HOW THE REPLACEMENT OF BASEL II BY BASEL III HAS AN EFFECT ON ECONOMIC GROWTH

Nikiforos CHATZIGAKIS
n.chatzigakis@gmail.com

Abstract

After the recent crisis, the Basel Committee decided to create a new regulatory framework, Basel III. This is because the recession demonstrated the inability of Basel II accord to prevent the economic crisis. Basel III on the other hand, has come to rectify all these weaknesses, however its focus is on liquidity risk and on regulatory capital requirements. For this reason, Basel III makes changes on capital definition and has increased the capital charges for derivatives and securities. Also, Basel III has introduced the liquidity and coverage ratio that the former is separated into Liquidity coverage ratio (LCR) and Net stable funding ratio (NSFR), which their main objective is to increase liquidity during economic stress periods. Even though Basel III has not been fully implemented and it's under construction, its main provisions of capital requirements, liquidity coverage ratio (LCR), Net stable funding ratio (NSFR) and the leverage ratio have been criticized as increasing the cost of bank lending to borrowers. Finally, it is argued that Basel III could have a dampening effect on economic growth.

Keywords: Basel II, Basel III, regulation, Liquidity coverage ratio (LCR), Net stable funding ratio (NSFR)

JEL classification:

Introduction

The Basel Committee on Banking and Supervision (BCBS) was set up in 1974-1975 in response to the crisis in the mid-seventies. Committee's goal was the allocation of supervisory responsibility for international active banks. Also, BCBS wanted to tackle systemic risk, as it was a serious problem during that period. For this reason, BCBS created Basel I as a response to the international problem of systemic risk - a problem that was not limited to national boundaries. This is because banks had invested in foreign debt and had started to do business in foreign countries. Also, banks had increasingly borrowed from each other rather than from depositors. So, Basel Committee created Basel I to impose a common regulatory framework through the Capital Accord. This regulatory framework had two objectives: The first was that this new framework should serve to strengthen the soundness and stability of the international banking system and secondly, this framework should be fair and have a higher degree of consistency in its application to banks in different countries with a view to diminish existing sources of competitive inequality amongst international banks.

The recent financial crisis revealed certain inadequacies of Basel II and for this reason the Basel committee created Basel III regulatory framework where the focus is on capital requirements and liquidity requirements – as lack of liquidity is one of the main drawbacks of Basel II and a necessary ingredient to boost the spreading of systemic risk. To better understand the effectiveness of Basel III, it is necessary first to determine how Basel III rectified the inadequacies of its predecessors.

Once the changes of Basel III are acknowledged, the next step would be to analyze the practical implication Basel III would have on the lending provisions of the banking institutions. The implementation of capital and liquidity requirements as well as leverage requirements indicate that the new regulatory accord could impede the credit provisioning to borrowers by the financial institutions. It is also examined, how the alleged decrease on lending could slow down the pace of economic growth.

Basel III: a new regulatory framework

Basel III makes changes to the previous capital regime of Basel II. Certain changes are a direct response to the inadequacies of Basel II to prevent systemic risk from spreading and thus prevent recessionary phenomena. In what follows I will examine and analyze the changes made by Basel III.

According to the Basel committee on banking supervision (BCBS), the Basel III proposals have two main objectives. The first goal is to strengthen global and liquidity regulation. The second goal is to improve the banking sector's ability to absorb shocks arising from financial and economics stress, which in turn would reduce the risk of a spillover from the financial sector to the real economy. These objectives are achieved through the changes to the capital definition and levels, and through the increase of capital charge for derivatives and securities financing transactions. These goals are also accomplished with the increase risk charge for financial institution exposures and with the introduction of leverage ratio, liquidity ratio (lCR), Net stable funding ratio (NSFR).

i) Changes on capital definition and capital charge

Banks will be required to hold a higher percentage of common equity that is, common shares and retained earnings, in their regulatory capital. The definition of capital will be simplified, with tier 3 capital being abolished. The core capital 1 increases from 2 per cent to 4.5 per cent. An extra conservation buffer of 2.5 per cent, which raises the core tier 1 ratio to 7 per cent, further strengthens it. The Basel committee has agreed on the creation of an additional countercyclical buffer consisting of common equity of a further 2.5 per cent of risk-weighted assets. This will only apply during times of rising of economic activity in order for banks to save money that can be used during recessions or severe economic stress periods.

In assessing the significance of these requirements posed by Basel III, it is useful to recall that in June 2007 Northern rock had tier 1 capital in excess of 11 per cent and total capital in excess of 18 per cent. Looking at the large banks, only RBS had tier 1 capital less than 8 percent and very few had total capital less than 12 per cent.

