

## EXAMINATION OF THE EFFECTIVENESS OF MICRO AND MACRO PRUDENTIAL POLICIES IN ACHIEVING BANK STABILITY WITH SPECIAL FOCUS ON BASEL III

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### ABSTRACT

*This article examines the effectiveness of micro and macro prudential policies in achieving bank stability. While microprudential policies focus on individual banks, macroprudential policies focus on the whole financial sector. The question now becomes whether each of the policies, that is micro and macro prudential policies, is enough to achieve system wide stability or must they complement one another to be more effective? Also, the fact that macroprudential policies may stabilise the economy when there is system wide credit growth, but ineffective when a boom is not associated with system wide credit growth makes this article to argue that monetary and fiscal policies must supplement micro and macro prudential policies in order to be more effective in achieving system wide economic stability. Basel III adopts the policy tools mentioned above through such micro and macro prudential tools as bail-in-debts, systemic capital surcharge, leverage and liquidity ratio, contingent capital, countercyclical buffer and conservative buffer. However, its ability to achieve stability in developing countries is in doubt. This is due to the fact that the size of banks in developing countries does not qualify them as internationally active and also, there are governance and institutional problems militating against the effective implementation of Basel capital standards. This article argues that for the implementation of Basel III capital standards to be effective in developing countries, factors inherent in them must be taken into consideration. This implies that a 'one-size-fits-all' type of bank regulation may not achieve bank stability.*

### INTRODUCTION

The failure of Basel II to prevent the recent global financial crisis has led to doubts on the ability of microprudential policies to achieve stability in the financial sector.<sup>1</sup> This is due to the fact that capital requirements, which are the main emphasis of Basel II,<sup>2</sup> only achieve stability in individual banks but not in the whole financial sector. This led to the suggestion that regulation should focus on macroprudential policies. The rationale for this is that macroprudential policies focus on the stability and soundness of the whole banking sector as against the stability of individual banks. In other words, stability and soundness of the whole banking sector have more capability of preventing systemic crises than the stability and soundness of individual banks. However, the dichotomy between micro and macro prudential policies has led to questions from scholars and financial experts as to whether macroprudential policies alone can achieve stability in the whole banking sector.<sup>3</sup> The answer to this question seems to be in the negative as is demonstrated in this article and it is suggested that microprudential policies should complement macroprudential policies in order to achieve system wide stability.

Also, this article contends that monetary and fiscal policies need to supplement microprudential and macroprudential policies in order to achieve system wide stability in the economy. For instance, central banks may increase interest rate which is a monetary policy tool to reduce aggregate demand and stabilise the economy during economic expansion. It can also reduce interest rate to increase aggregate demand in order to stabilise the economy during recession. In the same vein, governments may adjust taxation and spending, which are fiscal policies to stabilise the economic cycle. The ability of monetary and fiscal policies to assist macroprudential and microprudential tools to achieve stability in the economy brings to light the contention that relying on either of these tools at the expense of others may not achieve system wide stability. This also brings to light the significance of the roles central banks and

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1. World Finance 'World Finance on Basel III' (2013) 1-7 at 3 <[www.basel-iii.worldfinance.com/](http://www.basel-iii.worldfinance.com/)> Accessed on 15 March 2015  
2. Basel II is a minimum set of capital that each bank in developed countries should hold based on the riskiness of its assets. Basel II has three pillars. Pillar 1 is the minimum regulatory capital and includes credit risk, market risk and operational risk. Pillar 2 is supervisory review which enables regulators to identify risk factors not captured in pillar 1. Pillar 3 is market discipline which helps to enhance transparency in the financial sector. It is worth noting that the focus of this article is basically pillar 1  
3. This issue is explored in the next section of this article



national governments need to play in order to enable bank stability. Furthermore, allowing central bank to complement microprudential and macroprudential policies with monetary and fiscal policies may proffer a solution to the issue of home country versus host country supervision controversy. In this instance, central banks will be able to regulate the activities of banks registered within their jurisdictions and also banks whose subsidiaries are within their jurisdiction through monetary and fiscal policies. Regulating the activities of both parent financial institutions and their subsidiaries will ensure that failure from said parent do not contaminate the subsidiaries or the whole banking sector as a result of interconnectedness.

The extent to which macroprudential policies may achieve stability in the whole banking sector seems to have influenced the provisions of Basel III. Basel III came into existence with the intention to ameliorate the deficiencies of Basel I and II by introducing novel provisions that may ensure the soundness of individual banks and the stability of the banking sector as a whole. It introduced such measures as bail-in-debts, systemic capital surcharge, leverage and liquidity ratios to mitigate the negative effects of the activities of Systemic Important Financial Institutions (hereinafter SIFI) by requiring them to put aside buffers that correlate with the risks they pose to the economy. This article seeks to answer one fundamental question: to what extent can microprudential policies assist macroprudential policies to achieve system wide stability?

In order to analyse these issues, the article is structured into five sections. Section two examines the relationship between monetary and fiscal policies, macroprudential and microprudential policies. The section also explores the extent to which fiscal and monetary policies may assist macroprudential and microprudential policies to achieve bank stability. The second section is sub-divided into four. The first subsection is an analysis of some of the novel provisions of Basel III. The subsection examines how Basel III's macroprudential and microprudential tools may prevent accumulation of system wide risk that may compromise the stability of the whole financial sector. The second subsection focuses on contingent capital which is another novel provision of Basel III. The subsection explores the extent to which contingent capital can prevent or curtail the spiral nature of banking crises. The third subsection explores leverage ratio, another novel provision of Basel III, in order to show how it may prevent the build-up of systemic risks from supposedly riskless transactions, like securitization and Over the Counter (OTC) derivatives.<sup>4</sup> Analysis on liquidity ratio is the fourth subsection.<sup>5</sup> The aim here is to examine the measures that have been put in place by Basel III to address short term and long term liquidity problems in the banking sector and the effect they may have on bank stability. The third section examines the likely effect of Basel III on developing countries. In this section, the focus is on the effect Basel III may have on trade finance, lending and GDP, which may negatively affect bank stability in developing economies. The last section concludes the article.

## THE RELATIONSHIP BETWEEN MONETARY AND FISCAL POLICIES, MACRO AND MICRO PRUDENTIAL POLICIES

Macroprudential policy is defined as “policy that uses primarily prudential tools to limit systemic or system-wide financial risk”.<sup>6</sup> The major distinction between macroprudential policy and microprudential policy is that while the former focuses on the soundness of the whole financial system, the latter focuses on the soundness of individual banks.<sup>7</sup> The systemic nature of banking crises and the crippling effects it has on the economy demand that urgent solution be taken. It is argued that “financial

4. The focus on leverage ratio is necessary due to the role securitizations and OTC derivatives played in the recent global financial crisis and the fact that banks did not have capital commensurate with the exposures to these financial instruments
5. Illiquidity played a significant role in the recent global financial crisis
6. Financial Stability Board, International Monetary Fund, and Bank for International Settlements, 'Macroprudential Policy Tools and Frameworks' (2011) 1-13 at 2 <[http://www.financialstabilityboard.org/publications/r\\_1103.pdf](http://www.financialstabilityboard.org/publications/r_1103.pdf)> Accessed 20 June 2011
7. Keating Con and Marshall Barry 'Macro-Prudential Liquidity-Based Regulation' (2010) 1-7 at 1 <[http://www.effas-ebc.org/fileadmin/presentations/Zurich\\_Oct\\_2010/prospectus/Macro-Prudential\\_Liquidity-Based\\_Regulation\\_\\_\\_Con\\_Keating\\_and\\_Barry\\_Marshall.pdf](http://www.effas-ebc.org/fileadmin/presentations/Zurich_Oct_2010/prospectus/Macro-Prudential_Liquidity-Based_Regulation___Con_Keating_and_Barry_Marshall.pdf)> Accessed 24 March 2011



stability is ...what is missing when systemic risk manifests itself and results in financial instability”<sup>8</sup>. The spiral nature of banking crises demands that regulation should not only aim at enhancing the soundness of individual banks (that is, microprudential) but the banking system as a whole (that is, macroprudential). It is said that regulation in this instance can be extended to “vital parts of financial” institutions that may be systemic in order to achieve a better result.<sup>9</sup> This means that a new type of regulation that will take into consideration the boom and bust circle in the banking sector should be introduced.<sup>10</sup> The rationale for change within the regulatory approach is that too much emphasis is placed on microprudential policies by Basel I and II which have been ineffective in achieving bank stability.<sup>11</sup>

The need for macroprudential policies is therefore in recognition of the fact that “what is rational for an individual (bank) could result to undesirable aggregate outcomes”.<sup>12</sup> Failure of one bank has two externalities which are reductions in the supply of fund to the economy (negative externality) and the movements of depositors from weak banks to sound ones (positive externality).<sup>13</sup> Negative externality may cause small and medium enterprises (hereinafter SMEs) not to have access to the requisite funds they need to remain viable and this may then lead to bank failures having spiral effects on the whole economy. Nevertheless, positive externality may be compensation to prudent banks and this may translate to the availability of sufficient deposits for onward lending to maximise profits. A bank that is facing imminent failure has two options. It may either shrink its asset holdings to be able to fulfil its capital requirements or raise new equity to boost its depleting capital base.<sup>14</sup> In a situation like this, sound banks exposed to the same assets as the failing bank may react to the failing bank's sale of assets by engaging in a panic sale of their own assets (that is, engage in fire sales).<sup>15</sup> The actions of the sound banks in this instance may lead to a fall in the value of the assets sold which may end up causing more illiquidity in the economy. However, it is contended that externalities depend on the “aggregate shortfall of capital in the financial sector”.<sup>16</sup> As such, externalities as a result of bank failure depend on whether the failed bank is well capitalised or not.<sup>17</sup> In other words, sound banks will not fail even if they engage in fire sales since they have sufficient buffer to withstand shocks from negative externalities. For example, the systemic nature of the recent global financial crisis is an indication that banks did not have sufficient capital to withstand negative externalities.<sup>18</sup> In other words, all of the banks in the economy had problem caused by inadequate macroprudential tools that would have taken systemic risks into consideration in the regulation of banks.<sup>19</sup> Following from this, the question is: to what extent will macroprudential policies address the systemic nature of banking crises?

The essence of macroprudential policies is to “identify those endogenous processes that turn

8. Gray Joanna 'What is Systemic Risk and what can be done about it? A Legal Perspective' (2011) Robert Schuman Centre for Advanced Studies Global Governance Programme, EUI Working Paper RSCAS 2011/55', 1-12 at 2 <[http://cadmus.eui.eu/bitstream/handle/1814/19016/RSCAS\\_2011\\_55.pdf?sequence=1](http://cadmus.eui.eu/bitstream/handle/1814/19016/RSCAS_2011_55.pdf?sequence=1)> Accessed 01 July 2013
9. Rochet Jean-Charles 'Systemic Risk: Changing the Regulatory Perspective' (2010) 6 (4) *International Journal of Central Banking*, 259-276
10. This is the essence of Basel III as will be seen in the subsequent sections of the article
11. World Finance (n 1)
12. Siregar Reza and Vincent C. S. Lim, 'Living with Macro-financial Linkages: Policy Perspectives and Challenges for SEACEN Countries' (2011) 1-43 at 12 <[http://www.seacen.org/GUI/pdf/publications/staff\\_paper/2011/SP79.pdf](http://www.seacen.org/GUI/pdf/publications/staff_paper/2011/SP79.pdf)> Accessed 10 February 2011
13. It is also argued that sound banks benefit by purchasing failed banks from the central banks. See, Acharya Viral, 'A theory of systemic risk and design of prudential bank regulation' (2009) 5 (3) *Journal of Financial Stability*, 224-255
14. Kashyap Anil, Rajan Raghuram and Stein, Jeremy 'Rethinking Capital Regulation' (2008) 431-471 <<http://www.kc.frb.org/publicat/sympos/2008/KashyapRajanStein.03.12.09.pdf>> Accessed 24 March 2011. It should be noted that raising new equity at this point is very hard because the failing bank may also have a confidence problem. That is, the public may not have confidence in its ability to remain a going concern and also in the ability of its managers
15. *ibid* 441
16. Acharya Viral et al 'Measuring Systemic Risk' (2010) 1-54 <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1595075](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1595075)> Accessed 21 October 2011
17. It is argued that the failure of well capitalised banks does not impose any externality to the economy. *ibid* 12
18. Scott S. Hal, 'Reducing Systemic Risk through the Reform of Capital Regulation' (2010) 13 (3) *Journal of International Economic Law*, 763-774
19. Garicano Luis and Lastra M. Rosa 'Towards a new Architecture for Financial Stability: Seven Principles' (2010) 13 (3) *Journal of International Economic Law*, 597-613



heterogeneity into homogeneity and make the financial system more fragile”.<sup>20</sup> Macroprudential policies see risk as “endogenous” from the collective behaviour of the whole financial system and not exogenous from the behaviour of individual institutions.<sup>21</sup> Therefore, macroprudential policies help in the earlier identification of banks that may be susceptible to distress and encourage financial institutions to conduct stress tests that will help notify regulators on what stage they are in the financial cycle.<sup>22</sup> In this instance, stress testing alerts banks on the consequences of identified risks while at the same time guides them on the requisite capital they need to set aside to limit the effects of the risks that may materialise in the banking sector.<sup>23</sup> Apart from seeing risk as exogenous from the behaviour of individual banks, microprudential policies neglect the systemic effects common behaviour of banks may have on the economy.<sup>24</sup> The neglect of the common behaviour of banks led to criticism of what has been described as “sub optimality of myopic capital adequacy” that takes into consideration individual bank risks and led to suggestions for optimal capital adequacy that will take into consideration the collective risks of banks especially “their correlation”.<sup>25</sup> “Correlation-based capital adequacy” in this instance will enable banks to report not only “their value-at-risk numbers but also their portfolio compositions”.<sup>26</sup>

