
Capital Adequacy Growth in Banks: An Indian Scenario

MANDEEP KAUR¹ and SAMRITI KAPOOR¹

¹ Guru Nanak Dev University, Amritsar

Basel norms are synonymous with the best practices and standards in banking regulation and supervision. In order to strengthen the soundness and stability of banks, Basel Committee on Banking Supervision (BCBS) came out with a series of comprehensive and flexible documents in the form of Basel I, Basel II and Basel III. The present paper analyses the changes in Capital Adequacy Ratio of public and private sector banks from 2001-2013 in the light of Basel Capital adequacy requirements. Using Compound Annual Growth rate it was found that most of public and private sector banks have shown sign of growth of Capital Adequacy ratio and all of them have crossed the minimum CAR requirement of 9% stipulated by RBI. This paper also attempts to study the role of Reserve Bank of India, in implementation of Basel framework in Indian banking Scenario.

Key Words: Basel Norms, Banks, Capital Adequacy

INTRODUCTION

With change in the financial landscape of world economies due to rapidly evolving diverse markets and introduction of sophisticated banking products, regulators around the world have aroused concern for protecting the stability and soundness of banks. Basel Committee on Banking Supervision (BCBS) took initiative to protect banks from failure with co-operation of central banks of various countries and released the First Capital Accord i.e. Basel I in 1988. Basel I guidelines stipulated a minimum regulatory capital requirements of 8 % for banks. The main purpose of the Capital Accord was to make regulatory capital requirements more responsive to credit risk associated with bank portfolio of assets and off-balance sheet activities and to ensure that the regulators utilize particular standards while assessing capital adequacy (Hai et al., 2007 and Mohanty, 2008). The first and incontestable achievement of the initiative was that it created a worldwide benchmark for banking regulation and had become basis of inspiration for banking regulators in more than 100 nations (Shin, 2003). But, Basel I suffered from certain rigidities in the wake of more volatile and risk sensitive financial environment. So, BCBS came out with a superior, comprehensive and more risk sensitive framework on 26 June 2004 “International Convergence of Capital Measurement and Capital Standards”, commonly known as the New Basel Capital Accord or “Basel II (Bagchi, 2005). The main objective of Basel II accord is to improve the effectiveness of banking supervision and regulation through

adoption of more risk-responsive and innovation-supportive regulatory framework. The structure of Basel II has its foundation on three mutually reinforcing pillars namely Minimum Capital Requirements (Pillar I), Supervisory review (Pillar II) and Market Discipline (Pillar III). These three pillars allow banks and bank supervisors to evaluate properly the various risks that banks face and realign regulatory capital more closely with underlying risks (Prakash, 2008). Even though Basel II was primarily intended to strengthen the soundness and stability of banking system yet global financial crisis revealed the inadequacy of Basel II which provides strong incentives to banks to underestimate credit risk thus engage in risky lending practices (Cannata and Quagliarello, 2009). To plug the loopholes in capital rules on 16 December 2010, the Basel Committee on Banking Supervision (Basel Committee) had published the Basel III rules with an objective to reduce the probability and severity of future crisis. Mr Nout Wellink, Chairman of the Basel Committee on Banking Supervision and President of the Netherlands Bank, described the Basel III Framework as “a landmark achievement that will help to protect financial stability and promote sustainable economic growth. The higher levels of capital, combined with a global liquidity framework, will significantly reduce the probability and severity of banking crises in the future” (Bank for International Settlements, 2010).

REVIEW OF LITERATURE

Raghavan (2004) discussed the framework of Basel II capital accord with special focus on international banking scenario. The study emphasized the radical change in approaches for calculating various categories of risks under Basel II. It further investigated CAR (Capital Adequacy Ratio) of public sector banks under Basel I for the period of five years from 1998-2003 and found improvement in CAR of many banks while decline in case of some banks. Nikolov (2004) attempted to analyze the results of the survey conducted by New York State Banking Department in 2004 on Basel II

