CHAPTER – VIII
FINDINGS, SUGGESTIONS AND CONCLUSIONS

The purpose of this research work can be summarized as under:

- To understand the various risk parameters of banking business and how they are managed, with particular reference to two dominant sectors of commercial banks in India – public & private sectors,
- To study the seriousness of compliance of Guidelines of Reserve Bank of India and reaction thereto by these banks,
- To study and analyse the practice of Asset-Liability Management by these banks-sectorswise,
- To examine if there could be any established relationship amongst the various risks that could bring about their integration for the purposes of coordinated management of these risks.

The study encompasses the practices of 24 banks from public & private sectors on a nation-wide sample selection. Although the Head Offices / Corporate Offices are located in Maharashtra and four States of South India, the branches of all these banks are spread over the length and breadth of the country and the study relates to examination of management of aggregate business performance of all the branches directed and monitored by these Head Offices and Corporate Offices. The study is highly analytical in nature. Critical analysis of the asset-liability management practices has also been attempted.

The summary of findings, suggestions and the conclusions are presented methodically with reference to the objectives set out for the study.
8.1 Findings

(a) Analysis of Banking Risks, Quantification thereof, Strategies and Techniques for managing the risks effectively.

(1) As banking is not a new business, the legacy of earlier experience has been of great help to the present bankers in understanding and appreciating various kinds of risks and in designing the monitoring models for managing these risks. This is of special importance as many banks under study have had a very long history and some are almost a century old. In view of such a background, all the banks opined having known that the banking business is mainly associated with the following risks.

a) Liquidity Risk
b) Interest Rate Risk
c) Currency Risk
d) Treasury and Trading Risk
e) Credit Risk
f) Operational Risk

The aforesaid opinion is confirmed by the feedback detailed at Tables 4.8 & 4.9. The banks have accordingly designed various methods by which these risks can be managed effectively.

(2) The timing of implementation of Asset-Liability Management System by banks as detailed at Table 4.1 reveals that a majority (19 out of 23) of the banks has put in place the necessary infrastructure for Asset-Liability
Management, on time and some of them, even before time. As the sample is a representative one, the same timely compliance to the RBI Guidelines, is inferred to be true for the entire banking sector in India, in general. This is a testimony to the fact that the Indian banks had visualized themselves, proactively that it was imperative for them to adopt Asset-Liability Management System. Frankly, there was no option for them (but to adopt the ALM System) if they wanted to be competitive in the market.

(3) The Indian banks had also realized that an effective ALM System would help them increase their Net Interest Margin (NIM). This is proven by the fact that all the 24 banks under study had univocally expressed their opinion accordingly (Table 4.3). The contents of the following Table 8.1 indicating the actual performance (income & expenditure) by all the scheduled banks for the years ended 2002-03, 2003-04 and 2004-05 is a proof thereof.

Table No.8.1
Income-Expenditure Profile of Public Sector Banks-2002-2005

<table>
<thead>
<tr>
<th>Performance Parameter</th>
<th>2002-03-Rs</th>
<th>2003-04-Rs</th>
<th>2004-05-Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Income (i + ii)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Interest Income</td>
<td>128464(100)</td>
<td>137587(100)</td>
<td>177200(100)</td>
</tr>
<tr>
<td>ii. Other income</td>
<td>107232(83.5)</td>
<td>109547(79.6)</td>
<td>146631(82.7)</td>
</tr>
<tr>
<td></td>
<td>21232(16.5)</td>
<td>28040(20.4)</td>
<td>30569(17.3)</td>
</tr>
<tr>
<td>2. Expenditure</td>
<td>116169(90.4)</td>
<td>121041(88.0)</td>
<td>158224(89.3)</td>
</tr>
<tr>
<td>Expdr.(2) to Income(1),%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Operating Profit</td>
<td>29717</td>
<td>39290</td>
<td>46446</td>
</tr>
<tr>
<td>4. Net Profit</td>
<td>12295</td>
<td>16546</td>
<td>18976</td>
</tr>
<tr>
<td>5. Net Interest Margin</td>
<td>37379(34.8)</td>
<td>43783(40)</td>
<td>61593(42)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