It is said that any regulation that focuses mainly on capital requirement will not be sufficient to address systemic risk.<sup>27</sup> Instead, it leads to externalities such as high risk-taking and the reluctance of banks to lend as a result of capital adequacy standards which make it difficult for SMEs to secure cheap loans. It is therefore said that macroprudential policies, like countercyclical capital charges, “would reduce the decline in measured risk during booms and its rise in crashes”.<sup>28</sup> This will be achieved by accumulating cushions in good times for subsequent use when there are economic problems.<sup>29</sup> In that regard, some writers opined that countercyclical capital requirement be imposed on Systemic Important Financial Institutions (hereinafter, SIFIs) against their contributions to systemic risk.<sup>30</sup> The imposition of countercyclical capital requirements on SIFIs is the effect of the role they played in the recent global financial crisis through exposures to innovative instruments like derivatives and securitisation. Thus, it is contended by this writer that countercyclical capital requirements are a direct setback to SIFIs as their capital requirements will increase when gains from the growth of these innovative instruments is associated with credit growth. Achieving this will be contrary to the low risk profiles attached to these innovative instruments that give SIFIs the incentive to maintain lower buffers to cover exposures to innovative instruments.

The ability of macroprudential policies to achieve bank stability has been accepted with scepticism. This is due to doubt on their ability to stabilise the whole banking sector without the assistance of

20. The Warwick Commission, 'The Warwick Commission on International Financial Reform: In Praise of Uneven Playing Fields' (2009) 1-65 <[http://www2.warwick.ac.uk/research/warwickcommission/report/uw\\_warcomm\\_intfinreform\\_09.pdf](http://www2.warwick.ac.uk/research/warwickcommission/report/uw_warcomm_intfinreform_09.pdf)> Accessed 06 April 2011
21. Davis Philip E. and Karim Dilruba 'Macroprudential Regulation - The Missing Policy Pillar' (2010) 211 (1) National Institute Economic Review, 67-80
22. *ibid* 73. Also see Financial Stability Board, International Monetary Fund, and Bank for International Settlements (n 6)
23. Bank for International Settlements 'Principles for sound stress testing practices and supervision' (2009) 7-24 <<http://www.bis.org/publ/bcbs147.pdf>> Accessed 09 June 2011
24. The Warwick Commission (n 20)
25. Acharya (n 13)
26. It is said that this approach will supply requisite information to regulators to ascertain the 'collective risk capital charge of each bank, in addition to individual risk contributions' *ibid* 248
27. Peters Roeland 'Quantifying Systemic Importance: An extreme value approach' (2011) 4-44 <<http://arno.unimaas.nl/show.cgi?fid=21041>> Accessed 23 February 2011
28. Goyal Ashima "Regulatory Structure for Financial Stability and Development" (2010) XLV (39) *Economic & Political Weekly*, 51-61. This point is examined under the analysis of Basel III
29. Clement Piet 'The term "macroprudential": origins and evolution' (2010) 59-67 <[http://www.bis.org/publ/qtrpdf/r\\_qt1003h.pdf](http://www.bis.org/publ/qtrpdf/r_qt1003h.pdf)> Accessed 24 March 2011 & Wyplosz Charles 'The ICMB-CEPR Geneva Report: The Future of Financial Regulation' (2009) 1-5 <<http://www.voxeu.org/index.php?q=node/2872>> Accessed 24 March 2011
30. Aglietta Michel and Scialom Laurence 'A systemic approach to financial regulation - European perspective' (2009) 1-33 <[http://europeansforfinancialreform.org/en/system/files/0906\\_FEPS\\_Aglietta.pdf](http://europeansforfinancialreform.org/en/system/files/0906_FEPS_Aglietta.pdf)> Accessed 24 March 2011





microprudential policies and other economic policies.<sup>31</sup> It is also contended that overreliance on macroprudential policies neglect the ability of capital adequacy, a microprudential policy, to impose market discipline on banks.<sup>32</sup> On the other hand, macroprudential policies may be helpful when a bubble is preceded by extensive credit growth in the economy.<sup>33</sup> However, they may be ineffective when a bubble is not preceded by any credit growth.<sup>34</sup> Despite these scepticisms, the ability of macroprudential policy to achieve stability in the whole economy is not questionable.<sup>35</sup> The issue is whether it can be effective in achieving stability in all circumstances. As it has been demonstrated in this article, macroprudential tools will not achieve efficacy in all circumstances.<sup>36</sup> To this extent, monetary and fiscal policies can complement these tools to enhance the stability in the banking sector. Analyses of these policies are necessary since banks are made for the benefits of the economy and as such cannot function in isolation of the environment within which they are situated.

Accordingly, it is said that to “safeguard macroeconomic stability, there is no substitute for sound monetary and fiscal policies”.<sup>37</sup> Monetary policy is defined as:

'The attempt by government or a central bank to manipulate the money supply, the supply of credit, interest rates or any other monetary variables, to achieve the fulfilment of policy goals such as price stability'.<sup>38</sup>

This is based on the finding that although macroprudential policies strengthen banks' resilience against burst, their ability to restrain boom “varies across instruments and financial structures”.<sup>39</sup> The need for monetary and fiscal policies to complement macroprudential policies in order to achieve system wide stability may be in recognition of the role of national authorities in the stabilisation of the economy. For example, providing macroprudential rules at the Basel level may make little or no impact on the economy without taking into consideration the values, laws and politics of the country in question. For instance, higher capital standards (a microprudential policy) give banks the incentives to tighten lending and decrease credit supply to the economy in order to meet higher buffer requirements.<sup>40</sup> In a situation like this, relying on such macroprudential policies as countercyclical buffers and leverage ratio may be either insufficient or unable to mitigate the depleting effects illiquidity may have on a country's GDP. Taking factors inherent in a country into consideration will enable the relevant authorities to fashion out the monetary policies that will mitigate the negative effects of macroprudential policies or complement them to stabilise the country's economy.<sup>41</sup>

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31. Seabrooke Leonard 'Warwick Commission Highlights the Local and Political Dimensions of Global Financial Reform' (2010) 1-5 <<http://www.qfinance.com/contentFiles/QF01/gezqixyt/17/0/warwick-commission-highlights-the-local-and-politicaldimensions-of-global-financial-reform.pdf>> Accessed 24 March 2011
  32. This view is based on the fact that a bank facing capital constraint may be forced to “shrink” because of the difficulty of raising new capital. This puts the failing bank out of business and also results in the loss of lucrative job of the managers. The argument here is that bank managers will make sure their banks have sufficient capital to remain a going concern and also to retain their lucrative positions. See Kashyap et al (n 14) 445 & The World Bank 'Macro-Prudential Regulation: Fixing Fundamental Market (and Regulatory) Failures' (2009) 1-7 <<http://rru.worldbank.org/documents/CrisisResponse/Note6.pdf>> Accessed 24 March 2011
  33. Nier W. Erland 'Macroprudential Policy - Taxonomy and Challenges' (2011) 216 (1) *National Institute Economic Review*, 1-15
  34. *ibid*
  35. Loechel Horst, Packham Natalie, and Li Helena Xiang 'International Banking Regulation and Supervision after the Crisis: Implication for China' (2010) 1-37 <[www.frankfurt-school.de/content/de/gcbf/research/content\\_files/BMT013InternBankingRegulation.pdf](http://www.frankfurt-school.de/content/de/gcbf/research/content_files/BMT013InternBankingRegulation.pdf)> Accessed 10 February 2011
  36. See the explanation of the monetary policies of the Bank of England in Figure 1 below
  37. Caruana Jaime 'Monetary Policy in a World with Macroprudential Policy' (2011) 1-3 <<http://www.bis.org/speeches/sp110610.htm>> Accessed 07 July 2011
  38. Anderton Alain *Economics* (5th edn, 2010, Causeway Press) 249
  39. *ibid*
  40. Basel Committee on Banking Supervision 'Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements' (2010) 1-64 <<http://www.bis.org/publ/othp10.pdf>> Accessed 07 July 2011
  41. *ibid* 22

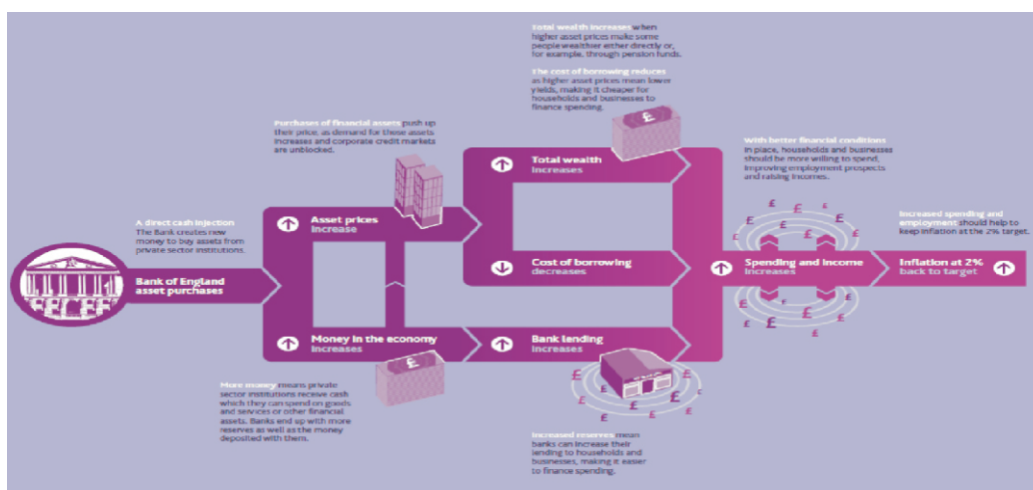


Also, central banks increase or decrease interest rates depending on the state of the economy and the economic objectives they want to achieve.<sup>42</sup> To this extent, it is therefore contended that:

'In a boom, tighter monetary policy (increase in interest rates) will reduce aggregate demand and thus lower the increase in short run output. In a recession, looser monetary policy (lower interest rates) may increase equilibrium output'.<sup>43</sup>

In other words, if strict capital standards lead to a decrease in lending, price level and real income and a high rate of unemployment, central banks may lower interest rates in order to stabilise the economy.<sup>44</sup> An instance of this is the promise by the US Federal Reserve to keep interest rate at zero until 2013 due to the fear that the economy was moving towards a double-dip recession.<sup>45</sup> England has inflation rate target of 2% and as such if inflation is above this target, the Bank of England responds by increasing interest rate in order to slow spending in the economy.<sup>46</sup> However, when inflation falls below the target, the Bank of England may decide to lower interest rate or inject money in the economy by buying assets from banks, insurance companies, and pension funds and "credit the (assets) seller's bank account".<sup>47</sup> This leads to more money in the economy to spend, and invest in shares and company bonds which will subsequently increase the prices of the assets and enrich their owners.<sup>48</sup> Nigeria adopted tight monetary policy by raising Cash Reserve Ratio (hereinafter, CRR) from 8% to 12% and lowering Net Open Position (hereinafter, NOP) from 3% to 1% in July, 2012.<sup>49</sup> Furthermore, "higher asset prices mean lower yields, which bring down the cost of borrowing for business and households".<sup>50</sup> Arguably, in this instance, monetary policy, through lowering of interest rates or injection of money to the economy soften the crippling effects strict capital standards have on lending and the wider economy. This point is succinctly illustrated by the Figure 1 below using the monetary policy of the Bank of England.

