Basel and Securitization: Conflicting Incentives and Rationales*

David Augusto Echeverry Botero **

Abstract

The financial crisis presented in 2007 has a number of similar factors with the 1929 crisis; an environment of economic deregulation preceded both. There are in banking systems a series of incentives and rationales that, depending on the position occupied in the financial market, are constantly in conflict with the regulation and with the principles set out in Basel for the proper functioning of the system.

Consequently under the creation of new mechanisms, such as the securization or the futures market, the incentives will greatly influence the financial market actors, to not comply with their obligations (Basel I, II, and III), because they could achieve greater profit for them and for the institutions they work for. Therefore the measures contained in Basel III, as a reaction from the financial crisis (based primarily on increasing risk capital and reduce leverage), could if not accompanied by an effective policy control, will not be efficient in the long term to control the market, so may be a new economic crisis will occur.

Keywords: Basel, incentives, securitization, rationales, leverage, venture capital, risk qualifiers, rational agent, liquidity, systemic risk, credit risk.

Resumen

La crisis financiera presentada en el 2007 reviste una serie de factores similares a lo que generó la crisis de 1929, precedidas por un ambiente de desregulación económica. Existen entonces dentro

Recepción del Articulo: 2 de julio de 2014

Aprobación del Articulo: 2 de septiembre de 2014

* This article was a product of the investigation due at the University of Melbourne under the master program of Commercial law, made for the subject of Banking and finance Law. The Investigation finished in 2013.

** Abogado de la Pontificia Universidad Javeriana, Magister en derecho Económico de esta misma Universidad, y Master of Commercial Law (LL.M) de la Universidad de Melbourne. Docente de la Maestría en derecho Económico de la Universidad Javeriana en las materias de Investigación científica y Seminario de investigación. Se desempeña igualmente como docente de las materias de Derecho Comercial General y Derecho Comunitario e integración económica en la Universidad Politécnico Grancolombiano. Ha sido litigante y asesor en varios procesos contractuales, señalando su participación en el grupo que realizó el estudio sobre la viabilidad económica y financiera de la flota mercante Grancolombiana y la empresa con el mismo nombre, también fue asesor en el proceso de TELECOM - PAR - en liquidación contra PLESCOM. Ha desempeñado funciones administrativas y de gestión en el Parlamento Andino y el Instituto de Altos Estudios para la Integración y el Desarrollo Legislativo - IDL. Correo Electrónico: davidaugustoecheverry@yahoo.es

de los sistemas bancarios una serie de incentivos y racionalidades que, dependiendo de la posición que se ocupe dentro del mercado financiero, están constantemente en conflicto con la regulación y en especial con los principios establecidos en Basilea para el correcto funcionamiento del sistema.

En consecuencia al presentarse nuevos mecanismos de negocios, como la titulación o el mercado de futuros, estos incentivos van a influenciar enormemente en los agentes del mercado financiero, para que incumplan sus obligaciones (Basilea I, II, y III). Así logran una mayor ganancia tanto para ellos como para las instituciones a las que pertenecen.

Por lo anterior las medidas contenidas en Basilea III, que se basan principalmente en aumentar el capital de riesgo y disminuir el apalancamiento, si no se acompañan con una política de control efectiva, teniendo en cuenta los incentivos y al agente racional dentro del mercado, no van a ser eficientes en el largo plazo, siendo posible que se produzca una nueva crisis económica, si se encuentra un nuevo instrumento financiero apto para ello.

Palabras clave: Basilea, incentivos, titularización, racionalidades, apalancamiento, capital de riesgo, capital mínimo requerido, calificadores del riesgo, agente racional, liquidez, riesgo sistémico, riesgo.

I. Introduction

The 2007 financial crisis showed that in securitisation there are misalignments, different incentives and rationales between the agents of the transaction.[1] However, the revised documents do not analyse how, in securitization, there are other incentives that comes from the nature of the banking business and the economic rationale, and how those different incentives are conflicting with Basel and the rationale behind Basel's principles.

This research aims to find how the 2007 crisis started and why Basel I and II was not enough to prevent it. Also aims to analyse the new measures implemented by Bassel III as a reaction to the crisis, and find out if they are enough to prevent another crisis in the future. In order to do that, this paper will describe how the securization works, then review the main meausures to protect financial consumers and then analyse Basel III changes.

