Basel-III: Cost-Benefit analysis for Indian Banks

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Abstract

After the financial crisis of 2008-09, Basel Committee on Banking Supervision (BCBS) suggested implementing the Basel-III accord, which is expected to increase the banking sector's ability to absorb shocks arising from macro-economic conditions. Basel-III mainly emphasizes the need for additional capital besides maintenance of liquidity and leverage ratios. The additional capital required will result in banks incurring an additional cost. Keeping this in mind, this study attempts to assess whether implementation of the Basel-III accord would yield the expected benefits.

This study quantifies the cost of Basel-III accord implementation to be incurred by Indian banks and macro-economic benefits expected to be derived from its implementation.

Key Words: *Basel-III, Cost-Benefit analysis, Financial Crisis*

Introduction

After the Herstatt Bank incident of 1974, G10 countries formed the Basel Committee on Banking Supervision (BCBS) under the sponsorship of Bank for International Settlements (BIS). The committee introduced the Basel-I regulation in 1988, which was mainly based on management of credit risk. However, the 'one-size-fits-all' kind of approach of this accord failed to keep pace with banking innovations and gradually rendered it less effective and obsolete. In 2004, the Basel-II accord was introduced; this included market risk and operational risk in addition to credit risk, and was expected to prevent the banking system from the possible thrusts. However, the financial crisis of 2008-09, which severely impacted the global economy, proved this to be wrong. In 2010, the Basel Committee recommended the Basel-III accord, which is considered to be more effective than the earlier two accords. Basel-III is expected to provide sufficient liquidity while enhancing the banking system's shock absorbing capacity. The major recommendations made by Reserve Bank of India (RBI) under Basel-III for Indian banks are as follows:

(1) Enhancement of the Common Equity Tier-1 (CET-1) capital to 5.5 percent; introduction of Additional Tier-1 as 1.5 percent.
(2) Introduction of Capital Conservation Buffer (CCB) as 2.5 percent of Risk Weighted Assets (RWAs).
(3) Introduction of Counter Cyclical Buffer in the range of 0-2.5 percent based on country specific economic triggers.
(4) Leverage Ratio i.e. Ratio of Tier-1 capital to off- and on-balance sheet exposure to be maintained at a minimum of 3 percent.
(5) Long term liquidity ratio i.e. Net Stable Funding Ratio (NSFR) and Short term liquidity ratio i.e. Liquidity Coverage Ratio (LCR) to be maintained at 100 percent.

Research Gap

Review of literature reveals that most of the earlier research primarily covers developed countries. A number of studies have assumed that cost of additional capital will be passed on to prospective customers by raising the price of loan products. In this study, the expected rate of return on investment is considered as the cost of capital and accordingly, the total cost for raising additional capital has been computed. Some research work has been carried out to compute the cost-benefit analysis for Indian banks with respect to Basel-III implementation. However, the study doesn't quantify the amount in numerical terms. Since Basel-III regulations are yet to be implemented fully in India, it's important to study the associated costs and probable benefits of its implementation.

This is a short research note based on a full length manuscript published in NMIMS Management Review.

Methodology

Data available from the Basel-III disclosures made by 41 banks (both private and public sector banks) for the year 2016 has been considered as the base. Indian banks are required to achieve the Common Equity Tier-1 (CET-1), Tier-1 and Total Capital ratio of 5.5 percent, 7 percent and 9.5 percent of Risk Weighted Assets (RWAs) respectively besides maintaining Capital Conservation Buffer at 2.5 percent. Assuming per annum growth of 16 percent for RWAs, the required amount of CET-1, Tier-1 and Total Capital by year 2019 has been computed. The difference between presently available amount of CET-1, Tier-1 and Total Capital and required amount by 2019 was taken as additionally required capital by Indian Banks by 2019.

The benefits are computed on the basis of prevention in fall of Gross Domestic Product (GDP) due to presence of Basel-III regulations by 2019. As per a study conducted by International Monitory Fund (IMF) in 2009, the effect of a financial crisis lasts for 7 years; for the first five years, the fall in GDP is 10 percent each year and for the next 2 years, the fall in GDP is 2.5 percent. Accordingly, the level of GDP for the year 2017 was considered as the base, which is expected to grow at 8 percent per annum in the absence of any financial crises. However, in case of a financial crisis, it may lose the growth opportunity while experiencing a downfall as per the study conducted by IMF.

A comparison was made in numerical terms between the additional capital required to comply with Basel-III regulations and the possible opportunity loss for future years in case of a financial crisis occurring in the year 2017. Similarly a comparison was made between the present values of additional capital required and possible future loss in GDP.