implementation. The survey aimed at describing the capital adequacy policies to be implemented by parent institutions of foreign agencies and branches in accordance with guidelines set forth by BIS. Sarma and Nikaido (2007) presented an analytical review of capital adequacy regime in India in context of Basel I. It focused on state of capital adequacy of Indian banks during 1996-2006 and found satisfactory position of banks in India in terms of CAR. Hai et al. (2007) investigated the issues, challenges and implications of Basel II implementation for the developing economies with prime focus on Pakistan. The study indicated that, especially for developing economies striking a right balance between regulation, supervision and market discipline is a difficult task. Sharma (2009) analyzed CAR of 10 banks as per Basel I and Basel II for the financial year ending 2009. The study used Simple average and the change in CAR during FY 2008-09 for a comparative Study. It was found that average CAR of the analyzed banks as per Basel II norms improved from 12.35 per cent for the year ended March 2008 to 13.48 per cent in FY '09. The results suggested that with remarkable performance during the crisis period, Indian banking sector has proved to be based on prudent lending practices and sound fundamentals. Singh and Vyas (2009) studied the status of capital requirements in India. The results suggested significant difference in mean CAR of SBI and its associates, private banks and foreign banks with nationalized banks i.e. benchmark group during the period of study. Davis (2010) outlined flaws in capital requirements and difficulty in its implementation with special reference to global financial crisis. The study also highlighted merits of various proposals which have been made for changes to bank capital regulation. Pasha et al (2012) studied the conceptual framework of Basel II accord and its impact on CAR. The study examined the trends in CAR values for selected public, private and foreign banks operating in India for the period of 2007-2011. The analysis revealed that capital remains a useful regulatory tool in the hands of policy makers for influencing bank's behavior.

The above studies highlighted the importance of capital adequacy in maintaining soundness of a banking industry and proper implementation of Basel norms. These studies have examined the capital adequacy position for selected categories of banks and that too for a shorter time frame. The prime focus of the present study is to provide the comprehensive overview of the state of banks' capital adequacy position considering not only their average CAR but analyzing their actual growth by using Compound annual growth rate for the period of 2001-2013.

OBJECTIVES OF THE STUDY

1. To analyze the changes in Capital Adequacy Ratio of public and private sector banks in India in context of Basel Capital adequacy requirements.
2. To throw light on role of RBI in implementation of Basel norms in Indian banks.

DATA BASE AND RESEARCH METHODOLOGY

The universe of study consists of all public sector and private sector banks operating in India. For the data collection secondary sources have been used namely, Annual Reports of sampled banks, publications of Reserve Bank of India like, Annual Report(s) of Reserve Bank, and Basel committee publications. The study covers period from 2001 to 2013. Compound Annual Growth Rate (CAGR) has been calculated to analyze the data.

ROLE OF RESERVE BANK OF INDIA IN BASEL NORMS IMPLEMENTATION

International capital adequacy norms known as Basel norms were introduced in India in response to RBI (Reserve Bank of India) approach of gradual convergence with international standards and best

practices. The Narsimahan committee on financial system endorsed the internationally accepted norms for capital adequacy standards, developed by BCBS and thereby India adopted Basel I norms for scheduled commercial banks in April 1992, and market risk amendment of Basel I in 1996. (Sarma and Nikaido, 2007).

Considering the 'One-size fits all' approach of Basel I, Basel Committee on Banking Supervision came out with more risk sensitive and comprehensive framework Basel II to replace the existing Accord. Thus, Basel II was adopted by India keeping into view size, complexity of operations and relevance to financial sector. The Reserve bank directed that Indian banks having foreign branches and foreign banks operating in India should migrate to Basel II norms from March 31, 2008 and all other commercial banks, excluding local area banks and regional rural banks, were required by RBI to adopt Basel II norms not later than March 31, 2009.

As of April 2009, all commercial banks in India had migrated to simpler approaches available under Basel II framework in two stages. After development of adequate skills, both in banks and at supervisory levels, RBI allowed the banks to migrate to the Internal Ratings Based (IRB) Approach (Annual Report, Reserve Bank of India, 2009-10). The Reserve Bank of India (RBI) has already proposed timelines as shown in Table I for banks to migrate to advanced risk norms under Basel II, which entails improved standards for banks worldwide for assessing risks. RBI has directed the banks to apply to the central bank (RBI) for migrating to these norms earliest by April 1, 2012, for which banks may receive approvals by March 31, 2014 (The Statesman, 2011).

As a move towards upgrading and enhancing risk management practice in banks, RBI has issued several guidance notes and set up various advisory groups keeping in view banks' own requirements dictated by the size and complexity of business, risk philosophy, market risk perception and expected level of capital. (Annual Report, RBI, 2002-03).

