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Abstract

In 2004 RBI deregulated the standards set for cheque collections. The cheque collection policies formulated by banks post deregulation were studied by Das and Das (2006). Subsequent developments and Reserve Bank of India's intervention led to most of the banks modifying their cheque collection policies. With such revisions in place, one would expect that a comprehensive category rating (with respect to various parameters of the cheque collection policy) of the banks would indicate marked improvement. We investigate the scenario, on cheque collection policy of the banks, after more than 24 months of the release of the August 2006 Report [1]. Based on a multidimensional ranking method and the TOPSIS method for data integration, we categorize 30 banks with respect to the various parameters of the cheque collection policies as it stood during October 2008. Apart from establishing marked improvements in the policies framed, the study also identifies relative change of position of the banks with respect to the cheque collection policies. The analysis shows that RBI's intervention led to marked improvement in the performance of most banks with respect to their cheque collection policies.

1. Introduction

Cheques are one of the most accepted forms of payment for settling transactions. Money transactions through cheque collections are pertinent to banking and are an integral activity of any bank. It was recognized as early as in the 1970s that cheque collection policy for the banks in India is a matter of concern. In keeping with the spirit of economic liberalization and with a view to promote competitive zeal among banks, the Reserve Bank of India in its direction dated November 1, 2004, withdrew the rules it had set towards local/outstation cheque collections. Apparently, it appeared that it is a better option to let individual banks set their own benchmarks and offer better services to win a competitive edge over their competitors, thereby enfranchising the customers. During August, 2006, Das and Das (2006) brought out a report that compared the cheque collection policies framed by different banks with the pre-deregulation scenario. Subsequent developments and after Reserve Bank of India's intervention led to most of the banks modifying their cheque collection policies. Indian Banks' Association (IBA) also came up with a model policy. It is expected that such revisions would lead to marked improvement in the category rating of the banks with respect to various parameters of

* The views expressed in the paper are those of the authors and not necessarily of the institution to which they belong.

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the cheque collection policy. We investigate the scenario, on cheque collection policy of the banks, after more than 24 months of the release of the August 2006 Report [1]. Based on a Multidimensional Scaling technique and TOPSIS Method for data integration, we categorize 30 banks with respect to the various parameters of their cheque collection policies as it stood during October 2008. Apart from establishing marked improvements in the policies framed, the study also identifies relative change of position of the banks with respect to the cheque collection policies.

2. Cheque collection policies of banks

The website links for complete policy statements of the 30 banks, considered in our sample, are provided in Appendix A. These links, as of October 2008, provided the cheque collection policies. The list of these 30 banks along with the number of their branches is provided in Appendix B. The banks in our sample constitute 83% of the total commercial bank branches in India.

A sector wise break-up indicates that our sample comprises of 4 foreign banks constituting 74% representation among foreign bank offices, 6 private sector banks constituting 49% representation among private sector bank offices, and 20 public sector banks constituting 88% representation among public sector bank offices. The complete sample coverage details are presented below

Coverage of sample

| Bank Group (Sample Size) | Total # of offices | # of offices of sample banks |
|--------------------------|--------------------|------------------------------|
| Public Sector (20) | 52880 | 46484 |
| | | 87.90% |
| Private Sector (6) | 7975 | 3876 |
| | | 48.60% |
| Foreign (4) | 277 | 205 |
| | | 74.01% |
| Total (30) | 61132 | 46585 |
| | | 82.71% |

Note: Percentages are based on sample coverage

Source: RBI (<http://www.rbi.org.in/scripts/PublicationsView.aspx?id=10991>)

In what follows, Table 2.1 summarizes banks' policies on immediate credit while Table 2.2 summarizes time frame and interest liabilities prescribed in the policies.

A. Immediate Credit: The summary is presented in Table 2.1 of banks' cheque collection policies on immediate credit of local/outstation cheques. The last column of Table 2.1 gives our remarks for each policy. We have included the model policy on cheque collections of the IBA among the list of policies under consideration. For some detailed discussion related to policies on cheque collections, one may refer to Das (2009).

Specific to immediate credit of local/outstation cheques our observations are

- Several banks have not mentioned about immediate credit of local cheques.
- Of the 30 banks, 6 do not reveal the type of accounts to which this facility applies.
- Of the 30 banks, 8 impose additional charges or are silent on charges for providing the facility of immediate credit.

Table 2.1: Immediate credit of Local/Outstation Cheques

| S. No | Bank name | Immediate credit(Rs. Thousands) | Charges | Acc. Type revealed | Remarks |
|-------|---------------------------|---------------------------------|---------------|--------------------|---|
| 1 | ABN Amro Bank | 15 | No | No | Immediate credit for local cheques not mentioned |
| 2 | Allahabad Bank | 15 | No | No | ----- |
| 3 | Andhra Bank | 15 | No | Yes | ----- |
| 4 | Bank of Baroda | 20 | No | Yes | Pay-in-slip |
| 5 | Bank of India | 15 | No | Yes | ----- |
| 6 | Bank of Maharashtra | 15-25 | not mentioned | Yes | Credit will be allowed only up to specific period only |
| 7 | Canara Bank | 15 | Yes | Yes | ----- |
| 8 | Central Bank of India | 15 | No | Yes | Charge of Rs.5/- will be recovered for local cheques exceeding Rs.5000/-. |
| 9 | Citibank | 15 | not mentioned | No | ----- |
| 10 | Corporation Bank | 15-25 | No | Yes | ----- |
| 11 | HDFC Bank | 3 | Yes | Yes | Immediate credit for local cheques not mentioned, no mention about special request |
| 12 | HSBC | 15 | No | No | Immediate credit for local cheques not mentioned, facility of immediate credit for outstation cheques available only for cheques drawn in HSBC branches |
| 13 | ICICI Bank | 15 | not mentioned | Yes | Immediate credit for local cheques not mentioned, no mention about special request |
| 14 | IDBI Bank | 15 | No | Yes | ----- |
| 15 | Indian Bank | 15 | No | Yes | Pay-in-slip, endorsed cheques are not acceptable |
| 16 | Indian Banks' Association | 15* | No | Yes | ----- |
| 17 | Indian Overseas Bank | 15 | No | Yes | ----- |
| 18 | Indusind Bank | 15 | No | Yes | ----- |
| 19 | Kotak Mahindra | 15 | Yes | No | ----- |
| 20 | Oriental Bank of commerce | 15-25 | No | Yes | No mention about special request |
| 21 | Punjab & Sind Bank | 5 | not mentioned | Yes | No mention about special request |
| 22 | Punjab National Bank | 15 | No | Yes | No mention about special request, Charging 20/- for Local instruments |
| 23 | South Indian Bank | 15 | No | Yes | ----- |
| 24 | Standard chartered | 5 | No | Yes | No mention about special request |
| 25 | State Bank of India | 20 | No | Yes | No immediate credit for local cheques, no mention about special request |
| 26 | State Bank of Mysore | 20 | No | Yes | ----- |
| 27 | Syndicate Bank | 15 | No | Yes | ----- |
| 28 | UCO Bank | 15-25 | No | Yes | Pay-in-slip |
| 29 | Union Bank | 15-25-50 | No | Yes | 5/- charge for local cheque, pay-in-slip |
| 30 | United Bank | 15-20 | No | Yes | No mention about special request |
| 31 | UTI Bank/Axis Bank | 15 | Yes | No | Immediate credit is provided to cheques that are drawn on Axis Bank centre's only |

* Immediate credit amount is taken from the pre-deregulation model

B. Time Frame and Interest: We present the summary on time frame and interest on delayed cheques in Table 2.2.

On perusal of the policies with respect to the time frame and interest on delayed cheques it is noticed that

- All of the banks are not explicit on their liabilities for delay in local cheques
- Most of the banks have not mentioned time frame for local instruments
- Out of 30 banks, only 1 bank explicitly mentioned that onus of cheque doesn't lie on account holder
- Out of 30 banks, 4 banks have not defined 'abnormal length'
- Out of 30 bank, only 5 banks mentioned about the availability of policy in the branch premises
- The commitment of banks to pay interest for delayed credit without customer's asking is not incorporated in most of the bank's policies

Table 2.2: Time Frame and Interest on delayed cheques

| S. No | Bank name | Metro | Capital | Others | ROI |
|-------|---------------------------|-------|---------|---------------|--------------------------------------|
| 1 | ABN Amro | 6 | 15 | 15/45 | TD+2% |
| 2 | Allahabad | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 3 | Andhra Bank | 7 | 10 | 14 | SB(up to 45 days of delay),TD(45-90) |
| 4 | Bank of Baroda | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 5 | Bank of India | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 6 | Bank of Maharashtra | 7 | 8 | 14 | 3.50% |
| 7 | Canara Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 8 | Central Bank of India | 8 | 10 | 14 | FD |
| 9 | Citibank | 5 | 6 | 8/30 | FD |
| 10 | Corporation Bank | 7 | 10 | 14 | SB |
| 11 | HDFC Bank | 7 | 10 | 14/30/60 | SB(up to 14 days of delay),TD(14-90) |
| 12 | HSBC | 7 | 10 | not specified | SB |
| 13 | ICICI Bank | 7 | 7 | 21 | SB |
| 14 | IDBI Bank | 7 | 10 | 14/21 | SB(up to 14 days of delay),TD(14-90) |
| 15 | Indian Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 16 | Indian Banks' Association | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 17 | Indian Overseas Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 18 | Indusind Bank | 7/10 | 10/14 | 14/21/30 | SB(up to 14 days of delay),TD(14-90) |
| 19 | Kotak Mahindra | 7 | 12 | 30/45 | SB(up to 45 days of delay),TD(45-90) |
| 20 | Oriental Bank of commerce | 7 | 10 | 14/25 | SB(up to 14 days of delay),TD(14-90) |
| 21 | Punjab & Sind Bank | 10 | 14 | 14 | SB |
| 22 | Punjab National Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 23 | South Indian Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 24 | Standard chartered | 7 | 10 | 14/40 | SB(up to 14 days of delay),TD(14-90) |
| 25 | State Bank of India | 6/7 | 8/10 | 10/14 | 5% |
| 26 | State Bank of Mysore | 6/7 | 8/10 | 10/14 | SB |
| 27 | Syndicate Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 28 | UCO Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 29 | Union Bank | 10 | 10 | 14 | FD |
| 30 | United Bank | 7 | 10 | 14 | SB(up to 14 days of delay),TD(14-90) |
| 31 | UTI Bank/Axis Bank | 7 | 10 | 21 | SB |

It may be noted that much after the above data had been compiled, RBI on June 2, 2009 brought out a direction dated November 24, 2008 wherein it stipulated limits on the time frame as 7/10/14 days (see, reference [2]).