**Figure : How monetary policy can be used to ease the crippling effects of higher capital standards**



Source: Bank of England, <<http://www.bankofengland.co.uk/monetarypolicy/pdf/qe-pamphlet.pdf>> Accessed 26 July 2011

42. The Federal Reserve Bank of San Francisco 'What is the different between fiscal and monetary policy?', (2002) 1-3 <<http://www.frbsf.org/education/activities/drecon/2002/0203.html>> Accessed 13 July 2011
43. Anderton Alain (n 38) 248
44. Taylor B. John 'Discretion Versus Policy Rules in Practice' (1993) 39 *Carnegie-Rochester Conference Series on Public Policy*, 195-214
45. Foley Stephen et al 'America raises Recession Alarm as London escapes early freefall' *Independent* (2011) 1-2
46. Bank of England 'Quantitative Easing Explained: Putting More Money into our Economy to Boost Spending' (2010) 1-13 <<http://www.bankofengland.co.uk/monetarypolicy/pdf/qe-pamphlet.pdf>> Accessed 26 July 2011
47. *ibid* 7
48. *ibid* 9
49. The essence of the tight monetary policy is to contain the inflationary pressure on the Nigerian economy. See Central Bank of Nigeria 'Monetary Policy Review' (2013) 1-89 <[www.cenbank.org/Out/2014/MPD February2013.pdf](http://www.cenbank.org/Out/2014/MPD%20February2013.pdf)> Accessed 16 March 2015
50. Bank of England (n 46) 9



In the same vein, relying on monetary policy alone may not be sufficient to address the crippling effects of strict capital standards. Fiscal policy can be used as an instrument to complement monetary policy in order to achieve stability in the economy. Fiscal policy can be defined as government's decision on spending, taxes and borrowing.<sup>51</sup> For instance, during economic expansion, the government can increase taxation, cut spending and adopt “tightening” fiscal policy in order to stabilize the economy.<sup>52</sup> On the other hand, government can increase spending and cut tax in order to stabilize the economy after a depression.<sup>53</sup> However, it should be noted that fiscal policy and monetary policy do not always follow the same direction. For instance, as at the 2<sup>nd</sup> of August 2011, UK operates strict fiscal policy and loose monetary policy in order to reduce the high government debt.<sup>54</sup> This demonstrates the need for both policies to complement each other in order to achieve a more holistic result in the economy.

To achieve bank stability, it is argued that setting buffers for internationally active banks should be shared between home and host countries.<sup>55</sup> In this instance, countercyclical buffers should be implemented by host countries since cycles differ across countries.<sup>56</sup> Home countries on the other hand are required to mandate the banks they supervise to calculate their buffers based on the geographic location of their exposures.<sup>57</sup> This is in recognition of the fact that countries have different factors that account for differences in exposures.<sup>58</sup> Arguably, the role of host countries falls squarely on their central banks to ensure the implementation of macroprudential rules in order to limit systemic risk.<sup>59</sup> Central banks are required to impose “haircuts” as a macroprudential tool on the activities of banks based on the riskiness of those activities.<sup>60</sup> To this end, it is said that macroprudential surveillance may help alert central banks of imminent financial instability.<sup>61</sup> The countercyclical buffer requirements implemented by each of the jurisdictions will guide regulatory authorities of each jurisdiction in the setting of their monetary and fiscal policies.<sup>62</sup> Moreover, buffer capital is meant to absorb losses “when excess credit growth is associated with an increase in system-wide risk” and not to regulate the business cycle which is the prerogative of the fiscal and monetary policies.<sup>63</sup> The Basel Committee on Banking Supervision (BCBS) argues that the discretion given to each regulatory authority is due to the common reference guide of “aggregate private sector credit-to-GDP gap” provided by Basel III.<sup>64</sup> This discretion does not work in the same manner in all jurisdictions at all times and this gives every jurisdiction the discretion to resort to its local information, judgment and other variables to complement credit-to-GDP gap in monitoring the build-up of credit risks and assign requisite buffer to accommodate the risks.<sup>65</sup> This article argues that this discretion further recognises the differences in values, laws and politics of every country and the need to take these differences into consideration in setting the requisite buffer that will be effective in achieving bank stability.

51. Anderton (n 43) 231

52. Tightening fiscal policy means that the government is operating either a higher budget surplus or a lower deficit, that is, it is spending less than its receipts. This can be reversed during recession. *ibid* 232; Caruana (n 37) 2 & The Federal Reserve Bank of San Francisco 'What is the difference between fiscal and monetary policy?' (2002) 1 - 3 <<http://www.frbsf.org/education/activities/drecon/2002/0203.html>> Accessed 13 July 2011

53. Davig Troy and Leeper Eric 'Monetary-Fiscal Policy Interactions and Fiscal Stimulus' (2009) 1-39 <[http://www.eabcn.org/sites/all/files/fck\\_uploads/leeperfinal.pdf](http://www.eabcn.org/sites/all/files/fck_uploads/leeperfinal.pdf)> Accessed 13 July 2011

54. Woodcock Andrew 'IMF Warning Over 'Bump and Uneven' UK Recovery' *The Independent* (Tuesday, 2 August 2011) 1-2.

55. Basel Committee on Banking Supervision 'Guidance for National Authorities Operating the Countercyclical Capital Buffer' (2010) 1-26 <<http://www.bis.org/publ/bcbs187.pdf>> Accessed 07 July 2011

56. Goyal (n 28) 55

57. Basel Committee on Banking Supervision (n 55)

58. For instance, exposure of banks to the UK economy will be different from exposure of banks to Syrian or even Ghanaian economy

59. Aglietta, Michel and Scialom Laurence (n 30) 15

60. “Haircut” is defined as limits on “market for wholesale borrowing and lending secured on financial assets (repo market)” Keating Con and Marshall Barry 'Macro-Prudential Liquidity-Based Regulation' (2010) 1-7 <[http://www.effasebc.org/fileadmin/presentations/Zurich\\_Oct\\_2010/prospectus/Macro-Prudential\\_Liquidity-Based\\_Regulation\\_Con\\_Keating\\_and\\_Barry\\_Marshall.pdf](http://www.effasebc.org/fileadmin/presentations/Zurich_Oct_2010/prospectus/Macro-Prudential_Liquidity-Based_Regulation_Con_Keating_and_Barry_Marshall.pdf)> Accessed 24 March 2011

61. Davis Philip E. and Karim Dilruba (n 21) 71

62. Basel Committee on Banking Supervision (n 55) 2

63. *ibid* 3

64. *ibid*

65. *ibid*



However, the purported supremacy of macroprudential policies over microprudential policies has attracted the attention of regulators. This can be seen in the novel provisions of Basel III that aim at ameliorating the anomalies of Basel I and II. Thus, the next section analyses Basel III in order to determine the extent to which it can prevent or limit the systemic dimension of bank failure.

**ANALYSIS OF BASEL III**

Basel Committee's governing body<sup>66</sup> announced a higher minimum capital standard for commercial banks which is known as Basel III on the 12<sup>th</sup> of September, 2010.<sup>67</sup> Basel III introduces novel provisions<sup>68</sup> to address the systemic nature of the recent global financial crisis and improve on the shortcomings of Basel II. The Figure 2 below lists the novel reforms introduced by Basel III.<sup>69</sup>

*Figure : The Basel III Reform of Bank Capital Regulation*

<b>New Capital Ratio</b> <b>Common Equity</b> <b>Tier 1</b> <b>Total Capital</b> <b>Capital</b> <b>Conservation Buffer</b>	<b>Raising the quality of Capital</b> <b>Focus on Common Equity</b> <b>Stricter Criteria for Tier 1</b> <b>Harmonised Deductions from Capital</b>	<b>Macroprudential Overlay</b> <b>Leverage Ratio</b>
<b>Capital Ratio = Capital ÷ Risk-Weighted Assets</b>		<b>Mitigating Procyclicality</b> <b>Countercyclical Buffer</b>
<b>Enhancing Risk Coverage</b> <b>Securitisation</b> <b>Products</b> <b>Trading Book</b> <b>Counterparty</b> <b>Credit Risk</b>		<b>Mitigating Systemic Risk (work in progress)</b> <b>Systemic Capital</b> <b>Surcharge for SIFIs</b> <b>Contingent Capital</b> <b>Bail-in-debt</b> <b>OTC Derivatives</b>

Source: Bank for International Settlements <<http://www.bis.org/speeches/sp101125a.pdf>> Accessed 09 June 2011

Basel III improves on Basel II by enhancing the quality of banks' capital and simplifying the definition of capital by focusing mainly on common equity.<sup>70</sup> By focusing on common equity as the main capital of

66. BCBS is a forum for cooperation on banking supervisory matters with the aim to improve the quality of bank supervision worldwide, see Bank for International Settlements 'Basel Committee on Banking Supervision' <[www.bis.org/bcb](http://www.bis.org/bcb)> Accessed on 16 March 2015

67. Caruana Jaime "Basel III: towards a safer financial system" (Paper presented at the 3rd Santander International Banking Conference Madrid: Bank for International Settlements, 15 September 2010) 1-7 <<http://www.bis.org/speeches/sp100921.pdf>> Accessed 10 February 2011

68. These provisions are novel due they aim to increase the buffer of banks, checkmate the procyclicality of capital adequacy and make financial institutions to bear the cost of their failure

69. Such provisions as contingent capital, bail-in-debt and additional capital for Global Systemic Financial Institutions are examined in the next subsection of this article, while leverage ratio and liquidity ration are explored in subsections 3 & 4 respectively

70. Hannoun Herve 'The Basel III Capital Framework: a decisive breakthrough' (2010) 1-16 <<http://www.bis.org/speeches/sp101125a.pdf>> Accessed 09 June 2011



banks, the incentives for banks to infect their Tier 1 capital<sup>71</sup> with “hybrid 'innovative' instruments with debt-like structures” are removed.<sup>72</sup> Basel III requires that half of the Tier 1 capital must be common shares, retained earnings and other instruments that can absorb loss while a financial institution is still a going concern (that is, still viable).<sup>73</sup> In addition, Basel III sets out conditions banks must meet before they can include common shares in their Tier 1 common equity.<sup>74</sup> This emphasis on common equity is due to the fact that it is the capital that has the highest quality to withstand losses from shock whilst a bank is still viable.<sup>75</sup> It is worth noting that “credit losses and write-downs come out of retained earnings” during the recent global financial crisis<sup>76</sup> and this justifies Basel III's strengthening of the quality and quantity of common equity to guard against future capital erosion in the banking sector.