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Table 1: Time frame for Implementation of Advanced Approaches in India

Approach	Earliest Date of submitting Applications to Reserve Bank	Likely Date of Approval by Reserve Bank
Internal Model Approach (IMA) for Market Risk	April 1,2010	March 31,2011
The Standardized Approach(TSA) for Operational Risk	April 1,2010	September 30,2010
Advanced Measurement Approach(AMA) for Operational Risk	April 1,2012	March 31,2014
Internal Rating Based (IRB) Approach for Credit Risk (foundation as well as advanced IRB).	April 1,2012	March 31,2014

Source: Annual Report RBI, 2009

In the wake of financial turmoil facing the world economy, BCBS introduced more sophisticated version of Basel norms known as Basel III. The proposed changes have begun to be implemented in India in phases starting from January 2013 till January 2015. The creation of conservation buffer can be taken up by banks during the January 2016 -2019 period (ICRA, 2010). RBI had proposed that Indian banks should maintain the Tier I capital at a minimum 7% of risk-weighted assets under the new Basel III norms on bank regulation, higher than the 6% suggested by Bank of International Settlement's Committee on Banking Supervision (BCBS). There are no apprehensions that implementation of Basel norms in proper sense will make the Indian banking system more resilient and improve the risk management of banking industry as a whole.

GROWTH OF CAPITAL ADEQUACY AND BANKS IN INDIA

“Capital adequacy has traditionally been regarded as a sign of strength of the financial system in India. In terms of section 17 of Banking Regulation Act, 1949, every banking company incorporated in India is required to create a reserve fund as has been advised to transfer a sum equivalent to not less than 25 percent of its disclosed profits to the reserve fund every year” (Das and Ghosh, 2004).

Under Basel norms Capital Adequacy has assumed the prime importance and it has become sign of

soundness of banking system. As per Basel Accord every bank is required to maintain 8% of Capital Adequacy ratio (Ratio of capital (Tier I and Tier II) to Risk Weighted Assets) breach of which attracts regulatory action against bank. In India, RBI had stated that minimum Capital Adequacy Ratio requirement should be 9% which is 1% higher than Basel requirement and Tier I capital of banks should be at least 6 per cent. Banks below this level were required to achieve this ratio on or before March 31, 2010 at both solo and consolidated level. Further, the Government of India has stated that public sector banks must have a capital cushion with a CAR of at least 12%, higher than the threshold of 9% by RBI (Annual Report, RBI, 2005-06, and 2006-07).

Table 2 depicts the Compound Annual Growth Rate of Capital Adequacy Ratio of public and private sector banks in India during a period of 13 years i.e. from 2001 to 2013.

Private Sector Banks

As depicted from Table 2, in most of the private sector banks, Capital Adequacy Ratio (CAR) has been constantly increasing during these thirteen years. Among private sector banks, Ratnakar bank is having highest and significant CAGR i.e. 10%. Second to it comes ICICI Bank (5.9%) followed by Federal Bank (5.12%), Axis Bank (3.9%) and HDFC Bank (3.7%). Since the implementation of Basel II all the private sector banks are well above the regulatory minimum of 9%, in 2011, 2012 as well as in 2013 and all of them have reached double digit CAR, a commendable achievement.

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Table 2: Growth of Capital Adequacy Ratio of Public and Private Sector Banks in India from 2001-2013

