PHASING-IN BASEL III CAPITAL AND LIQUIDITY REQUIREMENTS IN POST-REVOLUTION EGYPT

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Abstract

The Basel Committee has introduced a new set of capital and liquidity requirements to be introduced by the global banking system during 2013 till January 2019. Egypt possesses a well-capitalised banking sector, yet it has been exposed to the devastating shock imposed by its popular revolution. Using the GMM method, the impact of introducing the new capital and liquidity requirements on the macroeconomic performance of the Egyptian economy is examined. The results reveal that Egyptian banks are motivated to enhance capital and liquidity ratios in the case of realizing high profits and favourable conditions at the individual banking level. On the other hand, negative macroeconomic performance and a poor business environment substantially deter the preparedness of Egyptian banks to meet the Basel III requirements. The analysis is timely given the need for compliance with Basel III as one of the requirements to raise the credit rating of the devastated economy.

Keywords: Banking Regulations, Basel III, Emerging Economies, Egyptian Revolution

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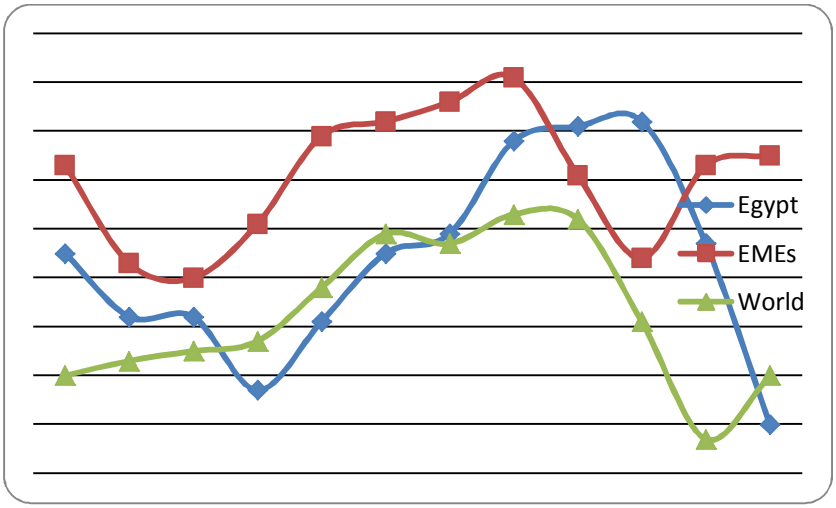
1. Introduction

The political uprising in Egypt caught most of the world by surprise. The ousting of the *ancien régime* signals an opportunity for reform. Though the triggers of the revolution may have been a combination of political repression coupled with the inequitable distribution of income, the demise of the long-time Mubarak autocratic rule was precipitated by limited opportunities for economic progress and the prevalence of youth unemployment. While the ousted regime used to boast about the high macroeconomic performance, Figure (1) shows that the Egyptian economy pales in comparison to emerging market economies (EMEs).

In fact, the better performance that was temporarily recorded amidst the Global Financial Crisis (GFC) emanated from a shallow financial sector and a relatively low level of foreign trade, not to sound economic policies (Suttle *et al*., 2010). Thus, the prospects for establishing stability are linked to the newly elected government's ability to tackle the persistent problem of low income levels – a core grievance of the protestors that toppled the former regimes.

The revolution has erupted at a time when the global economy was still desperately battling with the woes of a double-dipped recession and sovereign downgrades, making it ever more difficult for Egypt to access international financial assistance. The international community is overwhelmed with the design of stringent controls to govern the soundness of financial institutions that were the prime culprits for the global financial crisis. In 2010, the Basel Committee on Banking Supervision (BCBS), the Financial Stability Board, the International Monetary Fund and the G-20 specified a new set of capital and liquidity requirements, known as Basel III. Even though the BCBS has stretched the phase-in implementation period throughout 2012 till January 2019, the banking industry voiced concerns that the new stringent requirements would slow down economic recovery. But the problem is even more challenging for the newly emerging Egyptian democracy that is ardently endeavouring to build a democratic system based on an open economic system. Individually applying Basel III appears innocuous enough, but given the extent of destruction inflicted upon the Egyptian economy in the wake of its popular revolution, the result is devastating.