These requirements will be imposed on all banks. However, the Basel committee is considering to impose further capital charge to systematically important institutions (SIFIs) in order to ensure the stability of these institutions. It is believed that SIFIs will be subject to 9 percent minimum with national authorities retaining the power to impose higher standards if the deem so.

The changes made to the risk weightings proposed by Basel III apply to derivative and financing exposures as well. The primary effects of the changes proposed in the Basel III package require banks to model the risk of loss arising from deterioration of the credit counterparties of these transactions. It also require banks to identify circumstances where there is a specific legal connection between exposure and the credit risk of an instrument used to hedge that exposure. In addition, it requires banks to increase the levels of margin, which they hold in respect of over the counter derivatives and securities financing transactions. Moreover, it requires banks to maintain a small risk charge (1-3 percent) in respect of position and collateral exposures to central counterparties (CCPs).

ii) Introduction of the leverage and liquidity ratio

The leverage ratio, which is an existing technique used in the US, is implemented in Basel III. It is characterized, as "a non risk sensitive capital requirement with its purpose is to act as a backstop measure to reduce the risk of a build up of excessive leverage in the financial institutions as well as in the financial system as a whole". The argument behind the leverage ratio is that the sheer size of a banks assets and liabilities may in the end create risk. The rationale behind this is that banks should not be permitted to grow the absolute size of their balance sheet above a certain multiple of their capital no matter how well hedged they may be. The leverage limit must be 3 percent - which means that the bank's gross borrowings should not be more than 33 times the bank's tier 1 capital.

Nonetheless, the leverage ratio poses a problem. Different countries vary significantly in the extent to which they recognize netting on an accounting basis. Thus, no compromise has been reached as to the meaning of gross borrowings. The basis on which the leverage

ratio is applied must be set by regulators in order to produce a globally applicable standard. The Basel committee gives a solution to this problem by stating that the leverage ratio should be applied to the gross assets. However, regulatory netting will be recognized for derivatives. Thus, on and off balance sheet exposures may be recognized for regulatory purposes. Financial collateral and on balance sheet netting will not be recognized equally.

The liquidity coverage ratio (LCR) requires banks which hold highly liquid assets to meet all the cash outflows over a 30-day period during a stress-funding period. The rationale behind the leverage ratio rule has an important impact for the banks, because under existing rules banks hold enough assets to fund the normal outflows of the bank. LCR imposes a somewhat different view as to how fast funds can flow out, especially during economic stress periods, and instructs the bank to use its asset pool accordingly.

The basic requirement is that the highly liquid asset pool to be capable of meeting the net cash outflow over the prescribed period and therefore it is mandatory to consider inflows. Scheduled payments of interests as well as repayments of loans have the potential to reduce the net outflow. However, for this reason Basel III demands from the bank to assume that it will be ready to raise any finance from secured funding on non-governmental securities and, simultaneously, the bank will be unable to draw on any of its backup liquidity lines. In addition, the bank will be subject to 100 percent drawing on all the liquidity lines it has granted. Moreover, it will be subject to a 3-notch ratings downgrade and will, therefore, be subject to collateral calls.

The LCR asset pool must be separated and identifiable from any other asset pool the bank holds and completely unencumbered. This means that certain assets may be deemed to be ineligible for inclusion in the LCR asset pool.

The question as to which asset can be regarded highly liquid is one that has not been answered yet. Surely, government securities issued by 0 percent weighted sovereigns are to be considered as highly liquid as they are cash balances held with central banks. Similarly, other government bonds may also be included to the extent that they match net outflow in the relevant currency.

The issue with the eligibility rules which the bank has in order to determine whether an asset is liquid enough to be in high liquidity asset pool are different with the eligibility rules the central bank has in order to determine whether an asset is liquid enough and give funding to banks in return of the liquid asset.

The NFSR is designed to encourage and incentivize banks to use stable sources to fund their activities to reduce dependency on short term wholesale funding. Banks will need to increase the proportion of wholesale and corporate deposits with maturities greater than one year, but currently, the appetite for term debt is limited. For most banks it will be difficult to increase the proportion of wholesale deposits with maturities greater than one year, which is likely to lead to higher funding costs. Also, managing the NSFR by altering the asset mix will likely result in an increase in the proportion of short-term assets, reducing yield.