Banks	CAR	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	CAGR	T-Test
PRIVATE SECTOR BANKS																
AXIS BANK LIMITED	9	10.65	10.9	11.21	12.66	11.08	11.57	13.99	13.69	15.8	12.65	13.66	17	3.977048	5.870*	
CATHOLIC SYRIAN BANK LTD	6.08	9.57	10.58	11.23	11.35	11.26	9.58	11.21	12.29	10.82	11.22	11.08	12.29	2.942459	2.612*	
CITY UNION BANK LIMITED	13.59	13.97	13.95	13.36	12.18	12.33	12.58	12.48	12.69	13.46	12.75	12.57	13.98	-0.29955	-0.868	
DEVELOPMENT CREDIT BANK LTD.	11.28	11.49	10.08	14.26	9.88	9.66	11.34	13.38	13.3	14.85	13.25	15.41	13.61	2.634095	2.749*	
DHANALAKSHMI BANK LTD.	9.69	11.23	10.45	13.56	10.16	9.75	9.77	9.21	15.38	12.99	11.8	9.49	11.06	0.601804	.494*	
FEDERAL BANK LTD	10.29	10.63	11.23	11.48	11.27	13.75	13.43	22.46	20.22	18.36	16.79	16.64	14.73	5.12711	3.775*	
HDFC BANK LTD.	11.09	13.93	11.12	11.66	12.16	11.41	13.08	13.6	15.69	17.44	16.22	16.52	16.80	3.769302	5.355*	
ICICI BANK LIMITED	11.57	11.44	11.1	10.36	11.78	13.35	11.69	13.96	15.53	19.41	19.54	19.6	19.69	5.9715	7.443*	
ING Vysya Bank	12.05	11.57	9.81	11.05	9.09	10.67	10.56	10.2	11.65	14.91	12.94	14	13.24	2.224378	2.410*	
INDUSIND BANK LTD	15	12.51	12.13	12.75	11.62	10.54	12.54	11.91	12.55	15.33	15.89	13.85	15.36	1.409846	1.594	
JAMMU & KASHMIR BANK LTD.	17.44	15.46	16.48	16.88	15.15	13.52	13.24	12.8	14.48	15.89	13.72	13.36	12.83	-1.98013	-3.426	
KARNATAKA BANK LTD	11.37	12.96	13.44	13.03	14.16	11.78	11.03	12.17	13.48	12.37	13.33	12.84	13.22	0.30045	0.596	
KARUR VYSYA BANK LTD	15.56	16.9	17.01	17.11	16.07	14.79	14.51	12.58	14.92	14.49	14.41	14.33	14.41	-1.48881	3.039*	
KOTAK MAHINDRA BANK LTD.	30.47	25.97	15.25	12.8	11.27	13.46	18.65	20.01	19.28	19.92	17.92	17.02	-1.29159	-0.538		
LAKSHMI VILAS BANK LTD	10.21	11.54	11.35	13.79	11.32	10.79	12.43	12.73	10.29	14.82	13.19	13.1	12.31	1.409846	1.817	
NAINITAL BANK LTD	15.81	14.88	20.93	18.54	14.85	13.88	12.89	12.32	13.1	15.68	16.35	15.09	14.43	-1.29159	-1.213	
RATNAKAR BANK LTD.	10	13.6	14.05	16.65	12.03	10.77	34.34	49.15	42.3	34.07	56.41	23.2	17.11	10.18604	2.634*	
SOUTH INDIAN BANK LTD.	11.17	11.26	10.75	11.32	9.89	13.02	11.08	13.8	14.76	15.39	14.01	14	13.91	2.942459	4.207*	
TAMILNAD MERCANTILE BANK LTD	17.59	18.02	18.54	21.07	19.74	18.33	16.77	15.35	16.1	15.54	15.13	14.69	15.01	-2.37143	-4.402*	
YES BANK LIMITED						18.91	16.4	13.6	13.6	16.6	20.06	16.5	17.94	18.3	1.511306	0.854
PUBLIC SECTOR BANKS																
ALLAHABAD BANK	10.5	10.62	11.15	12.54	12.53	13.37	12.52	11.99	13.11	13.62	12.96	12.83	11.03	1.106072	1.916	
ANDHRA BANK	13.4	12.59	13.62	13.71	12.11	14	11.33	11.61	13.22	13.93	14.38	13.18	11.76	-0.1998	-0.272	
BANK OF BARODA	12.8	11.32	12.65	13.91	12.61	13.65	11.8	12.94	14.05	14.36	14.52	14.67	13.30	1.308487	2.663*	
BANK OF INDIA	12.37	10.68	12.02	13.01	11.52	10.75	11.75	12.04	13.01	12.94	12.17	12.03	11.02	0.2002	0.309	
BANK OF MAHARASHTRA	10.64	11.16	12.05	11.88	12.68	11.27	12.06	10.85	12.05	12.78	13.35	12.43	12.59	1.106072	2.761*	
CANARA BANK	9.84	11.88	12.5	12.66	12.78	11.22	13.5	13.25	14.1	13.43	15.38	13.76	12.40	1.918165	3.011*	
CENTRAL BANK OF INDIA	10.02	9.58	10.51	12.43	12.15	11.3	10.4	9.39	13.12	12.23	11.64	12.4	11.49	1.308487	1.829	
CORPORATION BANK	13.3	17.9	18.5	20.12	16.23	13.92	12.76	12.09	13.61	15.37	14.11	13	12.33	-2.37143	-2.334*	
DENA BANK	7.73	7.64	6.02	9.48	11.91	10.62	11.52	11.09	12.07	12.77	13.41	11.51	11.03	4.707441	3.866*	
IDBI BANK LIMITED	11.72	9.59	9.56	10.38	15.51	14.8	13.73	11.95	11.48	11.31	13.64	14.7	13.23	2.020134	1.867	
INDIAN BANK	-0.09	1.7	10.85	12.82	14.14	13.19	14.14	13.03	13.27	12.71	13.56	13.47	13.08	8.871707	1.896*	
INDIAN OVERSEAS BANK	10.24	10.82	11.3	12.49	14.2	13.04	13.27	11.93	13.2	14.78	14.55	13.32	11.85	1.816298	2.507*	
ORIENTAL BANK OF COMMERCE	12.17	10.99	14.04	14.47	9.21	11.04	12.51	12.12	12.98	12.54	14.23	12.69	12.04	0.601804	0.627	
PUNJAB AND SIND BANK	11.42	10.7	10.43	11.06	9.46	12.83	12.88	11.57	14.35	13.1	12.94	13.26	12.91	2.122205	3.276*	
PUNJAB NATIONAL BANK	10.24	10.7	12.02	13.1	14.78	11.95	12.29	13.46	14.03	14.16	12.42	13.12	13.16	1.612869	2.393*	
SYNDICATE BANK	11.72	12.12	11.03	11.49	10.7	11.73	11.74	11.82	12.68	12.7	13.04	12.24	12.59	1.005017	2.981*	