Figure 1. Real GDP Growth (2000-2010)



EMEs comprise of 47 nations selected in accordance with the classification of FTSE Emerging Market Index.

Sources: - FTSE Equity Indices Committee (2011) *FTSE Global Equity Index Series Country Classification*, The Financial Times, London.
- International Monetary Fund (2011) *World Economic Outlook: Tensions from the Two-Speed Recovery: Unemployment, Commodities, and Capital Flows*, IMF, Washington, D.C.
- United Nations Department of Economic and Social Affairs (2011) *World Economic Situation and Prospects (WESP) 2011*, UNDESA, New York.

This paper investigates the impact of Basel III on the overtaxed Egyptian economy. Such an analysis is timely given the need for compliance with Basel III as one of the requirements to raise the credit rating of the devastated economy that was downgraded by the three major rating firms from BBB+ to B-. The rest of the paper is designed as follows. The next section delineates the capital adequacy, liquidity ratios and leverage requirements of Basel III. The third section uses a two-stage model to gauge the impact of Basel III on GDP growth in Egypt. The final section concludes with policy recommendations.

2. Basel III from the Perspective of Emerging Market Economies

A voluminous literature has detected the multiple determinants of the global financial crisis (Laux and Leuz, 2010; Levine, 2010) and its channels of contagion (Rose and Spiegel, 2009; Krishnamurthy, 2010). The main culprit of the crisis is the immense illiquidity and opaqueness of banking assets, which resulted in the insolvency of many banks (Amri *et al*., 2011). Global regulations such as Basel II focused on the analysis of individual institutions' soundness without paying heed to whether the linkages across institutions may have systemic implications (Grynberg and Silva, 2006). In fact, Barth *et al*. (2006) prove that stringent supervisory and capital requirements have no significant effect on banking crisis probabilities. Also, the explicit deposit insurance schemes increase the incidence of financial crises (Edwards, 2005) since bankers shift risks to deposit insurance firms and depositors similarly lack incentives to monitor banking asset management (Reinhart and Rogoff, 2009).

Due to their increasing role in the contribution to incremental global GDP growth, emerging economies have been invited on the BCBS. Among the first complaints of EMEs is the overestimation of the risks of commercial and sovereign loans extended to them, which substantially aggravates intermediation costs (Griffith-Jones and Persaud, 2008). Undoubtedly, the liberalization efforts and the openness of the economies of these nations are apt to expose them to contagion effects (Demirgüç-Kunt and Detragiache, 1998). It is highly recommended that more stringent regulations are imposed specifically as economies become more interlinked with the global financial sector (Reisen, 2008).

However, EMEs stipulate that their economies are far less interlinked with the rest of the world in comparison to the more developed financial markets (Rennhack *et al*., 2009)) and hence it is unwarranted to expose their economies to further shocks (Jeong and Kim, 2010). Moreover, regardless of the low credit rating assigned to their nations, the banking sectors of these nations have undergone immense revamping and solid enhancement in the wake of their home-grown crises, most of which erupted in the nineties (Hayes *et al*., 2002).

There is no doubt that the benefits accruing from the capital and liquidity requirements would increase the level of shock absorbency in the banking system and the added capital buffers would help banks to withstand the shocks that arise regularly from macroeconomic policy blunders and excesses (BCBS and FSB, 2010). Moreover, the restrictions on risky

bank activities would make banks less likely to cause destructive future financial crises and would avoid propagating the shocks resulting from the economic and financial systems (BCBS, 2010b).