Basel III ameliorates the procyclicality<sup>77</sup> of capital under Basel II by increasing the conservation buffer to 2.5% of risk-weighted assets to be held in common equity.<sup>78</sup> Buffer in this instance can be seen as “capital sufficient for a banking company to withstand downturn events and still remain above its regulatory minimum capital requirement”.<sup>79</sup> It is contended that one of the advantages of the conservation buffer is that, unlike the minimum capital requirements, it can be drawn down whenever a bank is experiencing distress.<sup>80</sup> Thus, the conservation buffer improves stability in the banking sector as it conserves capital during downturn by preventing banks from engaging in activities that may worsen their capital plights and rebuilds during an upswing.<sup>81</sup> For instance, as demonstrated by Figure 3 below, a bank with capital ratio of 4.5% to 5.125% is required to conserve 100% of its earning in the subsequent financial year. The implication of this is that the bank will not declare dividends, pay out bonuses or engage in share buybacks in the subsequent year since these activities may further erode its capital base.<sup>82</sup> In the same vein, a bank with capital ratio above 7% will not have any restraint on dividends, share buybacks and payment of bonuses.<sup>83</sup>

71. This is common equity and includes retained earnings and other reserves stated in the balance sheet of the financial institution in question, see Bank for International Settlements 'Basel III definition of capital-frequently asked questions' (2011) 1-22 <[www.bis.org/publ/bcbs211.pdf](http://www.bis.org/publ/bcbs211.pdf)> Accessed on 16 March 2015
72. Hannoun Herve (n 70). It should be noted that risk-based capital has three elements which include the numerator, that is how capital is measured; the denominator, that is the measure of assets against which loss absorbing capital must be held and the ratio, Cecchetti G. Stephen, Domanski Dietrich and Peter Von Goetz 'New Regulation and the New World of Global Banking' (2011) 216 (1) *National Institute Economic Review*, 29-40
73. Caruana Jaime (n 67) 2 & Hannoun Herve ibid 4. Other instruments could be preference shares. Basel I stipulated that common equity and disclosed reserve (Tier 1 capital) must constitute at least 4% of a bank's capital, Basle Capital Accord 'International Convergence of Capital Measurement and Capital Standards' (1988) 1-26 <<http://www.bis.org/publ/bcbsc111.pdf>> Accessed 12 October 2010. This was also adopted by Basel II. A breakdown of Basel III capital requirements are as follows: common equity (minimum: 4.5%, conservation buffer: 2.5%, required 7%); Tier 1 capital (minimum: 6%, required 8.5%); total capital (minimum: 8%, required: 10.5%); countercyclical buffer: 0 - 2.5% and a proposal for systemic capital surcharge for SIFIs. See Bank for International Settlements 'Basel III: A Global Regulatory Framework for more Resilient Banks and Banking Systems' (2010) 1-69 <[www.bis.org/publ/bcbs189.pdf](http://www.bis.org/publ/bcbs189.pdf)> Accessed 10 February 2011
74. Bank for International Settlements, ibid 14 & 15
75. Basel Committee on Banking Supervision 'Global Systemically Important Banks: Assessment Methodology and the Additional Loss Absorbency Requirement' (2011) 1-26 <<http://www.bis.org/publ/bcbs201.pdf>> Accessed 22 July 2011 & Wellink Nout 'The New Framework for Banking Supervision' (FSI High Level Meeting on "The Emerging Framework to Strengthen Banking Regulation and Financial Stability for Africa" 2011, Cape Town, South Africa: Bank for International Settlements) 1-5
76. Bank for International Settlements, (n 73) 2
77. This simply means that under Basel II, sound banks are mandated to maintain lower capital adequacy requirement, which the regulators increase when the bank in questions starts having distress. The implication of this is that banks have lower capital when they are expected to have more
78. Bank for International Settlements, (n 73) 55
79. Basel Committee on Banking Supervision 'Calibrating Regulatory Minimum Capital Requirements and Capital Buffers: A Topdown Approach' (2010) 1-19 <<http://www.bis.org/publ/bcbs180.pdf>> Accessed 29 July 2011
80. Caruana Jaime 'Macroprudential Policy: Could it have been different this time?' (2010) 1-5 <<http://www.bis.org/speeches/sp101019.pdf>> Accessed 29 July 2011
81. To this end, if a bank's capital fall below 2.5%, regulators will put restrictions on earnings, dividends, share buybacks and discretionary payment of bonuses to staff in order to boost the bank's capital, Bank for International Settlements, 6, 7, & 56 (n 73) & Walter Stefan 'Basel III and Financial Stability' (5th Biennial Conference on Risk Management and Supervision, Financial Stability Institute, Basel Committee on Banking Supervision (Bank for International Settlements) 2010) 1-2
82. Basel Committee on Banking Supervision 'Basel III: A global regulatory framework for more resilient banks and banking systems' (2011) 1-68 <<http://www.bis.org/publ/bcbs189.pdf>> Accessed 09 June 2011
83. Bank for International Settlements, at 64, supra, note 73. Note that although the capital conservation buffer is 2.5%, a bank is required to keep it at 7%



**Figure : Individual Bank Minimum Capital Conservation Standards.**

Common Equity Tier 1 Ratio	Minimum Capital Conservation Ratios (Expressed as a percentage of earnings)
4.5% - 5.125%	100%
>5.125% - 5.75%	80%
>5.75% - 6.375%	60%
>6.375% - 7.0%	40%
>7.0%	0%

Source: Bank for International Settlements <<http://www.bis.org/publ/bcbs189.pdf>> Accessed 09 June 2011

It is therefore worth examining the relationship between restraining banks from declaring dividends and paying out bonuses during certain eventualities on the one hand and bank stability on the other. At the beginning of the recent global financial crisis, banks were issuing dividends, share buybacks and bonuses in order to send incorrect signals of their soundness to the public.<sup>84</sup> By preventing banks from engaging in activities that may further erode their capital when capital is most needed, banks will have funds to channel credit to the real sectors of the economy<sup>85</sup> and thus, prevent the economy from going deep into recession.

In addition, the BCBS by setting countercyclical buffer at 2.5%, is also of the view that capital requirements should take into account the macro-financial environment in which banks operate.<sup>86</sup> It is noted that: 'Banks with credit exposures to several jurisdictions will need to hold a buffer that reflects the weighted average of a bank's domestic and international exposures'.<sup>87</sup>

Countercyclical capital buffer also addresses the systemic nature of the recent global financial crisis by making banks to build up buffers during period of excess systemic credit growth for subsequent use when credit losses materialise.<sup>88</sup> This is in view of the fact that the recent global financial crisis was followed by a period of excess global credit growth.<sup>89</sup> To this extent, it is said that countercyclical buffer is macroprudential in nature and will play a tremendous role in enhancing financial stability in the economy.<sup>90</sup> A countercyclical buffer can be compared to a "countercyclical rating scheme" that increases

84. Basel Committee on Banking Supervision (n 82) 6

85. This is the sector of the economy responsible for producing goods and services. See Financial Times 'Definition of Real Economy' <[lexicon.ft.com/Term?term=real-economy](http://www.lexicon.ft.com/Term?term=real-economy)> Accessed on 16 March 2015

86. The countercyclical buffer is set at zero in normal times and only increases when there is excess credit in the economy, Bank for International Settlements (n 73) 5 & 7 & Basel Committee on Banking Supervision (note 82) 57

87. It should be noted that the buffer is activated by the host authorities, though the home authority can impose a higher (and not a lower) buffer for the same exposure. Financial Stability Board, International Monetary Fund, and Bank for International Settlements 'Macroprudential Policy Tools and Frameworks' (2011) 1-13 <[http://www.financialstabilityboard.org/publications/r\\_1103.pdf](http://www.financialstabilityboard.org/publications/r_1103.pdf)> Accessed 20 June 2011

88. It should be noted that unlike in the conservation buffer, banks do not have any restriction on capital distribution under countercyclical buffer. See Basel Committee on Banking Supervision 'Countercyclical Capital Buffer Proposal' (2010) 1-36 <[www.bis.org/publ/bcbc172.pdf](http://www.bis.org/publ/bcbc172.pdf)> Accessed 12 October 2010; Caruana, Jaime (n 80) 2 & Financial Stability Board, International Monetary Fund, and Bank for International Settlements, *ibid* 2 & 3

89. World Economic Forum 'More Credit with Fewer Crises: Responsibly Meeting the World's Growing Demand for Credit' (2010) 1-84 <[http://www3.weforum.org/docs/WEF\\_NR\\_More\\_credit\\_fewer\\_crises\\_2011.pdf](http://www3.weforum.org/docs/WEF_NR_More_credit_fewer_crises_2011.pdf)> Accessed 24 February 2011

90. Marianne Ojo 'Central banks and different policies implemented in response to the recent Financial Crisis' (2010) 1-25 <[http://mpra.ub.uni-muenchen.de/26605/1/MPRA\\_paper\\_26605.pdf](http://mpra.ub.uni-muenchen.de/26605/1/MPRA_paper_26605.pdf)> Accessed 23 March 2011



risk weights on loans during good times and reduces in the same way during recession.<sup>91</sup> It can also be compared to “time-varying capital requirements” which are raised during normal times and lowered when stress sets in.<sup>92</sup> The essence of countercyclical buffer is simply to require banks to keep aside certain percentage of capital when they can easily afford to do so for subsequent use when it will be too hard or too expensive for them to get new capital. To further strengthen macroprudential rules, the BCBS suggested that the countercyclical capital buffer can be integrated with the capital conservation buffer in order to determine the total buffer requirements under Tier 1.<sup>93</sup> Arguably, the main target of Basel III is the whole banking sector and not just individual banks and to this extent, addresses the systemic nature of banking crises and its macroeconomic consequences.<sup>94</sup>

Nevertheless, there are other Basel III provisions like contingent capital, bail-in-debt and additional capital for Global Systemically Important Financial Institutions (G-SIFIs).<sup>95</sup> These provisions are meant to address threat posed by failures of G-SIFIs by providing additional capital standards for their activities and orderly resolution mechanisms for their failures. Thus, the next subsection examines additional capital standards and resolution mechanisms for G-SIFIs in order to determine the extent to which they may help achieve a safer banking sector.

### Contingent Capital

The recent global financial crisis demonstrates the extent to which SIFIs can drag the whole economy into crisis. This is mainly due to their exposures to innovative instruments such as securitisation and derivatives. Basel III provides for capital requirements that will target the risk exposures of these SIFIs and the negative externalities their failure may have on the economy. In this instance, instruments like subordinated debt that can absorb loss from an institution when it goes insolvent can be included in Tier 2 capital requirements.<sup>96</sup> This means that lenders of subordinated debt can only receive repayment in liquidation after “all depositors and senior creditors are first paid in full”.<sup>97</sup>

Bail-in debt is a situation where debt holders like preference shares have their debts written off or converted into equity to sustain the existence or systemical functions of SIFIs. This is by either recapitalising them or “capitalising newly established entity or bridged institutions to which these vital functions have been transferred following closure of the residual firm”.<sup>98</sup> It should be noted that the write off or conversion can be achieved through contractual provisions or through statutory requirements.<sup>99</sup> In any case, the objective of bail-in debt is:

91. Increase in risk-weights on loans leads to increases in interest rates during economic boom which in turn reduces borrowing and leads to profit maximisation. The reduction of the risk-weights on loans reduces interest rates during recession and encourages borrowing in order to stabilise the economy, Catarineu-Rabell Eva, Jackson Patricia, and Tsomocos Dimitrios P. 'Procyclicality and the new Basel Accord - banks' choice of loan rating system' (2005) 26 (3) *Economic Theory*, 537-557
92. Kashyap Anil, et al (n 14) 434
93. Capital conservation buffer means that constraints are imposed by supervisors on banks whenever their capital falls below the minimum capital requirement set by the supervisors. Here, the bank may be restricted from paying out dividends or bonuses above the constraint in the subsequent financial year or the bank may have the option of raising new capital from the private sector if it wants to exceed the constraint. In contrast, countercyclical capital buffer is an addition to the minimum buffer set up by the capital conservation buffer but banks are given 12 months to extend their capital above the countercyclical buffer so that the market will not see it as an additional capital requirement. Basel Committee on Banking Supervision 'Countercyclical Capital Buffer Proposal' (2010) 1-36 <[www.bis.org/publ/bcbs172.pdf](http://www.bis.org/publ/bcbs172.pdf)> Accessed 12 October 2010
94. Wellink Nout (n 75)
95. In this article, SIFIs and G-SIFIs means the same thing and are used interchangeably
96. To this extent, Basel III provides for Tier 1 capital (going-concern capital) and Tier 2 capital (gone-concern capital). Tier 3 capitals which were available to cover market risk and trading book exposures under Basel II are no longer recognized as capital. Subordinated debt is debt that ranks after other debts should a company be liquidated, Basel Committee on Banking Supervision (n 82) 2 & Hannoun Herve (n 70) 4
97. Basel Committee on Banking Supervision 'Proposal to Ensure the Loss Absorbency of Regulatory Capital at the Point of Non-viability' (2010) 1-14 <<http://www.bis.org/publ/bcbs174.pdf>> Accessed 07 July 2011
98. Financial Stability Board 'Effective Resolution of Systemically Important Financial Institutions, Recommendations and Timelines' (2011) 1-74 <[http://www.financialstabilityboard.org/publications/r\\_110719.pdf](http://www.financialstabilityboard.org/publications/r_110719.pdf)> Accessed 22 July 2011 & Financial Times 'Basel Proposal for bank 'bail-ins' *Financial Times* (19 August 2010) 1
99. Turner Adair 'Leverage, Maturity Transformation and Financial Stability: Challenges Beyond Basel III' (2011) 1-23 <[http://www.fsa.gov.uk/pubs/speeches/031611\\_at.pdf](http://www.fsa.gov.uk/pubs/speeches/031611_at.pdf)> Accessed 15 August 2011



To reduce the loss of value and the economic disruption associated with insolvency proceedings for financial institutions, yet ensure that the costs of resolution are borne by the financial institutions' shareholders and unsecured creditors.<sup>100</sup>

In other words, bail-in intends to do the opposite of what the bailout did in the recent global financial crisis by making financial institutions pay for their failures. In order to facilitate bail-in, it is said that resolution authorities should be given bail-in powers within their resolution tools.<sup>101</sup> Arguably, this gives resolution authorities wider powers to dissolve SIFIs in an amicable way, while protecting the interests of tax payers.

