Critical Assessment of Capital Buffers Under Basel III

** Ravi Kant*
*** S.C. Jain*

ABSTRACT

The recent sub-prime crisis gave birth to Basel III, which stipulates the setting up of two capital buffers of 2.5% each to increase the banks' equity in their lending business. The Capital Conservation Buffer is simply a top up over and above the stipulated capital levels of 8%. And, the discretionary Counter-Cyclical Buffer aims to dampen the credit cycle in a booming economy to reduce the systemic risks. This paper argues that on the one hand, the recoup of capital conservation buffer would be difficult once it gets depleted and on the other, the banks would find it attractive to further boost up the credit growth in order to reduce the impact of additional capital requirements. The other adverse impacts of discretionary buffers would be upsetting growth plans of the industry, caution among investors and effect on banks' asset quality. On the contrary, the release of discretionary buffers is only leverage enhancing enabling factor and is not by itself amount to increase in cash flows and liquidity for credit growth. And, it would not positively impact the banking profitability either.

Keywords : Bank Capital Regulation, Basel III, Counter Cyclical Buffer, Capital Conservation Buffer
JEL Classification : G21, G28

INTRODUCTION

The larger criticism of the Basel II Capital Accord was attributed to the pro-cyclicality of risk capital requirements, which was believed to be responsible for exacerbating the impact of the recent sub-prime crisis in US and Euro-zone. The Basel Committee of Banking Supervision (BCBS) opines that pro-cyclicality is inherent in the banking business. The banking business expands in economic uptrends and slows down in an economic slowdown, albeit with a lag. In an economic slowdown, the quality of the banking assets deteriorates and hence, the requirement for risk sensitive regulatory capital rises. Banks find it difficult to raise the capital under economic slowdown conditions, and hence, prefer to reduce the balance sheet size or slow down the credit expansion (Stolz and Wedow, 2011); though, it is desired otherwise under such economic situations.

The risk-sensitivity of the regulatory capital is perhaps responsible for the rise in its stipulated levels. The argument may run as if this risk sensitivity is removed than the pro-cyclicality would be removed. However, this is not the case. With prescribed fixed risk rates, Basel I capital stipulations were non-risk-sensitive. Banks entered in 'regulatory arbitrage' and increased the share of high yield, high-risk assets in the aggregate asset profile within the risk categories. Regulatory capital arbitrage was perceived to be detrimental to the interest of the individual bank with regard to its risk profile and solvency[1]. To remove this tendency of capital arbitrage, BCBS brought in risk sensitive capital regulatory framework under Basel II. However, such risk sensitivity led banks to devise innovative complex techniques of building off-balance sheet assets, raise systemic instability, accentuate pro-cyclicality and transfer the ill-effects from banking to the real economy.

To ensure that credit flows even during an economic crisis, and it (credit) does not stop for the want of regulatory capital, BCBS issued its latest guidelines – Basel III [2]. In the new banking regulatory framework, the BCBS has provided for three main measures on capital aspects to strengthen the banking system, and to address the pro-cyclicality of risk capital with a view to reduce any adverse effect to banking disruptions on the real economy. The

* *Ph.D. Scholar,* School of Law and Management, Singhania University, Jhunjhunu - 333515, Rajasthan.
E-mail : ravi.gupt@gmail.com
** *Associate Professor,* Shaheed Bhagat Singh College (E), Phase II, Sheikh Sarai, New Delhi - 110017.
E-mail : scj1953@yahoo.co.in

[1] However, Allen Greenspan (1998) supported regulatory capital arbitrage, "Regulatory capital arbitrage, I should emphasize, is not necessarily undesirable. In many cases, regulatory capital arbitrage acts as a safety valve for attenuating the adverse effects of those regulatory capital requirements that are well in excess of the levels warranted by a specific activity's underlying economic risk."

[2] BCBS (2011)

essence of Basel III lies in improving the quantity and quality of banks' loss bearing risk capital. Higher Tier I component, Capital buffers, liquidity requirements and overall leverage restrictions are the key features of Basel III.

a) Tier-1 Capital : Loss absorbing component increased by enhancing the total tangible equity component stipulation from 2% to 4.5% of risk weighted assets.

b) Capital Conservation Buffer : Capital buffer over and above the minimum capital requirements to the extent of 2.5% of risk weighted assets in the form of Tier 1 common equity.

c) Counter-Cyclical Buffer : Capital buffer to address the excess credit growth during an economic upturn – 2.5% of risk weighted assets in the form of equity capital (until any change is announced).

