Institute of Advanced Legal Studies
School of Advanced Study
University of London

Maurice Wodi

Cost implications of compliance with Basel III and competitiveness of internationally active banks

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COST IMPLICATIONS OF COMPLIANCE WITH BASEL III AND COMPETITIVENESS OF INTERNATIONALLY ACTIVE BANKS

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Dedication

I dedicate this work to my family and to Almighty God who guided me in my fifteen years of working in the banking industry and moving from one important department to another, including Treasury, Corporate banking, Quality Systems Management & Audit, and Strategy departments.

The knowledge and experience gathered during the period is the bedrock of this work.

Thank you Lord.

Acknowledgements

In conducting this research, I received a lot of help from a number of people and various banks. My thanks go to them.

In particular, I wish to express my sincere gratitude to my supervisor Dr Mahmood Bagheri who is also the Director of the ICGFREL programme and whose guidance made this work a success. Many thanks to Mr Ike Chinwo, Honourable member of the Nigerian House of Representative, for his moral support and encouragement in the course of this work.

Thanks are also due to all my friends, colleagues and associates in the banks because they readily responded to my questions and enquiries.

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Abbreviations

AMA	Advanced measurement approach
BIS	Bank for International Settlements
BCBS	Basel Committee on Banking Supervision
CAR	Capital Adequacy Ratio
CRD	Credit Requirements Directive
IRB	Internal ratings –based
LCR	Liquidity Coverage Ratio
NSFR	Net Stable Funding Ratio
RBA	Ratings-based approach
RSF	Required Stable Funding
ROE	Return on Equity
RWAs	Risk Weighted Assets
VaR	Value-at-risk

Abstract

Amongst other requirements, Basel III expects banks to hold top quality capital totalling 9.5% of their risk bearing assets by January 2019. This figure is arrived at by factoring in both the increased baseline core tier 1 minimum capital requirement of 4.5%, the capital conservation buffer of 2.5% and a counter-cyclical buffer of up to 2.5%.

It is important to note that the capital conservation buffer will not be a strict regulatory requirement. However, failure to comply will result in behavioural restrictions in the area of dividends and bonus payment. Any bank that fails to meet the new requirements is expected to be banned from paying dividends to shareholders until it has improved its balance sheet.

Although full compliance with Basel III is expected to kick in by 2019, yet this new regulatory frame is arguably the most topical issue today amongst internationally active banks as they plan to be compliant. Reason being that the market will be punitive to banks which do not comply even by 2012. Indeed the market is already applying a multiple discount to banks with weaker capital positions especially the systemically important banks.

Compliance with Basel III is already becoming a unique selling point and a competitive edge in the industry. Despite the costs associated with its implementation, it may be suicidal for any serious internationally active bank to be non-compliant come 2019.

1. Introduction

One of the main reasons why the 2007 economic and financial crisis became so severe was that the banking sector of many countries had built up excessive on and off-balance sheet leverage. This was accompanied by a gradual erosion of the level and quality of the capital base. At the same time, many banks were holding insufficient liquidity buffers. The banking system therefore was not able to absorb the resulting systemic trading and credit losses nor could it cope with the re-intermediation of large off-balance sheet exposures that had built up in the shadow banking system.

The crisis was further amplified by a pro-cyclical deleveraging process and by the interconnectedness of systemic institutions through an array of complex transactions.

During the most severe episode of the crisis, the market lost confidence in the solvency and liquidity of many banking institutions. Banks competitiveness was also badly affected.

The weaknesses in the banking sector were rapidly transmitted to the rest of the financial system and the real economy, resulting in a massive contraction of liquidity and credit availability. Ultimately the public sector (nation state governments) had to step in with unprecedented injections of liquidity, capital support and guarantees, exposing taxpayers to large losses.[1]

The crisis also resulted in a severe contraction of global liquidity, cross border credit availability and demand for exports.

As a direct response to the crisis, and in a bid to address the failures revealed, the Basel committee on banking supervision introduced some reforms to further strengthen the existing international regulatory framework. These reforms, cumulatively, form Basel III.

[1] Basel Committee on Banking Supervision "Basel III: A global regulatory frameworks for more resilient banks and banking systems" (BIS, Dec. 2010).

Upon full implementation of Basel III, internationally active banks should expect to have higher quantity and better quality capital, better risk coverage, reduced leverage through introduction of backstop leverage ratio, increased short term liquidity coverage, increased stable long term balance sheet funding and a strengthened risk capture notably counterparty risk. There will be measures to promote the build up of capital that can be drawn down in periods of stress. These outcomes will ultimately restores their competitiveness.

But at what cost will banks meet Basel III? How will compliance or otherwise impact their competitiveness? How will compliance impact on banks' lending capacity considering the new capital requirements? Are there any impact on employment costs and staff remunerations? What cost comes with increase in dialogue and communication with regulators? Which bank businesses will be impacted and how are banks responding? Any envisaged changes in business model? What is Basel III cost on banks' bottomline?

Islamic banks are increasingly playing major roles in international loans syndication and other major financial transactions especially in the middle east and some parts of Europe. Also, Saudi Arabia, Indonesia and Turkey are Islamic states and members of BCBS. How does Islamic banking practices fit with Basel III requirements?. Does emerging markets banks

This dissertation attempts to answer these questions and more.

We shall firstly review the issue of bank regulation as well as the trend and developments in Basel Accord from Basel I to Basel II and then Basel III.

We shall examine the ability of emerging markets to comply with Basel III with special attention on Nigeria where the Central Bank recently published "An Expression of Interest"

to hire the service of a Consultant or firm of Consultants to formulate a roadmap for implementation of Basel II and Basel III.

We shall spend quality time in the area of the impact and cost to banks in their bid to implement Basel III and also give insight to their competitiveness upon implementation.

We shall conclude by proffering practical and cost efficient strategies to implement Basel III by internationally active banks.

1.1 Overview of the various Cost Centres in Banks.

In U.S. banks, operating costs consume about 66 cents of every dollar of total revenue. Despite efforts to control and reduce costs, studies undertaken by Price Waterhouse show this figure has not changed much over the last five years.

At the World Economic Forum held in Davos on 26 Jan. 2011, the Chief Executive of Standard Chartered Bank, Mr. Peter Sands observed that compliance with current regulatory rules will impact heavily on the cost of doing business by banks and that increased costs of capital could "stifle growth[2]" because companies would find it harder to access capital, he argued.

An analysis of the various cost centres in a typical international bank will be valuable in understanding the implications of implementing Basel III.

Bank Costs Centres

The most basis duty of banks is to accept deposits from depositors (deposits) and lend out money to borrowers (loans). They charge "interest" on loans and pay "interest" on deposits. Both are called interest, though the former is always larger than the latter.

Deriving from the above are all the more complex transactions and activities that international banks undertake on daily basis with the aim of making profit and keeping the world economy dynamic. These activities generate costs including costs relating to compliance with regulatory provisions such as Basel III. These costs are described below.

[2] Mr Sands comments, made on at the 2011 World Economic Forum in Davos are echoed by many banking leaders spoken to by *The Telegraph*. They said they were losing patience with endless "bank bashing" by politicians and regulators. Yet these regulations are seen by all as imperative to the safety of the world economic and financial systems.

1.1.1 Transaction costs

Also called "services cost",[3] it is the cost involved in processing the application of the borrowers. It may include legal and other charges paid by the bank for services such as the evaluation of the collateral and checking its title, preparation of loans documents, stamp duties, postage, etc. This is an actual cost incurred by the bank and most of them are independent of the size of the loan (except perhaps charges such as stamp duty) or the period of repayment.

Though most of these costs are charged back to the borrower, yet banks sometimes incur part of the costs.

1.1.2 Funds cost

This cost varies;

(i) Interest costs

This is mainly interest paid by banks to depositors – deposit interest. It is what banks pay the depositors to get their funds.

(ii) Inflation Costs – currency depreciation cost

Another kind of cost associated with banks' funds is the Inflation cost – currency depreciation affecting the value of capital[4]. This cost relates to value erosion of capital as a result of depreciation. It is equivalent to the amount payable to a fund holder (bank in this case) in order to restore the capital to its original value.

(iii) Risk premium

[3] S Emry "Billions for the Bankers – Debts for the People" (2009)
[4] A L M Abdul Gafoor, *Interest, Usury, Riba, and the Operational Costs of a Bank (*2006) pp. 30-80

Banks are expected to insure all depositors' funds against loss with a deposit insurer. The banks pay premium to the deposit insurer. Most countries have National Deposit Insurance Corporations (NDIC).

(iv) Liquidity cost

With increasing attention on banks' liquidity, it is clear that **Liquidity transfer pricing** will become an issue for banks, affecting their pricing and therefore their business model.

1.1.3 Operational costs including Employee cost.

Operational costs include overheads, **employee costs** – staff salaries, allowances and bonuses, office expenses, third party contract costs that go to the maintenance of the bank. It is usually about 60% of revenue.

1.1.4. Regulatory requirements and communication cost

With increases in regulatory requirements, banks will incur more cost in reporting and communicating to and with the regulator.

Improved cost management does not necessarily require an absolute reduction in costs. It does mean an improvement in costs incurred relative to some measure of business volume, such as total revenue. A bank may increase its costs, but if volume is growing at a faster rate, it has improved cost management.

1.2 Banking regulation in an international context

Banking regulation is the formulation, issuance and supervision by authorised agencies of specific rules, requirements, laws (both soft and hard laws) and regulations for the structure and conduct of banking.

1.2.1 Why regulate banks?

A large body of research suggests that banks matter for human welfare. Most noticeably, banks matter when they fail. Indeed, the fiscal costs of banking crises in developing countries since 1980 is said to exceed $1 trillion, and some estimates put the cost of Japan's banking problems alone to be over this figure.[5]

Recent research also finds that banks matter for economic growth[6]. Banks that mobilize and allocate savings efficiently, allocate capital to economic activities with the highest expected social returns, and exert sound corporate governance over funded firms and foster innovation and growth.

The important relationship between banks and economic welfare is at the fabric of bank regulation and has led researchers and international institutions to develop policy recommendations concerning bank regulation and supervision.

The financial crisis of 2007 exposed the weaknesses in existing international regulatory regimes and clearly highlights the importance of regulating banks and financial institutions.

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[5] J. Barth, G. Caprio, and R. Levine, *Rethinking Bank Regulation: Till Angels Govern* (Cambridge University Press, 2009)

[6] R. Levine, "Finance and Growth: Theory and Evidence," NBER Working Paper No. 10766, (Sept. 2004)

The need for both domestic and internationally co-ordinated efforts at bank regulation have become imperative for the survival of the world's economy.

The recent concept of "too-big-to-fail" institutions also heightens the need for adequate regulation of the international banking industry.

2. Basel I to II to III capital accords

2.1 A reminder of the past and how it all began

The Basel Committee was established as a response to the international banks failure in 1975 with the following objectives;

(i) Enhancing understanding of key supervisory issues

(ii) Improving the quality of banking supervision

(iii) Exchange of information among supervisory bodies

(iv) Enhancing substantive regulations (Basel Accords)

(v) Encouraging international cooperation

The birth of Basel I capital accord

In 1983, the US government attempted to secure approval from Congress to increase US quota in IMF in other to bail out some big banks that had made imprudent loans to Mexico and Brazil. Congress demanded a program for improved supervision and regulation of international lending. Such a regulation will lead to decreased international lending and loss of international competitiveness of US banks versus foreign banks[7].