In the face of securitization, it is possible to find three unexposed incentives that conflict with Basel rationale. There are (i) the incentive of profit maximization of the Banks and other participants in the market, (ii) the incentive of profit maximization of the Bank's employees, and (iii) the incentive to take higher risks for biggest banks since, as their paramount importance in the financial markets, governments cannot let them default or bankrupt. These three incentives determine the bank's behaviour in the market and the use of complex and creative vehicles, as securitization.

Under basic economic rationale, any participant in a market is driven to maximize

[1] See i.e. J Mitchell and I Fender, *´The future of securitisation: how to align incentives?´*, BIS Quarterly Review, September 2009; Joint Forum, *´Report on Asset Securitization Incentives´*, Bank for International Settlements, July 2011, p 9-18; D Munoz, *´SEC v Goldman Sachs and the new Wave of (Asset-Backed) Securities Litigation. What are the Arguments? What is at Stake?´*, [2010] LFMR 413-420; S Schwarcs, *´The Future of Securitization´*, (2009) 41 Conn L Rev 1315-1325

their own benefits. This is the more basic and powerful incentive and the engine of the capitalist economies, in which the participants in the markets create business to achieve that purpose. Banks and other financial institutions are Businesses and therefore driven by that purpose.

In the same way, bank´s employees and other participants have the incentive to maximize their own profit. Their profit usually, as seen in the 2007 financial crisis, is attached to the more financial products they sell to the most people in the shortest time, without taking into account within the metric if the sale may generate a future risk to the stability of the bank. (Bank for International Settlements, 2011 p 6 par 27) 'Many of the market participants interviewed agreed that compensation for employees in the financial institutions and the model for revenue generation led to systematic misalignments.' (Joint Forum, 2011, p 14)

Finally, biggest banks, treated in Basel as Global systemically important banks, are aware of their importance in the financial system. Therefore Governments have to come in their rescue if they are in problems because their bankruptcy represents a very big problem to the economy of those countries. Consequently they have an incentive to be less careful and to involve in riskier segments. (Bank for International Settlements, 2011, p 1-2 par 3)

In contrast, Basel principles and requirements were created to protect consumer's deposits, granting that banks have the sufficient strength to make loans, under certain conditions, that would not compromise the consumer's money. That is the rationale behind the capital, buffers and leverage requirement: ensure that the bank can respond with its obligations. (Bank for International Settlements, 2011)

This work intends to explain how this conflict affected securitization in the context of the 2007 financial crisis, exhibit the most important measures taken in Basel III to correct that problem, and expose how other financial vehicles would be affected by the same conflict in the future. In other to do that in the first part it will explain what is securitization, how it works and how the incentives affected it. In the second part analyse Basel III reforms as response to those incentives, and finally in the conclusion explain how the unresolved conflict could generate another financial crisis if banks and control agencies are not effective in the implementation of Basel III.

II. Securitization and incentives

A. How Securitization Works

To understand how the described incentives affect securitization, is necessary understand what is securitization in the first place

> 'Securitization is a financial technique in which the cash flow from an underlying pool of assets is used to service at least two tranches of notes reflecting different degrees of risk. A key aspect of securitization is that the creditworthiness of the notes is de-linked from the credit risk of the originator.' (JJ de Vries Robbé, 2008, p 3)

This financial technique or financial instrument has inherent flexibility that allows the banks, when they act as originators, to produce different kind of negotiable products for investors, while them 'freed up' capital to be applied to other transactions. (Ibid)

Securitization basically has three elements or characteristics:

