Chapter 8

Concluding Observations

The Risk Management has evolved as an issue of great relevance as well as of major concern world over. In Indian context, with increasing openness and the necessity of gaining competitive strength in the international arena preparedness of Indian banks for Basel II has emerged as a focal concern. A FICCI sponsored study showed that regulatory systems of Indian banks are rated better than China and Russia; at par with Japan and Singapore but less advanced than UK and USA. In view of increased competition, Implementation of Basel II norms by March 2007 and opening up of sector in 2009, 95 per cent of the respondents viewed that this was the right time for the consolidation in the financial sector. 94 per cent respondents also fully supported government point of view of creating of 6-7 banks as big as the State Bank of India, 58 per cent of respondents expressed that Indian Banking Sector is prepared to achieve the Basel II milestone by 31st March 2007 whereas the remaining voiced that the deadline should get extended and 83 per cent respondents also highlighted that presently there are sufficient instruments in the market to meet the increased capital requirements of Indian Banks. In the wake of preparedness of Indian Banks for
global standards, our study has important implication for Indian financial market as to application of Value at Risk and backtesting for regulatory capital as per Internal Model Approach of Basel II, Validation of Credit Rating Model as per Internal Rating-based Approach of Basel II and Peaks over Threshold based Value at Risk for preparedness for extreme stressed events by arresting the movement in the tails, as a tool to evade bankruptcy, which is a formidable challenge for consolidation of Indian banking system with global banking system.

In this thesis, we have discussed the framework for risk identification, measurement and management. We have also touched upon the Bank for international Settlement and evolvement of Basel II with its critical assessment. As a primary focus of our study, we have empirically applied various models of Value at Risk and backtested the same, validated Credit Rating System and also applied Peaks Over Threshold Method of Extreme Value Theory. Our motivation is to apply advanced risk measurement and management concept in Indian financial system, in line with best practices promoted by BIS and subsequently followed by Reserve Bank of India, the Central Bank of India.

The relevance of selection of Value at Risk models has taken great importance, especially for the dependence structure of the financial time series and fat tails. Wherein the conventional Value at Risk models carry model risk as to distributional assumption and selection of parameters, our application of Bootstrapped Historical
simulation Method does not carry any distributional assumption and as such does not carry model risk. Further, as per requirement of large data set for computation of Value at Risk for regulatory capital as per Internal Model approach of Basel II, the bootstrapped procedure takes care of insufficiency of data by bootstrapping. Consequently, backtesting has a great relevance not only for regulatory purpose, but also for validation of the value at Risk Model. We have applied the same.

We have also applied the validation of credit rating system which has grown in its relevance because as per Internal Rating-based Approach of Basel II, where the Banks are moving towards, having their own credit rating model and there is a great necessity for validation of the same. This is given due importance in Supervisory Review Process as per Pillar II of Basel II.

The application of Peak Over Threshold method of Extreme Value Theory has taken precedence due to its uniqueness in arresting the movement in the tails. Many a past financial disasters are fall out of inability to identify the extreme events and failed to preempt any such extreme event. The Extreme Value Theory here takes care of measurement of probable extreme events and the Value at Risk figure based on it represents the actual number without any underestimation. As per our motivation, we have applied modern risk measurement techniques for application in Indian financial market for greater financial stability.

Nevertheless, our study leaves ample opportunity for further
study. Like the application of Value at Risk could be applied to different portfolios with different dependence structures. The validation of credit rating model could be applied to a bigger portfolio of large banks. The Peaks Over Threshold method of Extreme Value Theory could be applied to portfolio of large internationally active banks and insurance companies, having greater exposure to extreme events. As a whole, there are scopes for carrying our study further by our global research fraternity towards our continuous quest for a better prudent risk measurement and management framework for both regulatory as well as internal purposes.