The ratio of net profit to operating income as shown at Table 2.7 indicates the position for 15 years from 1992 to 2006. The performance indicated from 2000 onwards is the performance after implementation of ALM System by banks. A comparison of the contents of the Table 2.7 with those at Table 8.1, and the improvement in NIM confirms the reasons why the banks have accepted the merits of the ALM System. All the banks under study have expressed that maximizing NIM is their objective in implementing ALM Systems (Table 4.3), which they have realized successfully.

(4) The tools like Gap Analysis, Simulation, Duration Gap and Value at Risk are internationally proven strategies and techniques for liquidity risk management and interest rate risk management and are put to practical application all over the world, and more particularly by the G-10 countries. (also called Paris Club) Indian banks have also been following these tools. Although RBI mooted the initiative for many banks in the old private sector category, the NGPSBs and many large PSBs already had a system for Asset-Liability Management, even before the initiative of the Reserve Bank of India, although called, may be, by different names.

The regulatory requirement of, submission of Statement of Structural Liquidity, Short-term Dynamic Liquidity and Statement of Interest Rate Sensitivity has enhanced the seriousness and commitment towards managing these aforesaid risks meticulously (save for some exceptions mentioned below at No 5, 6, 7 & 8)
(5) The technique of incremental time-bucket study and its tools like Statement of Structural Liquidity (SSL) and Short-term Dynamic Liquidity (SDL) have really helped the banks to bring in the required discipline of reviewing their liquidity positions at regular periodic intervals and have also largely helped them take steps wherever necessary or to re-orient their focus towards liquidity from unnecessary low profit and slow processed long term commitments. It is for this reason, possibly, that the Reserve Bank of India introduced a tool like short-term dynamic liquidity to help banks plan strategies to meet short-term obligations up to 3 months period. It has, however, been proved by analysis at Tables 5.28 and 5.29 that there are large variations in mismatches as depicted by Table 5.28 and large differences between projections and actuals as depicted by Table 5.29 indicating that this exercise of preparation of short-term dynamic liquidity statement has been taken by the banks more as a routine formality.

The aforesaid point (4) and the paragraph above lead to a very clear realization that there cannot be an ideal liquidity position for a bank neither can there be an ideal maturity gap. Each bank has to face some kind of uncertainty based on its own risk profile and no extent of scientific planning can succeed in predicting the behaviour of banks' customers either for depositing cash or withdrawing money, more particularly for short periods of 1 – 7 days and 8 – 15 days or even for 30 days.
(6) Despite such limitations as at (5) above, the RBI Guidelines to ensure mismatches in the first two time buckets of 1 – 14 days and 15 – 28 days to be within 20% of the cash outflows for the purposes of liquidity risk management has been successfully followed by the banks (Table 5.2). As has already been stated, the preparation of SDL statement is particularly helpful in planning liquidity requirements up to 90 days in the normal course. As India has generally been witnessing good liquidity position during the last 5 years, there have been no challenges for the banks. It has, however, to be admitted that the liquidity in the first 90 days time duration does not necessarily indicate liquidity of all assets (hidden liquidity problems of a bank) and adoption of SDL Statement therefore, is strictly not a correct and acceptable solution.

(7) The Banks practice a system of self-imposed tolerance levels for the six higher time buckets from 3\textsuperscript{rd} to 8\textsuperscript{th}, for liquidity risk management (SSL). It is possible that the banks may deliberately, fix for themselves, higher negative tolerance levels in these time buckets from, 3\textsuperscript{rd} to 8\textsuperscript{th}, in order to see that the actual mismatches are always within manageable and acceptable excesses against tolerance levels as has been seen at Table 5.2. Hence this exercise has been a friendly game between the Regulator and the Banker. Similarly there is always a large positive mismatch gap in the last two buckets i.e., over 5 years buckets and Interest non- sensitive bucket in the
statement of interest rate sensitivity. This means the assets are larger than liabilities in these time-buckets.