3. Categorization of banks through multidimensional ranking

The cheque collection policies of banks show that each bank frame its policy with its own criteria giving importance to different parameters. We examine various parameters of cheque collection policies and obtain a Bank Evaluation Model with respect to cheque collections using several of these critical parameters. The Bank Evaluation Model classifies the banks into categories based on overall ranking of the banks with respect to the parameters considered by the model.

A. Selection of Banks:

We have considered all the 30 banks that are in our sample study, representing 83% of total branches of scheduled commercial banks. Additionally, we have taken IBA's model policy on cheque collections.

B. Parameter Identification:

To see the performance in terms of cheque collections on a composite scale, several variables were identified. These variables cover, *interalia*, the efficiency with respect to time frame; liability of the banks with respect to delayed payments; and other quantitative/qualitative aspects of their performance in deliverance of payment-settlement facilities. Tables 1, 2 and 3 in Appendix C gives details of the 20 parameters related to cheque collections. The abbreviation and description of parameters selected, with which we will be carrying out the categorization exercise, is presented in Table 1 of Appendix C. Tables 2 and 3 of Appendix C give the parameter characteristics in descriptive and quantitative terms respectively. In case of most of the parameters, the higher the value, the better it is while in case of some (e.g. time frame related parameters), the lower the value, the better it is. These directions are given at the bottom of Table 3 in Appendix C.

C. Methodology of Categorization:

Following Thorat, Maria and Das (2004) and Das and Das (2006) we use an iterative technique for scaling banks with respect to the cheque collection policy. While all the banks can be categorized according to each of the parameters separately, which would give their relative position vis-à-vis other banks according to that parameter, the categorization exercise attempts to build a scale that is comprehensive and has multidimensionality as it takes into account all the identified parameters. The directions of the parameters have been adjusted for, while preparing the categories. As the parameters identified are in different units, they are brought to common and unit free scale through standardization. The standardized values are next converted to scores from 1 to 10 using the decile points of the Standard Normal Distribution. This is done for each parameter. These scores are given in Table 4 of Appendix C. For each bank, the scores over all the parameters are added to arrive at the total score. The correlation between the total scores is calculated with the individual scores for each of the parameters. These are then tested for a null hypothesis of the correlation being zero against an alternative that it is greater than zero. The parameters for which the null hypothesis is rejected are retained and a new total score with the residual set of parameters is worked out. The correlations between the new total score and the residual set of parameters (which were used to calculate this new

total score), are again calculated and subjected to testing as above. The process is repeated till each of the parameters in the residual set has significant and positive correlation with the total score. The final total scores provide the required ranking of the banks and are used to provide the categorization of the banks (see, references [1] and [4]).

4. Categorisation of banks by TOPSIS method

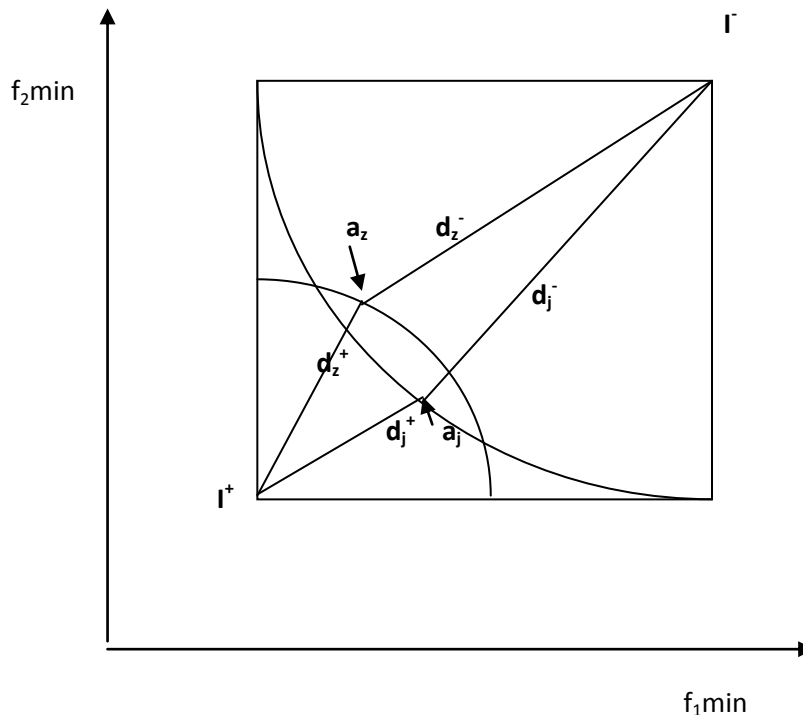
The Technique for Order Preference by Similarity to an Ideal Solution (TOPSIS) method was developed by Hwang and Yoon (1981) for solving multi criteria decision making (MCDM) problems. A MCDM problem can be described as a problem of choosing from a set of possible alternatives using multiple criteria. The ranking of each alternative with respect to individual criteria are available. While arriving at a composite ranking, the TOPSIS method ranks that alternative as best which has the shortest distance to the positive ideal solution Γ^+ and the longest distance from the negative ideal solution Γ^- , where the distances are calculated with a particular value of p ($1 \leq p \leq \infty$) of the Minkowski's metrics

$$L_p = \left\{ \sum_{i=1}^k W_i^p |f_i(x) - f_i^*|^p \right\}^{1/p}$$

(typically $p = 1$ is *Manhattan distance*, $p = 2$ is *Euclidean distance* and $p = \infty$ is *Tchebycheff distance*). For further details see [6]. With respect to only two variables, Figure 1 exemplifies how TOPSIS works. Given an alternative like a_j , the distances d_j^+ and d_j^- to Γ^+ and Γ^- respectively are

calculated. Thereafter, a relative distance $D_j = \frac{d_j^-}{d_j^+ + d_j^-}$ comprised between $[0, 1]$ is assigned to each alternative. The final (*increasingly labeled*) order is obtained sorting the set of alternatives decreasingly in terms of D_j , i.e. from the best bank to the worst bank.

Figure 1: TOPSIS distances



The main principle governing TOPSIS is to identify as preferred solutions those banks having the shortest distance to the positive ideal solution and the longest distance from the negative ideal solution. The method induces an ordering of the solutions based on similarity to the ideal point, guiding the search towards the zone of interest. Maria and Das (2009) recently used the TOPSIS method to make inter-state comparisons for India's household consumer expenditure.

The TOPSIS computation involves the following steps –

1. Suppose S_1, S_2, \dots, S_m are m possible alternatives among which decision makers have to choose based on n criteria. Let, C_1, C_2, \dots, C_n are the criteria with which alternative performance are measured, X_{ij} is the rating of alternative S_i with respect to the criterion C_j . Thus, the data matrix is,

| | | | | | |
|----------|----------|----------|----------|----------|----------|
| | C_1 | C_2 | C_3 | \dots | C_n |
| S_1 | x_{11} | x_{12} | x_{13} | \dots | x_{1n} |
| S_2 | x_{21} | x_{22} | x_{23} | \dots | x_{2n} |
| S_3 | x_{31} | x_{32} | x_{33} | \dots | x_{3n} |
| \vdots | \vdots | \vdots | \vdots | \ddots | \vdots |
| S_m | x_{m1} | x_{m2} | x_{m3} | \dots | x_{mn} |

2. Determine the negative ideal and positive ideal locations as:

$$f_{\min} = \min(x_{1j}, x_{2j}, \dots, x_{mj}) = u_j, \text{ where } j=1, 2, \dots, n.$$

$$f_{\max} = \max(x_{1j}, x_{2j}, \dots, x_{mj}) = v_j, \text{ where } j=1, 2, \dots, n.$$

3. Associate some weights $W = [w_1, w_2, \dots, w_n]$ where w_j is the weight corresponding to criterion C_j , such that $\sum_{j=1}^n w_j = 1$.

4. Calculate the two measures $L_2(i, f_{\min})$ and $L_2(i, f_{\max})$ using the n -dimensional Euclidean Distance, where

$$L_2(i, f_{\min}) = \left\{ \sum_{j=1}^n w_j (x_{ij} - u_j)^2 / \sum_{i=1}^m x_{ij}^2 \right\}^{1/2}$$

and

$$L_2(i, f_{\max}) = \left\{ \sum_{j=1}^n w_j (x_{ij} - v_j)^2 / \sum_{i=1}^m x_{ij}^2 \right\}^{1/2}$$

5. Calculate the relative closeness of positive ideal location and negative ideal location, named by Composite Index [CI] and defined as

$$CI[i] = \frac{L_2(i, f_{\min})}{L_2(i, f_{\max}) + L_2(i, f_{\min})}.$$

The ratio is always between 0 and 1. An alternative having higher value of CI is better than the one having a lower value. Thus, a bank with high composite index is considered to be better bank and all the banks are sorted by the composite index.