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PRIVATE SECTOR BANKS																
UCO BANK		9.05	9.64	10.04	11.88	11.26	11.12	11.56	11.02	11.93	13.21	13.71	12.35	14.15	3.14855	6.945*
UNION BANK OF INDIA		10.86	11.07	12.41	12.32	12.09	11.41	12.8	11.7	13.27	12.51	12.95	11.85	11.45	0.601804	1.349
UNITED BANK OF INDIA		10.4	12.02	15.17	17.04	18.16	13.12	12.02	11.24	13.28	12.8	13.05	12.69	11.66	-0.69756	-0.581
VIJAYA BANK		11.5	12.25	12.66	14.11	12.92	11.94	11.21	11.22	13.15	12.5	13.88	13.06	11.32	0.10005	0.185
STATE BANK OF INDIA		12.79	13.35	13.5	13.53	12.45	11.8	12.34	12.64	14.25	13.39	11.98	13.68	12.92	0	0.987
STATE BANK OF BIKANER AND JAIPUR		12.39	12.26	13.08	12.93	12.6	12.08	12.89	12.51	14.42	13.3	11.68	13.76	12.16	0.2002	0.503
STATE BANK OF HYDERABAD		12.28	13.67	14.91	14.29	11.74	12.08	12.51	11.53	11.53	14.9	14.25	13.56	12.36	0	-0.103
STATE BANK OF MYSORE		11.16	11.81	11.62	11.53	12.08	11.37	11.47	11.73	13.38	12.42	13.76	12.55	11.79	1.005017	2.489*
STATE BANK OF PATIALA		12.37	12.55	13.57	13.56	14.21	13.67	12.38	13.56	12.6	13.26	13.41	12.3	11.12	-0.5982	-1.281*
STATE BANK OF TRAVANCORE		11.79	12.54	11.3	11.36	11.05	11.15	11.68	13.53	14.03	13.74	12.54	13.55	11.70	1.106072	1.881

Source: CAR: from RBI website and Annual reports of Banks, CAGR : Own Calculations
Note: * indicate Significant at 5% level

However, growth of CAR of other private sector banks like, IndusInd Bank, Karnataka Bank and Yes Bank and Lakshmi Vilas Bank has been found to increase insignificantly since last thirteen years.

In case of some other private sector banks like City Union Bank, Jammu Kashmir Bank, Kotak Mahindra Bank and Nainital Bank, CAGR of CAR has been declining insignificantly while significant decrease was found in case of Karur Vysya Bank and Tamilnad Mercantile Bank.