To avoid this consequence, the US sought cooperation of other countries in the Basel Committee. This revealed major differences in their regulatory approach to capital adequacy. Consequently, the UK and Japan joined the US proposal for capital adequacy. This gave birth to Basel I capital accord which recommended a structure of **8% capital/assets ratio** for banks.

[7] Mahmood B, "International Banking Regulation and Corporate Governance" (Lecture note at St Mary's Faculty of Law).

2.2 Definition and calculation of regulatory capital under Basel I

Capital is a firm's buffer against unexpected losses. It is available to absorb unforeseen losses so the bank can remain solvent. The more capital a firm has, the more confident stakeholders are that it will meet its obligations to them.

Basel I, categorised capital into two types namely;

(i) Primary or Tier 1 capital such as shareholders equity in common stock in the bank

(ii) Supplementary or Tier 2 capital for example special reserve for developing country debt. Tier 2 is limited to 100% of Tier 1.

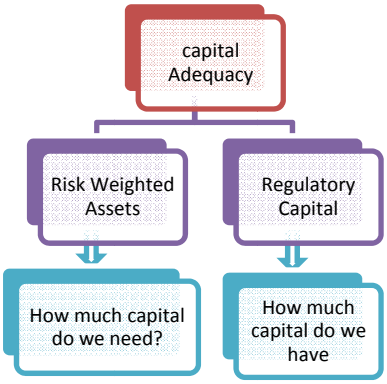


Fig. 1 Basel I capital requirement

The above categorisation gave rise to some unwanted incentives to banks namely;

(i) Incentive for banks to shift towards higher-risk, higher-interest assets within the same category (a triple A rated company v. Indebted start up company)

(ii) Incentive for banks to engage in regulatory capital arbitrage because it is not based on a standard like the probability of insolvency (risk sensitive).

Credit risk under Basel I

Basel I demands capital requirements for counterparty related credit risk, regardless of creditworthiness.

Market risk

Market risk for regulatory purposes. Value –at-risk (VaR) measures the worst expected loss over a 10 day period under market conditions of at least 5 years at a 99% confidence level.

Operational risk

There is no capital charge for operational risk under Basel I

2.3 Weakness of Basel I accord

The main shortcomings of Basel I is its missing risk sensitivity.

(iii) No inclusion of operational risk.

(iv) Not risk sensitive (no consideration for creditworthiness/diversification, only collateral or counterparty type).

(v) Lack of flexibility.

(vi) Simple structure.

(vii) Huge gap between regulatory requirements and today's risk management techniques.

(viii) One size fits all.

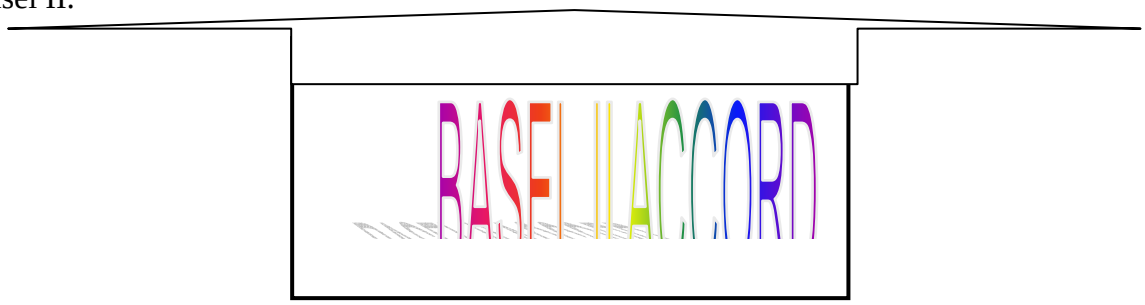
(ix) No needs and incentives for active regulatory capital management.

(x) No incentive for improvements in risk management.

3. Main features and structures of Basel II capital accord

Basel II is a significant improvement on Basel I and takes into account it weaknesses.

3.1 The three pillars. The figure below (fig. 2) is the three mutually reinforcing pillars of Basel II.[8]



PILLAR 1

MINIMUM CAPITAL REQUIREMENTS

Menu of approaches to measure CREDIT RISK (Basel I updated).

Standardised approach. Capital requirement based on external ratings.

Foundation IRB approach. Capital requirement based on internal risk parameters

Advanced IRB approach based on internal loss distribution

Menu of approaches to measure MARKET RISK (Basel I updated)

Menu of approaches to measure OPERATIONAL RISK (NEW)

Basic indicator approach. Capital based on gross income.

Standardised approach based on structure of gross income.

Internal measurement approach based on internal loss distribution

PILLAR 2

SUPERVISORY REVIEW OF CAPITAL ADEQUACY

Supervisors responsible for evaluating how well banks are assessing their capital adequacy needs relative to their RISKS (including Stress Test Model).

The bank internal process will be subject to supervisory review and intervention where appropriate.

This is the most powerful tool for Regulators

PILLAR 3

MARKET DISCIPLINE

Bolstering market discipline through enhanced disclosure by banks for;

(i) Regulatory Capital Adequacy
(ii) Credit Risk
(iii) Market Risk
(iv) Operational Risk
(v) Securitisation
(vi) Risk Measurement Standards.

[8] Rahul Dhumale "LLM (ICGFREL) lecture notes on Bank Corporate Governance & Regulation" (February 2011).

3.1.1 Pillar 1 - Structure

The structure of Pillar 1 is shown below.

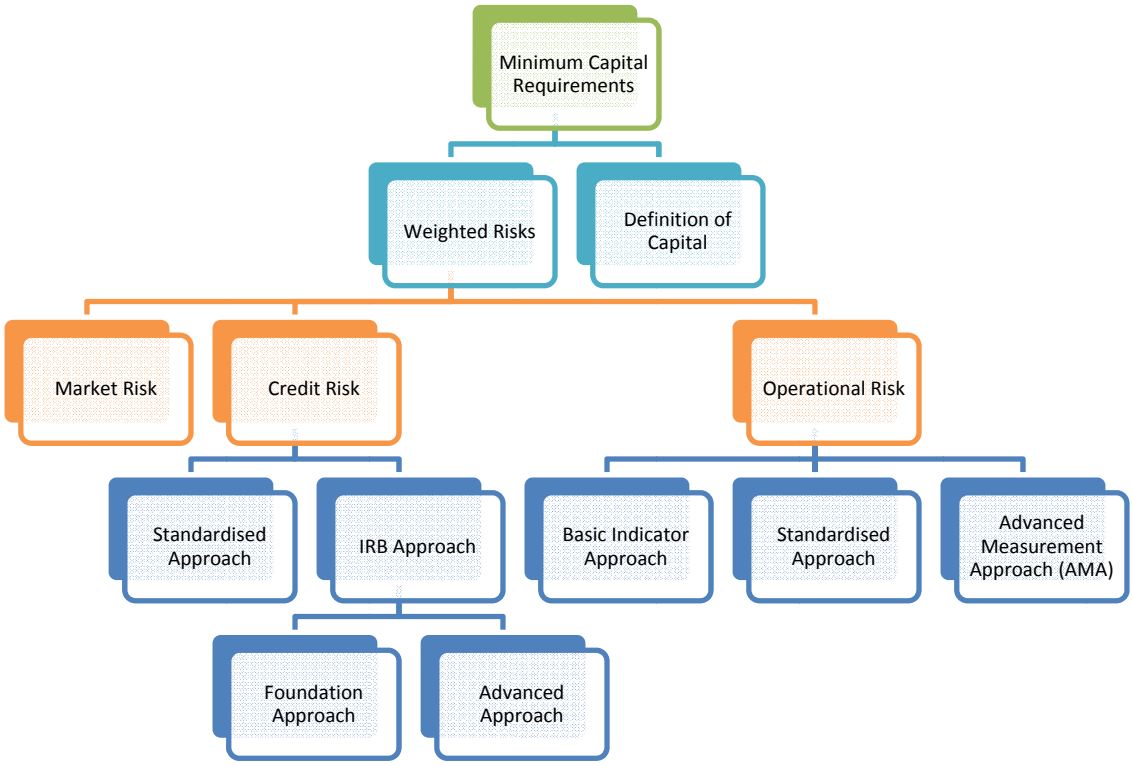


Fig. 3: Structure of Basel II, Pillar 1

- The definition of capital and the market risk in Basel II are largely unchanged from that in Basel I.
- IRB is the Internal Ratings Based Approach
- The Advanced measurement Approach (AMA) results in a lower charge however to utilise this approach will require lots of data which comes at additional cost. Therefore any decision to take this route will require a cost-benefit analysis.

3.1.2 Pillar 1 - Calculation of Capital Requirement for Credit Risk

There are three different approaches to the calculation/measurement for credit risk under Basel II capital accord namely:

(i) Standardised Approach
(ii) Internal Ratings Approach - Foundation
(iii) Internal Ratings Approach - Advanced

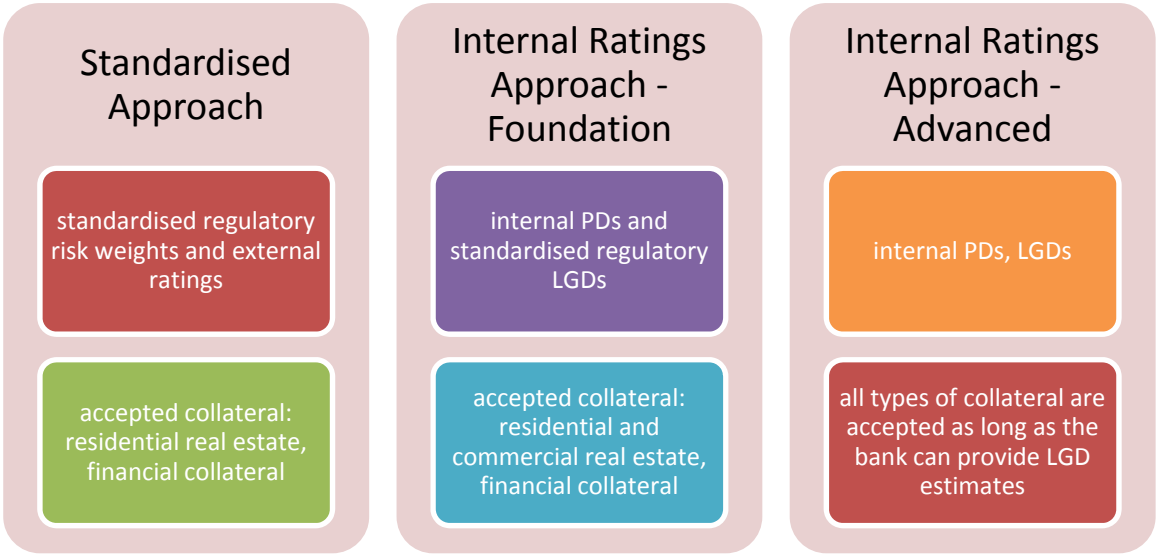


Fig. 4: Approaches to calculation of credit risk capital

Basel II more closely aligns with internal practices.

