

# *Analysis of the Announced Basel III Reforms*

Hongye Gao

Department of Finance  
Fuzhou University of International Studies and Trade  
Fuzhou, China  
gaohy903@foxmail.com

**Abstract**—Basel III was created to solve the problems that assume the responsibility for the global financial crisis. This paper is to explore the repercussions of Basel III for the banking industry by the study of the three pillars of Basel III including minimum capital requirement, banking supervisory management and market constraints. It evaluates the key features of Basel III reforms in terms of capital requirements, leverage ratio and liquidity risk ratio. Also, it examines the impacts of the macro-prudential framework from the perspective of Basel III on the banking supervision and regulation, with the analysis of a capital measure of the capital framework and the countercyclical capital buffer. Based on the evaluation and analysis above, it concludes some of the potential weaknesses of Basel III such as flawed risk assessment and unregulated system of shadow banking. These results suggest that the Basel III framework is still insufficient to adequately consolidate the resilience of the banking system.

**Keywords**—Basel III; capital; regulation; supervisory; Macro-Prudential; risk assessment; systemic risk

## I. INTRODUCTION

Since the financial crisis exerts negative and profound influences on the banking and the system-wide sectors, the Basel Committee on Banking Supervisions created Basel III to deal with the market failures that were responsible for the global financial crisis.

## II. EXPLORATION OF BASEL III

### A. Three Pillars of Basel III

#### 1) The First Pillar-Enhanced Minimum Capital Requirement

Under the new framework, the BCSC considers to promote the safety and soundness of the international financial system so adequate capital levels are taken into account as the main target. Therefore, the minimum capital adequacy ratio has to reach 8% and the core capital adequacy of banks need to reach 4%, and the first pillar aims to enable banks to be more sensitive in dealing with risks as well as to enhance work efficiency [3].

#### 2) The Second Pillar- increased Banking Supervision

The second pillar aims to increase regulatory constraints and to strengthen the capital framework of banking supervision. The regulatory institutions should require banks to set up their own internal risk assessment mechanism and to use internal rating system to determine the needs of their capital, which is especially important for large banks [10]. Furthermore, the

capital of banks should maintain higher minimum level to give more capacities to cope with difficulties.

#### 3) The Third Pillar- Strengthened Market Disciplines

This new market constraint mechanism puts emphasis on the market information disclosure. Under the system of sound banking information disclosure, all market participants are possible to estimate the conditions from the risk management and solvency of banks [10]. The new agreement requires that most banks should make general banking information disclosure in sixth month and larger banks need to make information disclosure each quarter [7]. In addition, banks are also required to increase the transparency of information disclosure to the public.

### B. Key Features of Basel III

Basel III mainly presents the combination of risk-sensitive capital and the leverage requirements, the combination of capital regulation and liquidity, and the combination of micro-prudential and macro-prudential reforms [12]. The specific performance of changes in capital regulatory standards following:

#### 1) New Framework of Capital Requirements

TABLE I. NEW FRAMEWORK OF CAPITAL REQUIREMENT

	Core Tier one capital adequacy ratio	Core capital adequacy ratio	Total capital adequacy ratio
Minimum requirements	4.50%	6.00%	8.00%
Capital conservation buffer		2.50%	
Minimum requirements+ buffer capital	7.00%	8.50%	10.50%
Counter-Cyclical capital interval		0-2.5%	

(Source: BIS 2010)

In Table 1, the increased Tier one capital adequacy ratio indicates that the minimum requirements for core tier one capital including ordinary and retained earnings will rise from 2% to 4.5%, and the core capital adequacy ratio will increase from 4% to 6% at the same period of arrangement time [4]. The Basel III introduces a 2.5% capital conservation buffer consisting of ordinary equity after deducting deferred taxes and other items [4]. When the requirement of capital conservation buffer from banks is less than 2.5%, the regulatory institutions will limit the activities of banking auctions, share repurchase

and distribute dividends [4]. By doing so, it can effectively prevent some banks from blindly distributing high dividends and bonuses in the worse capital position, which will help to establish a more secure capital marginal in order to enhance the ability to tide over the difficulties of economic recession [7]. Furthermore, the countercyclical buffer is required to set at the range between 0 and 2.5%, including ordinary shares or any other capitals [7]. It primarily achieves the macro-prudential goal of preventing the banking sector from risk associated with excessive credit growth, which largely reduces systemic risk and further protects the banking sector during the expansion of economy.