Basel III introduces a set of new minimum capital regulations – calculated as a percentage of risk-weighted assets – that are a major enhancement over Basel II that was mostly criticised for its pro-cyclical nature (Takata *et al*., 2010). These new stipulations, which substantially augment the quality, consistency and transparency of the capital base, will be phased in starting 2013 and fully installed on January 1, 2019. Tier 1 Capital comprises common equity, which includes common shares and retained earnings. Tier 2 Capital eliminates the difference between Lower and Upper Tier 2. Its components will have a maturity of at least five years, to be amortized on a straight-line basis, whilst avoiding accelerated repayment of the principal or coupon amounts except in insolvent liquidation. Tier 3 capital, which used to cover market risk, will be totally eliminated (BCBS, 2010a).

The Basel Committee has also proposed standardized quantitative requirements to enhance liquidity buffers in the banking system: the liquidity coverage ratio (LCR) – to be introduced during the period 2013-2014 – and net stable funding ratio (NSFR) – to be introduced in 2015. The LCR should ensure that banks can survive a severe stress situation lasting for around one month, while the NSFR metric should provide banks with reliable sources of funds over a one-year horizon under extended idiosyncratic stress (BCBS, 2010a).

The literature has so far been unable to produce a general consensus on the impact of Basel III on macroeconomic performance. At one end, the banking industry represented by the Institute of International Finance weighs the costs and benefits of implementing Basel III and concludes that the overall effect would a loss in cumulative GDP growth for five years of 0.8 percent for the G3 nations and 1.1 percent for the Euro Zone (IIF, 2011). In contrast, the forecasts conducted by the global regulators – the Basel Committee – show that the annual GDP growth rates will only fall by 0.03 percent for 35 quarters, after which they will rebound (BCBS and FSB, 2010). Given that these existing studies use different ways of estimating, gauging and operationalizing the variables and the results, it is imperative to conduct an objective and pragmatic analysis. More importantly, this study will focus on the situation of EMEs, which has not been examined thoroughly.

In spite of the differences, the findings of the IIF (2010) and the BCBS and FSB (2010) are intuitively appealing on what to expect from the implementation of Basel III in Egypt if in the US, the Euro Zone, and Japan the cost of this reform would amount to substantial cuts of economic growth and jobs. In fact, the situation is far more difficult for emerging economies due to the surge in consumption and investment expenditures and the ensuing rapid growth in loan demand, which will have a negative impact on the regulatory capital levels. This is apt to strongly impact the asset finance non-banking institutions as well as the smaller banks (Rennhack and Rogoff, 2009).

Basel III would decelerate GDP growth through the credit channel since banks would be inclined to reduce risk-weighted assets and decrease consumer and business lending to retain profits and to raise more equity (Taylor, 2010). The new capital and liquidity regulation requirements require that the banking industries of EMEs raise approximately €400 billion for Tier 1 capital base; €900 billion in highly liquid assets; and €1.5 to €2.5 trillion in long-term funding (Melecky, 2007). Moreover, the higher costs of acquiring interbank funds are expected to raise the cost of borrowing for households and businesses, to worsen the terms of trade and to decrease net exports, hence seriously impacting the living standards and the balance of payments (Saadaoui, 2011). Surely these effects are devastating for a nation like Egypt that is over-hurdled due to its exposure to two consecutive massive shocks: contagion from the global financial meltdown and the popular uprising. For this reason, it is advisable to gauge the impact of Basel III, since its adoption is quite necessary for upgrading its sovereign credit rating and for accessing the direly needed cheap funds needed to revamp its economic structure.

3. The Empirical Model: Gauging the Impact of New Credit and Liquidity Requirements

Since the outbreak of the global financial crisis the effect of the credit channel has prevailed over all other channels, making it advisable to focus on the pass through effects of this channel (Disyatat, 2010; Cappiello *et al*., 2010). Moreover, using this channel helps eliminate the effects of the external shocks exerted by the popular revolution. Using multiple regression analysis, the transmission effects impacting the economy after abiding by the requirements of Basel III, are estimated. To gauge the effect of the pass-through the credit channel, the first-differenced generalized method of moments (GMM) estimators is applied to dynamic panel data models.