(8) The Analysis of interest rate sensitivity statement and A-L Maturity Gap for management of interest rate risk (Tables 6.2 & 6.3) leads to an important revelation. There is one clear and distinct difference very often, between the projected performance shown by the banks to the Reserve Bank of India and the actual performance by them. The banks generally project a positive maturity gap for the first bucket of 1 – 28 days (Table 6.2). This is contradicted by negative gaps in the first bucket appearing more frequently for most periods for most banks as per Table 6.3. This discrepancy of more negative gaps than positive ones, as above leads to two damages as under.

i) By showing a positive gap the banks generally show a better liquidity position, where as the fact is just the opposite. Thus this exercise of interest rate sensitivity statement is an exercise in futile leading to projection of a liquidity, which is actually absent in reality.

ii) Re-pricing decisions based on such wrongly projected gaps, therefore, may lead to wrong decisions of re-pricing which would further affect net interest income adversely – with a result different from what was envisaged by re-pricing. This happens because the actual gaps do not really match with the projected ones, which formed the basis for re-pricing.

(9) With regard to application of various tools for interest rate risk management, it is very apparent that the NGPSBs have a clear upperhand. All the four tools viz., traditional gap analysis, simulation, duration gap and value at risk
techniques are being put to use by all the three NGPSBs. This leads to a
general inference that all the NGPSBs may be making use of all these four
tools for IRRM.

It is, however, also evident that only about 50% (5 out of 10 responding
banks) of the PSBs use simulation techniques for various scenarios of
assumption of renewal / roll over of liabilities / assets and make decisions on
interest rate sensitivity. Similarly 75% (approx – 9 out of 13 responding
banks) of PSBs make use of duration gap technique and 90% (approx – 10
out of 11) make use of VaR technique. But when it comes to OPSBs, only
three banks viz., ING Vy, KB and SIB use more than one method (Gap
Analysis) for IRRM. While ING Vy makes use of simulation and VaR
techniques, KB and SIB use VaR technique wherever necessary. All the
other OPSBs fall behind.

Although, the RBI has stated that it would require the banks to move over to
these sophisticated techniques later, the readiness to adopt to such method is
the distinguishing criteria for efficient management.

(10) Similarly tools for management of currency risk like forward contracts,
options, futures and Fx VaR are all internationally proven ones. Most
Indian banks have also been using the same tools quite comfortably,
although the Forex business, in general, is fairly less compared to the
domestic business, except for a very few banks like BOB, ICICI, SBI etc.

Although Forex business is less, the risk and its effects on profitability
cannot be ignored. Indian banks have been known to be comfortably managing this challenge as explained at Chapter VI.

Monitoring tools like Daylight Limit, Overnight Limit and Country-wise Exposure Limits have come in handy for effective management of currency risk.

(11) The Reserve Bank of India has been voicing, time and again, its attention regarding treasury management of commercial banks and treasury incomes. All the banks in India have been quite active on the treasury function (more so, on government securities), of course with some banks a little conservative on trading in securities. Nevertheless, all the banks, which responded (19) to the study, on this issue, confirmed active functioning of Dealing Room and Back Offices, which form the monitoring system for treasury risk management. The Treasury Risk Management Systems have been proven successful with this Monitoring System followed by an effective Reporting System thereafter.

(12) All the banks under study (24) confirmed existence of a documented credit policy and existence of necessary organizational infrastructure like CRMC.

(13) All the banks, which responded (21), on Credit Rating Framework confirmed in the affirmative about its application for Credit Risk Management. The periodicity of review of the credit rating is also satisfactory.