2) *Leverage Ratio*

Basel III requires States to implement the parallel testing leverage rate of 3% in the same period. Based on the results of parallel test, final adjustments will be implemented in 2017, and expect that it can be executed into the first pillar part of the new reforms on 1st January, 2018 [12]. In this way, this leverage ratio can effectively control the excessive leverage of banking system, and can be treated as an additional security measurement to cope with the model risks and measurement errors.

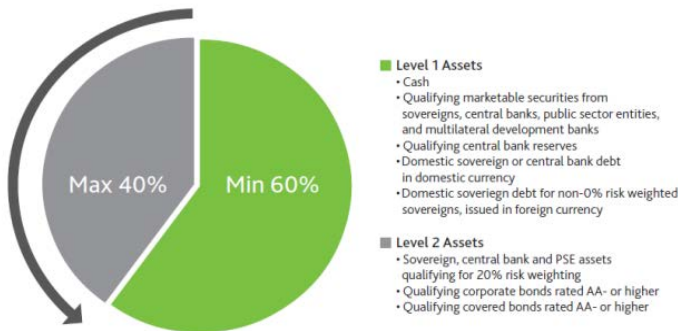


Fig. 1. Proportion of Level 1 and Level 2 Assets for LCR Buffer

Sources: Moody's Analytics 2012

a) *LCR*

LCR buffer consists of level1 and level2 assets in Figure 1, which clearly shows the level1 liquid assets take up at least 60% of the total and level 2 liquid assets compose of no more than 40% [9]. The LCR emphasizes on improving the capacity of financial agencies to withstand short term liquidity risk that ensure that they have sufficient liquid assets with higher quality and survive at least one month under the circumstances of high pressures by strengthening short-term liquidity management [2].

b) *NSFR*

The NSFR is to enhance the ability of institutions to resist liquidity risk in the long-term period. In other words, its implementation helps to consolidate the resilience of banking over a longer time by encouraging banks to fund activities with the use of more stable source of funding [3]. As a result, the NSFR is designed to sustain the assets and liability maturity structure and better assess the liquidity risk.

III. MACRO-PRUDENTIAL PERSPECTIVE OF THE POST-BASEL III

In Basel III, a macro-prudential approach to financial regulation is designed to address the system-wide risk that can make the macro-economy unstable [4]. It is the first time that the macro-prudential policy framework is introduced in international bank regulation by Basel III. But specifically, the macro-prudential reforms have largely strengthened the banking supervisory and regulatory framework in two key aspects: introducing a simple capital measure to the capital framework and effectively using the countercyclical capital buffer to mitigating procyclicality.

A. *Introducing a Simple Capital Measure to the Capital Framework*

In the reforms of the capital adequacy requirements, a simple and non-risk-based leverage ratio is introduced in the macro-prudential framework as a supplementary measure to the Basel II risk-based capital requirements. This leverage ratio is defined as tier 1 capital to total assets. Its initial minimum leverage requirement is 3 percent, which will act as the testing basis during the period from 2013 to 2017 [4]. As an additional prudential tool, the leverage ratio has several potential benefits contributing to macro-prudential supervision.

First, the leverage ratio is intended to constraint the build-up of leverage across the banking system in good times, thereby reducing the risk of a subsequent de-leveraging during period of stress which jeopardizes the banking system and the economy as a whole. In many cases, numerous banks report strong Tier 1 risk based ratios, but at the same time they still build up excessive on and off balance sheet leverage [5]. Furthermore, the cyclical movement of leverage at the system-wide level during this prior crisis has shown that leverage is subsequently wound when a crisis hits if it is intrusive to build up before crisis periods [12]. However, by applying the leverage ratio, there will be a floor put under the build-up of leverage in the banking sector so that it can be helpful to avoid the problem that many banks are forced to de-leverage once the crisis occurs, and to further lower the probability of bank failure and the influence of the crisis on broader financial markets.

Second, the leverage ratio serves as a safeguard for the system against unintended consequences of the risk weighting regime. Walter [12] found that an increasing number of asset classes may be regarded as low risky ones from the firm-specific respect. In the meantime, he argues that the growth of seemingly low risk exposures at the system-wide level will be substantially detrimental to the stability of financial system. In this case, it is claimed that the leverage ratio would be supplementary to capital measures to prevent the high level of credit growth and to reduce the procyclicality of bank lending, especially in some countries whose weak bank regulation provides the incentives for banks to disguise the riskiness of their asset [1]. So the leverage ratio under Basel III is effective to constrain undue concentrations in these classes of assets [12].