Basel III: rectifying the inadequacies of its predecessor

The recent financial crisis highlighted the areas that the Basel II accord failed to adequately regulate, and as a consequence Basel II regulation was proved to be ineffective to prevent or mitigated tis effects. The areas in Base II that lacked sufficient regulation was the provisions that dealt with liquidity and leverage, internal models, procyclical provisions in banking and reliance on rating agencies. The drafting Committee of Basel III recognizes the recent crisis as a liquidity crisis and as a result the focus is on liquidity without disregarding other important areas.

Liquidity was seen as the major drawback of Basel II, and indeed is an important flaw for a financial system to bear, as the systemic risk can be spread everywhere as the recent crisis demonstrated. For this reason Basel III introduced liquidity standards which are separated into two categories (LCR and NFSR) in order to respond in all contingencies of the problem of lack of liquidity. Also, liquidity standards are supported by the conservation buffer, that aims at maintaining macro prudential stability. In addition, in order to ensure stability and liquidity of the financial system, Basel III introduced the leverage ratio as well as a countercyclical buffer, which will enable banks to lend more during financial stress periods. Moreover, Basel

III endeavors to tackle the problem that interconnectedness of the financial system creates towards the realization of systemic risk.

Although Basel III main focus is on the systemic risk, it does not underestimate other weaknesses found in Basel II. For example, Basel III makes targeted amendment to the exiting capital requirements for trading books imposing new capital charge relating to migration risk, new charge for banks using value at risk (VAR) models and aligning capital charges for securitized products in the trading book with existing charges in the banking book. Further, Basel III makes other changes too such as it increases capital requirements for re-securitization. Lastly, Basel III has made provisions that eliminate incentives to rely on external ratings when calculating credit risk. International organization of securities commissions (IOSCO), which sets the code of conduct fundamentals for credit rating agencies, will also be implemented.

It has been argued that one way of successfully tackling liquidity risk is by preventing systemic risk from spreading. Shwerter has contended that Basel II failed to tackle the factors that cause systemic risk. Before demonstrating how Basel II drawbacks contributed towards the spreading of systemic risk into the financial system, it is preferable to define first systemic risk and Basel II drawbacks.

Systemic risk is the distress in the financial system caused by large institutions or many small ones that can have severe negative consequences in the real economy. Thus, the failure of one financial institution can have negative externalities on the other institutions and potentially to the whole financial system. A single bank may have the potential to take action to prevent its own collapse but may be unwilling to take action to prevent the collapse of financial system. So, a financial institution's risk may have broad effect on the financial system because each institution does not take into account the systemic risk it imposes on other banks.

Moreover, a crucial point that needs to be clarified about systemic risk is that it has two different dimensions. The first, the cross-sectional dimension, treat the structure of the financial system and includes spillover, that is the process of the effects of a single distressed bank that can harm other banks. The second dimension is referred to as time dimension and addresses the question on how cumulative risk can develop over time - and therefore considered the problem of pro-cyclicality. Pro-cyclicality is one of the main problems that have exacerbated the recent financial crisis as has as an effect to destabilize the whole financial system through amplifying financial shocks. It is of vital importance to eradicate, or at least reduce, pro-cyclicality in order to reduce systemic risk in the financial markets.

There are special factors that enable determining whether financial institutions are of systemic importance. One of the most important factors is size and interconnectedness. Further, contributing factors are idiosyncratic risk, leverage, common risk exposure, maturity mismatch and pro-cyclicality. To tackle the problem of systemic risk, the risk must first be measured and be priced. In order to measure and price the risk the spillover effect of the distressed bank has to be internalized so as to be prevented from spreading. If the effects are not internalized then the distressed institutions has the potential of destabilizing the whole financial system.

The main idea behind Basel II regulation is that it provides a regulatory framework that ensures the stability of a financial institution as well as it minimizes the risk of default of that particular institution. However, Basel II main objective should have been to guarantee the stability of the whole financial system. So one important drawback of Basel II regulatory framework is that it focuses on microprudential regulation. If Basel II had a macroprudential view in regulation and supervision then it would have been able to take stock of the direct and indirect connection of the banks through the interconnectedness response and common risk exposure. Another drawback of the Basel II framework that has been demonstrated during the financial crisis is that it does not provide any treatment to the systemic (liquidity) risk. If Basel II had treated systemic (liquidity) risk then the recent financial crisis might have been avoided or at least its harshness on the economy might have been prevented. Pro-cyclicality, which destabilizes the financial system through reinforcing financial shocks, has been increased by Basel II rather than eliminated.

Since Basel II focuses on microprudential regulation, which means that it attempts to guarantee each financial institutions well-being, this accord has failed to fulfill this task due to

the lack of concern for systemic risk and interconnectedness. To make things worse, under this accord financial institutions have significant incentives to become 'too big to fail' (TBTF), 'too many' (TMTF) or 'too interconnected' `(TITF) since it increases the possibility to be bailed out if they become distressed during a financial crisis.