Table 7.2 on management micro aspects of credit risk depicts an exemplary system of CRM by Indian banks, more particularly in respect of those under
study. The credit risk model and CRF have been proven extremely successful in India. Although the Reserve Bank of India introduced the Guidelines for CRM in October 2002, most banks had their own effective CRM strategies much before. The successful functioning of large number of Indian banks for many many decades is a standing testimony of their expertise in credit risk management, even before a formal Asset-Liability Management System was introduced in India by the Reserve Bank of India.

(14) All the banks under study and, therefore, most banks in India (on generalization) have a proven, uniform system of managing macro aspects of credit risk (Table 7.3). All the banks have the system of fixing country-wise limits, centralized monitoring of such limits, periodic review etc. Similar is the system for managing credit risk in respect of sectoral exposure to industry and business.

(15) Operational Risk Management is managing the unknown and hence highly arbitrary. No body could ever guess that Nick Leeson would defraud Barings Bank, neither could anybody visualize, for that matter, the damages that could be caused by Ketan Parekh or Harshad Mehta to Indian Banking System. The management strategy of providing capital charge for ORM, hence, can only be highly subjective and nothing beyond that. There is absolutely no technique / tool to prevent or manage frauds, technical failures, process failures (beyond human control) etc., and hence management or quantification is generally not possible. Therefore Capital Coverage for ORM, as a proportion of income generated, is only arbitrary
and is not a substitute for prevention of damages perpetrating out of operational risk. 

(16) The existing system of review of frauds by a Committee of Directors can only review the frauds, which have already perpetrated and cannot by any means prevent, with 100% guarantee, any future frauds. This, of course, is definitely not to undermine the importance of the Committee but to exemplify the demoniac gravity of the damages of operational risks. It is only believed that the knowledge of perpetration of frauds will help make further policies and procedures, which would hopefully prevent or drastically reduce the probability of recurrence of similar frauds.

(b) Diagnostic examination of the preparedness and willingness for effective implementation of various complex regulatory requirements including enforcing tolerance levels.

(1) The responses of the banks under study that the visualization of the requirement of an effective ALM System was ‘proactive’ (Table 4.2); that ALM is a tool for Maximising NIM (Table 4.3); that 75% of the banks under study captured 100% business and the remaining 25% captured 90 - 99% for ALM (Table 4.4); that more than 75% of the banks constituted ALCO by 31st March 2000 (Table 4.5) and that 80% of the banks have ALCO Meetings at least once a month (Table 4.6) – all of them go in a confirmed proof of preparedness and seriousness of willingness of the commercial banks in India to implement the ALM System as per Reserve Bank of India Guidelines.
(2) 84% of the Banks under study confirmed having had ALM Support Group and Mid-Office and Risk Policy Committee (Table 4.7 and 4.10). And 75% of the banks confirmed that they have the practice of fixation of various Risk Limits and their periodic review (Table 4.10). Further 80% of the banks confirmed having an effective Risk Reporting System. Most banks under study also informed that manpower is specially trained for ALM (Table 4.11).

All these facts, further, go in support of the diagnostic assessment that the banks have a serious willingness to implement the ALM System as per RBI Guidelines.

(c) **Comparative perceptible difference between PSBs & Private Sector Banks with regard to philosophy and practice of Asset-Liability Management**

(1) It is observed that the PSBs in general preferred to have liabilities mostly from domestic sources and that various kinds of such domestic deposits constitute 99% of the liabilities (Table 5.27). The observation is true in respect of old PSBs also, but this is distinctly different, although marginally, in respect of NGPSBs. NGPSBs do not exceed 90% from the source of domestic deposits (Table 5.27). Remaining 10% is mobilized from ‘Borrowings’, which is deployed by them in high earning investments.

(2) While NGPSBs are generally aggressive in both wholesale and retail assets (lending), the PSBs are not as aggressive. While the general share of NGPSBs in domestic assets is about 60 – 65%, that of PSBs is about 52 – 54%. OPSBs are marginally better at 56 – 57% (Table 5.27).
reduced aggressiveness of PSBs may possibly be, because of severity of the fear of personal accountability if an advance / loan would turn NPA. It looks as though NGPSBs and OPSBs may be on a little more comfort level in this regard.