3.1 Hypothesis Testing

In order to gauge the macroeconomic effect of Basel III on the Egyptian economy, two null hypotheses are tested. As indicated earlier, the banking reforms introduced by the CBE have prepared Egypt to absorb the shock. Moreover, in relation to other emerging economies, its financial sector is quite shallow and less connected to the global financial sector.

- H0: Egyptian banks will not be able to meet the Basel III capital and liquidity requirements.
- H1: Egyptian banks will be able to meet the Basel III capital and liquidity requirements.

3.2 Data Collection

The Basel Committee requires phasing in the new stringent requirements over a six-year period of time. In order to gauge the effects of the expected compliance with Basel III capital and liquidity requirements, we measure the adjustment expenses from one year to the other. This especially necessary given that the recovery from the slowdown in GDP growth is expected to be slower due to the additional problems of increasing unemployment, dwindling foreign reserves and the overall shock brought about by the popular revolution.

Undoubtedly, the experience of each bank differs from the other. Most of the Egyptian banks are already in compliance with the Basel II capital adequacy requirements, albeit at different levels. For this reason, it is imperative to use individual financial data for banks rather than employing aggregate data. The data is collected from the Central Bank of Egypt (CBE), individual financial statements of banks, the World Bank's World Development Indicators, Bank Scope, and S&P Rating Direct. In order to comprehend the expected changes in the balance sheets of banks, 72 questionnaires were piloted with bank managers and executives with the main aim of learning about the strategies that each bank adopts to gradually phase in the requirements. The response rate was quite high and amounted to 87 percent.

3.3 Methodology

A two-stage model is constructed. In the first stage, the gradual introduction of tier 1 capital, tier 2 capital, LCR and NSFR is studied from one year to the other. In order to measure the expected the impact of Basel III, the period of the study covers the six-year period from 2004-2010. The rationale for selecting this period is to cover the 39 reformed and strengthened banks after the Bank reform Plan that was enacted by the Central Bank in 2004. The period also accounts for the external shock introduced by the global meltdown and stops right before the outbreak of the Egyptian revolution. According to the results of the questionnaire, the tactics that will be used by each bank to meet the Basel requirements are introduced and simulated to the financial position of individual banks.

3.3.1 The First Stage of the Model: Adjustment Mechanisms to Basel III Requirements

The optimal level of capital and liquidity (OP) is not the same as the minimal requirement. A few Egyptian banks exceed the minimal requirements of Basel II, while others are barely close to meeting the requirements. The reaction of each bank hinges of its strategic policy, the need to build a market image and the need to upgrade its credit ranking due to more integration with global markets. Equation (1) shows that the optimal level of credit and liquidity ratios depends linearly on a number of exogenous variables: the preparedness levels achieved in the previous period, retained profits (π), the macroeconomic growth (Y) and country risk exposure (R).

$$OP_{it} = \alpha_0 + \alpha_1 OP_{it-1} + \alpha_2 \pi_{it-1} + \alpha_3 Y_t + \alpha_4 R_t + \varepsilon_{it} \quad (1)$$

where:

α : adjustment time to capital and liquidity requirements

t: year

i: the individual bank's changes in capital and liquidity

ε: error term

3.3.2 The Second Stage of the Model: Estimating Basel III Requirements

A two-step GMM dynamic panel data is used to capture the individual bank and time dimensions of observations. This is overcomes the problems of panel data autocorrelation and heteroskedasticity. To solve problems endogenous behaviour, the GMM method of Stolz and Wedow (2011) is followed. Since two-step estimates of standard errors could be downward biased, a finite sample correction of two-step correlation matrix *à la* Windmeiger (2005) is used. Equation (2) shows the initial specification of the adjustment model. The independent variables have to include banking-specific and country-specific variables. Now, the correlation between the individual effects for banks and the explanatory variables is measured as follows:

$$OP_{it} = \alpha_0 + \alpha_1 OP_{it-1} + \alpha_2 ROE_{it-1} + \alpha_3 RWA_t + \alpha_4 A_t + \alpha_5 I_t + \alpha_6 Y_t + \alpha_7 R_t + \alpha_8 P_t + \alpha_9 U_t + \alpha_{10} B_t + \varepsilon_{it} \quad (2)$$