Basel III provides a wide-ranging response to its predecessor's drawbacks. Its macroprudential answer is the countercyclical and conservation buffer that is used to strengthen the capital base. The latter is used to increase flexibility as it can be lowered in times of distressed whereas the former protects the financial institution sector from periods of excessive credit growth since it is only activated during such times. In addition, the latest accords tackle the international coordination problem since at least 27 member states of the committee will implement the regulatory framework. This is a great development, as the United States had not implemented the previous accord (as it regarded it voluntary), but can still implement Basel III. Thus, a pivotal banking area seems to be included in the new regulatory framework, which have as a result a more consistent regulatory landscape. However, implementation of countercyclical buffer has to be done on national level since they have to take into account the economic situations of the particular country. This entails that international coordination is quite limited.

Furthermore, Basel III provides new liquidity standards and the Net stable funding ratio as a response the systemic liquidity risk. Also, the accord's response to pro-cyclicality is the conservation and the countercyclical buffer in order to create an extra capital buffer so as to avoid excessive credit growth. However the new accord does not provide any answer to tackle the problems of TBTF, TMTF or TITF. Moreover, Basel III accord provides a sufficient response to the transparency limitation as it requires disclosure for capital and liquidity standards and the leverage ratio, as well as a publication of national countercyclical buffer and an implementation of CCPs, which highlights bilateral exposure between banks. The new Basel III framework tackles the last drawback of its predecessor - i.e. sustainability - with enhanced capital base, wider risk coverage and new liquidity standards.

Basel III effects on lending and the economy

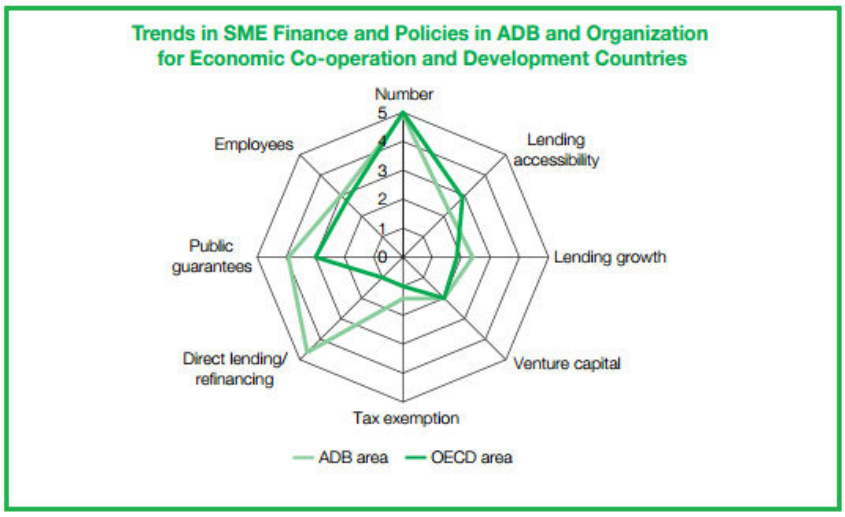
It can be argued that Basel III regulation will have an adverse effect on economic growth since banks will increase the lending premiums on borrowers and specifically on SMEs and entrepreneurs. Higher premium could mean a lower access to funding for this sector of the economy, which in turn could adversely affect global GDP. To better comprehend Basel III implications on economic growth, it is necessary first to examine the effects the increased regulatory capital, liquidity and leverage requirements will have on bank lending and on the economy.

i) Effects of increased regulatory capital

Increase of regulatory capital as required by Basel III for SMEs is due to their high probability of default (PD). For estimating the probability of default of SMEs and entrepreneurs, certain factors are considered such as its financial resilience and sustainability during a financial stressed period, asymmetric information and the size of banks.

It is helpful to examine the effects Basel III regulations would have on economic growth through the application of the regulation at small and medium enterprises (SMEs) and entrepreneurs, as SMEs amounted to more than 90% of all enterprises and employed 60%-70% of the total number of employees in both the OECD and ADB area.