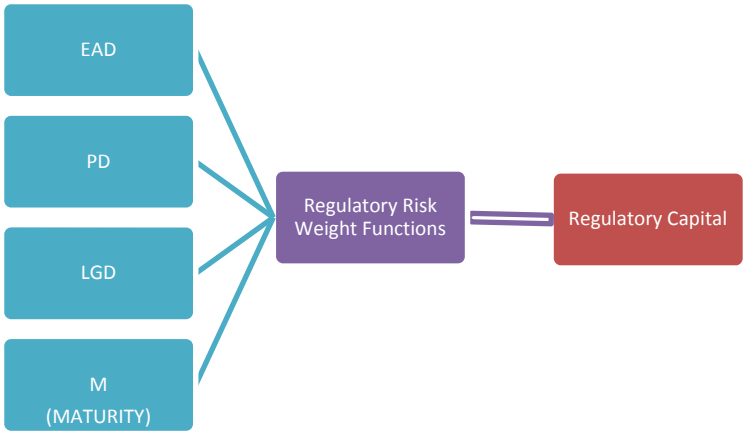
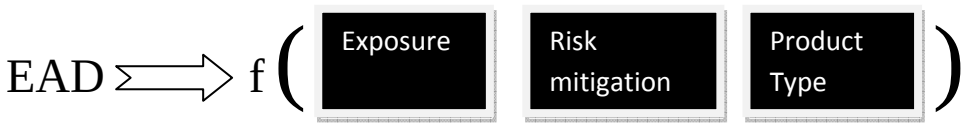


Fig. 5: Calculation of regulatory capital for Credit Risk using the IRB approach.

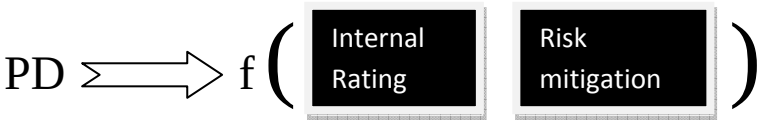
Exposure At Default (EAD)

It is the amount of exposure or the value of a transaction which is expected to be outstanding should default occur.



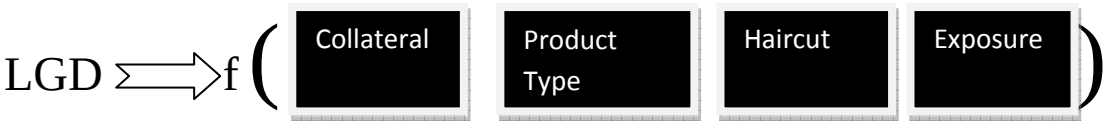
Probability of Default (PD)

It is the likelihood that a counterparty or transaction will not be able to meet its obligation from a credit, i.e. amortisation of principal or interest payment. Usually, the PD gives the probability of default over the next 12 months. If the PD is for a longer time horizon, it should be referred to as a cumulative PD.



Loss Given Default (LGD)

It represents the expectation of the extent of economic loss on an exposure should default occur. It is expressed as percentage loss per unit of exposure and may vary by type of counterparty, type and seniority of claim, and availability f collateral or other credit mitigation. The determination of LGD must cover not only the loss of principal, interest and other sums due, but also the costs of carrying the impaired transactions during the work out process.

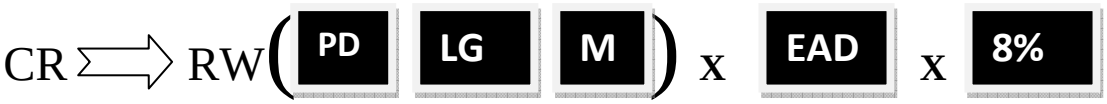


Exposure Type

Includes Corporate, Sovereign, Bank, SME, Special Lending, Retail – mortgage, Retail – revolving, Retail – others, Equity, Purchased receivables.

Capital Requirement (CR) for Credit Risk

The required capital is then calculated based on EAD, PD, LGD, and Maturity, using the Risk Weight for the exposure type i.e depending on the counterparty type and product type.



3.1.3 Pillar 1 : Market Risk – VaR Based Approach

Basel II approach to market risk is an enhancement of Basel I market risk rules. The following are the key enhancements;

(i) Trading book and banking book were separated and policies and procedures trading book eligibility put in place.

(ii) Trading strategy and active management was emphasized. Clear documentation should be in place for all positions in trading portfolio including holding period.

(iii) Guidelines for prudent valuation including systems and controls, methodologies and valuation adjustments or reserves.

(iv) Rigorous and comprehensive stress testing program.

(v) Back testing and model validation standards, also containing requirement for validation independent from the development process.

(vi) Inclusion of event and default risks in VaR modelling (Incremental Risk Charge).

3.1.4 Pillar 1: Operational Risk

There are three qualitative qualifying standards for determining the minimum capital requirement for operational risk namely;

(i) Basic Indicator Approach (BIA)

(ii) Standardised Approach (SA)

(iii) Advanced Measurement Approach (AMA)

3.1.5 Pillar 2 – Supervisory Review Process

This Pillar imposes more specific bank supervision to promote batter risk management.

There are four (4) key principles of supervisory review viz;

Principle 1: Each bank should assess its internal capital adequacy in light of its risk profile

Principle 2: Supervisors should review internal assessments.

Principle 3: Banks should hold capital above regulatory minimum

Principle 4: Supervisors should intervene at an early stage.

The following specific issues are addressed under the supervisory process;

(i) Interest rate

(ii) Credit risk

(iii) Market risk

(iv) Operational risk.

Other aspects of Pillar 2 include;

(i) Supervisory transparency

(ii) Enhanced cross-border communication and cooperation

3.1.6 Pillar 3: Market Discipline

Pillar 3 imposes market discipline through greater public disclosure.

This pillar requires banks to practice self monitoring and disclosure beyond the normal supervisory functions of the regulator. This duty rests more on the Shareholders and other stakeholders in the banks.

Issues for consideration under this pillar include;

(i) Disclosure requirements

(ii) Guiding appropriate disclosure

(iii) Interaction with accounting disclosures

The disclosure requirements include;

(i) General disclosure principle

(ii) Scope of application

(iii) Capital

(iv) Risk exposure and assessment

3.2 Comparing Basel I and II

Major differences include:

(i) **Capital arbitrage -** Basel I did not reflect credit quality gradations or deterioration in asset quality. Lumping everything from triple A rated corporate bond to junk bonds in the same category thereby aiding capital arbitrage. Basel II closes this gap

(ii) **Systemic risk**

Unlike Basel I, Basel II gives a more conceptually consistent and transparent framework for evaluating systemic risk in the banking system through the credit cycle

(iii) **Capital requirement for operational risk.**

Basel I had no explicit capital requirement for operational risks embedded in the many services from which banks generate much of their revenues. Basel II gives requirements for this very important risk.

(iv) Basel II capital requirements are **better aligned** to the way banks manage their actual risk than Basel I.

(v) Unlike Basel II, Basel I had **too little risk sensitivity**

(vi) Basel I did not give supervisors a common framework to engage with banks on important issues such strategic risk. Basel II Pillar 2 provides for ongoing and **regular dialogue** between supervisors and banks.

(vii) The new accord has been introduced to **keep pace with the increased sophistication** of lenders' operations and risk management and overcome some of the distortions caused by the lack of granularity in Basel.

3.3 Comparing Basel II and III

There are a number of criticisms of Basel II, including that the rules are influenced by the industry, and they are very dependent on rating agencies. The credit crunch also exacerbated the observed weaknesses and loopholes which Basel III aims to plug.

(i) excessive leverage in the banking and financial system and not enough high quality capital to absorb losses.

Basel III improves and strengthens not only the quality, but also the quantity of capital by redefining and doubling the Core Tier 1 capital. Instruments qualifying for Tier 1 or Tier 2 are restricted substantially and Tier 3 eliminated.

(ii) excessive credit growth based on weak underwriting standards and under pricing of liquidity and credit risk.

Basel III increases the risk weighted assets, primarily from revisions to how counterparty credit risk and banks' trading books are treated.

(iii) insufficient liquidity buffers and overly aggressive maturity transformation, both direct and indirect (for example, through the shadow banking system).

Basel III introduces the new Liquidity Coverage Ratio (LCR) which require banks to maintain unencumbered high-quality assets sufficient to meet at least 100% of net cash outflows over a 30-day period under a stipulated stress scenario.

(iv) inadequate risk governance and poor incentives to manage risks towards prudent long term outcomes, including through poorly designed compensation systems.

Basel III amongst other measures, introduces higher risk weights for certain exposures. It also introduces the Net Stable Funding Ratio (NSFR) to establish a minimum acceptable amount of stable funding based on liquidity characteristics of a bank's assets and activities over a one year horizon. This is to incentivise structural changes in a bank's liquidity risk profile away from short-term funding mismatches and towards more stable, longer term funding of assets and business activities.

(v) inadequate cushions in banks to mitigate the inherent pro cyclicality of financial markets and its participants.

Basel III increases banks' loss-absorption capacity by introducing an ambitious common equity ratio. It also introduces a counter cyclical buffer. This buffer will not set by the BIS in Basel; it'll be left up to national regulators to impose from zero to 2,5%. But you can probably expect the UK, US, and Switzerland to enforce it up to the maximum of 2.5%.

(vi) too much systemic risk, and connected financial players with common exposures to similar shocks, and inadequate oversight that should have served to mitigate the too-big-to fail problem.

Basel III in addition to the pro-cyclical buffer, requires "systemically important financial institutions" (SIFIs) to have loss absorbing capacity beyond the standards i.e. the bigger, too-big-to-fail players are now required to hold more capital.

4. Basel III Main features and structures.

Basel III follows two earlier publications modifying Basel II (sometimes referred to as Basel 2.5) issued by the Basel Committee in July 2009. Because both Basel 2.5 and Basel III represent updates rather than self-standing sets of rules, much of the Basel II framework remains in place. This is the reason why this dissertation spent time in the previous chapter to shed light on Basel II framework.

Basel III conveniently supplied the table below[9], which gets to the core of the matter :

Calibration of the Capital Framework Capital requirements and buffers (all numbers in percent)			
	Common Equity (after deductions)	**Tier 1 Capital**	**Total Capital**
Minimum	4.5	6.0	8.0
Conservation buffer	2.5		
Minimum plus conservation buffer	7.0	8.5	10.5
Countercyclical buffer range*	0 – 2.5		

Table 4.0: Calibration of capital framework of Basel III

The first thing to note is that we've moved from a simple Tier 1 has to be 4%, Tier 2 has to be 8% to a 3×3 matrix with all manner of different minima. Secondly, consistent with the conservation buffer, the common equity tier 1 ratio in this context includes amounts used to meet the 4.5% minimum common equity tier 1 requirement, but excludes any additional common equity tier 1 needed to meet the 6% tier 1 and 8% total capital requirements.

[9] Basel Committee on Banking Supervision "Basel III: A global framework for more resilient banks and banking systems" (BIS, Dec. 2010)

4.1 Key requirements

Under Basel III, both the quantum and the quality of required capital will increase substantially. The new required capital ratios will be calculated after regulatory deductions and other adjustments rather than prior to such deductions under Basel II.

4.1.1 Changes in capital adequacy calculation

(i) Core Tier 1 Capital.

The minimum requirement for Core Tier 1 capital will be more than doubled from 2% before deductions to 4.5% after deductions. Concurrently, the required level of total Tier 1 capital will increase from 4.0% to 6.0%. These increases will be phased in commencing January 1, 2013 and will be complete on January 1, 2015. Tier 2 minimum remains at 8%.