Nevertheless, there are other instances apart from bail-in where instruments that can convert to equity are issued by SIFIs in order to enhance their capitalization. For instance, in order to ensure loss absorbency of capital instruments in "gone concern situations" (before the bank becomes non-viable), regulators should have the power to either write-off all non-common Tier I instruments and Tier II instruments as a condition for "public sector injection of common equity" or convert all non-common Tier I instruments and Tier II instruments to common equity.<sup>102</sup> To achieve the aim of loss absorbency capital instruments, investors in write-off instruments may charge banks a higher coupon rate that will have to be offset by their shareholders.<sup>103</sup> Likewise, conversion to common equity may entail investors in non-common instruments receiving higher number of shares, thus reducing the number of shares common shareholders would have had in a normal situation.<sup>104</sup> The aim is to ensure that investors are not protected from absorbing the loss they would have sustained had the public sector not recapitalized failing banks.<sup>105</sup>

However, the loss shareholders and holders of non-common instruments will suffer depend on the conversion rate of the non-common instruments. If for instance the conversion rates stand to favour shareholders, then holders of non-common instruments have a higher incentive to provide market discipline since they are bound to lose more should the banks need recapitalization.<sup>106</sup> Arguably, making shareholders or holders of non-common instruments bear the consequences of failure of market discipline saves tax payers the stress and hardship they went through in order to bailout these SIFIs in the recent global financial crisis. In other words, loss absorbency capital reduces the costs of bank failure and the negative externalities such failure may have on the economy. This is because SIFIs through loss absorbency capital recover from distress without going into resolution as their failure may destabilize other sectors of the economy.<sup>107</sup> It also makes SIFIs aware that they are not 'too-big-to-fail' since they would have a price to pay in order to get public sector support unlike the situation in the recent global financial crisis where they got public support virtually 'on a platter of gold'. Events prior to the recent global financial crisis go to show that bank managers take excessive risk in order to maximize profits for shareholders. Thus, the proposal for loss absorbency capital instruments in a 'gone-concern situation'

100. Financial Stability Board (n 98) 12

101. *ibid*

102. This can be referred to as gone-concern contingent capital. Here, the bank in question is unable to fund itself in the private market and will fail if the public sector does not step in to bail it out. However, it is worth noting that Basel III is persuasive and as such the implementation of its provisions rest solely at the discretion of national authorities. Basel Committee on Banking Supervision, at 5 & 6, *supra*, note 97

103. *ibid* 8

104. The justification given for the cost shareholders bear under this proposal is that they are the beneficiaries of the injection of public sector capital. *ibid*

105. In other words, write-off and conversion can only be triggered where authorities decide not to allow the bank to fail. However, where the authorities want to allow the bank to fail, "gone concern loss absorbency would continue to work through subordination in liquidation". *ibid* 3

106. This is due to the reason that conversion rate may be so low that holders of non-common instruments may suffer losses, including their principal. In this instance, they have more of an incentive than shareholders to ensure market discipline. Market discipline here means they will make sure that managers do not engage in risky activities that may deplete their investments. Although, it may be difficult to know who will suffer loss until the eventuality occurs. Basel Committee on Banking Supervision, "Global Systemically Important Banks: Assessment Methodology and the Additional Loss Absorbency Requirement" (2011) 1-26 <<http://www.bis.org/publ/bcbs201.pdf>> Accessed 22 July 2011

107. Financial Stability Board (n 98) 12





limits the incentives for managers to engage in excessive risk-taking by holding shareholders responsible for the mismanagement of banks. Punishing shareholders of banks that are unable to fund themselves in the private market for their failure to monitor the activities of management will act as a disincentive to shareholders in sound banks from pressurizing the management to maximize profits by taking excessive risks.<sup>108</sup> This disincentive translates into stability in the whole banking sector and the economy at large.

Nevertheless, Basel III is still looking at the role “going-concern” contingent capital, that is, “instruments that are designed to convert into common equity whilst a bank remains a going concern” will play in regulatory capital.<sup>109</sup> Another approach under review is the requirement for SIFIs to hold additional “top quality capital”, which is, capital surcharges against unforeseen losses.<sup>110</sup> Basel III also intends to limit externalities by giving banks the incentives to use central counterparties for OTC derivatives.<sup>111</sup> Following from this, Basel believes that strengthening the quality of bank capital with common equity enhances soundness of individual banks and this is necessary to maintain system wide stability in the financial sector.<sup>112</sup> This view can also be said to be as a result of the recognition by the BCBS that microprudential rules must complement macroprudential rules in order to achieve stability in the whole banking sector. However, as stated above, macroprudential and microprudential rules must take factors inherent in every country into consideration in order to achieve more effective result.

Since Basel III seems to have SIFIs in mind in formulating most of its principles, it is necessary to state guidelines for easy identification of SIFIs. SIFIs are identified based on their size, interconnectedness, lack of available substitutes for the services they render, cross-jurisdictional activity and their complexity.<sup>113</sup> In other words, the “size, market importance and global interconnectedness” of SIFIs must be such that the externalities from their failures can be felt in many countries.<sup>114</sup> To this extent, easy identification of SIFIs, by simplifying the qualities they must have, will help guide supervisory authorities on the requisite loss absorbency capital which needs to be allocated to them.<sup>115</sup> In other words, capital allocated to SIFIs as a result of the ease of identification will not be such that will be insufficient to accommodate their exposures to the economy. Nevertheless, the question is: to what extent can Basel III improve on the inefficacy of Basel II?

Basel III have been criticised for a number of reasons. For instance, it is contended that capital requirements under Basel III will be “useless” since “risk-weights for interbank loans and other financial assets do not reflect the true risk associated with these assets”.<sup>116</sup> This is because risk weight gives banks the incentive to hold “financial assets” like “derivatives” that have low capital requirements instead of “real assets” like “corporate loans and corporate bonds”.<sup>117</sup> Basel III did not fully address externalities effects of G-SIFIs and lacks extensive knowledge of global liquidity standards.<sup>118</sup> In addition, it has been said that the cost of funding may be too high for small banks due to public perception that SIFIs are

108. This punishment comes in the form of conversion or write-off as explained above

109. Here, the bank in question is still able to fund itself in the private market as opposed to gone-concern contingent capital where the bank is not able to fund itself in the private market. Basel Committee on Banking Supervision, at 3, *supra*, note 82, Basel Committee on Banking Supervision (n 106) 17 & Financial Times 'Basel Proposal for bank 'bail-ins' *Financial Times* (19 August 2010) 1

110. Basel Committee on Banking Supervision (n 82) 7 & Thomson Reuters 'World's top bank face capital surcharge hit-report' *Thomson Reuters* (Friday, 13 May 2011) 1

111. Basel Committee on Banking Supervision, *ibid* 8

112. Walter Stefan (n 81) 1

113. Basel Committee on Banking Supervision, at 4, *supra*, note 106 & Financial Stability Board 'Progress in the Implementation of the G20 Recommendations for Strengthening Financial Stability' (2011) 1-12 <[http://www.financialstabilityboard.org/publications/r\\_110415a.pdf](http://www.financialstabilityboard.org/publications/r_110415a.pdf)> Accessed 25 July 2011

114. Financial Stability Board 'Reducing the Moral Hazard posed by Systemically Important Financial Institutions' (2010) 1-12 <[http://www.financialstabilityboard.org/publications/r\\_101111a.pdf](http://www.financialstabilityboard.org/publications/r_101111a.pdf)> Accessed 10 November 2011

115. Basel Committee on Banking Supervision (n 106) 14

116. Georg Co-Pierre 'Basel III and Systemic Risk Regulation - What Way Forward?' (2011) 1-25 <[http://pubdb.wiwi.unijena.de/pdf/wp\\_hlj17-2011.pdf](http://pubdb.wiwi.unijena.de/pdf/wp_hlj17-2011.pdf)> Accessed 18 February 2011

117. *ibid*

118. This is based on the argument that banks know about risk more than regulators. See Wellink Nout 'Basel III: a roadmap to better banking regulation and supervision' (2011) 1-6 <<http://www.bis.org/speeches/sp110524.pdf>> Accessed 09 June 2011



entitled to bailout.<sup>119</sup> Similarly, it is also the contention that regulations aimed at limiting the excesses of G-SIFIs affects lending and profits although the hardship their failures subjected the economy in the recent global financial crisis may justify the strictness of any regulation on their activities.<sup>120</sup>

Conversely, one of the arguments in support of the strictness of Basel III is that banks were not lending when the regulation of their activities was soft and fat bonuses are still prevalent in the banking sector.<sup>121</sup> It is worth noting that the International Monetary Fund (IMF), the Financial Stability Board (FSB), the Bank for International Settlements (BIS) and the Committee on the Global Financial System are putting some measures in place to enhance data collection and analysis of SIFIs, and the systemic risk they pose to the economy.<sup>122</sup> To this extent, it can be contended that proper data collection and analysis may mitigate the negative effects higher capital requirements for G-SIFIs may have on the economy. Furthermore, the long transition period given to banks to move to higher capital and liquidity requirement reduces the likelihood of banking crisis and lowers the volatility of GDP.<sup>123</sup> Thus, the outcome of the 2007/2009 global financial crisis would have been different if Basel III were in existence at that time.<sup>124</sup> In fact, an analysis of the costs of stringent capital requirements indicates that, once banks have fully adjusted to the new requirement provided by Basel III, it decreases the cost of lending and makes banks safer as a result of a decrease in leverage.<sup>125</sup> In addition, long transition periods given to banks to adjust to new capital and liquidity requirements provided by Basel III ensure that they do not limit credit supply in order to meet these requirements.<sup>126</sup> An indication of the confidence on the capability of Basel III to achieve stability in the banking sector can be seen in China's setting of its capital adequacy requirements above Basel III's capital standards.<sup>127</sup> China Banking Regulatory Commission (CBRC) is optimistic that setting capital requirements above Basel III standard will impact positively on Chinese banks.<sup>128</sup> Also, countries like Sweden, Switzerland, Spain and Ireland have imposed higher capital requirements than those required by Basel III.<sup>129</sup> Moreover, "what matters (in the regulation of the banking sector) is the macro-systemic stability of credit supply, not just the risk of individual failure" and there is every indication that Basel III will achieve this purpose.<sup>130</sup>

On the other hand, capital adequacy provisions under Basel III are complemented by the introduction of a global liquidity and leverage ratios. The next subsection examines leverage ratio in order to determine the extent to which it may contribute to bank stability.

### Analysis of Leverage Ratio

The recent global financial crisis demonstrates the extent to which the risky activities of banks can cause failure in the whole financial sector as a result of interconnectedness. The negative effects of these risky activities may become worse when banks do not have sufficient capital commensurate with the level of

119. Basel Committee on Banking Supervision (n 97) 11

120. Basel Committee on Banking Supervision (n 106) 16 & Farrell Sean and Foley Stephen 'Seconds out: The Great Banking Fightback' *The Independent* (Saturday, 11 June 2011) 1-2

121. Farrell and Foley, *ibid* 2

122. Financial Stability Board, International Monetary Fund, and Bank for International Settlements (n 87) 3

123. However, the analysis shows that the ability of capital adequacy to reduce banking crises gradually declines to become negative once capital standards are increased beyond a certain range, which is 7%. Capital in this instance refers to tangible common equity to risk-weighted assets, that is, Tier I common equity, Basel Committee on Banking Supervision, "Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements" (2010) 1-15 <<http://www.bis.org/publ/othp10.pdf>> Accessed 07 July 2011 & Basel Committee on Banking Supervision 'An Assessment of the Long-term Economic Impact of Stronger Capital and Liquidity Requirements' (2010) 1-63 <<http://www.bis.org/publ/bcbs173.pdf>> Accessed 07 July 2011

124. Caruana Jaime 'Macroprudential Policy: Could it have been different this time?' (2010) 1-5 <<http://www.bis.org/speeches/sp101019.pdf>> Accessed 29 July 2011

125. In addition, the cost of increased capital requirements could be offset by increase in fees and commissions, reduction of the rate paid on deposits and reduction of operating expenses, Basel Committee on Banking Supervision (n 123) 22

126. Basel Committee on Banking Supervision (n 123) 1

127. Loechel et al (n 35) 17 & 18

128. *ibid*

129. Turner Adair 'Leverage, Maturity Transformation and Financial Stability: Challenges Beyond Basel III' (2011) 1-23 <[http://www.fsa.gov.uk/pubs/speeches/031611\\_at.pdf](http://www.fsa.gov.uk/pubs/speeches/031611_at.pdf)> Accessed 15 August 2011

130. *ibid* 5



risk they take. It is argued that when financial intermediaries' assets prices increase without any commensurate adjustments in asset holdings, leverage tends to be low.<sup>131</sup> This not only leads to expansion in financial intermediaries' balance sheets, but also encourages them to take short term debt and extend loans to borrowers with poor ratings in order to reduce their surplus balance sheets.<sup>132</sup> Figure 4 below illustrates how leverage decreases as assets' prices increase. As can be seen from the Figure, when securities are 100, equity 20 and debt 80, leverage is 5. When securities increase to 110, equity increases to 30 while debt remains at 20, and leverage decreases to 3.67.