The two capital buffers are the most discussed components of the Basel III. As the Capital conservation buffer is to be maintained all the time, in effect, it is essentially an extension of capital adequacy requirement.
The other notable features of Basel III are global standards for bank liquidity and introduction of an overall leverage ratio of 3%. The liquidity standards are still in an evolving stage. Though the intention behind setting up the overall leverage ratio is good, but the setting up of maximum leverage of 33x can't be justified as a prudent safety net. The Reserve Bank of India prescribed a minimum of 4.5% equity, which means 22x of leverage. The capital buffer requirements under Basel III are ultimately targeted towards strengthening the safety net for the banks. However, how would the management of the banks perceive these two buffer requirements and how would the banks be able to build up these buffers are the key questions. The possible outcomes from the view point of the management and the investors are discussed in the present paper.

BACKGROUND DISCUSSION

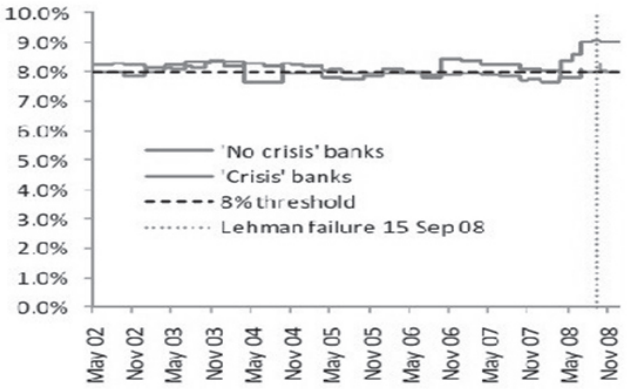
In the sub-sections which follow, the researchers have discussed a brief literature review of the causes of the recent banking crisis, the importance of the risk capital in banking failures and the background of the formulation of Basel III. Capital remained the prime tool of BCBS regulations though the utility of capital ratios as a signal for the banking weakness has been questioned in financial research (Global Financial Stability Report, 2009). It is worth mentioning that as the Basel III was released in year 2011 in its final form, the research work related to it is few. BCBS is yet to concentrate on the deployment of capital and other funds. In Basel III, setting up of liquidity standards is a step towards liquidity and not in specific deployment from the credit risk angle. It may be argued in favour of BCBS that the level of capital maintenance is based on asset riskiness and ,therefore, controlling the deployment of funds is unwarranted. However, the efficacy of tools (i.e. credit ratings) for determination of credit risk has come under cloud after the recent banking crisis (Mathis et al., 2009).

❖ **Causes of Crisis and Birth of BASEL III :** It is worth noting that the prime guiding force for the Basel III seems to be the recent sub-prime crisis of US, which culminated into the financial crisis and later on, the economic crisis in US as well as in Europe. The capital of large banks could not cope with the mounting losses due to delinquencies and fall in asset prices, and Central Banks had to step in to save 'too big to fail' (TBTF) type of institutions. Later, as the crisis spread, the governments supported rescue efforts and went on to save many institutions on the logic of 'too many to fail' (TMTF).
Delinquencies, crisis of confidence in the money market, liquidity crisis in the banking sector, bank failures and economic slump are the resultants of the sub-prime crisis of US, which led BCBS to formulate Basel III. However, is the Basel III in any way capable of warding off the reasons leading to sub-prime lending in the very first place? Of course not. BCBS missed addressing the core issue that the *cause of the crisis was not just rapid rise in loan books of the banking sector or weak capital stipulations, but the rampant lending to 'not worthy' clients and absolute supervisory overlook to the growing danger.* The G20 summit (2010) held in Korea noted that the global financial system came to a sudden halt in 2008 as a result of *reckless* and *irresponsible* risk taking by banks and other financial institutions, combined with massive failure of regulation and supervision.
Further, the Financial Crisis Inquiry Commission (2011) set up by the US government reached the same conclusion regarding the causes of the crisis – gross mismanagement at the banks' operational level (imprudent mortgage lending standards, predatory lending practices, grossly unsustainable ALM mismatch), failure of corporate governance and risk management at banks' level, widespread failure of financial regulation and supervision, and systemic breakdown