5. Overall bank standings

In this section, we obtain the bank standings using the multidimensional ranking method and the TOPSIS method. The methods are applied to the dataset corresponding to Table 3 of Appendix C. To compare both the methods, first we apply the multidimensional ranking method. The method in the first iteration eliminated 7 of the 20 variables and in the second iteration eliminated one more variable. The correlation measures and the single tailed Karl Pearson tests are given in Table 5 of Appendix C).

The 12 (of the 20) variables which have significant correlation with total score and which are used for final ranking are

- 1 Amount of Immediate credit (in Rs. Thousand)
- 2 Additional Charges for Immediate Credit
- 3 Account type revealed for Immediate Credit
- 4 Time Frame for other centers, etc.(in days)
- 5 Time Frame for Collection in terms of days or working days
- 6 Rate of interest paid in case of delay in Outstation Cheques
- 7 SB rate end point in the ROI
- 8 Rate of interest paid in case of Abnormal Delay in Outstation Cheques
- 9 Length of Abnormal Delay (in Days)
- 10 Abnormal delay defined
- 11 BPLR interest paid in case of delay in outstation cheques of loan account
- 12 Specified interest on cheques returned unpaid

Next, we apply the TOPSIS method on the new dataset using the above 12 variables. Thus, we have $m=31$ and $n=12$ and use the data corresponding to the 12 variables in Table 3 of Appendix C. Table 5.1 compares the results obtained by multidimensional ranking method and TOPSIS method. First column of Table 5.1 gives the rankings by TOPSIS method and second column gives the rankings of multidimensional ranking (MR). In Table 5.1, the banks are ordered with respect to their ranks from 1 to 31. The banks in green color are public, in blue color are private and in red color are foreign banks.

Table 5.1

| TOPSIS Results | MR results |
|---------------------------|---------------------------|
| Union Bank | Union Bank |
| State Bank of India | Bank of Baroda |
| Bank of Baroda | United Bank |
| United Bank | Oriental Bank of commerce |
| Oriental Bank of commerce | Bank of India |
| Bank of India | Indian Bank |
| Indian Bank | Indian Overseas Bank |
| Indian Overseas Bank | Indian Banks' Association |
| Indian Banks' Association | Punjab National Bank |
| Punjab National Bank | South Indian Bank |
| South Indian Bank | State Bank of India |

| TOPSIS Results | MR results |
|-----------------------|-----------------------|
| IDBI Bank | IDBI Bank |
| Indusind Bank | Central Bank of India |
| Central Bank of India | Indusind Bank |
| UCO Bank | UCO Bank |
| State Bank of Mysore | Allahabad |
| Allahabad | Andhra Bank |
| Canara Bank | State Bank of Mysore |
| Andhra Bank | Canara Bank |
| Corporation Bank | Syndicate Bank |
| Syndicate Bank | Corporation Bank |
| ICICI Bank | Standard chartered |
| Standard chartered | ICICI Bank |
| Bank of Maharashtra | Bank of Maharashtra |
| HDFC Bank | HDFC Bank |
| ABN Amro | Kotak Mahindra |
| Citibank | HSBC |
| Kotak Mahindra | ABN Amro |
| HSBC | Citibank |
| Punjab & Sind Bank | Punjab & Sind Bank |
| UTI Bank/Axis Bank | UTI Bank/Axis Bank |

From Table 5.1 we observe that, except State Bank of India, all the banks differ by ± 2 in their positions. Clearly, one can see the similarity in the results obtained by the two methods. Finally, we categorized the banks into three categories (Category-1 being best and Category-3 worst) such that each bank falls in the same category by the two methods. The categories are as provided in Table 5.2.

Table 5.2

| Category-1 | Category-2 | Category-3 |
|---------------------------|-----------------------|---------------------|
| Union Bank | IDBI Bank | ICICI Bank |
| State Bank of India | Indusind Bank | Standard chartered |
| Bank of Baroda | Central Bank of India | Bank of Maharashtra |
| United Bank | UCO Bank | HDFC Bank |
| Oriental Bank of commerce | State Bank of Mysore | ABN Amro |
| Bank of India | Allahabad | Citi Bank |
| Indian Bank | Canara Bank | Kotak Mahindra |
| Indian Overseas Bank | Andhra Bank | HSBC |
| Indian Bank Association | Corporation Bank | Punjab & Sind Bank |
| Punjab National Bank | Syndicate Bank | UTI Bank/Axis Bank |
| South Indian Bank | | |

Some conclusions which follow from both the methods are

- Public sector banks are having better cheque collection polices than the other banks.
- Among the public sector banks, Union Bank has the best policy while Punjab & Sind Bank is on the other end of the spectrum.

- Among the private sector banks, South Indian Bank comes out to be the best while Axis Bank is at the last position.
- All the four foreign banks fall in Category-3. Of the six private sector banks in our sample, four falls in Category-3, while one each in Categories 1 and 2. Except for these two private banks all the other banks in the Categories 1 and 2 are from the public sector and in fact only two public sector banks fall in the Category-3.

6. Comparison between cheque collection policies over time

In this Section, we compare the current (the data as of October 2008) cheque collection policy of each bank with the policies of 2006 as presented in the Das and Das (2006). The old data of 2006 cheque collection policies (as per [1]) is provided in Table 1 of Appendix D. We take the bank policies which are common in both the samples and consider only the common variables. The following table gives the list of 15 variables considered.

| Sr. No | Parameter Abbreviation | Parameter Description |
|--------|------------------------|--|
| 1 | Immediate Credit | Amount of Immediate credit (in Rs. Thousand) |
| 2 | Charges | Additional Charges for Immediate Credit |
| 3 | Acc. Type revealed | Account type revealed for Immediate Credit |
| 4 | Metro, etc. | Time Frame for Metro, etc.(in days) |
| 5 | Capital, etc. | Time Frame for State Capitals, etc.(in days) |
| 6 | Others | Time Frame for other centers, etc.(in days) |
| 7 | Days | Time Frame for Collection in terms of days or working days |
| 8 | Local Chq Time | Time frame for Local Cheque clearance (in days) |
| 9 | ROI | Rate of interest paid in case of delay in Outstation Cheques |
| 10 | Effective Ad ROI | Rate of interest paid in case of Abnormal Delay in Outstation Cheques |
| 11 | AbDelay Length | Length of Abnormal Delay (in Days) |
| 12 | Ab. Defined | Abnormal delay defined (yes/no) |
| 13 | BPLR | BPLR interest paid in case of delay in outstation cheques of loan account (yes/no) |
| 14 | Onus | Onus of lost cheque (Not on customer/Silent/On customer) |
| 15 | BrDisp in policy | Policy mentions its display in branches (yes/no) |

A. Comparison by multidimensional ranking method:

We look into all the 62 policies together, i.e., we consider the all the policies in 2006 (old data) and in 2008 (new data) as a single dataset to find the relative change in the policies. Table 2 of Appendix D provides the combined scores. Based on the single tailed Karl Pearson test (see Table 3 of Appendix D), the multidimensional ranking method applied to the combined dataset of 15 variables, results in 3 of the parameters being uncorrelated with the total score in the first iteration and none in the second iteration. The following 12 parameters are finally used to rank the 62 policies.

- 1 Amount of Immediate credit (in Rs. Thousand)
- 2 Additional Charges for Immediate Credit
- 3 Account type revealed for Immediate Credit
- 4 Time Frame for Metro, etc.(in days)
- 5 Time Frame for State Capitals, etc.(in days)

- 6 Time Frame for other centers, etc.(in days)
- 7 Time Frame for Collection in terms of days or working days
- 8 Rate of interest paid in case of delay in Outstation Cheques
- 9 Rate of interest paid in case of Abnormal Delay in Outstation Cheques
- 10 Length of Abnormal Delay (in Days)
- 11 Abnormal delay defined (yes/no)
- 12 BPLR interest paid in case of delay in outstation cheques of loan account (yes/no)

With respect to these 12 parameters, we calculated the total scores for each bank (see Table 2 of Appendix D) and the following table gives the scores of the two policies of each bank.

| S. No | Bank name | Old Data Score | New Data Score | Difference |
|-------|---------------------------|----------------|----------------|------------|
| 1 | Pre-Deregulation Model | 77 | 77 | 0 |
| 2 | ABN Amro | 33 | 57 | 24 |
| 3 | Allahabad | 84 | 87 | 3 |
| 4 | Andhra Bank | 60 | 91 | 31 |
| 5 | Bank of Baroda | 80 | 96 | 16 |
| 6 | Bank of India | 64 | 93 | 29 |
| 7 | Bank of Maharashtra | 65 | 67 | 2 |
| 8 | Canara Bank | 79 | 86 | 7 |
| 9 | Central Bank of India | 81 | 87 | 6 |
| 10 | Citibank | 45 | 54 | 9 |
| 11 | Corporation Bank | 82 | 79 | -3 |
| 12 | HDFC Bank | 40 | 61 | 21 |
| 13 | HSBC | 40 | 67 | 27 |
| 14 | ICICI Bank | 27 | 70 | 43 |
| 15 | IDBI Bank | 29 | 92 | 63 |
| 16 | Indian Bank | 48 | 93 | 45 |
| 17 | Indian Overseas Bank | 63 | 93 | 30 |
| 18 | Indusind Bank | 63 | 88 | 25 |
| 19 | Kotak Mahindra | 26 | 64 | 38 |
| 20 | Oriental Bank of commerce | 67 | 93 | 26 |
| 21 | Punjab & Sind Bank | 49 | 46 | -3 |
| 22 | Punjab National Bank | 69 | 93 | 24 |
| 23 | South Indian Bank | 74 | 93 | 19 |
| 24 | Standard chartered | 29 | 77 | 48 |
| 25 | State Bank of India | 86 | 89 | 3 |
| 26 | State Bank of Mysore | 86 | 86 | 0 |
| 27 | Syndicate Bank | 30 | 86 | 56 |
| 28 | UCO Bank | 77 | 88 | 11 |
| 29 | Union Bank | 88 | 99 | 11 |
| 30 | United Bank | 50 | 94 | 44 |
| 31 | UTI Bank/Axis Bank | 33 | 39 | 6 |

From the above analysis, we can conclude that

- There is an improvement in the cheque collection policies of the banks over time
- Around 50% of the banks are having an increment of 20 in their scores
- IDBI and Syndicate Bank show significant improvements in their policies

- Punjab & Sind Bank and Corporation Bank deteriorated slightly with respect to their policies.