(ii) Tier 1 capital to be determined after (no longer before) deductions

In addition, under Basel III, banks must determine available Tier 1 capital after (and no longer before) numerous material deductions, including goodwill and other intangibles; deferred tax assets; cash-flow hedge reserves; shortfall of provisions to expected losses (for IRB banks only); gains on sale from securitisations; changes in own credit; defined benefit pension fund assets and liabilities; investments in own shares (treasury stock); reciprocal holdings in banking, financial and insurance entities (less than 10%); significant holdings in banking, financial and insurance entities (more than 10%); and additional "threshold" deductions (for mortgage servicing rights, certain deferred tax assets and certain investments (i.e., more than 10%) in non-consolidated banking, insurance and financial entities).

(iii) New 2.5% capital conservation buffer.

Banks must meet an incremental 2.5% capital requirement to be satisfied entirely by Tier 1 common equity. This new requirement will be phased in commencing January 1, 2016 and

will be complete on January 1, 2019. If and as long as this capital buffer is not met, a bank may continue its normal banking operations but may not use a specified percentage of its earnings for;

(i) dividends, share buy-backs, other payments and distributions on Tier 1 capital instruments and

(ii) discretionary bonuses.

Thus, although the capital conservation buffer technically raises the total Tier 1 common equity requirement to 7%, in practice banks may well hold more than 7% Tier 1 common equity to avoid the risk of falling into the buffer zone.

(iv) New 0% to 2.5% countercyclical capital buffer

National supervisors are authorised to impose an additional capital requirement on banks to slow the growth of bank balance sheets during phases of excessive economic expansion. The requirement, set between zero and 2.5%, will be phased in commencing January 1, 2016 and will be complete on January 1, 2019.

National authorities will set the buffer level by public announcement (increases generally to be subject to 12-month pre-announcement; decreases generally to be effective immediately). The buffer is to apply to banks on the basis of the geographic composition of their credit exposures (based on the location of the obligor and not the booking jurisdiction). As with the capital conservation buffer, if and as long as the countercyclical capital buffer is not met a bank may continue its normal banking operations but may not use a specified percentage of its earnings for:

(i) dividends, share buy-backs, other payments and distributions on Tier 1 capital instruments and

(ii) (ii) discretionary bonuses.

(v) Systemically important banks (SIFIs)

Systemically important banks should have loss absorbing capacity beyond the standards. This means that the biggest banks are going to need significantly more capital.

(vi) More disclosures requirements

Each bank must publically disclose information about;

(i) the full terms and conditions of its regulatory capital instruments,

(ii) its regulatory deductions and

(iii) a reconciliation of its regulatory capital calculations to its audited balance sheet.

(vii) Higher Risk Weights for certain exposures

Unrated securitization exposures, certain equity exposures, failed delivery-versus-payment transactions, and significant investments in commercial entities, are given a 1,250 percent risk weighting under Basel III (instead of a deduction of 50 percent from Tier 1 and 50 percent from Tier 2 under Basel II). Although this appears to be a technical change, any bank with more than an 8 percent capital ratio requirement must as a result hold more capital against these exposures than the amount of the exposure (e.g., a bank with a 12 percent capital ratio requirement will hold 50 percent more capital against these exposures than the amount of the exposures due to the changes).

4.1.2 Leverage Ratio

Leverage defines the degree to which assets are funded by debt, which in itself has numerous advantages and disadvantages[10]. Debt allows households to smooth their consumption in the event of disruptions to their income and it may also help discipline managers of financial firms by reducing free cash flows and forcing them to return to the capital market to justify new investments. However, excess leverage makes the real economy more fragile in the face of adverse shocks as it acts as an amplifying mechanism, magnifying the effects of liquidity and solvency shocks on the wider economy. Excess leverage thus increases the sensitivity of banks' balance sheets to losses.

One of the underlying features of the 2007 crisis was the build up of excessive on- and off-balance sheet leverage in the banking system. Banks often built up excessive leverage whilst still showing strong risk-based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and contraction in credit availability.

Therefore Basel III introduces the leverage Ratio as a supplement to the risk-based ratio of Basel II. The leverage ratio will be non-risk based and based on going concern regulatory capital. It is intended to;

(i) Constrain the build up of leverage in the banking sector, helping avoid destabilising de-leveraging processes; and

(ii) Reinforce the risk-based requirements.

[10] The Future of Banking Regulation. Report prepared for the City of London Corporation by Europe Economics (May 2010)

To ensure comparability across jurisdictions, the leverage ratio will be harmonised internationally, fully adjusting for material differences in accounting, and will appropriately integrate off-balance sheet items that have also been a major source of leverage in the last crisis.

The main challenge is thus to introduce a simple (not too smart), non risk-based leverage ratio that ensures comparability across business models with inherently different asset exposures and across jurisdictions where the accounting treatment of such exposures varies. It is also important that any leverage limitation should not undermine good risk management practice.

4.1.3 Liquidity Ratios

Prior to the 2007 crisis, there has been very little discussion on liquidity at international level. The BCBS had published just one short paper on liquidity systems and controls during the previous 15 years, while national banking regulators imposed a very diverse set of requirements, many of them dating back decades rather than years[11]. However liquidity has come to the front burner following the severe drying up of liquidity.

4.1.3.1 Liquidity Coverage Ratio (LCR).

The new LCR requires banks to maintain unencumbered high-quality assets sufficient to meet at least 100 percent of net cash outflows over a 30-day period under a stipulated stress scenario.

Against this cash outflow a bank must hold liquid assets exhibiting characteristics such as low credit and market risk, low market concentration, ease and certainty of valuation, low correlation with risky assets, listed on a developed and recognised exchange market, and traded in an active and sizeable market in which committed market makers operate.

Liquid assets are divided into two "levels":

Level 1: consisting of cash, central bank reserves (to the extent that they can be drawn down in times of stress), marketable securities representing claims on or claims guaranteed by sovereigns, central banks, non-central government public sector entities (PSEs), the Bank for International Settlements, the International Monetary Fund, the European Commission or multilateral development banks subject to certain conditions.

[11] G. Williams, J. Low, S. Topping "Evolving Banking Regulation – A Marathon or a Sprint?" (KPMG, Nov. 2010)

Level 2 assets, which are subject to cap of 40 percent of all liquid assets and are subject to 15 percent haircut against their notional amount, include (subject to certain conditions) marketable securities representing claims on or guaranteed by sovereigns, central banks and corporate and covered bonds.

4.1.3.2 Net Stable Funding Ratio (NSFR)

The purpose of the NSFR is to establish a minimum acceptable amount of stable funding based on liquidity characteristics of a bank's assets and activities over a one-year horizon, in order to incentivise structural changes in a bank's liquidity risk profile away from short-term funding mismatches and towards more stable, longer-term funding of assets and business activities. To that end, a bank's "Available Stable Funding" must equal or exceed its "Required Stable Funding."

4.1.3.3 Available Stable Funding (ASF)

It is a bank's stock of regulatory capital (both Tier 1 and Tier 2), after deductions, together with certain additional assets subject to haircuts. It will also include preferred stock not included in Tier 2 if it has an effective remaining maturity of one year or greater. Liabilities with effective remaining maturities of one year or greater will be included subject to various "ASF Factors" (i.e., haircuts) depending upon their type. For example, "stable" non-maturity deposits and/or term deposits with maturities of less than one year provided by retail and small business customers will have an ASF Factor of 90 percent (i.e., a 10 percent haircut).

4.1.3.4 Required Stable Funding (RSF)

It is the sum of (i) assets held by bank and off-balance sheet commitments of the bank (ii) multiplied by the relevant required stable funding factor (RSF).

For example, unencumbered cash and money market instruments; unencumbered securities with effective remaining maturities of less than one year; unencumbered securities where the bank has an offsetting reverse repo with the same CUSIP or ISIN; unencumbered loans to financial institutions that are not renewable or for which lender has an irrevocable call right, all will have a 0 percent RSF (meaning that they do not form part of a bank's Required Stable Funding).

In contrast, unencumbered loans to retail and small business customers with residual maturity of less than one year will have an 85 percent RSF and all balance sheet items not otherwise assigned an RSF will have a 100 percent RSF.

For off-balance sheet exposures, conditionally revocable and irrevocable credit and liquidity facilities to any client will have a 5 percent RSF Factor, and all other contingent funding obligations (includes guarantees, letters of credit, other trade instruments; non-contractual obligations, etc.) will have RSF Factors assigned by the relevant national supervisor.

4.1.4 Basel III Implementation Timeline

The Basel Committee introduced transitional arrangements to implement the new standards discussed above. This is to ensure that the banking sector can meet the higher capital requirements through reasonable earnings retention and capital raising, while still supporting lending to the economy[12]. The transitional arrangements are summarised in the table below.

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Minimum Common Equity Capital Ratio	2.0%	2.0%	3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital Conservation Buffer	0%	0%	0%	0%	0%	0.625%	1.25%	1.875%	2.5%
Minimum Common Equity plus Capital Conservation Buffer	2.0%	2.0%	3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
Phase-in of deductions	0%	0%	0%	20%	40%	60%	80%	100%	100%
Minimum Tier 1 Capital	4.0%	4.0%	4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum Total Capital	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Minimum Total Capital plus Capital Conservation Buffer	8.0%	8.0%	8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%

Table 4.1.4: Basel III Implementation Timeline (culled from BIS BCBS report (Dec 2010))

[12] BIS Publication, Basel III: A global regulatory framework for more resilient banks and banking systems (December 2010)

5. Compliance with Basel III capital accord – the real and topical issues

5.1 Typical Hurdles that banks are likely to face

(i) Replacement of existing capital instruments with new Tier 1 compliant instruments

Irrespective of the details of the implementation of Basel III into European or German law, banks must now begin to prepare for the requirement to replace many of their existing capital instruments with new instruments that comply with the tighter requirements.

(ii) Access to capital markets

The ability of the affected institutions to access the capital market will be of key importance. Banks without access to the capital markets will be adversely affected. However, even credit institutions with direct access will need to rely on the markets' willingness to absorb the required volume of new instruments. Of this, there can be no certainty, given the volume of common equity that is expected to be required following the introduction of Basel III.

(iii) Harmonizing Basel III with existing and in-practice regional and jurisdictional directives and requirements.

Silent equity participation

Under the EU Capital Requirements Directive II ('CRD II'), silent equity participations qualify, albeit with certain deductions, as Tier 1 capital until 2040, whereas under Basel III, they would in principle not qualify as common equity from 2013 onwards.

LCR hurdles

Under Basel III’s LCR, a bank's highly liquid assets are set against the liquidity outflow expected over 30 days in the context of a stress scenario, with the aim of ensuring that credit institutions will be able to meet all short-term payment obligations. As evidenced by the

financial crisis, this is a commendable aim. However, in implementing Basel III into European law for instance, the catalogue of instruments that qualify as '**highly liquid assets**' should be less restrictive, in particular since this could lead to a material deterioration of the institutions' margins.

(iv) Corporate governance issues arising mainly from Pillars 3 under Basel III (Market discipline).

New guidance on governance and enhanced supervisory scrutiny will drive a significant step up for banks in every region and equipping Boards, Management and Staff to fulfil their obligations is a significant hurdle.

Banks should not underestimate the implementation effort associated with the Pillar 3 disclosure process, and perhaps more importantly, they should not overlook the communication strategy implications associated with the publication of this information.

(v) Significant data and process challenges

Pillar 3 presents significant data and process challenges. Once the governance structure is established, the next challenge is around data availability and quality. While in most cases roughly 80% of Pillar 3 qualitative and quantitative disclosures should be available from data accumulated for Pillar 1, banks have not always contemplated Pillar 3 requirements when preparing for Pillar 1. Accordingly, data is not always organised in such a way that it can be easily retrieved and organised for public disclosure.