of accountability and ethics. It is interesting to note that BCBS issued its revised guidelines (Basel III) prior to the issuance of the Inquiry Commission's report and even later also, BCBS did not discuss such findings in its forum or incorporated it in its revised banking regulatory framework. The financial research literature too failed to take note of the Commission's findings! Through Basel III, BCBS is trying to mitigate the adverse consequences of the sub-prime crisis instead of making efforts to address the reasons leading to the sub-prime crisis.

❖ **Capital – The Prime Tool of BASEL :** Capital ratio continues to be the prime tool of BCBS for strengthening the banks and the banking system; though after the recent crisis, the researchers doubt about the efficacy of risk based capital ratios. Haldane (2011) showed that banks which failed or had to be rescued, in fact, had displayed high or improving capital ratios before their collapse (see Figure 1)! He argued that, on an average, regulatory capital ratio offers little help in giving an advance warning of impending problems.

Figure 1 : Tier 1 Capital Ratios for "Crisis" and "No crisis" Banks



Source : Haldane (2011)

Carmassi and Micossi (2012) commented in line with Haldane and further argued that the definition of Capital adopted by Basel is itself flawed. The hybrid instruments (eligible to be included for calculating risk-capital) in sweetening banks' capital positions is beyond prudence, which falls short of loss-absorbing capacity. Global Financial Stability Report (2009) stated that risk weighted capital ratios could not differentiate between financial institutions that failed and the banks that could stand their own during the 2007 crisis. Though the reasons for the banking crisis led economic crisis were banking mis-management and supervisory failures, yet BCBS chose to tweak the capital maintenance requirements.

❖ **Capital Buffers and Triggers :** As stated above, Basel III attempts to shore up the loss tolerant capital through the twin buffers of 2.5% each. Capital Conservation Buffer is over and above the capital asset ratio; it is, in fact, an extension of the Capital Asset ratio for the simple fact that it has to be build up irrespective of state of economy or credit cycle and is mandatory in nature. Capital conservation buffer has not attracted much attention of the financial researchers. However, the discretionary buffer – Counter-cyclical buffer – is highly discussed for its trigger conditions, which are left to the discretion of the local regulator. Carney (2011) felt that Basel defined trigger indicator – Credit/GDP ratio is historically a leading indicator of the banking crisis and is less prone to manipulations.

❖ **Pro-activity of Banks' Management and Regulations :** Historically, the management of the banks have demonstrated that the industry is far more intelligent and active to stay ahead of the regulators, and devise products, policies and practices aimed for high profits, for which risk taking may not be commensurate. Subbarao (2012) said that there are incidences of *'casino banking'* in the developed economies leading to the recent financial crisis. Upon implementation of 'fit for all' Basel I, banks entered into *capital arbitrage* to circumvent the spirit of the newly founded capital regulations, which was culminated into Basel II. In fact, the regulations got diluted in Basel II, perhaps at the behest of the banking industry and excessive reliance was accorded to self-regulations in terms of risk categorization based on internal models (Financial Crisis Inquiry Commission, 2011). Basel II defined regulations, including risk capital, but failed to save the banking industry from the enormous balance-sheet value erosion caused by the

disproportionate risk taken in terms of enormous proportion of innovative products, rampant ALM mismatch and operational and supervisory failures.

REGULATORY CAPITAL BUFFERS AND BANKS' BEHAVIOUR

In view of the quest of the bank's management to make profits – real or even notional – the bank regulations need to be evaluated from that angle. Though the regulations are considered necessary for orderly operations within the industry, but the capital is considered costly and hence, has an adverse effect on profitability of the banks. And, as stated earlier, that all versions of Basel regulations consider Capital Maintenance as the prime solution for the banks' problems; bank managements' quest to protect the returns for the shareholders, irrespective of the stability and security issues would remain.

The effects of the regulatory capital buffers, as mandated by Basel III, are discussed below in the light of the foregoing discussion.