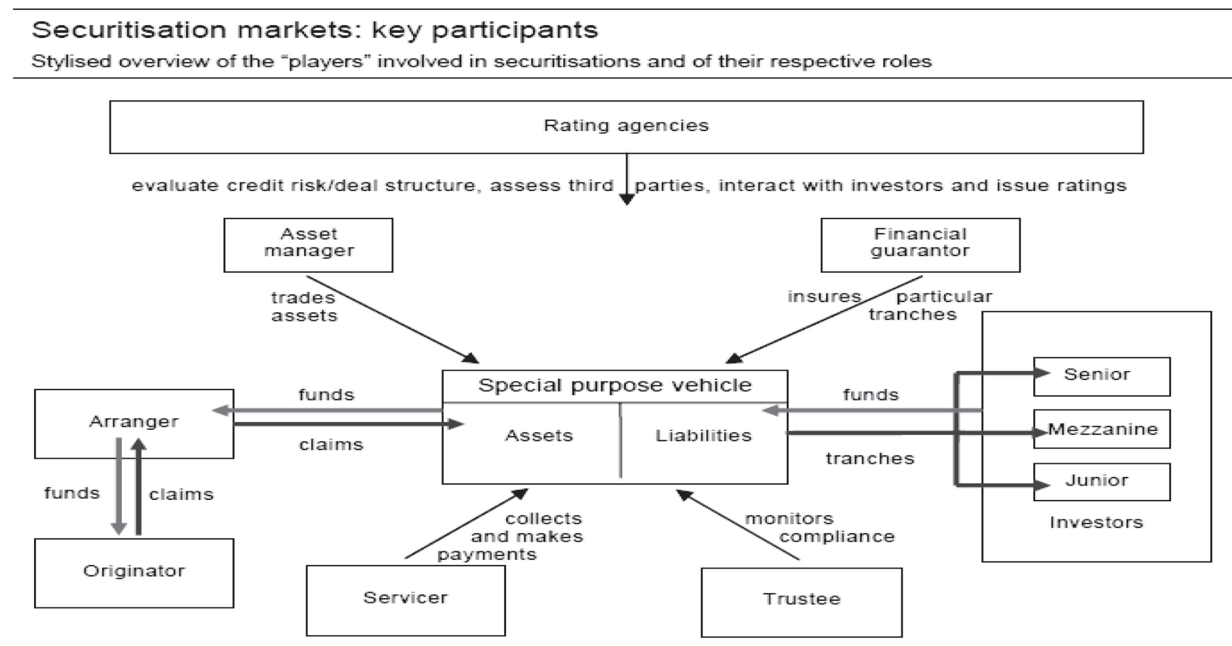
> '(1) pooling of assets (either cash-based or synthetically created); (2) delinking of the credit risk of the collateral asset pool from that of the originator, usually through the transfer of the underlying assets to a finite-lived, standalone special purpose vehicle (SPV); and (3) trenching of liabilities (i.e. issuance of claims with different levels of seniority) that are backed by the asset pool.' (Mitchell and Fender, 2009, page 29)

In this context the basic participants in a securitization are (i) an originator, who creates the assets that are going to into the pool, (ii) an arranger, who structure the transaction, and is in charge to sell the notes to the investors (the originator and the arranger when a bank is involved, can be the same person), (iii) special purpose vehicle which '(...) insulates the note holders from the credit risk of the originator.' (Vries Robbé, 2008, p 14)

As in securitization the credit risk is transferred from the banks to the investors, it is important to define credit risk '(...) which is the risk that a counterparty, whether a participant or other entity, will be unable to meet fully its financial obligations when due, or at any time in the future.' (Bank for international settlements, 2012, p 19)

There are more participants which have their own roles in securitization. As shown in the graphic below they complement the transaction and make it possible. However, from the graphic is easy to notice how

Graph 1



Source J Mitchell and I Fender, 'The future of securitisation: how to align incentives?' September 2009, BIS Quarterly Review, page 31

complex is this vehicle and how hard is to understand the risks of it.

The assets that are going into the pool are receivables. The receivables are those kinds of rights that the creditor has and gives him the possibility to receive interest payments in instalments (i.e. book of debts or mortgages) for a loans, goods sold or services rendered, that he has made to third parties. (Vries Robbé, 2008, p 20). One of the main characteristics of the receivables is that it grants a cash-flow to the creditor until the loan is totally paid.

In this context securitization, related with banks, works as following: The bank is the creditor of some monetary rights because of their normal business operation. Those loans are receivables in its balance sheet. Being loans, it has an inner credit risk of default from the debtors. Because of that, are affecting the leverage ratios, buffers and consuming capital, as required by Basel, something that limits the banks possibility to make other loans or investments.

Nevertheless those receivables are assets which can be transferred to a special purpose vehicle to make the pool of assets, basis of the securitization, and liberate resources to make other investments or loans. As banks can be arrangers, it is a win-win business to make a securitization based on its receivables since banks, in one hand, liberate resources by transferring its credit risk to the investors allowing them to make other investments that would generate profits, an in the other hand, are charging fees for arranging the operation.

After going into the pool, those receivables constitute the collateral of the securitization. Then the tradable notes are created based on the pool of assets. Finally those notes will be selling in the capital markets to investors.