**Figure : Evidence that leverage decreases as assets' prices increase**

Assets	Liabilities
Securities, 100	Equity, 20
	Debt, 80

Now the leverage of the bank is:

$$\frac{\text{assets}}{\text{equity}} = \frac{100}{20} = 5.$$

Assets	Liabilities
Securities, 110	Equity, 30
	Debt, 80

The leverage, then, becomes:

$$\frac{\text{assets}}{\text{equity}} = \frac{110}{30} = 3.67 < 5.$$

Source: Yan, Wanfeng et al, "Leverage Bubble", (2012), *Physica A*, 391 (1-2)

Investment banks benefit from increase in leverage since it enables them to maximize their short term profits and increase future returns.<sup>133</sup> Furthermore, banks increase their risk by increasing their leverage and the riskiness of their assets.<sup>134</sup> It is worth noting that during a bull situation (that is, optimistic outlook of the market), increase in leverage means more profit maximization for investors.<sup>135</sup> Accordingly, leverage is said to be procyclical in that it increases when assets increase and decreases when assets decrease.<sup>136</sup> The 2007/2009 global financial crisis showed tremendous increase in both leverage and

131. Adrian Tobias and Shin Song Hyun 'Liquidity and Leverage' (2010) 19(3) *Journal of Financial Intermediation*, 418-437

132. Leverage is defined as "the ratio of total assets to liquidity (equity)". *ibid*

133. Yan Wanfeng, Woodard Ryan and Sornette Didier 'Leverage Bubble' (2012) 391 (1-2) *Physica A*, 180-186

134. Hildebrand M. Philipp 'Is Basel II enough? The benefits of a Leverage Ratio' (A speech delivered at the Financial Markets Group Lecture, London School of Economics, London, 15 December 2008) 1 - 8  
<<http://www.bis.org/review/r081216d.pdf?frames=0>> Accessed 07 March 2012

135. Yan et al (n 133)

136. The reason for the procyclicality of leverage is that "the expansion and contraction of balance sheets" increases the credit cycle instead of mitigating it due to the bank managers' ability to manage leverage at this period with "collateralised borrowing and lending", Adrian and Shin (n 131) 426 & D'Hulster Katia 'The Leverage Ratio: A New Binding Limit on Banks' (2009) 1-6 <<http://www.worldbank.org/financialcrisis/pdf/levrage-ratio-web.pdf>> Accessed 29 July 2011



assets in the banking sector as a result of banks' pursuit to take advantage of a growing market.<sup>137</sup> The lucrative mortgage market during the crisis encouraged banks to borrow in order to purchase more assets and increase their returns on equity.<sup>138</sup> The action of banks during this period led to capital contraction in the economy as high leverage was not commensurate with capital standards. It is therefore worth examining the extent to which Basel II contributed to a high rate of leverage prior to the recent global financial crisis.<sup>139</sup>

The incommensurateness of capital to the level of risk of banks was promoted by Basel II's provision that mandated big banks to calculate their risk profiles (through the Internal Rating Based approach (IRB))<sup>140</sup> and report the same to regulators who would then calculate the requisite capital requirements of the banks based on the risk profiles reported to them.<sup>141</sup> This approach gave big banks the incentive to falsify their risk profiles in order to get lower capital requirements from the regulators.<sup>142</sup> Prior to the recent global financial crisis, banks resorted to such supposedly low risk instruments as derivatives and securitization to increase their total assets "while risk-weighted assets showed only a modest increase".<sup>143</sup> Arguably, derivatives and securitization enhanced profit maximization for banks but their failures subjected the economy to an immense adverse effect since they did not have sufficient buffer to mitigate externalities from their failures. An instance of the extent to which leverage could cause systemic failure in the economy is the collapse or near collapse of Countrywide and Freddie Mac in the United States of America (USA) due to their high leverage while CB Richard, also in the USA did not collapse because it had low leverage.<sup>144</sup>

Consequently, it is said that risk sensitive capital requirements and leverage ratio will give banks the incentives to report their risks honestly and this will enable regulators to allocate the requisite capital requirements that will commensurate with the reported risk profiles.<sup>145</sup> In other words, a "risk-independent leverage ratio" entails that a minimum capital ratio be imposed on all banks irrespective of whether the bank is risky or not.<sup>146</sup> The need for leverage ratio becomes more necessary when the ability of the regulators to detect the types of banks they are regulating (that is, whether the bank is risky or safe) ex ante is lower and also, the lower their ability to enforce sanctions on banks that report false risk profiles.<sup>147</sup> The total capital requirements of banks will no longer depend on the reported risk profiles alone as is obtainable under the risk-weight capital standards. Thus, the question is: to what extent does Basel III ameliorate the adverse effect of risk based capital requirement?

Basel III ameliorates the adverse effect of risk based capital requirement by introducing a simple non-risk based leverage ratio of 3% to complement risk-based capital requirements.<sup>148</sup> Here, leverage ratio is defined as "the regulation of a banks' leverage".<sup>149</sup> A non-risk based leverage ratio enables capital to be set

137. Basel Committee on Banking Supervision 'The Basel Committee's Response to the Financial Crisis: Report to the G20' (2010) 1-15 <<http://www.bis.org/publ/bcbs179.pdf>> Accessed 29 July 2011 & Cecchetti G. Stephen, Domanski Dietrich, and Peter Von Goetz 'New Regulation and the New World of Global Banking' (2011) 216 (1) National Institute Economic Review, 29-40

138. D'Hulster (n 136) 1

139. Figure 5 demonstrates how leverage ratio is calculated

140. This is an approach that enables banks to rely on their "internal estimates of risk components in determining the capital requirement for a given exposure". See Office of the Superintendent of Financial Institutions Canada 'Capital Adequacy Requirements (CAR)' (2014) 1-104 <[www.osfi-bsif.gc.ca/eng/fl-if/rg-ro/gdn-ort/glld/CAR\\_chp6.aspx#ToC6Overview](http://www.osfi-bsif.gc.ca/eng/fl-if/rg-ro/gdn-ort/glld/CAR_chp6.aspx#ToC6Overview)> Accessed on 16 March 2015

141. Blum Jurg 'Why 'Basel II' may need a Leverage Ratio Restriction' (2008) 32 (8) Journal of Banking & Finance, 1699-1707

142. *ibid*

143. The low risk instruments attract low capital requirements while the risk-weighted assets attract capital that commensurate with the level of risk of the asset. Hannoun Herve (n 70) 4

144. Acharya et al. 27

145. Blum (n 141) 1704

146. Blum (n 141) 1706

147. *ibid* 1705

148. The implementation of this simple leverage ratio commences between 2015 and 2019, Cecchetti et al (n 137) 34 & McCauley Robert, McGuire Patrick, and Peter Von Goetz 'After the Global Financial Crisis: From International to Multinational Banking?' (2011) 32 (8) Journal of Economics and Business <doi: 10.1016/j.jeconbus.2011.06.004>

149. Hildebrand (n 134) 4





aside for banks' exposures to supposedly low risk or highly rated instruments and also limits the excessive concentration of such instruments.<sup>150</sup> The adoption of this measure means that both safe and risky banks are bound to set aside the same percentage of buffer irrespective of their exposures.<sup>151</sup> It is argued that the essence of leverage ratio is not to encourage prudent behaviour in the banking sector but to provide minimum buffer to curtail the defects of imprudent behaviour.<sup>152</sup> Leverage ratio has the advantage of simplicity in its application so that there will be no need for experts to assess the riskiness of any bank before capital adequacy is allocated to it.<sup>153</sup> Thus, Figure 5 illustrates how leverage ratio is calculated.

**Figure : Calculation of Leverage Ratio**

$$\begin{aligned} \text{Equity} + \text{Reserves} - \text{Intangible Assets} &= \text{Tier 1 Capital} \\ \text{Total Assets} - \text{Intangible Assets} &= \text{Adjusted Assets} \\ \text{Tier 1 Capital} / \text{Adjusted Assets} &= \text{Leverage Ratio} \end{aligned}$$

Source: D'Hulster, Katia, 'The Leverage Ratio: A new binding limit on banks' (2009), <<http://www.worldbank.org/financialcrisis/pdf/levrage-ratio-web.pdf>> Accessed 29 July 2011

Furthermore, it is contended that leverage ratio serves both macroprudential and countercyclical purposes since it builds up prior to crisis only to be “unwound” when crisis sets in.<sup>154</sup> Its application to all banks irrespective of their exposures limits the incentives for banks to transfer capital from their balance sheets to their trading books in order to avoid strict capital adequacy requirements.<sup>155</sup> This is a great improvement on the risk-based capital requirement that gives banks the incentive to avoid strict capital standards. In fact, an analysis on the relationship between stock returns and capital adequacy during crisis indicates that the application of leverage ratio by large banks results in higher returns during crisis.<sup>156</sup> Nevertheless, the application of risk-based capital by large and undercapitalised banks during crisis did not increase their stock returns; instead it increased the stock returns of small banks.<sup>157</sup> This goes to show the extent to which leverage ratio may enhance bank stability.

Leverage ratio, however, cannot be said to be without some criticisms. Thus, it is argued that the inability of leverage ratio to distinguish between risky banks and safe banks amounts to punishment of safe banks

150. Such instruments include tranches of AAA structured products (like collectivised debt obligations and asset backed securities), derivatives and highly rated sovereign debt. Hannoun (n 170) 5 & Walter (n 81) 4
151. D'Hulster (n 136) 4 & Huertas Thomas 'A Cure for Crises: Work on Progress' (2010) 1-7 <[http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2010/0914\\_th.shtml](http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2010/0914_th.shtml)> Accessed 12 August 2011
152. Hildebrand (n 134) 4
153. D'Hulster (n 151)
154. *ibid* 3 & Walter Stefan 'Basel III: Stronger Banks and a more Resilient Financial System' (2011) 1-12 <<http://www.bis.org/speeches/sp110406.pdf>> Accessed 09 June 2011
155. Basel Committee on Banking Supervision (n 73) 3 & Hannoun (n 70)
156. Demirguc-Kunt Asli, Detragiache Enrica, and Merrouche Ouarda 'Bank Capital: Lessons from the Financial Crisis' (Policy Research Working Paper 5473, 2010) 1-32 <[http://www.wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2010/11/10/000158349\\_20101110113157/Rendered/PDF/WPS5473.pdf](http://www.wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2010/11/10/000158349_20101110113157/Rendered/PDF/WPS5473.pdf)> Accessed 07 March 2012
157. The reason for the negative effect on large banks is that investors in large banks do not see risk-based capital requirements as a true reflection of the portfolio exposures of these large banks. Furthermore, investors have more confidence in the ability of leverage ratio to absorb loss while the bank is still viable. *ibid*



for holding highly liquid portfolios.<sup>158</sup> It has also been said that the US banks had leverage ratio as part of their capital requirements prior to the recent global financial crisis but it did not prevent them from being the focal point of the crisis.<sup>159</sup> Nonetheless, the effects of the crisis on the US economy would have been worse if it were not operating any leverage ratio.<sup>160</sup> Leverage ratio does not take off balance sheet items into consideration and this gives banks the incentives to build up off balance sheet exposures.<sup>161</sup> This is despite the role off balance sheet exposures played in the recent global financial crisis. An analysis of the effects that the application of leverage ratio may have on German banks indicates that it will result in increase in equity which will lead to fall in returns on equity.<sup>162</sup> The incentive to take more risk and the fall in returns on equity may make investors reluctant to invest in equity.<sup>163</sup> It is also contended that leverage ratio may make German banks “shrink their balance sheets”, limit lending or reduce the value of their investments.<sup>164</sup> Thus, it has been suggested that effective monitoring should be used to compel risky banks to give regulators true information about their risk profiles instead of relying on leverage ratio.<sup>165</sup> Effective monitoring in this instance will solve information asymmetries problems between banks and regulators which will invariably discountenance the need for leverage ratio.<sup>166</sup> However, as stated above, the aim of leverage ratio is not to encourage prudent behaviour amongst banks but to set a minimum capital for all banks against any imprudent behaviour. Moreover, leverage ratio is not going to function in isolation of risk-weighted capital. As such, this article suggests that a hybrid of risk-weighted capital and leverage ratio will be in a better position to achieve bank stability. The suggestion for reliance on effective monitoring fails to take cognisance of the fact that banks have more informed knowledge about risks than regulators. As such, regulators rely on banks to understand the risk profiles of banks and this creates a student/teacher relationship between the regulators and the regulated. In this instance, effective monitoring will be like asking students who are novice in risks to monitor experts and arguably the outcome will not be effective as the experts will always know how to outwit the students. It can therefore be said that to achieve a more effective result in the banking sector, other policy measures like macroprudential and microprudential policies, fiscal and monetary policies must complement a hybrid of leverage ratio and risk-weighted capital.