❖ **Capital Conservation Buffer :** The loan loss provisions are set up to write-off the expected default losses and the capital and retained earnings are used for meeting unexpected losses. With a view to enhance the existing level of capital cushion, Basel III stipulated setting up of additional capital buffers in addition to enhancing the level of tier 1 capital. The capital buffers would be in the form of pure equity.

The Basel framework specifies that in case of Capital Conservation Buffer or tier 1 capital depletion, the buffer must be recouped either through or a combination of the issuance of fresh equity and conservation of operational surplus (restriction on dividend payment and restriction on discretionary employee compensation).

The recoup operation of such buffer, in terms of structured restrictions of profit distribution, is linked to the shortfall in the levels of equity capital (equity capital of 4.5% under Tier -1 plus 2.5% for capital conservation buffer).

The researchers' view is that the depletion of capital conservation buffer would commence only when the loan-loss provision and accumulated profits are fully exhausted, and operational surplus is reduced to nil. In this situation, the bank would compensate the resultant shortfall in Tier I with the capital conservation buffer. As stated above, Basel III prescribes that the recoup of capital conservation buffer would be done through raising of additional capital and/or restricting profit distribution and withholding discretionary employee compensation. However, both these measures presume that the bank would become profitable or would earn operational surplus, post-exhaustion of capital conservation buffer. Furthermore, there would be several adverse implications of such restrictions - like fall in market capitalization, employee exodus (including key officials), shareholder dissatisfaction and impact of bank's brand image. The bank would recoup the loan-loss provisions and re-build a capital conservation buffer, provided it makes an operational surplus to that extent in the immediate subsequent period. Under systemic downturn, banks would face depletion of value of the assets, which too would exert pressure on the profits when assets are marked to the market. Furthermore, the lending criteria has become stringent, and the loan portfolio got reduced due to caution on the part of the banking industry, low availability of good credit and general fall in financing demand. Hence, the recoup would be slow and difficult in that situation either by retention of surpluses or by raising fresh equity.

❖ **Counter- Cyclical Buffer to be Counter-Productive :** To counter the 'ill-effects' of pro-cyclicality in the banking industry and risk capital, BCBS devised a new formula to have more 'real risk absorbing capital' and nomenclatured it as *'counter-cyclical capital buffer'* (3CB). Since the name itself appears to be the solution for the pro-cyclicality, which is an explicit admission to the fact that there is a pro-cyclicality in risk sensitive capital. It is not more than a *variable capital* rule.

The national authorities have been given jurisdiction to decide on subjecting the banks to counter-cyclical buffer. If the national authorities are of the opinion that the credit growth is excessive and is leading towards undesired systemic risk, counter-cyclical capital buffer may be imposed on the banks. BCBS indicated that Credit/GDP ratio may be an indicator for signalling the excessive credit build up. The counter-cyclical capital buffer requirement may be imposed in the range of 0% - 2.5% of risk weighted assets of the banks. The quantum of the counter-cyclical capital buffer would also be decided by the national authorities. The buffer would be in the form of equity capital only. The minimum lead time for setting up of counter-cyclical buffer is 12 months. BCBS has clearly specified that imposition of counter-cyclical capital buffers should not be made part of the monetary policy operations. The key issue of imposition of counter-cyclical buffer which needs to be noted is that the banks would be required to build a counter-cyclical buffer

on aggregate outstanding risk weighted assets. This means that the banks would have to provide for the counter-cyclical buffer on outstanding risk weighted assets as well as incremental credit build up during the lead time prescribed by the banking supervisory authorities. In addition, the banks would have to provide for normal risk Capital (CAR plus capital conservation buffer) on the incremental books that would be raised during the lead time. In other words, this can be stated as if :

- ❖ Capital Adequacy Ratio (CAR) level (%) plus capital conservation buffer – c;
- ❖ Incremental credit growth during the lead time (%) - Δcr ; and
- ❖ Counter-cyclical buffer as % of risk weighted asset – b.