Additionally, certain disclosures come from accounting records, such as period-end and average gross credit exposures, changes in the allowance for loan losses, or the amount of impaired loans, to name a few.

A potential complication arises where the consolidation circle for accounting disclosures does not coincide with that for which Pillar 3 disclosures are required, for example due to the exclusion of insurance activities in Basel II. A methodical approach to sourcing the data for Pillar 3 disclosures is therefore key to ensure that data gaps are identified and resolved early in the process.

Skilled staff for data handling required.

Beyond data availability, data quality is also a major issue that banks have to deal with. They must have an independent validation process. This is a regulatory requirement in certain jurisdictions hence appropriate independent skilled resources need to be on hand to fulfil this role. It is possible that suitably experienced staff within internal audit could perform this task.

(vi) Disclosure and communication strategy.

Banks should establish a coherent disclosure and communication strategy around risk management. This is probably the most strategic issue that banks will need to consider, as Pillar 3 will considerably increase the volume of public disclosure around risk management, in particular in the areas of credit and operational risk.

(vii) Huge capital expenditures - especially in IT systems acquisition and/or modification to implement corresponding systems.

Under the current Basle III recommendation, in addition to the LCR, banks will also have to report their net stable funding ratio (NSFR) from 2018. Most jurisdictional supervisory laws have thus far not provided for such a ratio. Implementing corresponding systems is in many cases likely to require material expenses in particular with regard to the IT systems required.

(viii) Additional provisioning for increased Cost of Compliance

The sheer scale of regulatory change might arguably be an appropriate reflection of the scale of the crisis. But one consequence is that many forms of measures have arisen reflecting different theories about what went wrong and how best to address it, and these measures are often overlapping – providing two or even many different regulatory requirements addressing the same underlying risk concept but also increasing the cost of compliance.

(ix) Reshuffling of corporate client bases.

Basel III will mandate banks to shore up capital to meet tighter requirements, either by raising more capital or rationalizing their lending portfolios. For banks, this will mean a reshuffling of their corporate client bases to whom they lend, and changes to product lines. For corporations, this will lead to transformed banking relationships and possibly a reshuffling of funding sources. Such changes will be a challenge to all banks.

(x) Harder regulatory arbitrage

Basel I and II were loose enough to allow banks to play games to set aside as little capital as they could get away with but Basel III has closed most of the loop holes. For example, Basel I has a simple set of risk weights assigned to categories of assets while Basel II called for a more risk-sensitive estimate of weightings but mispriced the risk inherent in securitizations; banks reacted by loading up on off-balance-sheet instruments and collateralized debt obligations. Basel III built in provisions to prevent this syndrome. For instance, it adds a leverage ratio: capital has to be at least 3% of total assets even where there is no risk weighting.

5.2 Basel III and developed markets – US, UK, Germany, and European markets

Basel III will have significant impact on both the US and European banking sector. Based on Q2 2010 balance sheets, by 2019 the European industry will need about €1.1 trillion of additional Tier 1 capital, €1.3 trillion of short-term liquidity, and about €2.3 trillion of long-term funding, excluding mitigating actions. And though the drivers of impact vary, the same quantum of impact is expected in the US where estimated shortfall in Tier 1 capital is put at $870 billion (€600 billion), the gap in short-term liquidity at $800 billion (€570 billion), and the gap in long-term funding at $3.2 trillion (€2.2 trillion).

The capital need is equivalent to almost 60 percent of all European and US Tier 1 capital outstanding, and the liquidity gap equivalent to roughly 50 percent of all outstanding short-term liquidity.

Assuming a 50 percent retained earnings payout ratio and nominal annual balance-sheet growth of 3 percent through 2019, capital requirements in Europe are expected to increase to about €1.2 trillion, short-term liquidity requirements to € 1.7 trillion, and long-term funding needs to about €3.4 trillion.

Closing these gaps will have a substantial impact on profitability. All other things being equal, Basel III would reduce return on equity (ROE) for the average bank by about 4 percentage points in Europe and about 3 percentage points in the United States.

The retail, corporate, and investment banking segments will be affected in different ways. Retail banks will be affected least, though institutions with very low capital ratios may find themselves under significant pressure.

Corporate banks will be affected primarily in specialized lending and trade finance and Investment banks will find several core businesses profoundly affected, particularly trading

and securitization businesses. Most banks with substantial capital markets and trading business will likely face significant business-model challenges in the next few years.

5.2.1 US Market banks

Dodd-Frank bill authorizes U.S. regulators to enforce Basel III capital guidelines at U.S. banks.

Basel III Implementation will be a real test of US Banks not Sovereign Debt Crisis. Estimates from Barclays Capital (BarCap) indicate that the top 35 US banks will be short of between $100bn and $150bn in equity capital after Basel III global bank regulations are imposed, with 90 per cent of the shortfall concentrated in the biggest six banks.[13]

Bank of America (BAC), The Blackstone Group (BX), Citigroup, Capital One Financial (COF), Fortress Investment Group (FIG), Goldman Sachs (GS), Jefferies (JEF), JP Morgan (JPM), KKR And Co. (KKR), Lazard (LAZ), Morgan Stanley (MS), US Bancorp (USB), Wells Fargo (WFC) and many more are expected to spend more than $100 million each over the next ten years to change processes and implement systems to comply with the Basel guidelines.

Key issues for the US banks will include:

(i) **Securities and Exchange Commission (SEC) requirements versus Basel III requirements**

For U.S. banks subject to Securities and Exchange Commission (SEC) requirements, Sarbanes-Oxley requirements will also apply to Pillar 3 disclosures if these are made in the

[13] Brooke Masters, Justin Baer "US Banks face $100bn Basel III shortfall" (Nov.2010)

financial statements or an SEC filing. Few banks around the world have yet fully managed the interdependencies between Sarbanes-Oxley and Basel II. One would expect that a lot of controls required under Basel II (e.g. model validation process under Pillar 1, governance and oversight process under Pillar 2) will go a long way to fulfilling the Sarbanes-Oxley requirements. However, controls required for Sarbanes-Oxley around spreadsheets and IT applications may not have been fully considered for Basel II purposes.

(ii) **Harder regulatory arbitrage –** as explained in 5.1(x)

(iii) **Modification of risk models.**

Under the Basel II rules, large, global banks were advised to use their own internal risk rating models to determine the risk weightings for their assets. For international banks like JPMorgan Chase, Goldman Sachs and Morgan Stanley, the additional provisions of Basel III around securitized products adds more complexity to their models. Such banks probably don't need to buy new risk modelling software, but their models will need to be modified.

(iii) Data integration/data management challenges.

Basel III requires banks to consolidate positions from all their trading desks and to make their trading book compatible with their banking book; to accomplish this the data must be clean and accurate. This will be an implementation challenge, especially for U.S. banks that have not been following the Basel rules.

(iv) US Regional banks may start using their own risk models, like the biggest banks do.

In US, regional banks have had the ability under Basel II to run standardized methods for calculating risk-weighted assets, which is easier than coming up with their own risk models.

That model will put them at a competitive disadvantage from a capital perspective compared to banks that use advanced, internal models who may be able to gain more favourable risk weightings.

(v) Banks will need to find new ways of calculating capital, leverage and liquidity ratios.

For banks that already have software making these calculations, these will be substantial projects but not huge overhauls. The new liquidity ratio required in Basel III will force banks to perform stress tests on their 30-day cash flows.

5.2.2 United Kingdom market banks

Many cross border UK banks are well positioned to meet the higher Tier 1 capital requirements, having already started the process of bolstering their capital base, government supported banks

Bank of England external Monetary Policy Committee has said that Basel III requirements will not have negative bearing on economy, as long as the transition is gradual.[14]

Recently, the Financial Services Authority (FSA) said that UK banks' capital and liquidity positions have significantly improved over the last two years.

Even without taking into account a phasing-in period, the large-cap commercial banks will exceed the minimum common equity ratio (including conservation buffer) of 7% by 2012. The table below shows the core Tier 1 ratios of major UK banks after the first half of 2010.

S/N	BANK	CORE TIER 1 (%)
1.	Barclays	10.0
2.	HSBC	9.9
3.	Lloyds Banking Group	9.0
4.	RBS Group	10.5
5.	Standard Chartered	9.0
6	Santander	9.0

Table 5.2.2: Core Tier 1 capital of major UK banks as at June 2010

[14] David Miles " Bank of England (Central Banking News desk, 28 Jul 2011)

Employee downsizing is an expected fall out of Basel III which is already becoming rampant amongst UK banks. This is however attributed to drops in margin especially in the investment banking portfolios of major banks.

5.2.3 Germany markets banks

From a German perspective, however, it is imperative that the implementation of Basel III into existing European law provides adequate transitional provisions to avoid disadvantaging German institutions[15]. This applies in particular to **silent equity participations**, which qualify as Tier 1 capital in Germany, but will generally not be considered common equity under Basel III. Given the considerable importance of silent equity participations for German banks, the proposals of the Basel Committee appear disproportionate.

This may inter alia present problems for German state banks (*Landesbanken*), whose Tier 1 capital traditionally consists to a significant extent of silent participations. While the press release regarding Basel III holds out transitional arrangements in this regard, at least for the German state banks not organised as a stock corporation, the details of such arrangements have not yet been specified. Overall, the significantly tighter capital requirements may further fuel discussions regarding consolidation of the German state bank sector.

Access to capital markets

In addition, the German Banking Act, amended in 2009 to allow, among others, the German Federal Financial Supervisory Agency (*Bundesanstalt für Finanzdienstleistungs aufsicht -- BaFin*) to prohibit profit distributions in specific cases, is not expected to facilitate new share issuances

[15] Fredrick Winter "Basel III implementation and German banks" (2010) 10 JIBL 639

LCR

To a certain extent, the LCR corresponds to the liquidity ratio that is reported under current German law, but goes beyond this ratio in certain respects. Hence the catalogue of instruments that qualify as '**highly liquid assets**' under Basel III may exclude some instruments leading to a material deterioration of banks' margins in Germany.

Acquisition of new ICT infrastructure

German supervisory law has thus far not provided for such a ratio; implementing corresponding systems is in many cases likely to require material expenses in particular with regard to the IT systems required.

5.2.4 Other European Markets banks – Italy and Spain

Basel III is stricter than Basel II in it treatment of tax-deferred assets and mortgage-servicing rights, which could reduce capital ratio for some continental European banks up to 1%.

The Italian banks UniCredit and Intesa and Spain's BBVA are in the weakest relative position, having common equity ratios which are just above 7%. They may seek to raise capital to meet Basel III requirements mainly for the purpose of remaining competitive in Europe.

5.2.5 Australia market banks

Australia's banks have argued they should be exempt from many of the rules, as the banks emerged from the financial crisis relatively unscathed. However, APRA was quick to reject such calls.

Although Basel III may not constrain Australian banks from continuing to deliver lending growth, yet it is obvious that the days of fast-paced double-digit growth may be a thing of the past.

Growth levels under the new regulations were likely to be more in line with nominal gross domestic product growth or at "single digit" rates.

Of course, this is not an absolute speed limit - banks will be able to grow faster than this if they wish, but they will need to do so by either justifying to their shareholders that retaining earnings rather than paying dividends is a superior use of capital, or else periodically seek to raise new equity from existing or new investors.'