Table 1. Trends in SME Finance and Policies in ADB and OECD (2013)*



Scale		5	4	3	2	1
A. SME Landscape						
Number	Share of SMEs to total number of enterprises	more than 90%	70–90%	60–70%	50–60%	less than 50%
Employees	Share of SME employees to total number of employees	more than 90%	70–90%	60–70%	50–60%	less than 50%
B. Bank Lending						
Accessibility	SME loans share to total loans	more than 50%	40–50%	30–40%	20–30%	less than 20%
Lending growth	Annual growth, latest year	more than 30%	20–30%	10–20%	0–10%	negative
C. Venture and Growth Capital Invested						
Venture capital	Relative to 2007 (2007 = 1)	more than 2.5	2.0–2.5	1.5–2.0	1.0–1.5	less than 1.0
D. Policy Responses						
Direct lending/ refinancing	Share of countries with direct lending and refinancing scheme(s)	90–100%	70–90%	50–70%	30–50%	less than 30%
Public guarantees	Share of countries with public credit guarantee scheme(s)	90–100%	70–90%	50–70%	30–50%	less than 30%
Tax exemption	Share of countries with tax incentive schemes for SMEs	90–100%	70–90%	50–70%	30–50%	less than 30%

*Based on data from ABD Asia SME Finance Monitor 2013 and the OECD Scoreboard 2013. Source:

(ABD and OECD, 2014, p. 22)

For Basel III purposes, when calculating regulatory capital, and in order banks to estimate risk, they use the probability of default (PD) in IRB approaches. According to the OECD scoreboard, SMEs and entrepreneurs demonstrate a high probability of default during and after the recent financial crisis mainly due to the fall of demand of the goods they offer. This is manifested by the increased number of bankruptcies and delays in payments.

It is reasonable to expect that an economic downturn would affect many aspects of the economy. SMEs and entrepreneurs could be highly affected by such a downturn due to lack of financing their resources and because of the fall in demand for goods. These two factors make survival of such sectors of the economy hard.

When calculating capital requirements for Basel III purposes, the borrower's PD must be estimated. It has been observed that during economically stressed periods, SMEs and entrepreneurs would be the first to absorb the consequences. For this reason, a borrower with a high PD, must sustain tightened credit requirements. This is supported by the research made by cardone-ripotella, Ponce and Briozzo that examined the effects of Basel II and III on capital as required by the regulatory accord and risk premiums for SME lending. Their research was based on Spanish SMEs and led them to the conclusion that the average PD

from the period of 2005 to 2007 was a little more than 3% while for the period of 2008 PD increased by 5,47% and further to 7,55 in 2009.

The cost of funding for SMEs would be high as it is argued that asymmetric information would make banks unable to assess the companies' creditworthiness. Because an outsider party would have lesser information about an SME, an additional premium would be required for this bias.

Another reason that access to funding is costlier for SMEs and entrepreneurs has to do with the size of the banks. Intermediary banks, cooperative banks and private banks are these financial institutions that concentrate on SMEs. For this category of financial institutions to issue a new equity, the required return would have to be higher than larger banks. These banks would have to cover capital requirements right away through retained earnings This could have a negative impact for SMEs and entrepreneurs because banks that primarily lend to SMEs and entrepreneurs, face a higher cost of funding through the equity market.

ii) Effects of liquidity requirements

As far as liquidity requirement is concerned and its effect on economic growth, it can be argued that it could increase the cost of funding for borrowers. A bank may hold high liquid assets and less liquid assets. Both have the potential to increase the cost of funding to SMEs and entrepreneurs.

A bank holding high liquid assets which do not lose their value during period of intense distress and yield lower returns than less liquid assets, these assets usually put pressure on margins and hence revenues. Because SMEs and entrepreneur's loans are considered to be less liquid assets, banks may require higher risk premiums on their loans. From this point of view, liquidity requirements could affect the cost of funding to SMEs and entrepreneurs.

Assuming that banks have commenced to purchase high liquid assets and sovereign bonds, the LCR can have two main consequences. Firstly, banks would shift their investments towards credit bank deposit and the sovereign debt which the regulator considers them more liquid than the private obligations. In addition, deposit facilities have a 100% inflow rate for the LCR in the Basel III framework. This could have the effect of reducing the credit provision. Secondly, an interest increase would lead to a decrease in assets profits, and thus a reduction of the quantity of credit. As it said in the ESBG report " the extension in the liability maturities and the reduction of asset maturities limits the intermediation role of financial institutions". In conclusion, the LCR could hamper the lending provision of the bank in terms of quantity and alterations in maturity patterns.

