1.045	38.4* (.035)	18.1*** (.086)	-20.3* (0.05)
Operating Expense	.989* (.2207)	.989	40.7* (.013)	15.4* (.032)	-25.3* (0.02)
Total Income	.951* (.4597)	.966	39.9* (.028)	15.7* (.067)	-24.2* (0.04)
Total Expense	.956* (.4343)	.979	40.0* (.026)	15.3** (.064)	-24.7* (0.04)
Spread	.973* (.3404)	.978	40.7* (.021)	14.4* (.050)	-26.3* (0.03)

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