5.3 Basel III compliance and Islamic Banking

The increasing role of Islamic states and Islamic banking in international financing informed the desire to understand how compliance with Basel III requirements will impact the competitiveness of the internationally active Islamic bank like Qatar International Islamic Bank (QIIB), Tadhamon International Islamic Bank in Yemen, Saudi British Bank (associated bank of HSBC Group), etc.

Islamic banks are among the best capitalized banks in the world, and historically comply with inflexible standards of capitalization. Indeed some Islamic banks operate under stricter capital requirements than those of Basel III[16]. Additionally, the rationales for Basel III international capital adequacy regulation — mitigation of systemic risk and the social cost of moral hazard — are salient for Islamic banks. However differences exist. For instance, the Islamic noninterest-earning savings and investment products[17] that resemble collective investment schemes do not have conventional counterparts addressed in Basel II or Basel III, creating a greater regulatory challenge.

5.3.1 Basel III Pillar 1 versus Islamic banking.

Pillar 1 requirements changes the impact of international regulation on the Islamic regulatory framework, but not as significantly as conventional institutions are impacted.

The increase in banks' **capital quality, consistency, and transparency** does not affect Islamic banks because the hybrid and Tier III capital that are affected by the changes have not played a significant role in Islamic banks' capital structures.

While the increase in the required level of **capital** will affect Islamic institutions, the effect will be of the same degree as it is to all other institutions.

[16] Aly Khorshid "Basel III in support of the Islamic banking principle" (Islamic Finance Resources News and Information, Jan 2011)
[17] Saddiqi Nejatullah "Banking without Interest" (International Islamic Publishers, 1992)

The newly introduced non-risk based **leverage ratio** is irrelevant to Islamic institutions, as they do not use deposit-type investment accounts, but could be of relevance in the future if certain loaning and deposit practices increase.

The Basel III efforts to reduce **cyclicality** could have the opposite effect on Islamic banks and increase pro-cyclicality. Thus, it will be likely that Islamic banks will maintain **countercyclical buffers**.

Regarding Basel III's new **liquidity standards**, it is unlikely that Islamic banks will be able to comply due to lack of funding.

Pillar I of Basel III addresses **credit, market, and operational risk**. Islamic banks face similar credit risks as their conventional counterparts, with differences resulting from the profit- and loss-sharing or -bearing arrangements under some Islamic products.

Islamic banks are exposed to greater **credit risk** from products tied to commodities whose prices are subject to market fluctuations, and additional equity-position risk from stakes in the businesses they finance. They are exposed to less market risk because *Shari'ah* prohibits taking large open/speculative positions in the futures market. These credit and market risk differences present technical differences in quantifying minimum capital requirements, but it is in operational risk that Islamic banks differ most significantly.

Operational risks

Islamic banks face significantly higher operational risks than conventional banks. These operational risks can be divided into two categories;

(i) those inherent and unavoidable in Islamic products and

(ii) those that result from the undeveloped nature of Islamic banking.

Inherent and unavoidable operational risks

Much of the operational risk that Islamic banks are exposed to is intrinsic to their Islamic products and services, and will remain perpetually present. Islamic products are contract-based, requiring an extra legal step, and have more components than their conventional counterparts. These differences increase vulnerability to documentation error, processing mistakes, and legal risk. Islamic banks hold more physical assets on their balance sheets, and Islamic insurance cannot insure against losses to the extent of conventional insurance.

Islamic banks also face a unique *Shari'ah*-compliance risk, because the acceptance of and demand for their products are subject to approval by religious authorities.[18] These risks will always be present in Islamic finance and cause the practice's risk management needs to differ from conventional finance.

Operational risks arising from the underdeveloped nature of Islamic banking.

The current form of Islamic banking has only existed since the mid-1970s, resulting in systems, processes, and products not sufficiently mature to allow the identification and

management of the majority of problems and risks. The rapid growth of Islamic finance has strained resources, including the supply of skilled experts in banking and *Shari'ah*. Modern finance relies on advanced technology, yet computer software for Islamic financial services is less tested, less robust, and at times inapplicable to many operations of Islamic institutions.[19] These operational risks will arguably lessen over time and converge with levels similar to conventional banks.

[18] Emily Sarah Hersh "Islamic Finance and International Financial Regulation" (Journal of International Service 60, Spring 2011)
[19] Elisabeth Jackson-Moore "Measuring Operational Risk" (John Wiley & Sons, 2007), 237–239.

5.3.2 Basel III, Pillars 2 & 3 versus Islamic banking.

Pillars 2 and 3 enhance the supervision and transparency through market discipline, respectively, of international banks. Their application to Islamic banks similarly involves difficulties inherent to the Islamic products and services, and difficulties that exist because of their immature status.

Supervising Islamic banks requires sufficient expertise in the above risk differences. As some of these risks fade when the industry gains experience and depth, a corresponding portion of need for additional expertise will wane as well.

Transparency and market discipline will increase with maturity. nonetheless, sufficient differences between Islamic and conventional banking will persist, and will require the continued existence of a separate Islamic regulatory body.

Islamic Financial Services Board (IFSB) On-going Work

The new challenges set out under Basel III are currently being actively addressed by IFSB to ensure continued operation under globally accepted norms. The Board has worked hard to develop standards/guidelines that address risk issues specific to Islamic financing, as well as adapting elements from the Basel standards to make them more relevant to Islamic banks.[20]

[20] Anita Hawser "The Relevance of Basel III to Islamic Banks" (Islamic Finance, Feb 2011), pp 1-3

5.4 Basel III and emerging markets

When the Basel committee on banking supervision opened its membership to larger emerging markets in 2008 it was meant to produce globally relevant standards governing the financial soundness of banks. Unfortunately, Basel III appears to have ignored the needs of emerging markets.

Basel II proved fiendishly difficult to apply in conditions where:

(i) large banks in emerging markets lack credit ratings,

(ii) the data to build credit scoring systems barely exists,

(iii) there are few institutional investors who might actually read public disclosures.

Far from fixing these conditions, Basel III makes it even worse with much of its requirements aimed at advanced economy banks. Rules for their investment portfolios are irrelevant to emerging markets banks that stick to just deposits and loans.

5.4.1 Challenges to Basel III implementation in emerging markets

(i) Technical difficulties.

Formidable technical challenges make implementation difficult. Especially in those areas where the reforms are relevant and badly needed. For instance, LCR, NSFR, etc involve sophisticated new stress tests that go far beyond the risk management capabilities of most emerging market banks.

(ii) Regulatory independence issues

Risk management systems also require regulators who can use judgment and discretion. But exercising discretion in turn requires things not so readily available to emerging market regulators: independence, immunity from law suits and willingness to challenge the well connected.

(iii) Basel III timelines may not be achievable in emerging markets.

Basel III's transition period means that no emerging economy is likely to want to be the first mover therefore a different timeline is needed for these markets.

(iv) Competing priorities - economic growth versus highly capitalized and liquid banks.

Emerging and advanced economies have different risk appetites. For the latter, the goal is to avoid a repeat of the crisis. By contrast, for emerging markets the objective is growth to meet the needs of rapidly expanding populations. Basel III will make banks stronger and more stable, but at the risk of lowering growth through reduced lending at least in the short and medium term. .

These challenges have prompted some expert to suggest that the BCBS should offer an alternative standard tailored to the needs of emerging markets[21].

Nevertheless, there is a unanimous view among experts that implementation of Basel accord in emerging markets have greater advantages than the obvious challenges. The advantages include; financial sector stability, capacity to compete with developed economies' banks, ability to attract international funds, as well as long term economic growth for their regions.

[21] Michael Tylor "Basel III is bad news for emerging markets" (Financial Times, Oct. 14, 2010)

These real advantages are the drivers behind decisions of some emerging economies, like Nigeria, to follow the Basel Accord route and comply with both Basel II and Basel III requirements.

5.4.2 Nigeria as a case study

Recently, the Central Bank of Nigeria (CBN) and the National Deposit Insurance Commission (NDIC) - the agency charged with protecting insured depositors' funds published "An Expression of Interest" to hire the service of a Consultant or firm of Consultants to formulate a roadmap for implementation of Basel II and Basel III.

The country continues its Basel II implementation with most progress having only been made with Pillar 1 – minimum capital requirement and risk management. With a **10% minimum regulatory capital requirement**, most of the banks are still relatively well capitalized with over 90% of their Tier 1 being equity since 2009. Below is a table showing the capital adequacy ratios (CAR) of twelve of the country's twenty five banks as at June 2010.

S/N	BANK	CAR (Dec. 2009)	CAR (June 2010)
1.	Fidelity	40	43
2.	FCMB	40	36
3.	Zenith	28	30
4.	Stanbic-IBTC	35	30
5.	Access	32	28

6.	Ecobank	24	28
7.	GTBank	26	21
8.	First	16	18
9.	Diamond	20	18
10.	Skye	17	17
11.	UBA	16	15
12.	Sterling	12	14
	Average	**25**	**25**

Table 5.4: Capital Adequacy Ratios (%) of Nigerian banks culled from Vetiva Capital Mgt Ltd.

Standard and Poor (S&P) rating

In its most recent review of the Nigeria banking sector on August 11, 2011, Standard & Poor (S&P) – the sovereigns' rating agency noted that "Nigeria's "positive" 2009 bailout of lenders and reduction of nonperforming loans in the banking industry is being outweighed by its dependence on oil and continuing social unrest.." S&P said that the banking sector has undergone a significant transformation in the last two years but that the country's rating is being held down by;

(i) the remaining political uncertainty,

(ii) the overwhelming dependence on the oil sector

(iii) the low level of economic development generally."

The Central Bank of Nigeria has been making frantic efforts to stabilize the banking system and ultimately prevent it from falling into a similar systemic crisis, like the country experienced in 2009.

In August 2009, the Central Bank of Nigeria (CBN) injected 620 billion naira ($4.1 billion) into 10 banks and fired the chief executives of eight of the country's 24 banks after a debt crisis that was spurred by loans to equity speculators.

In 2010, the central bank set up Asset Management Corp. of Nigeria (AMCON) to buy nonperforming loans from lenders. AMCON took over and injected 679 billion naira into Afribank Plc, Bank PHB Plc and Spring Bank Plc on Aug. 6, 2011 after the central bank revoked their licenses the day before, saying they were unlikely to meet a Sept. 30, 2011 deadline to recapitalize.

The banks' asset quality has markedly improved since AMCON relieved the banks of the bad loans and the ratio of nonperforming loans has been brought down quite a lot by this measure.

Basel Capital Accords implementation in Nigeria

Similar to the underlying rationale behind the introduction of Basel III requirements on the global scene, CBN replaced the 10-year old Universal banking model and now requires banks to operate monolithically as either Regional, National, or International banks with varying capital base of 10, 25 and 50 billion naira respectively. The monoclines include; Merchant banking, Specialised banking such as micro-finance, mortgage, non-interest banking and development finance banks. An 18-month transition timeline has been set for banks to transit to this new model.

Behind all the frantic efforts by CBN to salvage the rescued banks and put them back on their feet is the ultimate hope that the central bank's new macro-prudential rules, which are in consonance with Basel's principles would leverage amongst others on;

(i) Adjusting Capital adequacy and forward-looking capital requirements driven by stress tests.

(ii) Prohibiting banks from using depositors' funds for proprietary trading, private equity or venture capital investment.