Findings

The additional cost to comply with Basel-III computed from the above-mentioned methodology is INR 5.5 trillion and its present value is INR 4.7 trillion whereas total loss in GDP for the next seven years is INR 53.36 trillion and its present value is INR 45.9 trillion. If we consider the opportunity loss as well, the total loss in GDP for the next seven years due to financial crisis is INR 585.64 trillion and its present value is INR 436.08 trillion. Thus, implementation of Basel-III regulations is quite justifiable in terms of associated costs and benefits expected to be derived.

Applicability of Basel-Iii Accord In Context To The Indian Economy

Compliance with Basel-III norms is expected to reduce the possibility and severity of a financial crisis on the banking industry and enhance financial stability of the system. India needs a robust banking system as it is one of the fastest growing economies of the world. A well-functioning and efficient banking system is the basic need for the accomplishment of the recent initiatives of the government of India including financial inclusion, Direct Benefit Transfer (DBT), etc. Compliance with globally accepted standards will help Indian banks to remain competitive at the international level. Suggested guidelines under Basel-III such as maintaining a specified amount of shock absorbing capital, ensuring sufficient liquidity and control over excessive debt build-up during boom periods, etc. will enable the Indian banking system to withstand a major crisis, if any, in future.

The Indian banking system is presently facing an excessive pile up of Non-Performing Assets (NPAs) amounting to approximately INR 10.36 trillion. Compliance with globally accepted Basel-III regulations would not only keep the lending activities under strict control, but also serve the purpose of capital conservation. These regulations are expected to provide micro level resilience to individual banks in the time of stress, and being pro-cyclical in nature on the macroeconomic front, they will address system-wide risks.

Conclusion

It is evident from the information presented that benefits to be derived from implementation of Basel-III regulations outweigh the associated costs of implementation of these regulations. Thus, the implementation of Basel-III accord is justifiable in the given circumstances. However, as a promoter of Public Sector Banks (PSBs), the Government of India (GOI) may find it difficult to provide capital for all the PSBs. As a logical measure, the GOI may decide to dilute its equity holding through various measures and infuse capital to the extent of its shareholding post equity dilution. The option of consolidation of a few weaker banks with larger and stronger banks in terms of capital can also be explored.