In the Capital markets, it is important for the investors to have a rating of the notes as key information for their investment decision. That is where the rating agencies come into play. The rating agency makes an opinion evaluating the credit risk and the securitization structure and qualifies the notes where the maximum score is AAA. (Mitchell and Fender, 2009)

In securitization it is possible to obtain a better ranking of the notes as a consequence of the separation of the collateral from the originator

> 'The process of securitisation leads to a separation of the assets from the credit quality of the originator. It allows smaller institutions, unrated corporations, or those with a non-investment grade credit rating, to access the capital markets based solely on the credit quality of the collateral they originate. Through securitisation, these entities may be able to access financing rates appropriate for "AAA" credits.' (Bank for International Settlements, 2011, p 10)

Even though the agencies are directly influencing investors' decisions with their opinions and qualifications, they produce this analysis usually by request of the originator who is, in most of the cases, the same who pays the agencies fees.

As agencies' rankings are only opinions, it does not take away the investors' burden of due diligence in their investments. Investors' due diligence implies that even if the ranking is reliable, when they are facing complex transactions, they shall take into

account other issues that affect the risk of the notes as transferability, regulation, taxes, confidentiality or securities inter alia.

The ranking of the notes depends on the 'waterfall'. The 'waterfall' is a priority of payments, (Vries Robbé, 2008, p 27) '(…) a set of covenants dictating the ranking of interest and principal payments and the allocation of loss among investors.' (Ibid, p 48) In this context the risk of the upper tranches (junior or mezzanine, see i.e. the graphic1 above) depends on the lower tranches so, in cases of default, they are the first in assume the losses, and only until the lower tranche has finished their collaterals, the upper tranches start to have a loss.

After the division of the notes in tranches, the upper ones can have a very good ranking and achieve most of the times the AAA qualification. However is important to take into account that the ranking of the notes are also based in econometric models which depend sometimes in historic data. (Schwarcz, 2009)

In this context securitization provide benefits: (i) '(…) securitization provide a diversification of funding sources and lower funding cost (…)' (Joint Forum, July 2011, p 10) (ii) make available stable resources that can be found in capital markets, (Ibid) (iii) permits other institution, that sometimes are not big enough to access to the capital markets when they have a good collateral, (Ibid) (iv) makes possible for the collateral holder to change a non-liquid asset into a liquid asset to rise founds, (Ibid) (v) could be used as a risk manage tool, and (vi) provide to the investors' with different kind of notes that would represent a portfolio diversification. (Ibid, p. 12)

B. How Incentives Affected Securitization in the financial crisis

1. Maximization of the Bank's and Financial Institution Profits Skipping Basel

Under Basel rationale, the use of a financial vehicle (i.e. securitization) to translocate the credit risk to investors', and/or translocate it to other financial institutions, specific purposes vehicles or shadow bankers (Bank for International Settlements, 2011, p 6 par 27) that does not have the sufficient strength (because they are not are not required to comply with the requirements of Basel) in order to increase profits, generates an excessive liquidity in the market and big risk of collapse to the financial system, as the matter of facts occurred in the 2007 financial crisis.

Basel imposes to banks restrictions about capital and leverage as a way to back up banking and financial transactions aiming to protect the financial system from excess of liquidity: '(…) The build-up of leverage also has been a feature of previous financial crises, for example leading up to September 1998.' (Bank for International, 2010 (rev 2011), p 4 par 16)

These measures are in the bottom the final protection of the public deposits' and the guarantee that the banks or other financial institutions, covered by Basel, are going to fulfil their obligations in the short and middle term. In this context liquidity is the most important item for financial markets.

As professor Schwarcz explains very clear

> '(…) the loss in market value of investment securities held by banks and other financial

> institutions (...) represents a liquidity problem, in that the financial markets have few buyers for these securities. Because the intrinsic value of these securities is much greater than their market value, these institutions are not necessarily insolvent in the traditional sense of a fair valuation of their assets being less than their liabilities. Some institutions may well be insolvent, though, in the term's other (and less used) sense of being illiquid—being unable to meet their liabilities as they come due. This would occur where institutions need to sell investment securities to meet those liabilities, and the market price that would be received in the sale would be insufficient.' (Schwarcz, 2009, Paper Series No. 222, p 554)