Another step that has been taken by the Basel III that may ameliorate the effects of leverage is a change in the way counterparty credit risk is calculated. The recent global financial crisis exposed the poor method for the measurement of counterparty credit risk which concentrated only on terms of default and credit migration without considering the risk associated with deterioration of credit quality.<sup>167</sup> Mark-to-market accounting standard under Basel II valued assets based on current market price and this resulted in the reduction of the value of all mortgages and mortgage related securities when the rate of default became higher; which then dragged the economy more into crisis.<sup>168</sup> To ameliorate the negative effects of mark-to-market, Basel III subjects banks to “capital charge for potential mark-to-market losses, (that is) credit valuation adjustment (CVA) associated with a deterioration of the credit worthiness of a counterparty”.<sup>169</sup> Arguably, this approach makes sure that mortgages for instance that lost their value at the outbreak of the recent global financial crisis have capital set aside by banks to cover such losses. Mandating banks to keep aside capital that takes into consideration loss of value of mortgages and non-risk based capital

158. D'Hulster (n 136) 4

159. *ibid*

160. Hildebrand (n 134) 5

161. *ibid*

162. Frenkel Michael and Rudolf Marku 'The implications of introducing an additional regulatory constraint on banks business activities in the form of a leverage ratio' (2010) 2-64 <<http://www.bis.org/publ/bcbs165/rmafim.pdf>> Accessed 07 March 2012

163. *ibid* 7, 28, 29 & 30

164. *ibid* 13

165. *ibid* 18

166. *ibid*

167. Hannoun (n 70) 8

168. Gingrich Newt 'Suspend Mark-To-Market Now: The one regulatory action that will calm our markets' (Forbes.com, 29 September 2008) 1-3. The disadvantages of mark-to-market led Basel III to stipulate the use of stress inputs for measuring exposures to counterparties. Also, see Hannoun, *ibid*

169. Basel Committee on Banking Supervision (n 73) 3



requirements will be in a better position to mitigate the effects of leverage in the banking sector. However, as noted above, these requirements must be complemented by other policy measures in order to be more effective.

Leverage ratio and change in the calculation of counter party credit risk are not the only measures aimed at enhancing bank stability. The next subsection examines liquidity ratio in order to know the extent to which it may proffer a solution to the high rate of illiquidity experienced in the recent global financial crisis.

### Analysis of Liquidity Ratio

The recent global financial crisis demonstrates the extent to which illiquidity can bring down supposedly well capitalised banks. Prior to the crisis, there was liquidity in the economy to commensurate with buoyant asset markets but this changed when markets started having problems.<sup>170</sup> Admittedly, banks were not prepared for the spate of illiquidity in the economy during the recent global financial crisis nor did they have any contingency plan in place to maintain their viability pending any assistance from the public sector. The outcome of the failure to put in place contingency plans was liquidity crisis and the spiral effects it had on the economy cannot be overstated. It led to illiquidity in the economy and also, had a crippling effect on the economy since SMEs were not sufficiently funded to stay in business. Owing to this, liquidity crisis can be described as a situation where banks are unable to meet their payment obligations.<sup>171</sup> However, it is worth examining what factors contributed to banks being in a position where they were unable to fulfil their payment obligations.

Maturity transformation can be said to be one of the key functions of banks, which enables them to fulfil their payment obligations.<sup>172</sup> Banks accept short term deposits and lend them out long term to borrowers. In this instance, the withdrawal of deposits by depositors within a short period of time may deny banks of the requisite funds to fund their long term assets. Depositors panic and run to banks to withdraw their money at any sign of distress in the banking sector although banks may not have started receiving revenue from their assets to meet the shortfalls in deposits. This action may lead to maturity mismatch and may affect the viability of banks even when they are capitalized. The difference between the short term nature of deposits and long term nature of loans creates serious transformation problems for banks and expose them to liquidity risk.<sup>173</sup> In order to remain viable, banks must device means to effectively transform short term deposits to long term loans. This raises the issue of liquidity risk management and the need for banks to be proficient in liquidity risk management in order to play significant roles in the economy. To this extent, it is worth examining the extent to which Basel III tries to prevent liquidity risk in banks.

Basel III aims at correcting this anomaly through the introduction of Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). Liquidity attracts diverse definition. For instance, it may be defined as: *"The ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses"*.<sup>174</sup> Similarly, it connotes "the rate of growth of aggregate balance sheets".<sup>175</sup> A liquid bank is one that is in a position where it does not find it difficult to discharge its payment obligations. LCR can therefore be said to be a situation where a bank creates a stress scenario of events that may result in net cash outflows for one month in order to know the requisite liquid asset to

170. Basel Committee on Banking Supervision 'Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring' (2010) 1-47 <<http://www.bis.org/publ/bcbs188.pdf>> Accessed 30 July 2011

171. Lastra M. Rosa and Wood Geoffrey 'The crisis of 2007-09: Nature, Causes, and Reactions' (2010) 13 (3) *Journal of International Economic Law*, 531-540

172. Blundell-Wignall Adrain and Atkinson Paul 'Thinking Beyond Basel III: Necessary solutions for Capital and Liquidity' (2010) (1) *OECD Journal: Financial Market Trends*, 1-23

173. Basel Committee on Banking Supervision 'Principles for Sound Liquidity Risk Management and Supervision' (2008) 1-38 <<http://www.bis.org/publ/bcbs144.pdf>> Accessed 30 July 2011

174. *ibid*

175. Adrian and Shin (n 131) 419



hold to cover exposures that may result from the materialization of such events. Here, the intention is to make sure banks do not have any hindrance to access short term funding.<sup>176</sup> Some of the scenarios that could deplete bank's access to short term funding are:

Run-off of a proportion of retail deposit; partial loss of unsecured wholesale funding capacity or partial loss of secured, short-term financing with certain collateral and counterparties.<sup>177</sup>

In order to achieve the purposes of LCR, Basel III requires banks to hold high quality assets<sup>178</sup> to cover total net cash outflows<sup>179</sup> over the one month period of a stress scenario.<sup>180</sup> The emphasis on high quality assets is due to the fact that attempts by banks to raise liquidity from low quality assets during acute market stress may ignite externalities such as fire sales that may end up eroding the bank's assets and drag other banks into crisis.<sup>181</sup>

NSFR<sup>182</sup> ensures that banks have sufficient and quality liquidity to recover from a stress period lasting for a year.<sup>183</sup> In this instance, NSFR ensures that banks have “sustainable maturity structure of assets and liabilities” to withstand any long term stress.<sup>184</sup> NSFR's main target is to address mismatches between assets and liabilities of banks.<sup>185</sup> Thus, NSFR complements the LCR in making sure banks circumvent mismatches that arise from maturity transformation.<sup>186</sup> Arguably, the outcome of both LCR and NSFR may help banks adjust their liquidity risk management and policies and develop an effective contingency liquidity plan that will safeguard the banking sector.<sup>187</sup> It can therefore be argued that if the objectives of LCR and NSFR are achieved, banks will no longer be under pressure to fund their assets whenever there is distress in the banking sector as they will now have sufficient time to adjust their assets and liabilities since the funding is long term. Thus, LCR and NSFR remove the element of surprise in banks' liquidity management and this may go a long way to minimize bank run<sup>188</sup> whenever there is any sign of distress. This is because both banks and depositors will be aware that troubled banks have contingency liquidity plans and tools to boost any liquidity shortage. Furthermore, LCR and NSFR enhance the quality of assets by making sure assets are of high quality, as well as, that the size of the liquidity cushion is such that it will align with the riskiness of the bank.<sup>189</sup> Following from this, the question is: who is responsible for the implementation of liquidity standards?

BCBS gives banks the responsibility to establish a sound liquidity risk management framework for their branches and subsidiaries while supervisors ensure that established frameworks are sufficient to protect depositors and enhance bank stability.<sup>190</sup> In carrying out this function, banks must take cognisance of the legal, regulatory and operational limitations that may affect the transfer of funds.<sup>191</sup> Basel III did not

176. Basel Committee on Banking Supervision (n 137) 6

177. Basel Committee on Banking Supervision (n 170) 4

178. These are assets that can easily be converted to cash with minimal or no loss of value, Basel Committee on Banking Supervision. *ibid* 5

179. Defined as “total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days”. *ibid* 12

180. *ibid* 4

181. *ibid* 6

182. NSFR is defined as “the amount of available amount of stable funding to the amount of required stable funding”. *ibid* 25

183. Basel Committee on Banking Supervision (n 73) 8 & 9

184. Al-Darwish Ahmed et al. 'Possible Unintended Consequences of Basel III and Solvency II' (2011) 1-70 <<http://www.imf.org/external/pubs/ft/wp/2011/wp11187.pdf>> Accessed 08 August 2011

185. Gambacorta Leonardo 'Do Bank Capital and Liquidity affect real Economic activity in the Long Run? A VECM analysis for the US' (2011) 40 (3) *Economic Notes by Banca Monte dei Paschi di Siena SpA*, 75-91

186. Basel Committee on Banking Supervision (n 137) 6 & Basel Committee on Banking Supervision (n 170) 25

187. Basel Committee on Banking Supervision (n 173) 24

188. That is, when large numbers of customer withdraw their deposits from a bank at the same time

189. Basel Committee on Banking Supervision (n 173) 30

190. *ibid* 6

191. Basel Committee on Banking Supervision (n 170) 39





stipulate a 'one-size-fits-all' LCR as it gives national authorities the discretion to take into consideration circumstances inherent in their jurisdictions in determining what should be included in LCR.<sup>192</sup> This discretion can be said to be in recognition of the fact that every country has different values, laws and politics that need to be taken into consideration in determining the appropriate regulation that would suit the needs of a particular country. Consequently, it is contended that the liquidity ratio will change the way international banks operate since host countries have the responsibility to ensure that bank subsidiaries have the requisite high liquid assets to withstand pressure on banks.<sup>193</sup> This is distinct from capital standards that apply to banks on a consolidated basis which gives home countries greater responsibilities in ensuring that banks have sufficient capital buffers.<sup>194</sup> Arguably, giving host countries more roles under liquidity standards ensure that the activities of subsidiaries are within the watch of host countries and this will prevent subsidiaries from engaging in activities that may compromise the liquidity positions of their parent companies as a result of interconnectedness. To this extent, it is worth examining the type of banks that the liquidity standards set out by Basel III apply to.