Then, assuming all incremental assets carry 100% risk weight, the additional capital required to be built on per unit of incremental credit (CPICr) is :

$$\textbf{CPICr (\%)} = (\Delta cr \times (c + b) + b) / \Delta cr \ \ 100, \quad \textbf{where,} \ \Delta cr > 0 \qquad \ldots\ldots (1)$$

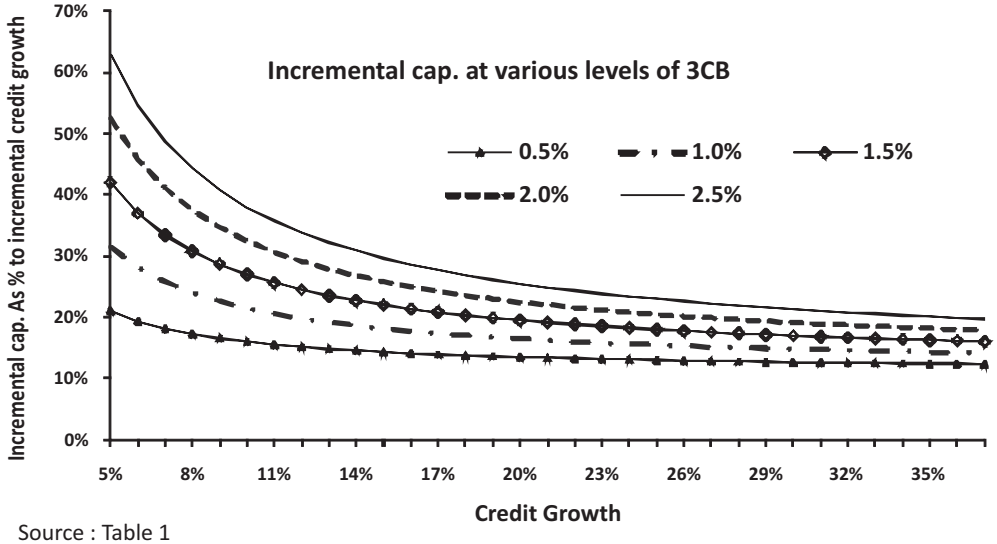
The capital per unit of incremental credit matrix for various levels of incremental credit growth and for various levels of counter-cyclical buffers is given in the Table 1.

Table 1 : Incremental Capital Required as a % of Incremental Credit Growth

Incremental credit growth	Counter Cyclical Capital Buffer				
	0.50%	1.00%	1.50%	2.00%	2.50%
5%	21.00%	31.50%	42.00%	52.50%	63.00%
10%	16.00%	21.50%	27.00%	32.50%	38.00%
15%	14.33%	18.17%	22.00%	25.83%	29.67%
20%	13.50%	16.50%	19.50%	22.50%	25.50%
25%	13.00%	15.50%	18.00%	20.50%	23.00%
30%	12.67%	14.83%	17.00%	19.17%	21.33%
Source: Calculated from the above equation			CAR+conservation buffer is 10.5%		

The sideline objective of the Central bank invoking counter-cyclical capital buffers requirements is to dampen the credit expansion. BCBS (2010) guidance note states, "in addressing the aim of protecting the banking sector from the credit cycle, the counter-cyclical capital buffer regime may also help to lean against the build-up phase of the cycle in the first place. This would occur through the capital buffer acting to raise the cost of credit, and therefore, dampen its demand, when there is evidence that the stock of credit has grown to excessive levels relative to the benchmarks of past

Figure 2 : Incremental Capital Required for Various Levels of Counter - Cyclical Buffer



Source : Table 1

experience. This potential moderating effect on the build-up phase of the credit cycle should be viewed as a positive side benefit, rather than being viewed as the primary aim of the counter-cyclical capital buffer regime". The inference from the Table 1 is that at whatever point of credit growth the Central bank imposes the counter cycle buffer, the banks would find it advantageous to *further expand* the credit cycle to reduce the impact of the imposition of such counter-cyclical buffer.