At the moment, there are on-going "business combinations" among the rescued banks, that are expected to lead to "Mergers or Acquisitions" and about eight of such are expected to be completed by the end of 2011[22].

These efforts are geared towards evolving a more resilient and stable banking system in Nigeria and the recent CBN/NDIC's expression of interest to hire a Consultant to formulate a road map for Basel II and III implementation marks the beginning of the Nigeria's financial regulator's policy of adopting Basel III into the national regulatory framework.

Going forward

The following steps are recommended as key in the regulator's Basel III road map as well as in future growth of Nigeria's economy;

(i) Develop the depth in Nigeria's capital markets

(ii) Develop an explicit regulatory capital requirement for market risk in banks' proprietary trading activities

(iii) Establish sound market risk management practises to promote investors confidence in the capital market.

(iv) Develop and apply different types of stress tests as an integral feature of bank's

[22] The Guardian Newspapers (Nigeria) Tuesday, March 29, 2011, vol 28, No 11, 780.

risk management frameworks to mitigate value destroying practices such as excessive margin lending, etc.

These measures will put the Nigeria banking sector in a better position to fund the country's economic growth as an emerging market.

5.5 Cost-Benefit analysis of Basel III compliance

Discussions so far have sufficiently highlighted "the good and the bad" of implementing Basel III. Therefore for clarity, this sub topic will be enumerative and direct to facilitate decision making.

Quantitative analysis of cost of implementation.

- Banks' Eligible Capital will reduce by as much as 60%

  Capital ratio = Eligible Capital/Risk Weighted Assets (RWA)

  Basel III has increased the capital ratio requirement and the eligibility of capital is tightened thereby reducing the amount of capital that banks have to meet the required ratio. At the same time, the calculation for risk weighted assets has changed leading to an increase for many organisations.

- Basel III's NSFR will result in up to 50% shortfall in banks' long term funding needs.

Qualitative analysis of cost of implementation

- Basel III reforms will raise the cost of capital and constrain banks' income generating capacity, squeezing profitability and ROE.
- BCBS's fundamental review of the trading book will result in onerous extra capital charges for such activities, further depressing profits.
- Reduced investor appetite for bank debt and equity.

  Reduced investors return will limit banks' attractiveness to investors at a time when Core Tier 1 capital (common equity) is highly needed by banks to meet capital requirements.

- Excessive pressure to meet Basel III deadlines and timelines are expected.

  Most banks will be keen to maintain a discretionary capital buffer above the regulatory minimum. Likewise, market expectation appears to be for a 9% or 10% common equity ratio, and for banks to reach that well before the 2019 deadline, exacerbating short- to medium-term capital raising pressures.

- Some national authorities have indicated they will require local institutions to hold capital above the 7 % minimum ratio too.
- Weaker banks will be crowded out
- Reduced lending capacity

- Change in demand from short term to long term funding

- International arbitrage arising from inconsistent implementation OF Basel III requirements.

- Basel III's NSFR will result in up to 50% shortfall in banks' long term funding needs.

Benefits of implementation of Basel III

- **More Capital**

The capital changes could be the most significant since the original Basel Accord was agreed to in 1988. The most vital change that Basel seeks is to force banks to hold more capital. By having a bigger cushion, banks won't be as vulnerable to losses hitting in times of economic turmoil.

- **Better Capital**

The definitions of these sorts of capital have also been tightened, to focus on higher quality assets. As already mentioned, far more of the highest quality capital -- common equity -- will be required.

- **Cushion if Bubble Bust**

Basel III contains provisions to combat the ups and downs of economic cycles – the counter cyclical buffer of 0% - 2.5%. This is good for two reasons. First, this will slow banks' lending during upswings in comparison to their capital, to guard against runaway lending. Second, if a bubble has been created, and it pops, there will be additional cushion to absorb the resulting losses. At the peak of economic cycles, banks will have a buffer of up to 9.5% of common equity -- the highest quality capital -- to fall back on.

- **Better Liquidity**

Basel III is the first time regulators would have a numerical standard for liquidity. The new rules require banks to have enough high quality liquid assets to cover cash outflows over a 30-day stress period.

- **Clear, smart and friendly implementation timelines**

A clear timeline for when and how these changes should be implemented. The process will be quite gradual, not in full effect until 2019.

The implementation will be done in a very smart way, providing benchmarks within the process to ensure that banks are on the way to full compliance, with some preliminary standards needing to be met starting in 2013. Although it's likely the market will push banks to implement the new standards faster than Basel III requires.

- **Reduction in frequency and intensity of bank crisis and reduced risk of a systemic crisis.**

Enhanced capital and liquidity buffers plus focus on risk management standards and capability should lead to reduced risk of bank failure and reduce interconnectivity between institutions.

- **Overall financial stability and economic growth for the world.**

Basel III is not a panacea, and will not single-handedly restore stability to the financial system and prevent future financial crisis. However, in combination with other measures, these regulations are likely to help produce a more stable financial system. In turn, greater financial stability will help produce steady economic growth, with less risk for crisis-fuelled recessions such as that experienced following the global financial crisis of 2008-2009.

5.6 Bank competitiveness and Basel III compliance

How does compliance with Basel III provisions impact on the competitiveness of an international bank?

With regards to core banking activities, requiring banks to hold greater capital buffers to absorb potential losses could lead to further tightening in the price (interest margin and higher collateral requirements) and availability of bank lending. The relatively easier and cheaper access of larger banks to capital and the impact of regulatory costs more generally, may result in smaller banks being acquired by larger banks or choosing to leave the market. This will raise significant issues about the impact of regulatory reform on competitiveness of international banks.

(i) Net Stable Funding Ratio (NSFR)

Designed to encourage and incentivise banks to use stable sources to fund their activities to reduce the dependency on short term wholesale funding.

Stronger international banks with a higher NSFR will be able to influence market pricing of assets. Weaker banks will see their competitiveness reduced, which will potentially decrease the level of competition.

(ii) Increased Quality of Capital

Basel III contains various measures aimed at improving the quality of capital, with the ultimate aim to improve loss-absorption capacity in both going concern and liquidation scenarios. These measures include;

(a) The predominant components of Tier 1 capital are common equity and retained earnings instead of debt-like instruments.

(b) The requirements for Tier 2 capital are now harmonised and simplified.

(c) Full deductions for capital components with little loss-absorption capacity such as minority interests, holdings in other financial institutions, DTAs.

(d) Phase out of hybrid Tier 1components including many of the step-up/innovative/SPV issued Tier 1 instruments used by banks over the past decade.

The implication of the above for competitiveness is that systemically important banks (and potentially all international banks) that comply with Basel III may be allowed to issue contingent convertibles to meet additional capital requirements. A further add-ons to pillar 2 risk is expected. Hence they may target a total capital ratio of 13 – 15%. All of which impacts positively on their competitive edge over the non compliant banks.

(iii) Change in demand from short term to long term funding

The introduction of two incentive liquidity ratios to address the short and long term nature of liquidity and funding will drive firms away from sourcing shorter term funding arrangements and more towards longer term funding arrangements with the two clear consequences;

(a) Impact on the pricing and margins that are achievable

(b) Increased competition to pull businesses based on capacity to lend long term.

Only Basel compliant, highly capitalised banks will survive the impending competition.

(iv) Significant pressure on profitability and ROE.

Basel III will no doubt impact on the profitability of internationally active banks especially in the short and medium terms. With increased capital requirements, increased cost of funding and the need to reorganise and deal with regulatory reform, margins and operating capacity will reduce and so will profitability.

This scenario translates to decrease in Investor returns at a time when banks need enhanced investment to rebuild and restore buffers.

Investment flight away from banks to more profitable sectors like ICT is expected and this will heighten competition for available investments. And only banks with the right quality and quantity of capital will excel as this will become a unique selling point to attract even more capital.

(v) Crowding- out syndrome.

This flows from (iv) above. In a rising tide there were many organisations that could stay along for the ride. Weaker banks will find it more difficult to raise capital and funding, leading to a reduction in different business models and potentially in competition.

The above scenario, coupled with other factors such as increased supervisory focus is likely to drive banks into reorganisations, M&A and disposal of portfolio, entities or parts of entities.

Highly Competitive banks will have upper hands in such negotiations and eventually emerge bigger and stronger.

5.7 Practical strategies and recommendations for implementation of Basel III.

Banks that wish to succeed in a post-Basel III environment should have started to consider the implications and implementation options available and compatible to their peculiar circumstance and business model. The Basel II experience has proved that early impact analyses, evaluation of strategic options and robust planning and preparation phase are all crucial to success.

Therefore, depending on the current position of a bank in its Basel III implementation plan, below are recommended action plans and strategic steps to be adopted. For clarity, the recommendations are itemised and linked to the three pillars in Basel III.

Pillar 1 – Capital management issues.

(i) Incentivise bank management to optimise use of capital.

(ii) Carry out adequate scenario planning and impact assessment to develop a successful capital strategy

(iii) Identify the businesses of the bank that have most attractive fundamentals under Basel III and those that you are considering exiting, growing or diverting.

(iv) Establish clear and quantified capital objectives.

(v) Map out plans to tackle the pricing implications arising from changes in capital requirements for certain products.

(vi) Review bank's business model to minimise capital penalties for instance branch versus subsidiary.

Pillar 1 – Liquidity management issues.

(i) Incentivise bank management to optimise use of liquidity.

(ii) Carry out a thorough examination of the bank's liquidity position and identify the points of stress.

(iii) Consider the impact of new liquidity rules on profitability and whether it has been factored into key business processes and pricing

(iv) Conduct appropriate liquidity stress tests.

(v) Assess the liquidity strategy in the light of the legal and regulatory structure of the bank and identify whether the systems, data and management reporting are adequate to meet requirements.

Pillar 1 - General capital issues.

(i) Ensure that businesses are charged accurately for the capital costs of the business that they are doing focusing the bank's business model on "capital light"

(ii) Consider ways of restructuring or selling non-core businesses such as insurance and other FIs.

(iii) Do not lose sight of Basel II implementation.

(iv) Ensure that new business are in line with Basel III capital implications.

Pillar 1 – Traded Markets issues – this includes structured and complex products, securitised products, synthetic CDOs and correlation credit derivatives, OTC derivatives, etc.

(i) Review the bank's key trading strategies and potential regulatory capital impact on them under Basel III. Especially Basel III impact on securitised products and

exotic derivative businesses.[23]

(ii) Develop new cost structuring options to minimise Basel III impact

(iii) Review and update the bank's risk management function to fall in line with industry best practice.

(iv) Design and/or update risk models to comply with Basel III standards.

(v) Review bank's IT infrastructure to determine compatibility with the new model and data standards.

(vi) Improve bank's collateral management and Netting to offset rising cost of regulatory capital.

Pillar 1 – Systemic risk issues

(i) Identify and understand the systemically important (SIFI) aspects of the business and its effects. Note that being designated SIFI imposes greater costs in terms of increased capital etc but also brings benefits in terms of lower funding cost because of the perception of having been identified as systemically important

(ii) Carry out a business and/or management reorganisation to facilitate the identification status (if necessary).

Pillar 2 – Supervisory issues

(i) Obtain a full understanding and implications of the changes in supervisory approach.

(ii) Appoint a Regulatory Relation Manager.

(iii) Strengthen the bank's management information system to be able to handle the

[23] Williams G, Low J, Toppings S, "Evolving Banking Regulation – A marathon or a spirit? (KPMG, Nov. 2010)

new national and international supervisory agenda – especially Europe.[24]

(iv) Upscale the compliance function.