The bar chart in Appendix E shows the scores of the banks. X-axis represents the bank number as in the above table and Y-axis represents the scores. The blue color bar represents the score corresponding to the old policies and the red color bar for the new policies.

B. Comparison by TOPSIS Method:

The following results are obtained when we applied the TOPSIS method to the combined dataset (old and new) with 12 variables which come out significant in the multidimensional ranking method.

| S. No | Bank name | COMPOSITE INDEX | | Difference |
|-------|---------------------------|-----------------|----------|------------|
| | | Old Data | New Data | |
| 1 | Pre-Deregulation Model | 0.7570 | 0.7570 | 0.0000 |
| 2 | ABN Amro | 0.3519 | 0.6199 | 0.2680 |
| 3 | Allahabad | 0.7887 | 0.7886 | -0.0001 |
| 4 | Andhra Bank | 0.6574 | 0.8401 | 0.1827 |
| 5 | Bank of Baroda | 0.7772 | 0.8746 | 0.0974 |
| 6 | Bank of India | 0.6656 | 0.8546 | 0.1891 |
| 7 | Bank of Maharashtra | 0.6630 | 0.6780 | 0.0150 |
| 8 | Canara Bank | 0.7581 | 0.7916 | 0.0336 |
| 9 | Central Bank of India | 0.7680 | 0.7809 | 0.0129 |
| 10 | Citi Bank | 0.5062 | 0.6180 | 0.1118 |
| 11 | Corporation Bank | 0.7494 | 0.7612 | 0.0118 |
| 12 | HDFC Bank | 0.4872 | 0.6326 | 0.1455 |
| 13 | HSBC | 0.5404 | 0.6484 | 0.1080 |
| 14 | ICICI Bank | 0.4388 | 0.6985 | 0.2597 |
| 15 | IDBI Bank | 0.5100 | 0.8487 | 0.3387 |
| 16 | Indian Bank | 0.5289 | 0.8546 | 0.3257 |
| 17 | Indian Overseas Bank | 0.6931 | 0.8546 | 0.1615 |
| 18 | Indusind Bank | 0.6713 | 0.8316 | 0.1603 |
| 19 | Kotak Mahindra | 0.4047 | 0.6434 | 0.2388 |
| 20 | Oriental Bank of commerce | 0.6946 | 0.8614 | 0.1668 |
| 21 | Punjab & Sind Bank | 0.6280 | 0.6285 | 0.0005 |
| 22 | Punjab National Bank | 0.7098 | 0.8546 | 0.1449 |
| 23 | South Indian Bank | 0.7004 | 0.8546 | 0.1543 |
| 24 | Standard chartered | 0.5050 | 0.7128 | 0.2078 |
| 25 | State Bank of India | 0.8271 | 0.8561 | 0.0290 |
| 26 | State Bank of Mysore | 0.8271 | 0.8318 | 0.0046 |
| 27 | Syndicate Bank | 0.3414 | 0.7534 | 0.4120 |
| 28 | UCO Bank | 0.7299 | 0.7854 | 0.0554 |
| 29 | Union Bank | 0.7957 | 0.9046 | 0.1089 |
| 30 | United Bank | 0.6060 | 0.8635 | 0.2575 |
| 31 | UTI Bank/Axis Bank | 0.5297 | 0.5716 | 0.0419 |

The bar chart in Appendix F shows the CI's of the Banks. X-axis represents the bank number as in the above table and Y-axis represents the CI. The blue and red color bars represent the CI corresponding to the old and new policies respectively. We observe score hikes in most of the bank policies. Also, we observe that the score hike is significant for IDBI and Syndicate Bank (same as was observed in multidimensional ranking method).

7. Conclusion

In 2004 RBI deregulated the standards set for cheque collections. The cheque collection policies formulated by banks, post deregulation, were studied by Das and Das (2006). Subsequent developments and Reserve Bank of India's intervention led to most of the banks modifying their cheque collection policies. With such revisions in place, one would expect that a comprehensive category rating (with respect to the cheque collection policy) of the banks would indicate marked improvement. We base our investigation on a multidimensional ranking method and the TOPSIS method for data integration. This allows us to associate scores to the cheque collection policies and thus categorize the 30 banks that we have considered (with respect to the various parameters of the cheque collection policies as it stood during October 2008). We establish marked improvements in the policies framed. We also identify the relative change of position of the banks from year August 2006 to October 2008, with respect to the cheque collection policies. Score hike is observed in most of the bank policies. The analysis shows that RBI's intervention led to marked improvement in the performance of most banks with respect to their cheque collection policies.

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Appendix A: Website links of Cheque Collection Policies of banks

| S. No. | Bank name | Link of the cheque collection policy |
|--------|---------------------------|---|
| 1 | ABN Amro | http://www.abnamro.co.in/India/May-1-Help/Regulatory/cheque_collection_policy_consumer_bank.pdf |
| 2 | Allahabad Bank | http://www.allahabadbank.in/cheque-policy.asp |
| 3 | Andhra Bank | http://www.andhrabank.in/scripts/customerscorner.aspx |
| 4 | Bank of Baroda | http://www.bankofbaroda.com/download/cheque_collection_policy.pdf |
| 5 | Bank of India | http://www.bankofindia.com/chequepolicy.aspx |
| 6 | Bank of Maharashtra | http://www.bankofmaharashtra.in/policy.asp |
| 7 | Canara Bank | http://www.canarabank.com/English/Scripts/InstrumentsPolicy.aspx |
| 8 | Central Bank of India | http://www.centralbankofindia.co.in/english/fairpractices.asp |
| 9 | Citibank | http://www.online.citibank.co.in/portal/newgen/banking/Chq_coll_policy_final_Mar07.pdf |
| 10 | Corporation Bank | http://www.corpbank.com/asp/0100text.asp?presentID=953&headID=856 |
| 11 | HDFC Bank | http://www.hdfcbank.com/common/pdf/cheque_collection_policy.pdf |
| 12 | HSBC Bank | http://www.hsbc.co.in/1/PA_1_1_S5/content/website/pdf/about/cheque_collection_policy.pdf |
| 13 | ICICI Bank | http://www.icicibank.com/Pfsuser/webnews/Policy_for_collection_of_local_v2.pdf |
| 14 | IDBI Bank | http://www.idbi.com/pdf/Checkcollection-policy.doc |
| 15 | Indian Bank | http://www.indian-bank.com/ChequeCollectionPolicy.pdf |
| 16 | Indian Overseas Bank | http://iob.in/pol-cheque-coll.asp |
| 17 | Indusind Bank | http://www.indusind.com/PageProcess.aspx?pageid=537&lang=en-US&menuid= |
| 18 | Kotak Mahindra | http://www.kotak.com/Kotak_BankSite/common/pdf/cheque_collection_Revised.pdf |
| 19 | Oriental Bank of commerce | http://www.obcindia.co.in/uniquepage.asp?id_pk=70 |
| 20 | Punjab & Sind Bank | http://www.psbindia.com/ccp.php |
| 21 | Punjab National Bank | http://www.pnbindia.com/cinstpolicy.pdf |
| 22 | Standard chartered | http://www.standardchartered.com/in/cb/services/collection.pdf |
| 23 | State Bank of India | http://www.sbi.co.in/viewsection.jsp?lang=0&id=0,453,640 |
| 24 | State Bank of Mysore | http://www.statebankofmysore.co.in/downloads/cheque%20collection.pdf |
| 25 | Syndicate Bank | http://www.syndicatebank.in/downloads/Bank-Policy-Cheque-collection.doc |
| 26 | UCO Bank | http://www.ucobank.com/policies.htm |
| 27 | Union Bank of India | http://www.unionbankofindia.co.in/au_cheque_collection_po1.aspx |
| 28 | United Bank of India | http://www.unitedbankofindia.com/cheque_policy.asp |
| 29 | UTI Bank/Axis Bank | http://www.axisbank.com/aboutus/policyoncollectionoflocalandoutstationcheques/Policy-On-Collection-Of-Local-And-Outstation-Cheques.asp |
| 30 | South Indian Bank | http://www.southindianbank.com/UserFiles/revd_cheque.pdf |
| 31 | Indian Banks' Association | http://www.iba.org.in/model_deposit.asp |

Appendix B: Number of offices of the 30 selected banks

The following table shows the list of 30 banks considered in the sample along with the number of bank branches (as of March 2008). The banks are arranged in the descending order of number of branches they have.

| S. No. | Bank name | Bank Type | Branches |
|--------|---------------------------|-----------|----------|
| 1 | State Bank of India | Public | 10183 |
| 2 | Punjab National Bank | Public | 4178 |
| 3 | Central Bank of India | Public | 3324 |
| 4 | Bank of Baroda | Public | 2845 |
| 5 | Bank of India | Public | 2845 |
| 6 | Canara Bank | Public | 2690 |
| 7 | Union Bank | Public | 2324 |
| 8 | Syndicate Bank | Public | 2188 |
| 9 | Allahabad Bank | Public | 2135 |
| 10 | UCO Bank | Public | 1945 |
| 11 | Indian Overseas Bank | Public | 1879 |
| 12 | Indian Bank | Public | 1524 |
| 13 | United Bank of India | Public | 1399 |
| 14 | Bank of Maharashtra | Public | 1365 |
| 15 | Andhra Bank | Public | 1363 |
| 16 | Oriental Bank of commerce | Public | 1344 |
| 17 | ICICI Bank | Private | 1249 |
| 18 | HDFC Bank | Private | 1150 |
| 19 | Corporation Bank | Public | 964 |
| 20 | Punjab & Sind Bank | Public | 839 |
| 21 | State Bank of Mysore | Public | 650 |
| 22 | UTI Bank/Axis Bank | Private | 626 |
| 23 | IDBI Bank | Public | 500 |
| 24 | South Indian Bank | Private | 489 |
| 25 | Indusind Bank | Private | 182 |
| 26 | Kotak Mahindra | Private | 180 |
| 27 | Standard Chartered Bank | Foreign | 90 |
| 28 | HSBC | Foreign | 47 |
| 29 | Citibank | Foreign | 40 |
| 30 | ABN Amro Bank | Foreign | 28 |