On the higher base of incremental credit defined by credit growth, the impact of incremental capital stipulation (i.e. capital buffer) would be lower (Figure 2). In other words, the per unit of incremental capital required for per unit of incremental credit (CPICr) would be lower if banks enhance the credit expansion rate from the prevailing credit growth levels (Δcr), i.e. higher than the level at which the Central bank invoked counter-cyclical capital buffer. The move of the Central Bank to control the credit expansion and build up capital buffers in 'good' times would be counter-productive, given that bank management's quest to find ways to maintain the profitability of the banks, whatever may the regulatory regime be. With a view to reduce the adverse impact of the additional capital on the overall cost of the funds, the banks would find it beneficial to increase the credit growth rate (the denominator in above equation) so that the cost of maintaining the counter capital buffer on the outstanding risk weighted assets gets reduced. As usual, the banks would devise ways to circumvent the regulations, maintain profitability and pay-offs. Under high growth economic scenario, wherein imposition of counter cyclical buffer is warranted by the Central Banks; the banks would not find it difficult to give a boost to the credit growth further.

However, in addition to the above, there are some other possible consequences of imposition of buffer stipulations. Some of these are :

❖ **Impact on Bank's Portfolio's Credit Quality :** The cost of additional capital maintenance by the banks would have to be met through incrementally higher investment in high yielding, low quality credits or financial instruments, which may have higher propensity for delinquency under economic and credit down cycle. Such quest for higher yield would affect the overall asset quality.

❖ **Impact on Low Credit Growth Banks :** During the 'excessive' credit expansion, certain banks would experience lower growth in loan books than that of aggressive or bigger banks. These 'snail pace' banks would also be subjected to such counter cyclical capital buffer requirements. In order to reduce the impact of such additional capital requirements (in terms of creation of buffer), these banks too would come under self-exerted pressure to increase the pace of growth of their loan books, albeit at the cost of quality.

❖ **Impact on Borrowers and the Economy :** The regulatory efforts intending to truncate the credit cycle would have its own set of adverse economic ramifications. BCBS views that imposition of counter-cyclical buffer would truncate the credit growth cycle by increasing the cost of credit. In case such regulatory actions get the intended results, abruptly truncating or forced slow down of the credit cycle would jeopardize the planning and prospects of businesses at large, which might be in the expansion mode or have just-completed expansion projects. The credit already extended to them may come under cloud and would have the potential to become bad. Such regulation induced slowdown would not just impact the investment demand of funding, but would also impact the consumption demand of credit. The effort to avoid the possibility of potential risk of excess credit cycle would instead accentuate the risk of NPAs and quicken the incidences. The shortening of amplitude of the growth cycle would cause further damage to the banking sector as it would upset the planned growth of businesses.

❖ **Impact on Investors and Capital Raising :** The banking regulator's announcement of imposition of counter-cyclical capital buffers itself would give negative signals to the investors (of excessive credit expansion observation of the banking regulator). The investors would interpret such imposition of capital buffer as the rising risk in the banking industry. This interpretation has potential to make the investors vary of the banking industry. Under this scenario, the banks may find it difficult to raise capital, at reasonable cost and in desired quantity.

❖ **Indifference-ness of Excess Capital Banks :** Stolz and Wedow (2011) said that well capitalized banks maintain the level of capital buffers and risk weighted assets during boom and during busts. This category of banks would be sufficiently capitalized to satisfy the counter-cyclical capital buffer requirements. While low capitalized banks may make efforts to slow down the credit expansion due to difficulty in raising capital to meet the buffer requirements,

these 'surplus' capital banks would remain out of the *practical* purview of the Central bank's regulatory intension and efforts.

❖ **Futility of Release of Capital Buffers for Credit Expansion and Economic Growth :** During downturn, when the central bank would release the capital buffer to facilitate credit expansion, the banks would have to mobilize deposits/borrowings in order to increase the credit books. The release of capital buffer would not generate any cash flow or release any liquidity and would not bring down the cost of capital until and unless the leverage of the bank increases at an appropriate cost, mainly through deposit growth. It would just be releasing the capital to enable banks to take more leverage to finance loan assets growth – a mere enabling factor for more borrowings – and nothing more. The financing of credit growth would have to be done through borrowings (largely deposit growth) which itself would depend upon the prevailing economic conditions – economic growth, employment level, saving rates, household indebtedness, alternative investment avenues, relative return on bank deposits, liquidity requirements of the depositors and multiplier factor, etc. In general, the credit growth depends upon meeting of the investment demand, consumption financing demand and ability of the banks to generate liquidity and garner capital backup. Even if the Central Bank frees the counter-cyclical capital buffer, the credit growth would remain largely dependent upon the investment demand, consumption demand and bank liquidity. On one hand, the investment demand depends upon capacity utilization, future consumption demand expectations and scope of government-push, and on the other side, the consumption demand largely depends upon the income levels, unemployment rate, consumer confidence and inflation levels.