The adoption of NSFR has the potential to lead to a more stable and long term funding that could have the effect to increase the lending costs. The price effect of this requirement would be to increase the average price for borrowing as resorting to banking resources at the expense of other will increase. In addition, collecting more long term savings could lead to an increase in the demand of savings. The volume effect of the NSFR would be to increase the average cost of lending which comes due to the replacement of long term for short term funding. As its mentioned in the ESBG report "the revenues will decrease due to the limitation on the balance sheet size, and will increase in other sources of revenues in order to preserve bank profitability, which is essential for ensuring banks access to markets." The report concludes that this situation would lead to an increase of the credit cost

iii) Effects of leverage requirements

The Leverage requirement can be seen as a cross check of the risk based approach. It is based on the amount of tier 1 capital to the accounting balance sheet. This measure purpose is to avoid creating a big balance sheet. However, it has its gray areas. First accounting regulation and accounting balance sheet rules differ among countries. Hence, the leverage ratio's implementation differs from country to country and has been criticizing as inciting unfair competition internationally. Secondly, the leverage requirements promote a change from large balance sheets to smaller ones. This means that banks with large low risk balance sheets would be required to hold more capital than banks with smaller high risks balance sheets. Banks having smaller balance sheets suggest a decrease in revenues.

As it can be deduced, the leverage requirements limit new business and this could have an impact for SMEs and entrepreneurs access to lending. The leverage ratio doesn't distinguish SMEs loans from other assets and in this way, it may not affect SMEs and entrepreneurs specifically, rather the total supply of credit.

Effects on economic growth

The purpose of Basel III is to reduce a probability of a future financial crisis and prevent systemic risk from spreading. Thus, Basel III purpose is to promote stability in the financial system. As it is argued, Basel III regulations could increase the cost of lending, especially for SMEs and entrepreneurs which play a pivotal role for a country's economy as SMEs amounted for more than 90% of all enterprises and employed 60%-70% of the total number employees in both OECD and ADB area. To conclude, increase of the cost of lending could have a negative impact on economic growth.

Furthermore, the impact that a potential credit increase might have on economic growth has been analyzed by Slovic and Cournede. . As described at the OECD report "the likely impact of Basel III on bank lending spreads (table 2) can be calculated by combining the estimated bank lending spread sensitivities (table 3) with the reaming bank capital increases described in table 4". In order for banks to meet the regulatory capital requirements as imposed by Basel III in 2019, they would have to increase their lending spreads on average by approximately 50 basis points.

Table 2. the impact of Basel III on bank lending spreads

	Remaining Capital Increase (percentage points)		Increase in Bank Lending Spreads (basis points)	
	2015	2019	2015	2019
United States	0.6	3.1	12.3	63.6
Euro area	1.3	3.8	18.6	54.3
Japan	1.7	4.2	14.3	35.3
Average (unweighted)			15.1	51.1
Average (GDP weighted)			15.6	52.9

Source: Authors' estimates.

Table 3. Increase in bank lending spreads for a one percentage point increase in bank capital

	$r_t^E - r_t^L$ (basis points)	AL (percentages)	RWA (percentages)	$r_{t+1}^{AL} - r_t^{AL}$ (basis points)
United States	12.7	47.5	76.4	20.5
Euro area	9.4	35.4	53.9	14.3
Japan	7.7	66.0	72.0	8.4
Average (unweighted)				14.4
Average (GDP weighted)				16.1

Note: The input data of the estimation represent an average of the last three pre-crisis years (2004-2006) calculated based on aggregated bank balance sheets.

Source: Authors' estimates.

Table 4. Remaining increases in bank capital ratios

	Capital Increase Required until 2015 (percentage points)			Capital Increase Required until 2019 (percentage points)		
	Required	Achieved	Remaining	Required	Achieved	Remaining
United States						
Tier 1	2.0	1.6	0.4	4.5	1.6	2.9
Common Equity	2.5	1.9	0.6	5.0	1.9	3.1
Euro area						
Tier 1	2.0	1.4	0.6	4.5	1.4	3.1
Common Equity	2.5	1.2	1.3	5.0	1.2	3.8
Japan						
Tier 1	2.0	1.5	0.5	4.5	1.5	3.0
Common Equity	2.5	0.8	1.7	5.0	0.8	4.2
Average (unweighted)						
Tier 1	2.0	1.5	0.5	4.5	1.5	3.0
Common Equity	2.5	1.3	1.2	5.0	1.3	3.7

Source: IIF, Authors' calculations.

The effect of implementing Basel III capital requirements, which were to be effective as of 2015 (4,5% for the common equity ratio, 6% for the tier 1 capital ratio), banks would be require to arise their lending spreads on average by about 15 points. If capital requirements are effective as of 2019 (7% for the common equity ratio, 8,5% for the tier 1 capital ratio) the lending spreads would increase by about 50 points.