Appendix C: Tables related to categorization of banks through multidimensional ranking

Table 1: Abbreviations of parameters and their description

| S. No. | Parameter | Parameter Abbreviation | Parameter Description |
|--------|-----------|---|--|
| 1 | V1 | Immediate credit | Amount of Immediate credit (in Rs. Thousand) |
| 2 | V2 | Charges | Additional Charges for Immediate Credit |
| 3 | V3 | Acc. Type Revealed | Account type revealed for Immediate Credit |
| 4 | V4 | Metro | Time Frame for Metro, etc.(in days) |
| 5 | V5 | Capitals | Time Frame for State Capitals, etc.(in days) |
| 6 | V6 | Others | Time Frame for other centres, etc.(in days) |
| 7 | V7 | Days | Time Frame for Collection in terms of days or working days |
| 8 | V8 | Local cheque time | Time frame for Local Cheque clearance (in days) |
| 9 | V9 | ROI | Rate of interest paid in case of delay in Outstation Cheques |
| 10 | V10 | SB rate endpoint | SB rate end point in the ROI |
| 11 | V11 | Effective ADroi | Rate of interest paid in case of Abnormal Delay in Outstation Cheques |
| 12 | V12 | AbDelay Length | Length of Abnormal Delay (in Days) |
| 13 | V13 | Ab. Defined | Abnormal delay defined (yes/no) |
| 14 | V14 | BPLR | BPLR interest paid in case of delay in outstation cheques of loan account (yes/no) |
| 15 | V15 | Onus | Onus of lost cheque (Not on customer/Silent/On customer) |
| 16 | V16 | BrDisp in policy | Policy mentions its display in branches (yes/no) |
| 17 | V17 | Force Majeure | Force Majeure mentioned (yes/no) |
| 18 | V18 | Int on returned cheques | Specified interest on cheques returned unpaid (yes/no) |
| 19 | V19 | Int if cheque lost | Specified interest paid if cheque lost(yes/no) |
| 20 | V20 | cooling off period in case of foreign cheques | Mentioned cooling off period in case of foreign period(yes/no) |

Table 2: Parameter characteristics in descriptive terms

| No. | Bank name | V1 | V2 | V3 | V4 | V5 | V6 | V7 | V8 | V9 | V10 | V11 | V12 | V13 | V14 | V15 | V16 | V17 | V18 | V19 | V20 |
|-----|---------------------------|----------|---------------|-----|------|-------|---------------|------|---------------|---------------------------------------|-----|---------|-----|-----|--------|---------------|-----|-----|-----|-----|-----|
| 1 | ABN Amro | 15 | no | no | 6 | 15 | 15\45 | WD | 2 | TD+2% | 0 | TD+2% | no | no | no | on cust | no | no | no | yes | yes |
| 2 | Allahabad Bank | 15 | no | no | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | no |
| 3 | Andhra Bank | 15 | no | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 45 days of delay),TD(45-90) | 45 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | yes |
| 4 | Bank of Baroda | 20 | no | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | yes | yes | yes | yes | yes |
| 5 | Bank of India | 15 | no | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | yes | yes | yes | yes | yes |
| 6 | Bank of Maharashtra | 15-25 | not mentioned | yes | 7 | 8 | 14 | WD | 3 | 3.50% | 45 | SB+1.5% | 45 | yes | no | on cust | no | no | yes | no | no |
| 7 | Canara Bank | 15 | yes | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | no |
| 8 | Central Bank of India | 15 | no | yes | 8 | 10 | 14 | Days | 3 | FD | 0 | TD+2% | 75 | yes | no | not mentioned | no | no | yes | no | no |
| 9 | Citibank | 15 | not mentioned | no | 5 | 6 | 8\30 | WD | 1 | FD | 0 | FD | no | no | no | on cust | yes | yes | no | no | yes |
| 10 | Corporation Bank | 15-25 | no | yes | 7 | 10 | 14 | Days | not mentioned | SB | 21 | SB+2% | 21 | yes | no | on cust | no | yes | yes | yes | yes |
| 11 | HDFC Bank | 3 | yes | yes | 7 | 10 | 14\30\60 | WD | 4 | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | no | on cust | no | yes | yes | yes | yes |
| 12 | HSBC Bank | 15 | no | no | 7 | 10 | not specified | WD | 3 | SB | 90 | TD+2% | 90 | yes | yes | on cust | no | yes | no | yes | no |
| 13 | ICICI Bank | 15 | not mentioned | yes | 7 | 7 | 21 | WD | not mentioned | SB | 30 | TD | 30 | yes | yes/no | on cust | no | yes | yes | yes | yes |
| 14 | IDBI Bank | 15 | no | yes | 7 | 10 | 14\21 | days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | yes |
| 15 | Indian Bank | 15 | no | yes | 7 | 10 | 14 | Days | 3 | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | yes | yes | yes | yes | no |
| 16 | Indian Overseas Bank | 15 | no | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | no |
| 17 | Indusind Bank | 15 | no | yes | 7\10 | 10\14 | 14\21\30 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | yes |
| 18 | Kotak Mahindra | 15 | yes | no | 7 | 12 | 30\45 | WD | not mentioned | SB(untill 45 days of delay),TD(45-90) | 45 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | yes |
| 19 | Oriental Bank of commerce | 15-25 | no | yes | 7 | 10 | 14\25 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | yes |
| 20 | Punjab & Sind Bank | 5 | not mentioned | yes | 10 | 14 | 14 | Days | 4 | SB | 200 | SB | no | no | no | on cust | no | yes | yes | yes | no |
| 21 | Punjab National Bank | 15 | no | yes | 7 | 10 | 14 | Days | 3 | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | no |
| 22 | Standard chartered | 5 | no | yes | 7 | 10 | 14\40 | WD | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | no | yes | yes |
| 23 | State Bank of India | 20 | no | yes | 6\7 | 8\10 | 10\14 | Days | 3 | 5% | 0 | 6% | 45 | yes | yes | on cust | no | yes | yes | no | no |
| 24 | State Bank of Mysore | 20 | no | yes | 6\7 | 8\10 | 10\14 | Days | 4 | SB | 45 | SB+2% | 45 | yes | yes | not mentioned | no | no | yes | no | no |
| 25 | Syndicate Bank | 15 | no | yes | 7 | 10 | 14 | WD | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | no |
| 26 | UCO Bank | 15-25 | no | yes | 7 | 10 | 14 | Days | 3 | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | no | on cust | no | yes | yes | yes | no |
| 27 | Union Bank | 15-25-50 | no | yes | 10 | 10 | 14 | Days | not mentioned | FD | 0 | TD+2% | 30 | yes | yes | on cust | yes | yes | yes | yes | no |
| 28 | United Bank | 15-20 | no | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | yes |
| 29 | UTI Bank/Axis Bank | 15 | yes | no | 7 | 10 | 21 | WD | not mentioned | SB | 200 | SB | no | no | no | not on cust | no | yes | no | yes | no |
| 30 | South Indian Bank | 15 | no | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | no |
| 31 | Indian Bank Association | 15* | no | yes | 7 | 10 | 14 | Days | not mentioned | SB(untill 14 days of delay),TD(14-90) | 14 | TD+2% | 90 | yes | yes | on cust | no | yes | yes | yes | no |