❖ **Bigger Banks to Benefit From Buffer Release :** In case investment and consumption demand grows, relatively the bigger and stronger banks would remain at the forefront of the balance sheet expansion post-capital buffer release, and the smaller and weaker banks are likely to remain laggards despite having surplus capital for expansion. There are two reasons for such differential operational behaviour. Firstly, bigger banks would attract more deposits during low economic cycles due to perceived safety of deposits. And secondly, bigger banks would be able to offer large amount of funds at attractive rates of interest to the borrowers. In contrast, smaller banks, with adequate risk capital, would have lower profitability and hence would be good takeover targets.

❖ **No Positive Effect on Profitability :** Upon buffer release, there would not be any positive effect on the profitability, unless the banks raise fresh cheap funds and deploy them profitably. As already stated, such buffer release itself would not provide any liquidity or change to the balance sheet structure and neither operational margins nor the return on capital would be positively impacted. Apart from the balance sheet expansion, theoretically under such a situation, the profitability can only be enhanced by way of reshuffling of assets profile – from low risk low yield assets to high risk high yield assets. But, would it be a prudent step for the banks to move to riskier assets in down economic cycle when the buffer would be released? Only the regulators can answer!!!

CONCLUSION

The two capital buffers stipulated under Basel III (Capital Conservation Buffer and Counter-Cyclical Buffer) for strengthening financial health of the banks and to ward-off pro-cyclicality may not serve their intended purposes. Capital Conservation Buffer is nothing but an additional capital requirement over and above the capital adequacy ratio. Once the Capital Conservation Buffer is utilized post writing off of provisions and accumulated reserves, it may not be feasible for a bank to replenish this buffer during an economic down-cycle. The stipulation of restricting discretionary payments – employees' incentive pay and dividends - to replenish the capital conservation buffer, would send negative signals to the investors and to the employees. This would be detrimental to the interests of the bank, limiting its ability to raise the required capital. The situation of restriction of dividend distribution and discretionary pay would arise only if the said bank would become profitable soon after writing off a substantial part of the capital! The erosion of deposit base can't be ruled out under such a situation.

The second capital buffer - Counter-Cyclical Buffer - is aimed to build capital reserves during up-cycle and to dampen the credit cycle. However, instead of dampening the credit cycle, upon imposition of the counter-cyclical buffer, the banks may find it advantageous to increase the credit growth with a view to reduce the adverse impact of higher capital requirements on their cost of funds and the returns to the shareholders. The other negative payoffs of increased risk

capital requirements of banks would be disruption of growth plans of the corporates, fear among the investors and deterioration of asset quality. The surplus capital banks would remain out of the spirit of the imposition of the counter-cyclical buffer by the Central Bank, i.e. dampening the credit cycle. Further, the release of capital buffers would not induce credit growth. Such release of buffers would not have any positive impact on liquidity, cash flows or profitability of the banks; unless the leverage of the bank is enhanced, and those funds are deployed profitably. Release of buffer is only an enabling factor for increasing the leverage and nothing more.

LIMITATIONS OF THE STUDY AND SCOPE FOR FUTURE RESEARCH

Basel III has been announced recently, and none of the major countries have even initiated its implementation, including US and India. This research is a theoretical assessment of capital buffers introduced through Basel III, for the first time in banking regulatory framework by BCBS, which is its limitation. Though Basel III has scored a lot of appreciation, but the Central Banks are finding it difficult to implement the same during the current environment of global economic slowdown. Empirical research may be undertaken to analyze the behaviour of those banks, which generally maintain voluntary capital buffers, in the context of credit growth, replenishment of capital buffers and discretionary payments during economic down-cycles. Such research needs to be country-specific because the bank management behaviour may be affected by the local factors, and also by the environment where the banks operate and belong to.

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