Banking profitability – measured by the return on equity (ROE) is expected to be positively correlated with OP. The natural log of risk-weighted assets (RWA) is expected to have a negative relationship with Basel III requirements. The higher the risk exposure, the more difficult it is for a bank to access funds, hence there is no inherent endogeneity problem in this case. Equally important is the size of the bank, measured in natural logarithm of total assets, since the Central Bank would try to bail out larger banks and help it mobilise funds. In its own right, this is apt to make banks hold lower capital and

liquidity. Hence, a negative relationship is expected to persist. The interest rate spread (*I*) is equally relevant as a means of assessing the cost of raising funds for the bank. The country-specific variables comprise the political instability index (P) that measures the level of income distribution gauged by the Gini Coefficient, the Human Development Index, and the Corruption Perceptions Index. The unemployment level (U) should have a negative relationship with the Basel requirements, while the business environment (B) should have a positive relationship.

3.4 Interpretation of the Results

Table (1) presents the cross correlations between various banking variables. A positive relationship is detected between ROE and optimal levels of Basel III requirements. Thus, one would expect that banks operating in unfavourable conditions would be unable to meet the requirements. There is a negative relationship between the size of a bank and optimal requirements of capital and liquidity. Also, larger banks hold higher RWAs. Both of these findings point to the fact that larger banks tend to take higher risks since they depend on the bailout efforts of the CBE. Higher RWAs lead to more profitability, probably causing more risk-taking. The high interest rate spread leads to higher profit rates, but has low correlation with other variables.

Table 1. Cross-correlations between Banking Variables

	OP	ROE	RWA	Assets	I
IOP	1				
ROE	0.181	1			
	0.001				
RWA	0.453	0.219	1		
	0.353	0.095			
Assets	-0.314	0.112	-0.421	1	
	0.272	0.001	0.323		
I	0.223	0.4420.112	0.003	0.002	1
	0.004		0.001	0.001	

Table (2) shows the correlation for country-specific variables. There is a very high correlation between risk and political instability. Political instability has a high correlation with unemployment, indicating the strong relationship between both. High unemployment also leads to increasing sovereign risk. A healthy business environment shows a strong positive correlation with high GDP growth, but a negative relation with sovereign risk, political instability and unemployment levels. Overall, the results are consistent with theory.

Table 2. Cross-correlations between Country Economic Variables

	OP	Y	R	P	U	B
OP	1					
Y	0.267	1				
	0.000					
R	0.617	-0.131	1			
	0.000	0.000				
P	0.571	-0.423	0.632	1		
	0.021	0.221	0.011			
U	0.557	0.212	0.712	0.537	1	
	0.004	0.000	0.000	0.001		
B	0.331	0.422	-0.245	-0.573	-0.218	1
	0.001	0.004	0.114	0.213	0.116	

Results from the regression of implementing Basel III are displayed in Table (3). The positive relationship for the lagged optimal ratios at period (t-1), confirms that there is an additional adjustment cost at each period. The strong relationship between ROE and Basel requirements indicate that profits urge banks to improve their capital and liquidity adequacy. A positive correlation exists for RWAs, showing that banks are Egyptian banks are risk-averse. An increase of 1 percent in the interest rate spread causes a decrease in compliance with Basel III requirements by 5 percent. A strong and positive relationship exists for GDP and the business environment. The negative relationship is also evident for unemployment, sovereign risk and political instability indicators. This implies that a negative macroeconomic performance negatively impacts compliance with capital and liquidity ratios. The results for unemployment are insignificant.