Table 5. Macroeconomic impact of 2015 Basel III capital requirements

	GDP level (percentages)					GDP growth (percentage points)
	Year 1	Year 2	Year 3	Year 4	Year 5	annual
United States	-0.01	-0.04	-0.07	-0.10	-0.11	-0.02
Euro area	0.00	-0.04	-0.17	-0.26	-0.39	-0.08
Japan	0.00	-0.05	-0.07	-0.17	-0.19	-0.04
Average (simple)	0.00	-0.04	-0.10	-0.17	-0.23	-0.05
Average (GDP weighted)	0.00	-0.04	-0.11	-0.17	-0.23	-0.05

Source: Authors' estimates.

Table 6. Macroeconomic impact of 2019 Basel III capital requirements

	GDP level (percentages)					GDP growth (percentage points)
	Year 1	Year 2	Year 3	Year 4	Year 5	annual
United States	-0.05	-0.20	-0.34	-0.49	-0.59	-0.12
Euro area	0.00	-0.13	-0.51	-0.76	-1.14	-0.23
Japan	0.00	-0.12	-0.18	-0.41	-0.47	-0.09
Average (simple)	-0.02	-0.15	-0.34	-0.55	-0.73	-0.15
Average (GDP weighted)	-0.02	-0.16	-0.38	-0.58	-0.79	-0.16

Source: Authors' estimates.

The macroeconomic impact of implementing Basel III on GDP growth is in the range of -0.05 to -0.15 percentage per annum. More specifically, if Basel III requirements were fully effective as of 2015, the decrease of GDP in United states, Euro area and Japan has been estimated to decrease on average by -0.23% 5 years after the implementation by banks. This means that it would lead to a -0.05-percentage point decrease on GDP growth. If on the other hand Basel III requirements were in force as of 2019, the macroeconomic consequences would be larger. It would mean to have an average impact on annual GDP growth about -0.15 percentage point.

Table 7. Macroeconomic impact of a 100 basis point increase in bank lending rates

	GDP level (percentages)					GDP growth (percentage points)
	Year 1	Year 2	Year 3	Year 4	Year 5	annual
United States	-0.08	-0.31	-0.54	-0.77	-0.93	-0.18
Euro area	0.00	-0.23	-0.93	-1.40	-2.10	-0.42
Japan	0.00	-0.33	-0.50	-1.17	-1.33	-0.27
Average (simple)	-0.03	-0.29	-0.66	-1.11	-1.45	-0.29
Average (GDP weighted)	-0.03	-0.28	-0.69	-1.08	-1.45	-0.29

Note: The numbers include international spillover effects among the three economies. The spillover effect of a 100 basis point rise in lending rates on GDP level in the 5th year is on average about -0.35 percentage point; the GDP weighted spillover effect is about -0.30 percentage point. The international spillovers have the highest impact on Japan, and the lowest impact on the United States. The analysis in the rest of this study takes these effects into account.

Source: Authors' estimates.

*The above data and tables are derived from Slovik P. and B. Cournede (2011), "Macroeconomic Impact of Basel III", OECD Economics Department Working Papers, No. 844, OECD Publishing.

However, it has been argued that the dampening effects on the pace growth by Basel III would have a temporary impact and in the long run it may even have a positive effect by creating a stable financial structure that would incite economic growth. In the same vein, it has been stated at the Capgemini report about the impacts of regulations on bank lending that as banks are required to increase their capital reserves and avoid obtaining high risk weighted assets in accordance with Basel's regulatory requirements, they would notice a decrease of their cost of capital due to enhanced portfolio risk and a lower risk premium for high quality assets. This would have the effect to better credit margins in the long run.

It is noteworthy to say that estimating the impacts of Basel III is a difficult task and even more demanding for when assessing the impact to SMEs. This is partly due to lack of robust data. Although some data for SMEs are readily available, data for the majority of SMEs associated with credit supply is difficult to come by as most of SMEs are informal business that are invisible to policymakers and regulators. Also, lack of common SME definition can create inconsistencies at the application of regulations among countries. For example, some loans to very small businesses are treated as consumer, rather than commercial lending.

Countercyclical buffers and liquidity standards are two new characteristics that have been added in Basel III regulatory structure. Hence, data on the lenders behavior regarding these two requirements is not available. As it has been stated in ACCA report, "this behavior must be modeled instead using analogous but naturally occurring trends". Although it might be easy to do it in the case of the countercyclical buffer, it is much harder for the liquidity requirement.