(3) Other point of apparent difference between the Asset-Liability Management practices of PSBs, OPSBs and NGPSBs is their portfolio of ‘Investments’ (Table 5.27). While OPSBs are generally shy of large investments in securities other than the statutory ones like SLR Bonds, Government Securities etc., (as seen from their annual reports), PSBs and NGPSBs do go for other investments including capital market investments quite substantially. This activity of course, needs specialized knowledge and also extra care to be ultra vigilant.

(4) The size of liabilities (deposits) of PSBs, of maturity up to 6 months, forms 20-30 % of the total deposits whereas the OPSBs have this type of liabilities to an extent marginally more than 30%.

(5) The size of liabilities of maturity between 6 months to 3 years is about 60-70% of the total liabilities both for PSBs and OPSBs.

(6) About 40-60% of the assets (Loans & Advances) of PSBs and OPSBs are for periods between 1 year and 3 years, whereas the NGPSBs normally have 25-40% under this category. Kotak Mahindra Bank is a NBFC converted commercial bank only 2 years ago. Hence this bank is kept outside the purview of examination for this observation.
(7) The extent of short-term assets (lending) is more with NGPSBs compared to PSBs and OPSBs, which has two advantages viz., ensuring better liquidity and possible higher profitability.

(8) The most distinctive feature is that the NGPSBs have 30-35% of their "Liabilities" committed in Investments of less than 6 months' maturity, whereas this is generally about 10% in respect of PSBs and OPSBs.

(9) The size of Investments in securities of maturity 6 months to 3 years by PSBs and OPSBs is about 10-20%, whereas that for NGPSBs is about 35-50%.

(10) OPSBs and PSBs essentially have 70-80% of the Investments in securities of maturity 3-5 years, whereas the NGPSBs invest only about 15-30% in this category.

(11) There are no noticeable differences between PSBs and OPSBs including NGPSBs in the methodology and seriousness of managing credit risk. It is true, however, that the OPSBs in general were not enthusiastic to part with information regarding the credit assessment methodology mainly for the reason of conservatism.

In fact some of the PSBs like UBI, CB, Corporation Bank, BOB etc., have a system of credit risk assessment, which is more professional than even that of some NGPSBs like ICICI & KM.
(12) There is absolutely no difference between the PSBs and the private sector banks including NGPSBs in respect of managing country risk. All of them have the similar practice of accepting ECGC Rating for a country, limits fixed by respective Boards, quarterly review, centralized monitoring system, etc., all of which have been proven to be quite successful in managing country risk.

(d) Practicability of Implementation of RBI Regulatory Guidelines by commercial banks in India

The opinion poll on practicability of implementation of RBI regulatory guidelines by the commercial banks revealed that the importance of risks is not overplayed, in general and that it is possible to implement the regulatory guidelines quite effectively. There was some feeling, however, by about 20% of the respondents that ‘operational risk’ is a little overplayed. May be, this feedback is influenced by the fact of uncertainty of occurrence of risks and impossibility of quantification of damages arising thereof. Very rarely, but quite importantly, there were some feelers that Basel-II Accord needs simplification.