3.5 Robustness Tests

To check for robustness, the exercise is repeated two other times for large and small banks based on the number of banks with total assets above and below the mean respectively. The results show that larger banks are more responsive to getting prepared to Basel III capital adequacy and liquidity requirements. They are also more deterred by negative macroeconomic conditions than smaller banks. This may be due to the fact that they are keener to observe high profitability ratios, especially that most of the banks in the larger sample are listed on the Stock Exchange.

Table 3. Two-step GMM Estimation

	All Banks	**Large Banks**	**Small Banks**
Lagged Optimal Ratios at period (OP_{t-1})	0.3530* (0.302)	0.3161** (0.352)	0.0161** (0.112)
Return on Equity (ROE)	0.4123** (0.127)	0.7128* (0.227)	0.3327* (0.471)
Risk Weighted Assets (RWA)	0.4438* (0.012)	0.4523* (0.011)	0.4146 (0.012)
Total Assets (A)	0.1901** (0.033)	0.1931* (0.118)	0.1364* (0.128)
Interest Rate Spread (I)	-0.050* (0.045)	-0.067** (0.014)	-0.044** (0.011)
GDP	0.126** (0.208)	0.128* (0.206)	0.107* (0.211)
Country Risk Exposure	-0.2373** (0.554)	-0.3412* (0.754)	-0.1225* (0.777)
Political Instability Index	-0.3312*** (0.062)	0.2914* (0.003)	0.2833* (0.004)
Unemployment Level	-0.211* (0.078)	-0.331* (0.101)	-0.119** (0.101)
Business Environment	0.0030* (2.543)	0.0061* (1.452)	0.0059* (1.433)
Constant	2. 112** (0.633)	3.009*** (0.604)	2.178*** (0.645)
Observations	1716	484	1232
Banks	39	11	28
Hansen ρ-value	178.41 0.125	156.11 0.139	115.67 0.35
AR2 ρ-value	0.10 0.88	0.05 0.85	0.05 0.79

***, **, * denote values for p less than 0.01, 0.05 and 0.1 respectively

4. Concluding Remarks and Policy Recommendations

The popular revolution that toppled the life-long autocratic Mubarak regime took the entire world by surprise. Confronted with the rising demands of a predominantly young and mushrooming population, the previous government was blamed for lagging service delivery, dysfunctional housing markets, massive youth unemployment, and poor efforts on the human development front. As a means of curbing the outrage of the vulnerable and the unemployed the *ancien régime* resorted to political coercion and oppression. Imprisonments, detentions and censorship served no purpose but to attract the intelligentsia and the middle-class to the side of the millions of the discontented poor and vulnerable. Indeed, the growing popular claims for "dignity, respect and freedom" have underscored the new importance of voice and accountability agenda.

But as soon as the euphoria over the Egyptian Revolution was over, the newly emerging democracy came to the realization that the nation needs to modulate its economic and social political reforms to make them compatible with the political transformation agenda. Egypt is still seriously challenged by high unemployment – especially among the youth. The devastated economy requires a total refurbishing of the macroeconomic structure; deep reforms in the education and health systems; an upgrading of the living standards of the mushrooming population; a substantial enhancement of the business environment; a total eradication of cronyism and corruption; and a considerable augmentation of the financial and banking sectors. Any deferral of these pressing needs might lead to socioeconomic unrest.

This article has tested the method of phasing in Basel III capital and liquidity requirements for Egyptian banks. This analysis is timely given the need for compliance with Basel III as one of the requirements to raise the credit rating of the devastated economy. The results reveal that banks are motivated to enhance capital and liquidity ratios in the case of realizing high profits and favourable conditions at the individual banking level. On the other hand, negative macroeconomic performance and a poor business environment substantially deter the preparedness of Egyptian banks to meet the Basel III requirements. Moreover, larger banks are more deterred by poor macroeconomic performances. As such, it is highly unwarranted to expose Egypt to such stringent restrictions.