Table 3: Parameter characteristics in quantitative terms

| No. | Bank name | V1 | V2 | V3 | V4 | V5 | V6 | V7 | V8 | V9 | V10 | V11 | V12 | V13 | V14 | V15 | V16 | V17 | V18 | V19 | V20 |
|-----|----------------------------|--------|--------|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | ABN Amro | 15 | 10 | 0 | 6 | 15 | 30 | 2 | 2 | 10 | 0 | 10 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2 | Allahabad | 15 | 10 | 0 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 3 | Andhra Bank | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 5.75 | 45 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 4 | Bank of Baroda | 20 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 5 | Bank of India | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 6 | Bank of Maharashtra | 21 | 2 | 1 | 7 | 8 | 14 | 2 | 4 | 3.5 | 45 | 5 | 45 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7 | Canara Bank | 15 | 0 | 1 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 8 | Central Bank of India | 15 | 10 | 1 | 8 | 10 | 14 | 0 | 4 | 8 | 0 | 10 | 75 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 9 | Citibank | 15 | 2 | 0 | 5 | 6 | 19 | 2 | 1 | 8 | 0 | 8 | 150 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 10 | Corporation Bank | 19 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 3.5 | 21 | 5.5 | 21 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 11 | HDFC Bank | 3 | 0 | 1 | 7 | 10 | 35 | 2 | 4 | 7.3 | 14 | 10 | 90 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 12 | HSBC | 15 | 10 | 0 | 7 | 10 | 50 | 2 | 3.5 | 3.5 | 90 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 13 | ICICI Bank | 15 | 2 | 1 | 7 | 7 | 21 | 2 | 7 | 3.5 | 30 | 8 | 30 | 1 | 0.5 | 0 | 0 | 1 | 1 | 1 | 1 |
| 14 | IDBI Bank | 15 | 10 | 1 | 7 | 10 | 18 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 15 | Indian Bank | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 2.5 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 16 | Indian Overseas Bank | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 17 | Indian Bank Association | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 18 | Indusind Bank | 15 | 10 | 1 | 8.5 | 12 | 22 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 19 | Kotak Mahindra | 15 | 0 | 0 | 7 | 12 | 37.5 | 2 | 7 | 5.75 | 45 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 20 | Oriental Bank of commerce | 19 | 10 | 1 | 7 | 10 | 19.5 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 21 | Punjab & Sind Bank | 5 | 2 | 1 | 10 | 14 | 14 | 0 | 3.5 | 3.5 | 150 | 3.5 | 150 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 22 | Punjab National Bank | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 2 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 23 | South Indian Bank | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 24 | Standard chartered | 5 | 10 | 1 | 7 | 10 | 27 | 2 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 25 | State Bank of India | 20 | 10 | 1 | 6.5 | 9 | 12 | 0 | 3.5 | 5 | 0 | 6 | 45 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 26 | State Bank of Mysore | 20 | 10 | 1 | 6.5 | 9 | 12 | 0 | 4.5 | 3.5 | 45 | 5.5 | 45 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 27 | Syndicate Bank | 15 | 10 | 1 | 7 | 10 | 14 | 2 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 28 | UCO Bank | 19 | 10 | 1 | 7 | 10 | 14 | 0 | 2 | 7.3 | 14 | 10 | 90 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 29 | Union Bank | 26 | 10 | 1 | 10 | 10 | 14 | 0 | 7 | 8 | 0 | 10 | 30 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 30 | United Bank | 17 | 10 | 1 | 7 | 10 | 14 | 0 | 7 | 7.3 | 14 | 10 | 90 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 31 | UTI Bank/Axis Bank | 15 | 0 | 0 | 7 | 10 | 21 | 2 | 7 | 3.5 | 150 | 3.5 | 150 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | 0 |
| | Direction of the parameter | Higher | Higher | Higher | Lower | Lower | Lower | Lower | Lower | Higher | Lower | Higher | Lower | Higher | Higher | Higher | Higher | Higher | Higher | Higher | Higher |

Table 4: Bank-wise score values of all parameters

| No. | Bank name | V1 | V2 | V3 | V4 | V5 | V6 | V7 | V8 | V9 | V10 | V11 | V12 | V13 | V14 | V15 | V16 | V17 | V18 | V19 | V20 |
|-----|---------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | ABN Amro | 5 | 8 | 1 | 9 | 1 | 1 | 1 | 10 | 10 | 8 | 8 | 1 | 1 | 1 | 4 | 4 | 1 | 1 | 7 | 9 |
| 2 | Allahabad | 5 | 8 | 1 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 2 |
| 3 | Andhra Bank | 5 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 4 | 4 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 9 |
| 4 | Bank of Baroda | 9 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 10 | 7 | 7 | 7 | 9 |
| 5 | Bank of India | 5 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 10 | 7 | 7 | 7 | 9 |
| 6 | Bank of Maharashtra | 9 | 1 | 7 | 6 | 9 | 7 | 1 | 8 | 1 | 4 | 1 | 9 | 7 | 1 | 4 | 4 | 1 | 7 | 1 | 2 |
| 7 | Canara Bank | 5 | 1 | 7 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 2 |
| 8 | Central Bank of India | 5 | 8 | 7 | 2 | 6 | 7 | 8 | 8 | 9 | 8 | 8 | 7 | 7 | 1 | 10 | 4 | 1 | 7 | 1 | 2 |
| 9 | Citibank | 5 | 1 | 1 | 10 | 10 | 5 | 1 | 10 | 9 | 8 | 4 | 1 | 1 | 1 | 4 | 10 | 7 | 1 | 1 | 9 |
| 10 | Corporation Bank | 8 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 1 | 6 | 1 | 10 | 7 | 1 | 4 | 4 | 7 | 7 | 7 | 9 |
| 11 | HDFC Bank | 1 | 1 | 7 | 6 | 6 | 1 | 1 | 8 | 7 | 7 | 8 | 5 | 7 | 1 | 4 | 4 | 7 | 7 | 7 | 9 |
| 12 | HSBC | 5 | 8 | 1 | 6 | 6 | 1 | 1 | 9 | 1 | 1 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 1 | 7 | 2 |
| 13 | ICICI Bank | 5 | 1 | 7 | 6 | 10 | 4 | 1 | 3 | 1 | 5 | 4 | 10 | 7 | 4 | 4 | 4 | 7 | 7 | 7 | 9 |
| 14 | IDBI Bank | 5 | 8 | 7 | 6 | 6 | 6 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 9 |
| 15 | Indian Bank | 5 | 8 | 7 | 6 | 6 | 7 | 8 | 10 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 10 | 7 | 7 | 7 | 2 |
| 16 | Indian Overseas Bank | 5 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 2 |
| 17 | Indian Bank Association | 5 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 2 |
| 18 | Indusind Bank | 5 | 8 | 7 | 1 | 2 | 4 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 9 |
| 19 | Kotak Mahindra | 5 | 1 | 1 | 6 | 2 | 1 | 1 | 3 | 4 | 4 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 9 |
| 20 | Oriental Bank of commerce | 8 | 8 | 7 | 6 | 6 | 5 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 9 |
| 21 | Punjab & Sind Bank | 1 | 1 | 7 | 1 | 1 | 7 | 8 | 9 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 7 | 7 | 7 | 2 |
| 22 | Punjab National Bank | 5 | 8 | 7 | 6 | 6 | 7 | 8 | 10 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 2 |
| 23 | South Indian Bank | 5 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 2 |
| 24 | Standard chartered | 1 | 8 | 7 | 6 | 6 | 2 | 1 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 1 | 7 | 9 |
| 25 | State Bank of India | 9 | 8 | 7 | 8 | 8 | 8 | 8 | 9 | 3 | 8 | 1 | 9 | 7 | 8 | 4 | 4 | 7 | 7 | 1 | 2 |
| 26 | State Bank of Mysore | 9 | 8 | 7 | 8 | 8 | 8 | 8 | 7 | 1 | 4 | 1 | 9 | 7 | 8 | 10 | 4 | 1 | 7 | 1 | 2 |
| 27 | Syndicate Bank | 5 | 8 | 7 | 6 | 6 | 7 | 1 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 2 |
| 28 | UCO Bank | 8 | 8 | 7 | 6 | 6 | 7 | 8 | 10 | 7 | 7 | 8 | 5 | 7 | 1 | 4 | 4 | 7 | 7 | 7 | 2 |
| 29 | Union Bank | 10 | 8 | 7 | 1 | 6 | 7 | 8 | 3 | 9 | 8 | 8 | 10 | 7 | 8 | 4 | 10 | 7 | 7 | 7 | 2 |
| 30 | United Bank | 7 | 8 | 7 | 6 | 6 | 7 | 8 | 3 | 7 | 7 | 8 | 5 | 7 | 8 | 4 | 4 | 7 | 7 | 7 | 9 |
| 31 | UTI Bank/Axis Bank | 5 | 1 | 1 | 6 | 6 | 4 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 4 | 7 | 1 | 7 | 2 |

Table 5: Correlations of individual scores with total scores for all 20 variables

| S. No. | Variables | First iteration | Second iteration |
|--------|---|-----------------|------------------|
| 1 | Immediate credit | 0.419 | 0.447 |
| 2 | Charges | 0.686 | 0.700 |
| 3 | Acc. Type Revealed | 0.577 | 0.619 |
| 4 | Metro | -0.022 | |
| 5 | Capitals | 0.220 | |
| 6 | Others | 0.522 | 0.606 |
| 7 | Days | 0.680 | 0.747 |
| 8 | Local cheque time | -0.244 | |
| 9 | ROI | 0.490 | 0.471 |
| 10 | SB Rate endpoint | 0.688 | 0.648 |
| 11 | Effective Adroi | 0.497 | 0.477 |
| 12 | AbDelay Lenght | 0.409 | 0.457 |
| 13 | Ab. Defined | 0.689 | 0.713 |
| 14 | BPLR | 0.606 | 0.626 |
| 15 | Onus | -0.271 | |
| 16 | BrDisp in policy | 0.354 | 0.289 |
| 17 | Force Majeure | 0.227 | |
| 18 | Int on returned cheques | 0.565 | 0.648 |
| 19 | Int if cheque lost | 0.115 | |
| 20 | cooling off period in case of foreign cheques | 0.084 | |

Note: The numbers in red show that the correlation coefficients are not greater than zero at 10% level of significance using single tailed Karl Pearson test.