(e) Inter-relationship amongst various risks

There is no evidence to prove that there is an established interrelationship amongst various risks.
8.2 Suggestions:

(a) Analysis of Banking Risks, Quantification thereof, Strategies and Techniques for managing the risks effectively

(1) It is stated at 8.1.a.6 that estimation of liquidity for the first 90 days does not indicate the liquidity of all the assets (hidden illiquidity) and therefore, the adoption of Statement of Short-term Dynamic liquidity is strictly not a correct and acceptable solution. Although this is true, the banks can at best work on some behavioural analysis (historical data - which, of course, cannot guarantee 100% certainty of behavioural pattern) than a mere arbitrary projection and depend thereupon for a better picture of liquidity of all assets. Banks, therefore, have to be vigilant enough not to have unmanageable mismatch in the assets and liabilities, particularly from the liquidity point of view. Greed for higher profits should not lead the banks to very long-term investment / loan. Self-regulation alone can be the solution. Nevertheless there is a responsibility, in this regard, on the part of the RBI and more so, particularly on the Share-holder Director of the banks to take care of the liquidity position and interest spreads on such decisions of deployment of funds

(2) The assets are mainly represented by investments in SLR bonds and Government Securities, which take away at least about 25 – 29 % of demand and time liabilities of the banking sector. While these assets have a tenure of very long periods of 10 – 20 years, the tenure of liabilities is normally in the range of 3 – 5 years. Hence the gap is always positive and
the interest on Government Securities and SLR bonds is not comparable with the general interest on lending leading to lower margins of profit for the banks. RBI can, therefore, moot a concept of lowering the duration of these Government Securities and SLR bonds so as to bring in liquidity similarity with respect to time, in the long-term time buckets. The Government / RBI need not have to worry on continuity of requirement of funds for its needs, as most SLR investments are usually renewed / rolled over. The banks, on the other hand, can manage their excess investments in better ways once such a modification comes through.

The banks will be able to rise to the occasion, even if a real challenging situation arises later as they have necessary time and also facilities for liquidating investments.

(3) It is explained at 8.1.a.8 that the projected maturity gaps is only an indicative one and many a time a wrong projection is also possible leading to wrong repricing ultimately. This problem of uncertain gap is because of the traditional gap method despite using different “scenarios” for projection. “Scenarios” here mean assumptions relating to roll over of deposits, payment of deposits, disbursement at particular rate of interest etc. The RBI has already said that it would ask the banks to switch over to sophisticated techniques like Duration Gap Analysis, Simulation and Value at Risk.
(b) Comparative perceptible difference between PSBs & Private Sector Banks with regard to philosophy and practice of Asset-Liability Management.

(1) It is found at 8.1.c.1 that PSBs generally accept liabilities from domestic sources and that 99% of them are from domestic deposits only. PSBs may also think of mobilizing cheaper liabilities from other sources for improving their profitability like the New Generation Private Sector Banks.

(2) In view of the finding at 8.1.c.2 that the fear of accountability is possibly leading to a lower asset (loans and advances) creation at PSBs, it is necessary for the concerned to think in terms of designing a methodology by which the discretions excercised by Managers / decision making authorities while sanctioning / disbursing loans / advances at PSBs are not seen with coloured eyes. Such an action would enthuse officers of PSBs to be more aggressive and would drive towards larger loan portfolio creation leading to higher profits.

(3) The OPSBs can emulate the practice of NGPSBs and PSBs of increased interest in Treasury Operations in various vibrant securities including capital market (Finding 8.1.c.3) In order that this can be effectively implemented to their advantage, they need to build necessary expertise.

(4) The findings from 8.1.c.4 to 8.1.c.10 are the real differences in the style of management of assets and liabilities among the public sector, old private sector and new generation private sector banks. Each of these sectors may examine the behaviour of the other sectors very minutely and emulate that
style and strategy which will ultimately increase the net interest margin (NIM).

(5) The analysis of Maturity Pattern discussed at points 8.1.c.4 to 8.1.c.10 above so far is based on a static annual statement with respect to the liquidity position of Assets and Liabilities as on a particular date based on residual maturity and therefore does not show up the dynamic behaviour of embedded option associated with the kind of asset or liability. Examples of such options are premature closure of deposits or loan, unexpected renewal / continuance of deposits etc., Hence the banks should make serious attempts to estimate the behavioural pattern, however difficult or uncertain or arbitrary, it may be.