All the more, if less integration to the world economy is rightly credited to have sheltered the less globally integrated emerging market economies, such as Egypt, from the global meltdown as Stiglitz (2010) pointed out, then Basel III – as an instrument of worldwide coordination promoting stringent capital and liquidity requirement would be difficult to sell as policy reforms in the over-burdened Egypt. Tightening the grip on the financial sector in this manner may be seen as asking for sacrifice from an already collaterally affected country to solve a crisis that originated in developed financial markets. Thus, if global policies have to be enforced unanimously everywhere, what room of maneuver would be left to domestic policies which are supposed to account for country specific context?

Considering the increasingly flourishing speculative activities that attract the banking industry, immediately begs the question whether it is the decline in the financial system's ability or simply the lack of interest or the failure to channel funds to job creating, inequality-reducing and economic enhancing investment opportunities to blame (Cecchetti, 2009). What the BCBS is not still addressing is the issue of the nature of loans/activity in which banks embark in quite often nowadays. Even when capital and liquidity requirements are met and if speculative investments continue to look attractive for the industry then Basel III would remain ineffectual. On the huge need of the banking industry's capitalization implied by the implementation of Basel III, how the industry would justify, let alone mobilize, in the current context holding as capital and liquidity buffers funds amounting to Euro 2.5 trillion?

If it is true that the all world experiences the setbacks of the international financial crisis, it is unjustified that every country requires the same treatment to go through this. For example, the spill-over effect from financial sector on sovereigns demonstrates by the extent of the Euro Zone debt crisis that even increased capital and liquidity requirements from their current respective levels can always be outpaced by the magnitude of the shocks. Seeking a global solidarity to introduce a uniform regulatory framework questions the relevance of Basel III. Although the membership of Basel Committee has increased to 27 member-nations to include 13 EMEs, the new members remain as diverse as a region that a one-size-fits-all capital and liquidity requirement would be irrelevant.

In conclusion, implementing Basel III in Egypt would turn out to be pro-cyclical, amplifying the current crisis in making things worse in terms debt accumulation, economic downturn with its corollaries of unemployment and inequality escalation and political unrest. Hence, flexibility may be required in countries like Egypt, where key engines of growth like SME are in dire lack of financing.

References

1. Amri, P., Angkinand, A.P. and Wihlborg, C. (2011) "International comparisons of bank regulation, liberalization, and banking crises", *Journal of Financial Economic Policy*, Vol. 3 No. 4, pp. 322-339.
2. Barth, J.R., Caprio, G. Jr and Levine, R. (2006) *Rethinking Bank Regulation; Till Angels Govern*, Cambridge University Press, New York, NY.