(v) Develop a compliance manual and keep abreast of the new supervisory requirements.

Pillar 3 – Corporate Governance issues

(i) Review the bank's governance structure including the roles and responsibilities and positions of the Board of Directors, senior management, non-executive Directors, etc.

(ii) Strengthen the Audit committee and the Risk committee to meet international best practice on the independence of these functions.

(iii) Ensure that the BOD receive sufficient detailed information needed for its oversight role.

All Pillars – Customer relationship issues

(i) Review existing and prospective regulatory requirements on the design, marketing, selling and advisory on investment and basic banking products

(ii) Study and understand the impact of these regulatory requirements on bank's business model, products and services.

(iii) Develop adequate systems, data and reporting to meet these requirements

(iv) Pay closer attention to all customer issues

(v) Develop a scheme to measure the relationship between the bank's coverage level of deposit protection scheme and its funding cost/availability.

[24] KPMG Financial Services "Basel 3 pressure is building" (KPMG, Dec. 2010)

6. Conclusion

Despite the long transition period that Basel III capital accord provides - January 2019 deadline - compliance with new processes and reporting must be largely complete before the end of 2012.

Presently, most international banks are still implementing Basel II and Basel 2.5 alongside Basel III with its implementation cost for an average midsize international bank estimated to add about 30% to 50% to the significant outlay already incurred for Basel II.

Implementing the new rules will require three distinct initiatives namely;

(i) strategic planning for the Basel III world,

(ii) capital and risk strategy, and

(iii) implementation management.

Lending capacity is expected to tank with full implementation as a result of the higher capital requirements.

Profitability will tank affecting returns on equity (ROE) and returns on investment (ROI). Hence most internationally active banks are already seeking to manage ROE in the new environment by cutting costs (employee retrenchment is currently on the increase in UK City's big banks) and adjusting prices.

Business remodelling and portfolio strategy reviews have commenced and businesses that have become unattractive on a returns basis are being re-priced and even exited in some cases. Of particular note are businesses in the trading book which will see significant increases in RWAs and therefore capital.

There are, however, a number of additional interventions, both general and specific to Basel III, that these banks should consider:

(i) A set of “no regret” interventions to reduce capital and liquidity inefficiency from suboptimal implementation of the new rules;

(ii) Balance-sheet restructuring to improve the quality of capital and reduce capital needs arising from Basel III’s deductions, as well as more effective management of scarce balance-sheet resources;

These two interventions could mitigate up to 40% of Basel III’s ROE impact, with significant variations for individual banks, depending on their starting position and competitive market dynamics.

Invariably, the cost of communication, dialogue and reporting to the regulators will jump up with increases in disclosures requirements, number of reporting lines, frequency of reporting and size, nature and volume of data required.

Emerging Markets banks may have difficulties in implementation and if necessary, the timeline for implementation may be adjusted for these markets.

Regardless of the cost associated with its implementation (including impact on profitability), internationally active banks recognise that full compliance with Basel III is imperative to their ability to compete for businesses as customers, investors and even shareholders will demand compliance as safeguard for their deposits and investments. The very existence of these banks may depend on it come 2019.

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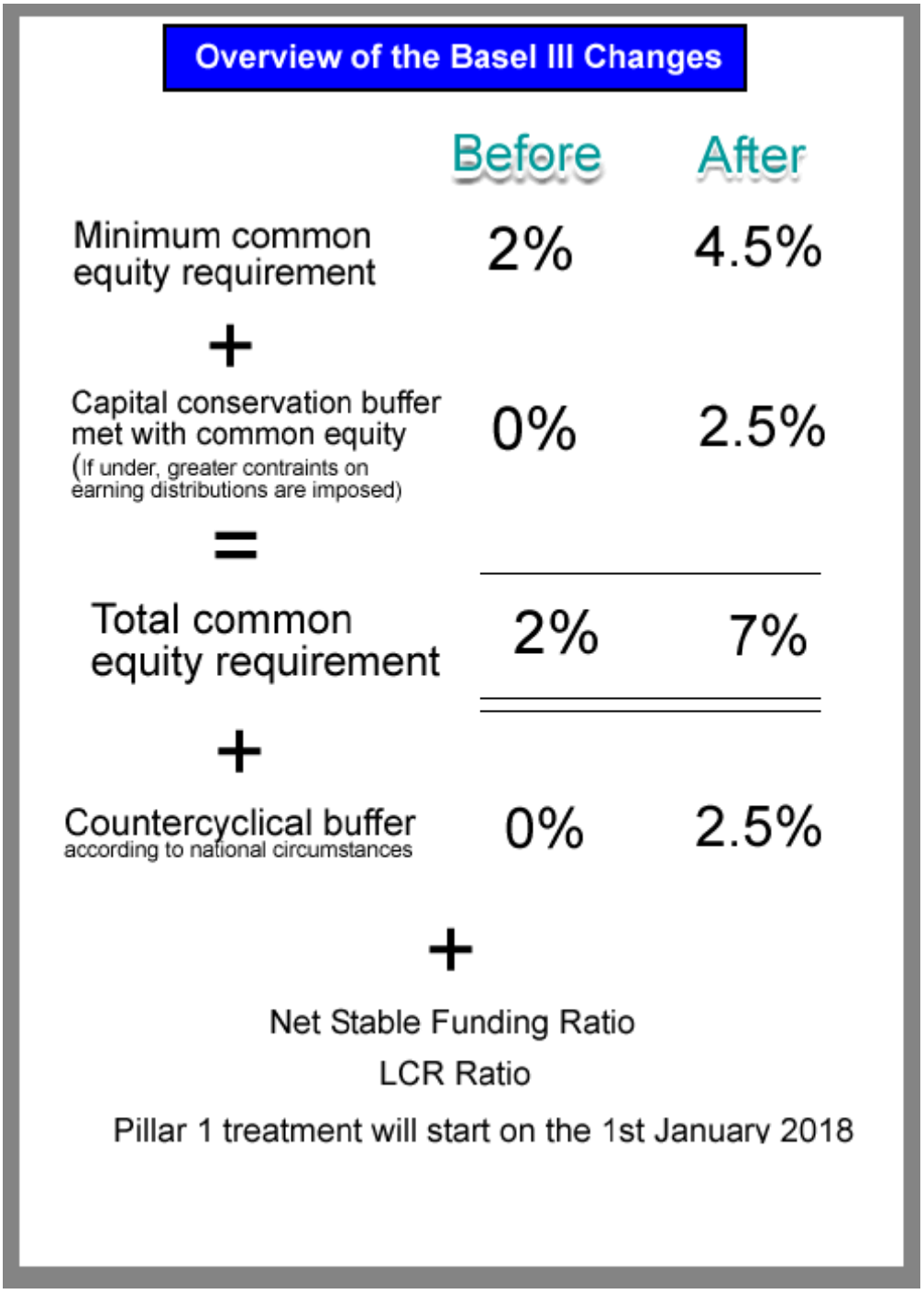
Appendix 1: Definitions of Terms

Term	Definition
Bank For International Settlements – BIS	An international organization fostering the cooperation of central banks and international monetary policy makers. Established in 1930, it is the oldest international financial organization, and was created to administer the transaction of monies according to the Treaty of Versailles. Among others, its main goals are to promote information sharing and to be a key centre for economic research. Essentially, the BIS is a central bank for central banks; it does not provide financial services to individuals or corporations. The BIS is located in Basel, Switzerland, and has representative offices in Mexico City and Hong Kong. Member banks include the Bank of Canada, the Federal Reserve Bank and the European Central Bank.
Basel Committee on Banking Supervision (BCBS).	One of the committees of BIS responsible for supervision and formulation of regulations in the banking sector. The committee consists of senior representatives of bank supervisory authorities and central banks from Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. It usually meets at the Bank for International Settlements (BIS) in Basel, Switzerland, where its permanent Secretariat is located.
Capital	The buffer storage of cash and safe assets that banks hold and to which they need access in order to protect creditors in case of unexpected losses or the bank's assets are liquidated. The bank's capital/asset ratio is a measure of its financial health. Bank regulators require this to be above a prescribed minimum level. It is the funds – traditionally a mix of equity and debt – that banks have to hold in reserve to support their business.

Capital Requirement	Also known as "regulatory capital". The standardized requirements in place for banks (and other depository institutions), which determines how much liquidity is required to be held for a certain level of assets. These requirements are put into place to ensure that these institutions are not participating or holding investments that increase the risk of default and that they have enough capital to sustain operating losses while still honouring withdrawals. The capital requirement for banks is based on several factors, but is mainly focused on the weighted risk associated with each type of asset held by the bank.
Tier 1 Capital	A term used to describe the capital adequacy of a bank. Tier I capital is core capital, this includes equity capital and disclosed reserves. Equity capital includes instruments that can't be redeemed at the option of the holder. Tier one capital is the best form of bank capital - the money that the bank has in its coffers to support all the risks it takes: lending, trading and so on.
Core Tier 1 Capital	This is a subset of tier one capital comprising the best of the best. It essentially will consists of only equity and retained profits.
Excess Reserves	Capital reserves held by a bank or financial institution in excess of what is required by regulators, creditors or internal controls. Banks that carry excess reserves have an extra measure of safety in the event of sudden loan losses or cash withdrawals by customers. This may increase the attractiveness of the company that holds excess reserves to investors, especially in times of economic uncertainty. Boosting the level of excess reserves can also improve an entity's credit rating, as measured by ratings agencies like Standard & Poor's.

Capital Adequacy Ratio (CAR)	A measure of a bank's capital. It is expressed as a percentage of a bank's risk weighted **credit** exposures. $$CAR = \frac{\text{Tier One Capital} + \text{Tier Two Capital}}{\text{Risk Weighted Assets}}$$ Also known as "Capital to Risk Weighted Assets Ratio (CRAR)." This ratio is used to protect depositors and promote the stability and efficiency of financial **s**ystems around the world.
Risk Weighted Assets (RWA)	Different assets on a bank's balance sheet carry different risks. Risk weighting awards a higher risk weight to a higher risk. Non-risky items such as cash, gold and gilts have 0% risk weighting. Riskier items carry a higher risk. For instance certain mortgages are weighted at 50% whilst lending to companies is 100% under Basel I rules. The bank will take into account the risk weighting of the loan when setting the interest rate (usually known as the margin).
Leverage Ratio	Leverage defines the degree to which assets are funded by debt, which in itself have numerous advantages and disadvantages.
Net Stable Funding Ratio (NSFR)	The ratio between available stable funding and required stable funding of a bank, and its objective is to ensure, for a period of one year and assuming a stress scenario, that banks maintain a sound funding structure. The NSFR compares available funding sources with funding needs resulting from the assets on the balance sheet. Available Stable Funding > Required Stable Funding. NSFR incentivises banks to reduce their reliance on short-term wholesale funding and increase stability of the funding mix.
Available Stable Funding	A bank's stock of regulatory capital (both Tier 1 and Tier 2), after deductions, together with certain additional assets subject to haircuts.
Required Stable Funding	The sum of (i) assets held by bank and off-balance sheet commitments of the bank (ii) multiplied by the relevant required stable funding factor (RSF).

Appendix 2: Overview of Basel III Changes.[25]



Appendix 2: Summary of Basel III changes

[25] http://www.base-ii-risk.com/wp-contentuploads/2010/09/BaselIII overview1.gif