As stated above, the recent global financial crisis can to a large extent be traced to the activities of SIFIs. SIFIs resorted to innovative instruments such as derivative and securitization to arbitrage the provisions of Basel II and this increased their risk exposures without any commensurate capital. LCR and NSFR tools and standards therefore apply to internationally active banks in particular because of the high exposures from their activities. However, Basel III tried to ensure a level playing ground between internationally active banks and domestic banks by making the application of liquidity tools and standards mandatory for internationally active banks but optional for their subsidiaries, branches and other domestic banks.<sup>195</sup>

Just as capital adequacy standards, liquidity ratio has also been subjected to serious criticisms. For instance, it is said that regulators should restrict their responsibilities to bank solvency while liquidity and funding issues should be left for banks.<sup>196</sup> It has also been suggested that the time spent on the introduction of liquidity ratio should be channelled to capital adequacy framework and resolution regimes as bank managements should be able to manage their liquidity as long as banks are solvent.<sup>197</sup> The increase in liquidity and capital requirements may impact negatively on output in "the short run and the long run by increasing borrowing costs and raising the user cost of capital".<sup>198</sup> In addition, holding more liquid assets as a result of LCR and NSFR may lower returns and give banks the incentive to resort to other means to increase risk taking.<sup>199</sup> It is also argued that LCR increases the cost of borrowing since it entails interbank loans with up to 30 days maturity to "be fully backed by liquid assets".<sup>200</sup> The implication of this is that:

The LCR increases incentives for banks to self-insure against liquidity shocks and to hold excess reserves, due to the reduction of the insurance function of the unsecured interbank market with respect to idiosyncratic liquidity shocks.<sup>201</sup>

Accordingly, the incentives for banks to self-insure against shock (that is, hoard liquidity) due to the lower volume and fewer participants in the interbank market as a result of LCR makes any liquidity shock in the market to have more impact on the interbank market.<sup>202</sup> However, it should be noted that in order to protect

192. This is subject to the discretion being transparent and the information made available to the public, Basel Committee on Banking Supervision. *ibid* 12

193. Cecchetti, et al (n 137) 37

194. *ibid* 36

195. Basel Committee on Banking Supervision (n 170) 39

196. Blundell-Wignall and Atkinson (n 172)

197. *ibid* 13

198. Barrell Ray, et al. 'Optimal Regulation of Bank Capital and Liquidity: How to calibrate new International Standards' (2009) 1-57 <<http://www.fsa.gov.uk/pubs/occpapers/op38.pdf>> Accessed 10 March 2012

199. Blundell-Wignall and Paul (n 172) 20

200. Schmitz W. Stefan, 'The Impact of the Basel III Liquidity Standards on the Implementation of Monetary Policy' (2011) 1-40 <<http://ssrn.com/abstract=1869810>> Accessed 11 March 2012

201. *ibid* 16

202. *ibid*



the interest of consumers and mitigate systemic risk, financial regulation should be all encompassing and not leave anything to the discretion of banks. To really achieve stability and sanity in the banking sector, it is time for soft laws to be replaced with hard laws. It is also apposite for hard laws to take factors inherent in every country into consideration in mapping out the requisite laws that will achieve efficacy in the banking sector of a country. The implication of this is that as stated above, the regulatory bodies of every country, be it the central bank or any other body, must play a significant role to achieve this and this must be combined with monetary and fiscal policies to be more effective.

Nevertheless, the next section examines the extent to which capital and liquidity standards may impact on developing countries.

### POTENTIAL IMPACT OF BASEL III ON DEVELOPING COUNTRIES

Although the recent global financial crisis started in the US, it spread to other economies as a result of interconnectedness of market. Developing economies are not left out of this as the crisis affected not only investments in these economies but also decreased their export earnings and GDP growth rate.<sup>203</sup> It may be argued that Basel III's aim is to achieve stability in both developed and developing economies due to its focus on macroprudential policies and the discretion it gives national regulatory authorities to implement some of its provisions. Nevertheless, there are a lot of criticisms against the implementation of high capital and liquidity standards by developing countries. These criticisms cannot be said to be unfounded due to factors such as corruption, poor governance and an undeveloped market that are inherent in developing countries<sup>204</sup> which may put them at disadvantage with their developed counterparts. For instance, it is said that higher capital requirements may increase the cost of lending which will invariably lower investment and GDP growth in developing countries.<sup>205</sup> Leverage and liquidity ratio provisions of Basel III may weaken trade finance by making it more expensive.<sup>206</sup> This is caused by banks being required under the leverage ratio standards "to set aside 100 per cent of capital for any off-balance-sheet trade finance instruments, such as letters of credit".<sup>207</sup> This is despite the fact that trade finance is highly collateralised and has a very low default rate.<sup>208</sup> The fact that SMEs in developing countries rely on trade finance as a major source of financing and also rely on international banks for the finance, means they will be affected immensely in the form of high credit costs.<sup>209</sup> Nevertheless, it is alleged that minimizing corruption and guaranteeing property rights in developing countries could mitigate the effects higher capital standards may have on developing countries.<sup>210</sup> Guaranteeing property rights will attract foreign direct investments and encourage private investors to invest in the economy which will invariably impact positively on it.

It is contended that the effectiveness of Basel III depends on the extent to which every nation implements its provisions.<sup>211</sup> This means that every country must have sufficient staff with the requisite skills and

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204. World Bank 'Cost of borrowing is on the rise' (2011) 1-2  
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206. World Bank 'Impact of Basel III: Trade Finance may become a casualty' (2011) 1  
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207. *ibid*
208. Alexander K. Donna, et al. 'Private Bankers' response to the Crisis: Warnings about changes to Basel Regulatory treatment of trade finance' (2011) 373-384  
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<<http://siteresources.worldbank.org/INTRANETTRADE/Resources/TradeFinancech23.pdf>> Accessed 15 March 2012
209. World Bank (n 206)
210. World Bank (n 204)
211. Caruana Jaime 'Why Basel III matters for Latin American and Caribbean Financial Markets' (2010) 1-11  
<<http://www.bis.org/speeches/sp101125.pdf>> Accessed 14 March 2012



expertise to achieve effective implementation of Basel III.<sup>212</sup> However, developing countries lack sufficient staff with the requisite skills and expertise in banking and the extent to which this may undermine the implementation of Basel III provisions cannot be overstated.<sup>213</sup>

Conversely, the BCBS did not take the interests and needs of emerging economies into consideration in proposing Basel III.<sup>214</sup> The rationale behind the attitude of BCBS towards banks in emerging economies is that they deal mostly in deposits and loans and as such Basel's provisions which targets mostly investment banks have little or nothing to do with banks in emerging economies.<sup>215</sup> Thus, it is contended that markets in developing nations are not developed enough to implement Basel III's capital standards.<sup>216</sup> In fact, it is suggested that another Basel III, that is, "Basel III-lite" be made specifically for emerging markets to accommodate their interests and needs.<sup>217</sup>

Despite the negative impacts that Basel III may have on developing countries, the Indian Government is of the view that its impact on their economy will be insignificant.<sup>218</sup> This is due to the fact that derivatives portfolios in India are minimal and India banks operate 10% Tier I capital comprising of "more than 85%" in common equity.<sup>219</sup> The implication of this is that Indian banks are either operating at standards that are almost in line with Basel III or that it has an undeveloped market that makes some provisions of Basel III inapplicable to them. However, the issue here is not the readiness of one emerging economy to implement the provisions of Basel III but the impact Basel III may have on the generality of emerging economies. As stated above, the idea of promulgating a 'one-size-fits-all' type of regulation without taking into consideration factors inherent in every country may not achieve world-wide bank stability. For instance, Nigeria has initiated a series of reforms to achieve bank stability. However, these reforms have not prevented recurring banking crises in Nigeria even though they meet international standards. The consequences of bank failures in Nigeria have been as devastating as in other developing countries.<sup>220</sup> The inability of the series of reforms to strengthen Nigerian banks can be traced to institutional and governance problems at the supervisory and regulatory level thus, reinforcing the need for regulation to take factors inherent in every jurisdiction into consideration.

## CONCLUSION

This article examined macro and micro prudential policies. In analysing this, it explored the relationships between monetary and fiscal policies and microprudential and macroprudential policies in order to determine whether each of these policies can achieve system wide stability in the banking sector. Individual banks need sufficient capital, a microprudential policy to remain a going concern but this may not be enough to maintain system wide bank stability. Macroprudential policies such as countercyclical buffer may need to be incorporated in the buffer requirements of banks to stabilise the economy whenever there is system wide credit growth. The objective of microprudential policy is the stability of individual banks while macroprudential policies aim at achieving stability in all banks. As stated in this article, both policies must work hand in hand in order to achieve stability.

212. *ibid* 7

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214. La Via Vincenzo 'Financial Rules must do more for Developing Countries' *Financial Times* (6 March 2010) <<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22850224~menuPK:34463~pagePK:34370~piPK:34424~theSitePK:4607,00.html>> Accessed 15 March 2012 & Michael Taylor 'Basel III is bad news for Emerging Economies' *Financial Times* (14 October 2010) 1-2

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216. La Via (n 214)

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219. *ibid*

220. Honohan Patrick and Klingebiel Daniela "Controlling the Fiscal Costs of Banking Crises" in Daniela Klingebiel and Luc Laeven eds, *Managing the Real and Fiscal Effects of Banking Crises* (Washington D.C: The World Bank) 2002, 15-29



There are cases where macroprudential and microprudential policies will have to be assisted by monetary and fiscal policies in order to achieve better results. For example, where increased capital standards lead to depletion in lending, interest rate which is a monetary policy may be reduced to make lending cheaper. Also, taxation which is a fiscal policy may be reduced to help monetary policy achieve a more effective result. However, when there is an economic boom, fiscal and monetary policies may be tightened to reduce inflation and stabilise the economy. All these go to show that monetary and fiscal policies and microprudential and macroprudential policies must work hand in hand to achieve stability in the whole economy.

Basel III came into existence as an aftermath of the recent global financial crisis and introduced some novel provisions aimed at limiting the systemic nature of the crisis and the role SIFIs played. Apart from strengthening the quality and the quantity of capital through placing emphasis on common equity, it provides a countercyclical capital buffer that will mandate banks to keep more capital aside when there is credit growth in the economy for subsequent use during burst. Complementing this is the conservation buffer that aims at preventing banks from engaging in such activities as share buybacks, declaration of dividends and discriminatory payment of bonuses when they are in need of more capital. By this approach, banks are meant to conserve capital during downturn and build it during an upswing. It is therefore argued that countercyclical buffer and conservation buffer have proffered a solution to the procyclical nature of Basel II. This is because capital requirements of banks rise when there is credit growth under Basel III unlike the reverse under Basel II. Another novel provision of Basel III is the requirement for capital requirements to take into consideration the micro-financial environment where a bank operates. This article argues that this approach will enhance bank stability as it recognises the differences in the values, laws and politics in every country. These differences may make the application of say capital standards for country A not to be suitable for country B. The implication of this is that a 'one-size-fits-all' type of regulation may never achieve bank stability.

The role SIFIs played in the recent global financial crisis and the sufferings tax payers went through to bail them out are still fresh in peoples' mind. Thus, Basel III introduced instruments like bail-in debt that can be written off or converted to equity either contractually or by the provision of the law in a gone or going concern situation. The aim of these provisions is to make subordinated capital to be as loss absorbing as possible while at the same time, make shareholders and creditors pay the price of any failing bank. Also, Basel III gives national authorities the power to either write-off all non-common Tier I instruments and Tier II instruments or convert all non-common Tier I instruments and Tier II instruments to common equity as a condition for the public sector to inject common equity in banks in a gone concern situation. The essence of this is to make sure investors and shareholders are not protected by the bailout of SIFIs.

As noted above, risk-weighted capital standards gave banks the incentive to take their risky assets off their balance sheets and report low risk exposures to regulators through the IRB approach. The action of banks in this instance makes their capital standards to be low. Thus, leverage ratio of 3% is introduced to circumvent regulatory arbitrage by mandating banks to maintain certain level of capital irrespective of their exposures. However, it is said that leverage ratio punishes safe banks as it makes them to maintain higher capital standards even when they are not supposed to maintain any. Furthermore, US banks practised leverage ratio prior to the recent global financial crisis and yet it did not prevent the US from being the epicentre of the crisis. Although, it is said that the crisis would have been worse if the US banks did not have any type of buffer to fall back on. This has led to suggestions that regulators should focus more on monitoring. It is contended that effective monitoring will make banks give accurate information about their risk profiles and this will give regulators the information they need to allocate requisite capital standards that will commensurate with bank exposures. This article states that effective monitoring may not work since regulators know virtually nothing about risk profiles. The fact that they will still rely on banks means that effective monitoring will be insufficient in detecting any deceit from banks. Nonetheless, Basel III introduced LCR and NSFR to make sure banks have high quality liquid





assets to cover both short term and long term exposures respectively. The need for LCR and NSFR is due to transformation problems in the banking sector and the fact that any attempt to sell low quality assets during acute market stress may ignite externalities like fire sales. It is said that regulators should leave liquidity issues at the discretion of banks and focus more on capital standard requirements because banks have more knowledge on liquidity and risk management than regulators. This article states that regulation should be all encompassing in order to be effective and regulatory authorities of every nation must play a significant role to achieve this.

The implementation of Basel III by banks in developing countries may not be a welcomed development. Apart from not having internationally active banks in developing countries, it has been argued that advising them to apply the same capital and liquidity standards as SIFIs will have an adverse effect on lending and SMEs in developing countries. Also, developing countries have governance and institutional problems that make the application of capital standards ineffective in maintaining stability in the region. This article argues that for Basel III to achieve stability in developing countries, factors inherent in them must be taken into consideration. This means that a 'one-size-fits-all' type of regulation may only end up worsening the plights of developing countries.