3. Basel Committee on Banking Supervision (2010, a) *A Global Regulatory Framework for More Resilient Banks and Banking Systems*, Bank for International Settlements, Basel.
4. -------- (2010, b) *Results of the Comprehensive Quantitative Impact Study*, Bank for International Settlements, Basel.
5. Basel Committee on Banking Supervision and Financial Stability Board (2010) *Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements: Final Report*, Bank for International Settlements, Basel.
6. Cappiello, L., Kadareja, A., Sorensen, C.K. and Protopapa, M. (2010) "Do bank loans and credit standards have an effect on output?"*European Central Bank*, Working Paper No. 1150, January 2010.
7. Cecchetti, S. (2009) "Crisis and responses: the Federal Reserve in the early stages of the financial crisis," *Journal of Economic Perspectives*, Vol. 23, pp. 51-75.
8. Demirgüç-Kunt, A. and Detragiache, E. (1998) "Financial liberalization and financial fragility", *IMF Working Paper* No. 1917, International Monetary Fund, Washington D.C.
9. Disyatat, P. (2010) "The bank lending channel revisited", *BIS Working Papers*, No. 297, Bank for International Settlements, Basel.
10. Edwards, S. (2005) "Capital controls, sudden stops and current account reversals", *National Bureau for Economic Research Working Paper Series*, No. 11170, NBER, Cambridge, M.A.
11. FTSE Equity Indices Committee (2011) *FTSE Global Equity Index Series Country Classification*, The Financial Times, London.
12. Griffith-Jones, S. and Persaud, A. (2008) "The pro-cyclical impact of Basel II on emerging markets and its political economy," in Joseph E. Stiglitz and Jose Antonio Ocampo (eds.) *Capital Market Liberalization and Development*, Oxford University Press, Oxford, pp. 262-87.
13. Grynberg, R. and Silva, S. (2006) "Harmonization without representation: small states, the Basel Committee, and the WTO", *World Development*, Vol. 34, No. 7, pp. 1223-1236.
14. Hayes, S., Sapota, V. and Lodge, D. (2002) "The impact of the New Basel Accord on the supply of capital to emerging market economies", *Financial Stability Report*, (December 13).
15. Institute of International Finance (2011) *The Cumulative Impact on the Global Economy of Proposed Changes in the Banking Regulatory Framework*, IIF Net Cumulative Impact Study (September).
16. International Monetary Fund (2011) *World Economic Outlook: Tensions from the Two-Speed Recovery: Unemployment, Commodities, and Capital Flows*, IMF, Washington, D.C.
17. Jeong, K. and Kim, E. (2010) "The global financial crisis: new implications and perspectives for emerging economies", *Global Economic Review*, Vol. 39, No. 1, pp. 1-13.
18. Krishnamurthy, A. (2010) "How debt markets have malfunctioned in the crisis", *Journal of Economic Perspectives*, Vol. 24, No. 1, pp. 3-28.
19. Laux, C. and Leuz, C. (2010) "Did fair-value accounting contribute to the financial crisis?" *Journal of Economic Perspectives*, Vol. 24, No. 1, pp. 93-118.
20. Levine, R. (2010) "The governance of financial regulation: reform lessons from the recent crisis", *Bank for International Settlements,* Working Papers No. 329 (November).
21. Melecky, M. (2007) "Compounded effects of external crises on GDP growth", *Comparative Economic Studies*, Vol. 49, No. 4, pp. 642-659.
22. Reinhart, C. and Rogoff, K. (2009) *This Time is Different*, Princeton University Press, Princeton, NJ.
23. Reisen, (2008) "The fallout from the global credit crisis: contagion-emerging markets under stress", in Felton A. and Reinhart, C. M. eds., *The First Global Financial Crisis of the 21st Century* Part II June-December 2008, VoxEU.org.
24. Rennhack, R. *et al*. (2009) *Global Financial Regulatory Reform: Implications for Latin America and the Caribbean (LAC)*, IMF Staff Position Note, July.
25. Rose, A.K. and Spiegel, M.M. (2009) "Cross-country causes and consequences of the 2008 crisis: international linkages and American exposure", *National Bureau of Economic Research*, Working Paper No. 15358.
26. Saadaoui, Z. (2011) "Risk-based capital standards and bank behaviour in emerging and developed countries", *Journal of Banking Regulation*, Vol. 12, pp. 180.191.
27. Stiglitz, J.E. (2010) *Freefall: America, Free Markets, and the Sinking of the World Economy*, W.W. Norton and Penguin/Allen Lane, New York.
28. Stolz, S. and Wedow, M. (2011) "Banks' regulatory capital buffer and the business cycle: evidence for Germany", *Journal of Financial Stability*, Vol. 7, pp. 98-110.
29. Suttle, P., Krauss, C. and Mazzacurati, J. (2010) *Capital Flows to Emerging Market Economies,* Institute of International Finance Research Note (April).
30. Takata, H., Shibasaki, T., Yamauchi, N. and Fukusumi, H. (2010) *Basel II Reforms' Estimated Impact on Bank Behavior*, Mizuho Fixed Income Research Department, February.
31. Taylor, M. (2010) "Basel III is bad news for emerging economies", *Financial Times*, October 15, p. 11.
32. United Nations Department of Economic and Social Affairs (2011) *World Economic Situation and Prospects (WESP) 2011*, UNDESA, New York.
33. Windmeiger, F. (2005) "A finite sample correlation for the variance of linear efficient two-step GMM estimators", *Journal of Econometrics*, Vol. 126, pp. 25-51.