Appendix D: Tables related to the comparison of 2006 and 2008 policies

Table 1: Parameter characteristics in quantitative terms for year 2006

| No. | Bank name | Immediate credit | Charges | Acc. Type Revealed | Metro | Capitals | Others | Days | Local cheque time | ROI | Effective Adroi | AbDelay Length | Ab. Defined | BPLR | Onus | BrDisp in policy |
|-----|---------------------------|------------------|---------|--------------------|-------|----------|--------|-------|-------------------|--------|-----------------|----------------|-------------|--------|--------|------------------|
| 1 | Pre-Deregulation Model | 15 | 10 | 1 | 7 | 10 | 14 | 0 | 3 | 6 | 8 | 150 | 0 | 1 | 1 | 0 |
| 2 | ABN Amro | 15 | 0 | 1 | 50 | 50 | 50 | 0 | 6 | 0 | 0 | 200 | 0 | 0 | 0 | 0 |
| 3 | Allahabad | 15 | 10 | 0 | 7 | 10 | 14 | 0 | 4 | 6 | 8 | 45 | 1 | 1 | 3 | 0 |
| 4 | Andhra Bank | 15 | 2 | 0 | 7 | 7 | 10 | 0 | 3 | 6 | 8 | 150 | 0 | 0 | 1 | 0 |
| 5 | Bank of Baroda | 15 | 0 | 1 | 7 | 10 | 14 | 0 | 6 | 5.5 | 8 | 90 | 1 | 1 | 1 | 0 |
| 6 | Bank of India | 15 | 2 | 1 | 7 | 10 | 50 | 0 | 4 | 6 | 7 | 21 | 0 | 0 | 0 | 0 |
| 7 | Bank of Maharashtra | 20 | 10 | 1 | 8 | 10 | 14 | 2 | 4 | 6 | 8 | 150 | 0 | 0 | 1 | 0 |
| 8 | Bharat Overseas Bank | 15 | 10 | 0 | 10 | 10 | 14 | 0 | 6 | 3.5 | 3.5 | 150 | 0 | 0 | 3 | 0 |
| 9 | Canara Bank | 15 | 10 | 1 | 10 | 10 | 14 | 0 | 6 | 6 | 8 | 90 | 1 | 0 | 1 | 0 |
| 10 | Central Bank of India | 15 | 10 | 1 | 8 | 10 | 14 | 0 | 4 | 6 | 8 | 75 | 1 | 0 | 1 | 0 |
| 11 | Citibank | 15 | 10 | 0 | 30 | 30 | 30 | 0 | 6 | 6 | 6 | 150 | 0 | 0 | 1 | 1 |
| 12 | Corporation Bank | 19 | 10 | 0 | 6 | 8 | 8 | 0 | 4 | 6 | 8 | 21 | 1 | 0 | 1 | 0 |
| 13 | HDFC Bank | -5 | -5 | -1 | 4.5 | 21 | 45 | 2 | 5 | 10 | 10 | 150 | 0 | 0 | 1 | 0 |
| 14 | HSBC | 0 | 0 | 0 | 6.9 | 11.9 | 50 | 2 | 3 | 8 | 8 | 150 | 0 | 0 | 1 | 0 |
| 15 | ICICI Bank | 15 | 2 | 0 | 7 | 50 | 50 | 2 | 5 | 0 | 0 | 200 | 0 | 0 | 1 | 0 |
| 16 | IDBI Bank | 15 | 0 | 0 | 10 | 14 | 50 | 2 | 6 | 1 | 1 | 150 | 0 | 0 | 1 | 0 |
| 17 | Indian Bank | -5 | -5 | -1 | 10 | 10 | 14 | 0 | 6 | 5.5 | 8 | 150 | 0 | 0 | 1 | 0 |
| 18 | Indian Overseas Bank | 15 | 10 | 1 | 7 | 7 | 7 | 0 | 6 | 3.5 | 3.5 | 150 | 0 | 0 | 0 | 1 |
| 19 | Indusind Bank | 15 | 10 | 0 | 7 | 12 | 12 | 0 | 4 | 6 | 8 | 150 | 0 | 0 | 1 | 0 |
| 20 | Kotak Mahindra | 0 | 0 | 0 | 30 | 30 | 30 | 2 | 6 | 3.5 | 3.5 | 150 | 0 | 1 | 3 | 0 |
| 21 | Oriental Bank of commerce | 19 | 2 | 0 | 7 | 8 | 14 | 0 | 3 | 3.5 | 5.5 | 45 | 1 | 0 | 3 | 0 |
| 22 | Punjab & Sind Bank | 5 | 10 | 0 | 8 | 10 | 14 | 0 | 4 | 3.5 | 3.5 | 150 | 0 | 0 | 1 | 0 |
| 23 | Punjab National Bank | 15 | 10 | 0 | 7 | 10 | 14 | 0 | 3 | 6 | 6 | 150 | 0 | 1 | 1 | 0 |
| 24 | South Indian Bank | 15 | 10 | 1 | 7 | 10 | 14 | 2 | 4 | 6 | 8 | 90 | 1 | 0 | 3 | 0 |
| 25 | Standard chartered | 0 | 0 | 0 | 5 | 25.5 | 50 | 2 | 4 | 5.5 | 5.5 | 150 | 0 | 0 | 1 | 0 |
| 26 | State Bank of India | 20 | 10 | 1 | 7 | 10 | 14 | 0 | 4.5 | 3.5 | 5.5 | 45 | 1 | 1 | 1 | 0 |
| 27 | State Bank of Mysore | 20 | 10 | 1 | 7 | 10 | 14 | 0 | 4.5 | 3.5 | 5.5 | 45 | 1 | 1 | 1 | 0 |
| 28 | Syndicate Bank | 15 | 2 | 0 | 37.5 | 40.5 | 44.5 | 2 | 6 | 6 | 6 | 150 | 0 | 0 | 1 | 0 |
| 29 | UCO Bank | 19 | 10 | 0 | 7 | 10 | 14 | 0 | 6 | 6 | 8 | 90 | 1 | 0 | 1 | 0 |
| 30 | Union Bank | 26 | 10 | 1 | 7 | 10 | 14 | 0 | 6 | 6 | 8 | 30 | 1 | 0 | 1 | 0 |
| 31 | United Bank | 15 | 0 | 1 | 10 | 10 | 14 | 0 | 6 | 0 | 0 | 200 | 0 | 0 | 1 | 0 |
| 32 | UTI Bank/Axis Bank | 15 | 0 | 0 | 7 | 10 | 50 | 2 | 6 | 1 | 1 | 150 | 0 | 0 | 1 | 0 |
| | Direction of Parameter | Higher | Higher | Higher | Lower | Lower | Lower | Lower | Lower | Higher | Higher | Lower | Higher | Higher | Higher | Higher |

Table 2: Combined scores for the years 2006 & 2008

| No. | Bank Name | Immediate credit | Charges | Acc. Type Revealed | Metro | Capitals | others | Days | ROI | Effective Adroi | AbDelay Length | Ab. Defined | BPLR |
|-----|---------------------------|------------------|---------|--------------------|-------|----------|--------|------|-----|-----------------|----------------|-------------|------|
| 1 | Pre-Deregulation Model | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 6 | 6 | 2 | 2 | 9 |
| 2 | ABN Amro | 6 | 1 | 8 | 1 | 1 | 1 | 8 | 1 | 1 | 1 | 2 | 2 |
| 3 | Allahabad | 6 | 8 | 2 | 7 | 7 | 8 | 8 | 6 | 6 | 9 | 8 | 9 |
| 4 | Andhra Bank | 6 | 2 | 2 | 7 | 8 | 9 | 8 | 6 | 6 | 2 | 2 | 2 |
| 5 | Bank of Baroda | 6 | 1 | 8 | 7 | 7 | 8 | 8 | 5 | 6 | 7 | 8 | 9 |
| 6 | Bank of India | 6 | 2 | 8 | 7 | 7 | 1 | 8 | 6 | 5 | 10 | 2 | 2 |
| 7 | Bank of Maharashtra | 9 | 8 | 8 | 6 | 7 | 8 | 1 | 6 | 6 | 2 | 2 | 2 |
| 8 | Canara Bank | 6 | 8 | 8 | 5 | 7 | 8 | 8 | 6 | 6 | 7 | 8 | 2 |
| 9 | Central Bank of India | 6 | 8 | 8 | 6 | 7 | 8 | 8 | 6 | 6 | 8 | 8 | 2 |
| 10 | Citibank | 6 | 8 | 2 | 1 | 1 | 3 | 8 | 6 | 4 | 2 | 2 | 2 |
| 11 | Corporation Bank | 8 | 8 | 2 | 7 | 8 | 9 | 8 | 6 | 6 | 10 | 8 | 2 |
| 12 | HDFC Bank | 1 | 1 | 1 | 8 | 2 | 1 | 1 | 10 | 9 | 2 | 2 | 2 |
| 13 | HSBC | 1 | 1 | 2 | 7 | 6 | 1 | 1 | 9 | 6 | 2 | 2 | 2 |
| 14 | ICICI Bank | 6 | 2 | 2 | 7 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| 15 | IDBI Bank | 6 | 1 | 2 | 5 | 5 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| 16 | Indian Bank | 1 | 1 | 1 | 5 | 7 | 8 | 8 | 5 | 6 | 2 | 2 | 2 |
| 17 | Indian Overseas Bank | 6 | 8 | 8 | 7 | 8 | 9 | 8 | 2 | 1 | 2 | 2 | 2 |
| 18 | Indusind Bank | 6 | 8 | 2 | 7 | 6 | 8 | 8 | 6 | 6 | 2 | 2 | 2 |
| 19 | Kotak Mahindra | 1 | 1 | 2 | 1 | 1 | 3 | 1 | 2 | 1 | 2 | 2 | 9 |
| 20 | Oriental Bank of commerce | 8 | 2 | 2 | 7 | 8 | 8 | 8 | 2 | 3 | 9 | 8 | 2 |
| 21 | Punjab & Sind Bank | 1 | 8 | 2 | 6 | 7 | 8 | 8 | 2 | 1 | 2 | 2 | 2 |
| 22 | Punjab National Bank | 6 | 8 | 2 | 7 | 7 | 8 | 8 | 6 | 4 | 2 | 2 | 9 |
| 23 | South Indian Bank | 6 | 8 | 8 | 7 | 7 | 8 | 1 | 6 | 6 | 7 | 8 | 2 |
| 24 | Standard chartered | 1 | 1 | 2 | 8 | 1 | 1 | 1 | 5 | 3 | 2 | 2 | 2 |
| 25 | State Bank of India | 9 | 8 | 8 | 7 | 7 | 8 | 8 | 2 | 3 | 9 | 8 | 9 |
| 26 | State Bank of Mysore | 9 | 8 | 8 | 7 | 7 | 8 | 8 | 2 | 3 | 9 | 8 | 9 |
| 27 | Syndicate Bank | 6 | 2 | 2 | 1 | 1 | 1 | 1 | 6 | 4 | 2 | 2 | 2 |
| 28 | UCO Bank | 8 | 8 | 2 | 7 | 7 | 8 | 8 | 6 | 6 | 7 | 8 | 2 |
| 29 | Union Bank | 10 | 8 | 8 | 7 | 7 | 8 | 8 | 6 | 6 | 10 | 8 | 2 |
| 30 | United Bank | 6 | 1 | 8 | 5 | 7 | 8 | 8 | 1 | 1 | 1 | 2 | 2 |
| 31 | UTI Bank/Axis Bank | 6 | 1 | 2 | 7 | 7 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |

| No. | Bank Name | Immediate credit | Charges | Acc. Type Revealed | Metro | Capitals | others | Days | ROI | Effective Adroi | AbDelay Length | Ab. Defined | BPLR |
|-----|---------------------------|------------------|---------|--------------------|-------|----------|--------|------|-----|-----------------|----------------|-------------|------|
| 32 | Pre-Deregulation Model | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 6 | 6 | 2 | 2 | 9 |
| 33 | ABN Amro | 6 | 8 | 2 | 7 | 5 | 3 | 1 | 10 | 9 | 2 | 2 | 2 |
| 34 | Allahabad | 6 | 8 | 2 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 35 | Andhra Bank | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 6 | 9 | 7 | 8 | 9 |
| 36 | Bank of Baroda | 9 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 37 | Bank of India | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 38 | Bank of Maharashtra | 9 | 2 | 8 | 7 | 8 | 8 | 1 | 2 | 3 | 9 | 8 | 2 |
| 39 | Canara Bank | 6 | 1 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 40 | Central Bank of India | 6 | 8 | 8 | 6 | 7 | 8 | 8 | 9 | 9 | 8 | 8 | 2 |
| 41 | Citibank | 6 | 2 | 2 | 8 | 8 | 6 | 1 | 9 | 6 | 2 | 2 | 2 |
| 42 | Corporation Bank | 8 | 8 | 8 | 7 | 7 | 8 | 8 | 2 | 3 | 10 | 8 | 2 |
| 43 | HDFC Bank | 1 | 1 | 8 | 7 | 7 | 2 | 1 | 8 | 9 | 7 | 8 | 2 |
| 44 | HSBC | 6 | 8 | 2 | 7 | 7 | 1 | 1 | 2 | 9 | 7 | 8 | 9 |
| 45 | ICICI Bank | 6 | 2 | 8 | 7 | 8 | 6 | 1 | 2 | 6 | 10 | 8 | 6 |
| 46 | IDBI Bank | 6 | 8 | 8 | 7 | 7 | 7 | 8 | 8 | 9 | 7 | 8 | 9 |
| 47 | Indian Bank | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 48 | Indian Overseas Bank | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 49 | Indusind Bank | 6 | 8 | 8 | 6 | 6 | 5 | 8 | 8 | 9 | 7 | 8 | 9 |
| 50 | Kotak Mahindra | 6 | 1 | 2 | 7 | 6 | 2 | 1 | 6 | 9 | 7 | 8 | 9 |
| 51 | Oriental Bank of commerce | 8 | 8 | 8 | 7 | 7 | 6 | 8 | 8 | 9 | 7 | 8 | 9 |
| 52 | Punjab & Sind Bank | 1 | 2 | 8 | 5 | 5 | 8 | 8 | 2 | 1 | 2 | 2 | 2 |
| 53 | Punjab National Bank | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 54 | South Indian Bank | 6 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 55 | Standard chartered | 1 | 8 | 8 | 7 | 7 | 4 | 1 | 8 | 9 | 7 | 8 | 9 |
| 56 | State Bank of India | 9 | 8 | 8 | 7 | 7 | 8 | 8 | 4 | 4 | 9 | 8 | 9 |
| 57 | State Bank of Mysore | 9 | 8 | 8 | 7 | 7 | 8 | 8 | 2 | 3 | 9 | 8 | 9 |
| 58 | Syndicate Bank | 6 | 8 | 8 | 7 | 7 | 8 | 1 | 8 | 9 | 7 | 8 | 9 |
| 59 | UCO Bank | 8 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 2 |
| 60 | Union Bank | 10 | 8 | 8 | 5 | 7 | 8 | 8 | 9 | 9 | 10 | 8 | 9 |
| 61 | United Bank | 7 | 8 | 8 | 7 | 7 | 8 | 8 | 8 | 9 | 7 | 8 | 9 |
| 62 | UTI Bank/Axis Bank | 6 | 1 | 2 | 7 | 7 | 6 | 1 | 2 | 1 | 2 | 2 | 2 |

* Rows 1-31 are scores of the banks with respect to all the parameters of the 2006 policies

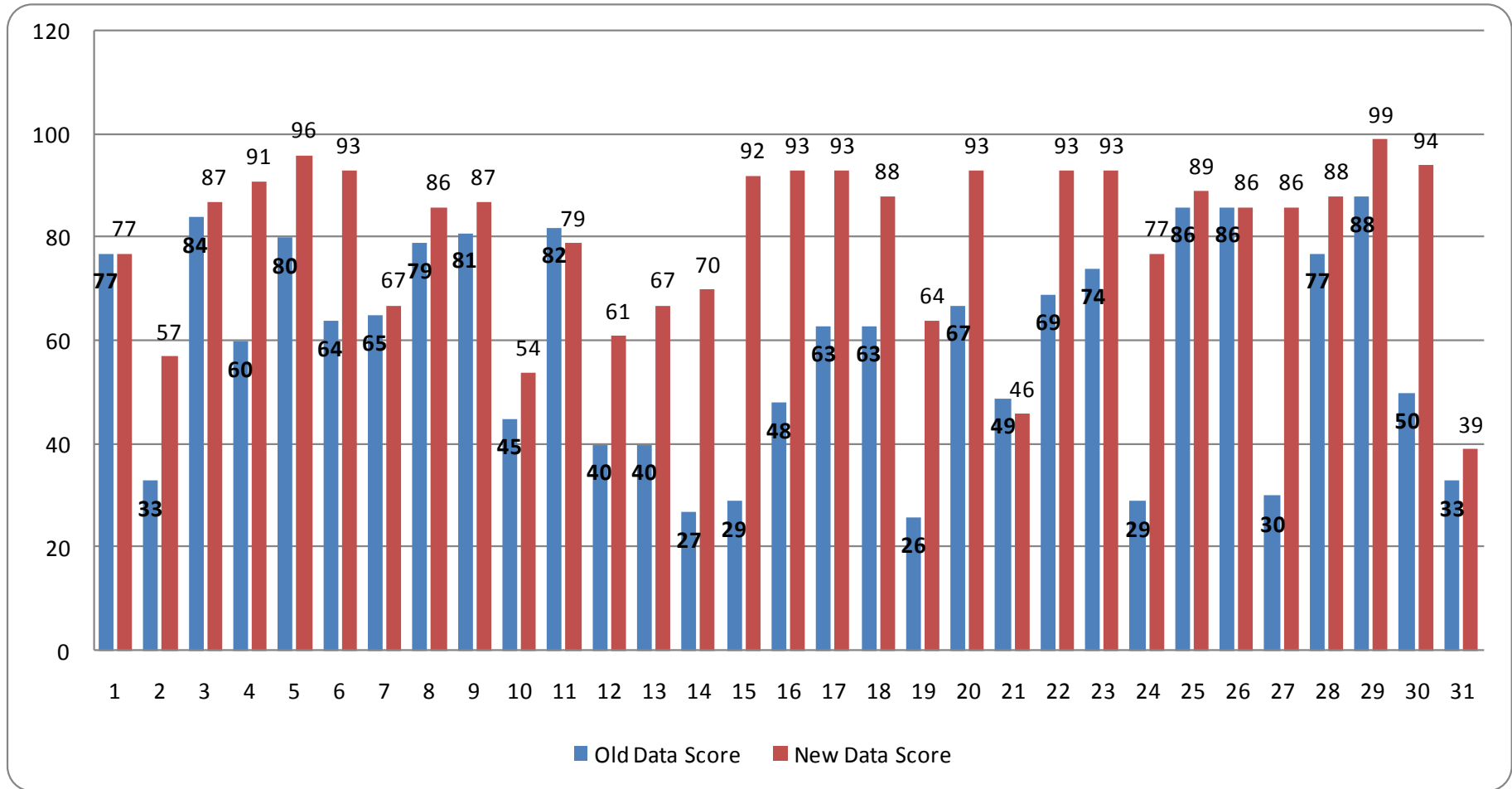
* Rows 32-62 are scores of the banks with respect to all the parameters of the 2008 policies

Table 3: Correlations of individual scores with total scores for all 15 variables

| S. No. | Parameter | First iteration | Second iteration |
|--------|--------------------|-----------------|------------------|
| 1 | Immediate credit | 0.545 | 0.537 |
| 2 | Charges | 0.745 | 0.722 |
| 3 | Acc. Type Revealed | 0.580 | 0.630 |
| 4 | Metro | 0.450 | 0.430 |
| 5 | Capitals | 0.663 | 0.652 |
| 6 | others | 0.722 | 0.689 |
| 7 | Days | 0.587 | 0.577 |
| 8 | Local cheque time | 0.072 | |
| 9 | ROI | 0.450 | 0.453 |
| 10 | Effective Adroi | 0.607 | 0.650 |
| 11 | AbDelay Length | 0.726 | 0.758 |
| 12 | Ab. Defined | 0.762 | 0.812 |
| 13 | BPLR | 0.563 | 0.613 |
| 14 | Onus | -0.293 | |
| 15 | BrDisp in policy | 0.186 | |

Note: The numbers in red show that the correlation coefficients are not greater than zero at 10% level of significance using single tailed Karl Pearson test.

Appendix E: Comparison of scores of the Banks



Appendix F: Comparison of Composite Index of the Banks