Conclusion

Basel III as it has been demonstrated, it is a refinement of Basel II as new provisions have been introduced which regulate areas that have been neglected or inadequately supervised by its predecessor. It is difficult to say whether Basel III is capable of preventing a future economic crisis as it is still under construction and is not yet fully completed. Furthermore, it can be argued that Basel III main features could stand as a hurdle to the lending provisions of the financial institutions. However, this cannot be conclusive as these characteristics are implemented and take effect for the first time. As long as Basel III effects in economic growth are concerned, it can be contended that although it may seem that the new regulatory accord decelerate economic growth in the short term; in the long run Basel III could work as a safe financial structure impeding excessive risk. In this way, Basel III could provide a stable and sound platform for economic growth.

References

ABD and OECD, 2014. ADB–OECD Study on Enhancing Financial Accessibility for SMEs-Lessons from Recent Crises. [Online] Available at: http://www.oecd.org/cfe/smes/adb-oecd-study-enhancing-financial-accessibility-smes.pdf [Accessed 4. November 2014].

Acharya V, Richardson M, 'Restoring Financial Stability-How to Repair a Failed System' (1st edn, Wiley, New York, 2009)

Angelkort , A. & Stuwe, A., 2011. Basel III and SME financing. [Online]

Available at: http://library.fes.de/pdf-files/managerkreis/08528.pdf [Accessed 29. October 2014].

Borio C, 'Towards a macroprudential framework for financial supervision and regulation?' http://cdi.mecon.gov.ar/biblio/doc/ifo/econstudies/2-03.pdf#page=43

Brunnermeier M, Crocket A, Goodhart C, Persaud A, Shin H, 'The Fundamental principles of financial regualtion' (2009) http://www.princeton.edu/~hsshin/www/Geneva.pdf

Capgemini, "Impact of Regulations on Bank Lending" (2014), https://www.capgemini.com/resource-file-access/resource/pdf/impact_of_regulations_on_bank_lending.pdf

Cardone-Riportella, C., Trujillo-Ponce, A. & Briozzo, A., 2011. What do Basel Capital Accords mean for SMEs?. [Online] Available at: http://e-archivo.uc3m.es/bitstream/handle/10016/10892/wb111004.pdf;jsessionid=7BAF0B76309233D37527749EB74ACF36?sequence=1 [Accessed 11. November 2014].

Clifford Chance, 'Basel III-the shape of banks to come' (2010) http://www.cliffordchance.com/content/dam/cliffordchance/PDF/Basel_III_lowres1.pdf

Elliot, D. J., 2010. Basel III, the Banks, and the Economy. [Online] Available at: http://www.brookings.edu/research/papers/2010/07/26-basel-elliott [Accessed 11. November 2014].

Elliott, D. J., 2010. A Further Exploration of Bank Capital Requirements: Effects of Competition from Other Financial Sectors and Effects of Size of Bank or Borrower and of Loan Type. [Online] Available at: http://www.brookings.edu/~/media/research/files/papers/2010/1/29%20capital%20elliott/0129_capital_requirements_elliott [Accessed 3. November 2014].

ESBG, "ECONOMIC DEMONSTRATION OF THE ECONOMIC IMPACT OF LIQUIDITY RATIOS OF LIQUIDITY RATIOS IN PARTICULAR FOR SME LENDING", (2014), http://www.savings-banks.com/SiteCollectionDocuments/ESBG_BRO_SMELENDING.pdf

Kaserer C, 'Regulierung und Aufsicht der Banken: Brauchen wir Basel III?' http://www.cesifo-group.de/portal/pls/portal/docs/1/1193822.PDF

kpmg, 'Basel III: Issues and Implications' (2011) http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/basel-III-issues-implications.pdf

Lehar A, 'Measuring systemic risk: a risk management approach' (2005) JBF 2577

OECD, 2014. Financing SMEs and Entrepreneurs 2014- An OECD scoreboard. [Online] Available at: http://www.oecd.org/cfe/smes/SMEs-Scoreboard-2014.pdf [Accessed 4. November 2014].

OECD, 2014. G10 Countries. [Online] Available at: http://stats.oecd.org/glossary/detail.asp?ID=7022

Shwerter S, 'Basel III's ability to mitigate systemic risk' (2011) JFRC

Siegl C, Heidinger M, 'Basel III-an Overview' (2011) FITAR 3

Slovik P. and B. Cournede (2011), "Macroeconomic Impact of Basel III", OECD Economics Department Working Papers, No. 844, OECD Publishing. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP(2011)13&docLanguage=En

Vale, B., 2011. Effects of Higher Equity Ratio on a Bank's Total Funding Costs and Lending. [Online] Available at: http://www.norges-bank.no/Upload/Publikasjoner/Staff%20Memo/2011/StaffMemo_1011.pdf [Accessed 30. October 2014].

Walker G, 'Basel III market and regulatory compromise' (2011) JBR 97