### B. *Effective Use of Countercyclical Capital Buffer to Mitigating Procyclicality*

The countercyclical capital buffer is a specific macro-prudential measure introduced in global bank regulatory standards by Basel III. Basel III allows national regulators to impose a countercyclical capital buffer requirement between 0 and 2.5 percent of RWA during periods when the credit growth appears to be at an excessive level [4]. But before the countercyclical capital buffer was released, regulators usually assessed whether credit has grown to an excessive level in relation to some macroeconomic measures, such as GDP, which is highly possible to aggravate the systemic risk [5].

In the new supervisory framework, the countercyclical capital buffer is designed to deal with threats to the time dimension of system stability by preventing the amplification of the credit cycle through the banking sector. Specifically, the countercyclical capital buffer can help banks avoid losses originating from periods of the downturn of the cycle preceded by a period of high levels of credit growth [5]. With a growing number of loans, loan quality has a tendency to be deteriorated once the downturn of the economy hits, and then the bank would take a conservative strategy when granting new credit [5]. Hannoun [5] argues that the shortage of credit availability will exacerbate the real economy with the further reduction in assets price and the further rise in the non-performance loan level, and consequently make the banking sector unstable. Therefore, the build-up of additional capital defence in the banking sector serves as an important function to alleviate credit growth [4]. Meanwhile, it helps to remain credit available when the cycle turns down. More importantly, even if the banks come to grant credit rapidly during the upswing, the countercyclical capital buffer may increase the cost of credit, which offers an effective brake on the lending of banks [5].

## IV. WEAKNESSES OF BASEL III

### A. *Flawed Risk Assessment*

Even under Basel III accord, the methods that banks use to calculate their capital ratios are not without flaw. The methods, which the Basel Committee suggested for the calculation of bank's exposure to market risk like the VAR method, underestimated the risks. Thus, this may cause the insufficient capital reserve set to cover the possible losses. Specifically, the VAR method which is used to measure the probability of asset price movement is on the basis of the assumption that the distribution of risk is normal. In this sense, the events that are becoming older are assigned the declining weight; thus, some of the severe events cannot be easily anticipated [6].

### B. *Unregulated System of Shadow Banking*

Financial entities like hedge funds do not collect deposits from individuals so capital rules can not apply into these institutions. The financial system may suffer severe systemic risk threat posed by them as they tend to purchase illiquid assets in the long term by using the short term money borrowed from liquid markets. If their short term debts cannot be refinanced, they would collapse [8].

## V. CONCLUSION

In conclusion, Basel III reforms aim to help banks to reduce the excessive risks and strengthen the bank supervisory framework, including the build-up of capital reserves and liquidity to resist the financial crisis. However, it is highly recommended that the Basel Committee should make efforts to further address the pending issues in the banking regulation and supervision. It is crucial for them to carry out the new capital rules of banks to further improve the banking sector and more focus on the financial institutions that are not subject to capital regulations.

## REFERENCES

- [1] Agenor, Pierre-Richard & Pereira da Silva, Luiz A., "A Perspective from the Developing World", *International Finance*, Vol. 8, 2010, pp191-254.
- [2] Australian Prudential Regulation Authority (APRA), "Implementing Basel III capital reforms in Australia-counterparty credit risk and other measures", 2012.
- [3] Basel Committee on Banking Supervision, "Calibrating regulatory minimum capital requirements and capital buffers: a top down approach", 2010.
- [4] Basel Committee on Banking Supervision, "Basel III: A global regulatory framework for more resilient banks and banking systems", 2011.
- [5] Hannoun, H., "The Basel III Capital Framework: a decisive breakthrough", 2010.
- [6] Kcharem, N., "Analysis of Basel III capital requirements" repercussions on the financial sector and the real economy. Aarhus University, 2014, PP1-72.
- [7] Liu, Y., *Basel III*, 21 Century Business Herald, 2010.
- [8] Lamberts P., *Bale III: an agreement is insufficient to regulate the banks*, 2010.
- [9] Moody's Analytics, "Basel III New Capital and Liquidity Standards", 2012.
- [10] Shearman & Sterlingllp, "The New Basel III Framework: Implication Banking Organizations", Client Publication, 2011.
- [11] Wang, J. & Liu, Z., "Basel hits European banking sector from substantially increased the new regulatory capital ratios", *economic newspaper*, 2010.
- [12] Walter, S., "Basel III: Stronger Banks and a More Resilient Financial System", 2011.
- [13] Vinals, J., Fiechter, J., Pazarbasioglu, C., Kodres, L., Narain, A., & Moretti, M., "Shaping the New Financial System", *IMF Staff Position Note*, International Monetary Fund, 2010.