(6) The credit audit system of credit review mechanism is also a proven technique being followed by both the banking sectors under study, for CRM quite effectively. However, considering the importance of credit, the banks must ensure 100% audit of all borrowal accounts above Rs.10 lakhs and also a system of concurrent audit / review by next higher authority, of all cases up to Rs. 10 lakhs as is the practice already prevailing with Syndicate Bank.

(c) Inter-relationship amongst various risks:

Prima-facie, of course, it looks logical to think that there should be some inter-relationship amongst various risks. Hypothetically, if there is some such relationship, the choice of one technique for management of one kind of risk may automatically influence management of the other risks and hence simplify operational aspects of risk management. A simple analogy for
interrelationship amongst risks is the combination of credit risk and interest rate risk – as interest rate is believed to be dependent on the credit risk or credit rating of the loan proposal and methodology or intensity of monitoring depends on such assessed risk rating. Of course, what needs special attention is the default probability. Similarly the combination of liquidity risk and interest rate risk (which can be visualized as diametrically opposite to the combination of CR & IRR) also looks prima-facie feasible. But there are no empirical evidences established to prove accordingly.

8.3 Conclusion:

1. Banks, thus face a number of risks. The effect of combination of various different risks is much more complex than the magnitude of summation of the effect of each risk separately. That is, when a bank has very large NPAs (with Credit Risk having not been managed successfully) the public knowledge of such seriousness would induce public for a run on the bank (as it happened with Global Trust Bank in 2004) which would thus reduce the funds available (liquidity risk) with the bank for further lending, ultimately leading to lower profits and its image going down further in the eyes of the public and the society. Similarly lowering of interest rates or increasing credit rates, unilaterally, because of bank’s own weak position would further drive away prospective customers thus reducing the future business for that bank and leading to lower profits, thereafter, because of lower business. Such combination of risks of various types is commonly and grossly referred to as risk profile of the bank. The overall ‘risk profile’
of the bank thus depends up on the combination of the gravity of the profiles of different risks separately and is dynamic in nature changing with time and other factors of business including personnel running the business. Asset-Liability Management System for any particular bank has, therefore, to be adopted depending on its total risk profile. It can thus be concluded that practical ALM practices depend exclusively on the dynamic overall 'risk profile' of each bank separately.

2. Although there are theories that free banking is not more prone to failures than regulated banking, the cases of Barings Bank, the collapse of Madhavpura Mercantile Bank and the fall of Global Trust Bank – all go to emphasise the importance of self regulation in banking than the one imposed by a regulator viz., the Government or the Central Bank of the country. Theorists have also developed bank failure prediction models, which highlight the importance of monitoring behaviour of banks' assets in monitoring bankruptcy or financial weakness of banks. On the other hand, most importantly, there are many more studies, which have proved that appropriate asset-liability management strategies have yielded very encouraging results, generally all over the world, but more particularly in the West and have contributed to increased profitability and good health of banking institutions.

Looking at banks in India, although Asset-Liability Management System came in to existence a little later than in the West and despite the fact that many banks here had known of the necessity and importance of the system of
managing their assets and liabilities, the credit of infusion of a formal and well planned ALM System in Indian banking industry goes to the Reserve Bank of India. The spectacular come back of public sector banks as detailed at Tables 2.7 & 8.1 is a dazzling proof of the benefits that the banks have derived from an effective ALM System, which has also upgraded the status of Indian banks to be globally competitive.

When it comes to a comparison between public sector banks and the private sector ones, it is concluded that the necessity of ALM System has been perceived exactly similarly by both these sectors, for philosophy and practice as well. Similar is the perception about the utility and effectiveness of ALM System for larger and smaller banks alike. All the banks have been greatly benefited by the requirement of a professional attitude for managing their assets and liabilities. Although some tools and techniques of ALM have their own limitations (if not put to use by the banks wholeheartedly- in letter and spirit) their suitability and acceptability are beyond question and the ALM System as a whole is a boon to the commercial banks in India.