Public Sector Banks

As far as Public sector Banks are concerned, the CAGR of CAR has been low in case of most of the banks. Only a few banks have been found to be with positive and significant growth. Indian Bank is having the highest growth during 2001-13 i.e.8% followed by Dena bank (4.7%), UCO Bank (3.14%), Punjab and Sind Bank (2.12%), Bank of Maharashtra (1.10%), Canara Bank (1.9%) and Indian Overseas bank (1.8%).

However positive though insignificant growth has been found in some of the banks i.e., Allahabad Bank, Bank of India, Central Bank of India, Vijaya

Bank and Oriental Bank of Commerce and State Bank and its Associates except State Bank of Mysore which is found to have significant growth in CAR. Andhra Bank, Corporation Bank, State Bank of Patiala and United Bank of India are found to have negative growth.

Hence, in comparison to Public sector banks, Private sector Banks are having overall highest growth rate of CAR. Moreover, the number of banks with positive and significant overall growth rate in CAR is higher in case of private sector banks as compared to the public sector banks.

As far as Public sector Banks are concerned, all of them have crossed the threshold level of 9% CAR. Banks like Allahabad bank, Andhra Bank, Bank of India, State Bank of Travancore of India were above minimum CAR of 12% in 2012 but decline in CRAR of these banks below 12% was witnessed in 2013 and many of public sector banks are just above minimum CAR of 12%. To meet the regulatory requirement, recapitalization packages have been announced by Government of India from time to time. Government infused about Rs 20117 cr in public sector banks in the fiscal 2010-11 and Rs 12000 cr in the year 2011-12.

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In the year 2012-13 public sector commercial banks were provided recapitalization funds to the tune of Rs 12500 cr to meet the Basel requirements (www.financialexpress.com). In the Union budget 2013-14 Finance Minister has set aside Rs 14000 cr towards recapitalization of state-run banks to improve their capital adequacy positions (budget.business-standard.com). Hence, overall position of Indian commercial banks as regards capital adequacy is satisfactory as per Basel II framework as all public and private sector banks are well above the minimum capital adequacy ratio as required by RBI. Banks in India are also preparing to implement and meet the capital requirements under Basel III.

CONCLUSION

Implementation of Basel Norms provides an opportunity to make global financial system more secure and stable. Basel Committee has taken several initiatives to upgrade the capital adequacy and risk management framework by issuing series of documents from Basel I to Basel III in the wake of changing global scenario. In India, RBI has also endorsed the Basel framework and its superior versions to achieve harmonization and make Indian banking system more stable. It has issued several guidelines to banks for achieving proper implementation and has given several recapitalization packages from time to time to help the banks to meet higher level of capital adequacy. Many banks running short of minimum capital requirement have also been issued capital by government to meet the required Capital Adequacy ratio. Over the period of time, most of the public and private sector banks have shown sign of growth of Capital Adequacy ratio and all of them have crossed the minimum CAR requirement of 9% stipulated by RBI under Basel II. Banks are also preparing themselves to implement Basel III in proper sense to make them more resilient towards economic shocks.

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BIOGRAPHIES

Mandeep Kaur, Ph.D. is presently working as Associate Professor in the Department of Commerce, Guru Nanak Dev University, Amritsar, Punjab (India). She has done Ph.D. on "Product Market Analysis: A Study of Passenger Cars" in the Faculty of Economics and Business, Guru Nanak Dev University, Amritsar. She did her Master of Commerce from the same university. She has 19 years experience of teaching Post Graduate students. She has over 30 papers published in National and International Journals of repute like *Finance India*, *Vikalpa* (IIM Ahmedabad), *Management and Labour Studies* (XLRI, Jamshedpur), *Business Analyst* (Shri Ram College of Commerce), *Global Business Review*, *Paradigm* and *Amity Business Review*. She is presently supervising 6 Ph.D. scholars. She has completed a minor research project of U.G.C. and presently working on major U.G.C. sponsored research project. Her key areas of specialization are Finance and Marketing.

Samriti Kapoor is Senior Research Fellow in the Department of Commerce, Guru Nanak Dev University, Amritsar (Punjab). She did her Master of Commerce from the same university. She has 5 papers published in National and International Journals i.e. *Business Analyst* (Shri Ram College of Commerce), *Zenith International Journal of Multidisciplinary Research*, *The Management Accountant*, *Management and Labour Studies* (XLRI, Jamshedpur) and *Asia Pacific Journal of Management Research and Innovation*. Her research interests are in the area of finance and banking regulations.