References

- Aosaki Minoru, (2013). 'Implementation of Basel III Economic impact and policy challenges in United States, Japan and the European Union', the Walter H. Shorenstein Asia-pacific Research Centre, working paper. https://aparc.fsi.stanford.edu/publications/implementation_of_basel_iii_economic_impacts_and_policy_challenges_in_the_united_states_japan_and_the_european_union
- Angelini, P., Clerc, L., Cúrdia, V., Gambacorta, L., Gerali, A., Locarno, A., Motto, R., Roeger, W., Van den Heuvel, W and Vlèek, J, (2015). 'Basel III: Long-term impact on economic performance and fluctuations', The Manchester School 83(2), pp 217-251. https://onlinelibrary.wiley.com/doi/abs/10.1111/manc.12056
- Basel Committee for Banking Supervision, 'A Global Regulatory Framework for More Resilient Banks and Banking Systems', Bank for International Settlements, publications, June 2011. Retrieved from https://www.bis.org/publ/bcbs189.htm
- Basel Committee on Banking Supervision, An assessment of the long term economic impact of stronger capital and liquidity requirements, Bank for International Settlements, publications, August 2010. Retrieved from https://www.bis.org/publ/bcbs173.htm
- Basel Committee on Banking Supervision, Accessing the macroeconomic impact of the transition to stronger capital and liquidity requirements, Bank for International Settlements, publications, December 2010. Retrieved from https://www.bis.org/publ/othp12.pdf
- Brooke, M., Bush, O., Edwards R., Ellis J., Francis B., Harimohan, R., Neiss, K. and Siegart, C., 'Measuring the macroeconomic costs and benefits of higher UK bank capital requirements', Financial Stability Paper No. 35 – December 2015. Retrieved from https://www.bankofengland.co.uk/financial-stability-paper/2015/measuring-the-macroeconomic-costs-and-benefits-of-higher-uk-bank-capital-requirements
- Duvvuri Subbarao, 'Basel-III in International and Indian Contexts: Ten Questions We Should Know the Answers for', Inaugural Address by Governor, Reserve Bank of India at the Annual FICCI-IBA Banking Conference, Mumbai, 4 September 2012. Retrieved from https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/BSI04092012F.pdf
- Gambacorta, L., Shin, H.S. (2016), 'Why bank capital matters for monetary policy', BIS Working Paper No 558, April 2016. Retrieved from https://www.bis.org/publ/work558.htm
- Gioradana G.A. and Schumacher I., 'An Empirical study on the Impact of Basel III Standards on Banks' Default Risk: The case of Luxembourg', Journal of Risk and Financial Management, April 2017. Retrieved from www.mdpi.com/1911-8074/10/2/8/pdf
- IMF (2009), 'What's the damage? Medium-term output dynamics after financial crises', World Economic Outlook, October. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Whats-the-Damage-Medium-term-Output-Dynamics-After-Banking-Crises-23389
- Indian Banks' Association, 'Indian Banking Year Book 2013', The Publications Department, IBA, Veer Nariman Road, Mumbai.
- Indian Institute of Banking & Finance (2015). 'Master Circular on Basel III Capital Regulations'. Retrieved from http://iibf.org.in/documents/BASEL-III.pdf
- Ingo Fender, Ulf Lewrick, 'Adding it all up: the macroeconomic effect of Basel III and outstanding reform issues', Bank for International Settlements, publications, November 2016. Retrieved from https://www.bis.org/publ/work591.htm
- Pogach Jonathan, 'Literature review on macroeconomic Impact of Capital Requirements'. Retrieved from https://www.fdic.gov/about/learn/board/hoenig/2016-05-12-lr.pdf
- Marchesi Massimo, Guidici Marco Petraco, Cariboni Jessica, Zedda Stefano, Compolongo Francesca, 'Macroeconomic cost-benefit analysis of Basel III minimum capital requirements and of introducing Deposit Guarantee Schemes and Resolution Funds', European Commission, Joint Research Centre, Institute of Protection and Security of Citizen, Ispra, Italy, 2012. Retrieved from https://www.researchgate.net/profile/Stefano_Zedda/publication/264052635_Macroeconomic_cost-benefit_analysis_of_Basel_III_minimum_capital_requirements_and_of_introducing_Deposit_Guarantee_Schemes_and_Resolution_Funds/links/0c96053ccc7ac62e64000000/Macroeconomic-cost-benefit-analysis-of-Basel-III-minimum-capital-requirements-and-of-introducing-Deposit-Guarantee-Schemes-and-Resolution-Funds.pdf
- Miller S. and Sowerbutts R., 'Bank Liquidity and the Cost of Debt', Staff Working Paper No. 707, Bank of England, January 2018. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3118309

- Reserve Bank of India (2016). 'Consolidated balance sheet of scheduled commercial banks', Retrieved from http://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications
- Reserve Bank of New Zealand Bulletin (2012). 'Regulatory impact assessment of Basel III Capital requirements in New Zealand', Retrieved from https://www.rbnz.govt.nz/-/media/ReserveBank/Files/regulation-and-supervision/banks/policy/4932427.pdf
- Roger, S. and Vlcek, J., 'Macroeconomic costs of higher capital and liquidity requirements', IMF Working Paper. Retrieved from https://www.imf.org/external/pubs/ft/wp/2011/wp11103.pdf
- Romer, C. and Romer, H., 'New evidence on the impact of financial crises in advanced countries', NBER Working Paper March 2015. Retrieved from www.nber.org/papers/w21021
- Sarkar A. and Roberts D., 'Bank Liquidity Provision and Basel Liquidity Regulations', Federal Reserve Bank of New York Staff Report No. 852. Retrieved from https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr852.pdf
- Shakdwipee P. and Mehta M., 'From Basel I to Basel II to Basel III', International Journal of New Technology and Research, January 2017, pp 66-70. Retrieved from https://www.ijntr.org/download_data/IJNTR03010033.pdf
- V.R.Iyer, 'Risk Management & Regulation in Indian Banking Sector - New Paradigm', Bank Quest, The Journal of Indian Institute of Banking & Finance, Vol.86 No.3 July-September (2015), pp. 17-23.
- Vighneswara Swamy, Basel-III Implications for Indian Banking, Research Report published by Indian Institute of Banking and Finance, Mumbai, October 2013. Retrieved from http://www.iibf.org.in/documents/reseach-report/Report-25.pdf
- Yan, M., Hall, M. and Turner, P. (2015), 'A cost-benefit analysis of Basel III: some evidence from the UK', International Review of Financial Analysis 25, pages 73-82. Retrieved from https://www.sciencedirect.com/science/article/pii/S1057521912000622

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