One of the main reasons why the financial crisis became so severe was that the banking sectors of many countries had built up excessive on- and off-balance sheet leverage. (Bank for International Settlements, 2010, p 1 par 4) This was accompanied by a gradual erosion of the level and quality of the capital base. (Ibid) At the same time, many banks were holding insufficient liquidity buffers. (Ibid)

For that reason the financial system was not able to absorb the resulting systemic trading and credit losses nor could it cope with the re-intermediation of large off-balance sheet exposures that had built up in the shadow banking system. (Ibid)

Sadly, the misuse of securitization was the origin of those problems. Securitization is a financial vehicle or instrument that has its advantages and disadvantages. Therefore it cannot be evil perse. In example, in the 2007 financial crisis the subprime mortgage provided access to credit to borrowers that were risky and therefore have almost no access to any kind of credit to buy a house. (Schwarcz)

> 'This model worked brilliantly so long as home prices appreciated, as they had been doing for decades. The model also was consistent with the government's strong encouragement of lenders to make mortgage loans to low income—and often "disproportionately minority"—borrowers.' (Ibid p 550)

Nevertheless, although securitization had a big role in the financial crisis, it is wrong to blame the vehicle for the driver's mistakes. Banks and other institutions (described in Basel III as shadow banking) used this financial instrument to raise more profits skipping Basel rationale by transferring the risk to investors, freeing up capital, and selling notes in the credit markets, while they were encouraging their employees to raise their own profit.

In conclusion, in the financial crisis, an excessive leverage that was off the balance sheet, and therefore flooding the market with excessive none properly supported resources, together with a gradual weakening of the conditions of capital, produced that when the collaterals were on default, the system as a whole could not absolve the losses. (Bank for International Settlements, 2010 (rev 2011)).

2. Maximization of Shareholders', Rating Agencies and employees' Profits in detrimental of the Financial System and Basel principles

To the Maximization of the Bank's and Financial Institution incentive, is added the system of revenue created and the continuous distribution of gains to shareholders, which decreased also the Banks' liquidity and capital standards and made them even less resistant to the crisis.

Although the crisis was approaching and the liquidity problems starting to be notorious, a number of banks '(…) continued to make large distributions in the form of dividends, share buy backs and generous compensation payments even though their individual financial condition and the outlook for the sector were deteriorating.' (Bank for International Settlements, 2010 (rev 2011), par 27 p 6). This collective behaviour was, in some times, product of the desire to send to the markets the signal that the Banks was still strong enough and the business were going well, and thus avoid inquiries in the short term.

This incorrect behaviour was criticized by Basel III since they consider that

> 'It is not acceptable for banks which have depleted their capital buffers to use future predictions of recovery as justification for maintaining generous distributions to shareholders, other capital providers and employees. These stakeholders, rather than depositors, must bear the risk that recovery will not be forthcoming.' (Ibid p 55 par 126)

In first place the employees system of revenue was determine with the success of the securitization and the amount of notes that employee's sale. (Ibid) Therefore they have an incentive to maximize their profit even if the financial instrument could cause detriment to the banks' or the financial institution stability.

In the face of the crisis some of the shareholders, capital providers and employees would like to obtain as much as possible before the Bank collapse, under a scenario where they probably would lose their jobs or investment. This makes the banks even more fragile.

In second place, rating agencies were paid by the originators to make an opinion. As they were contractors of the Banks usually, is very difficult to make an objective qualification against whoever is making the payment taking into account that rating agencies' income depended on that qualification or opinion. (See i.e. Bank for International Settlements, 2011) For example in the Goldman Sachs case there was '(…) a great deal of evidence suggesting that rating agencies' criteria for assessing ratings were conveniently adjusted to avoid losing market share' (Munoz, 2010, page 415)

In this context,

> 'Because of the high proportion of their rating revenues derived from structured finance prior to the crisis, rating agencies may have been encouraged to rate highly complex products for which little or no historical performance data existed. For the same reason, the agencies may have failed to make their methodologies and related risks transparent enough (at least to investors), and to highlight the limits of ratings in measuring risks beyond expected loss (CGFS (2005, 2008)).' (Mitchell and Fender, 2009, p 31)

Nevertheless these incentives, investors over rely in rating agencies and made their investment decisions based on those opinions, trusting them as experts, neglecting their duty of care. This behaviour in the end produced an inadequate measurement of the risk exposure and deepened the financial crisis.

3. Consequences and teachings

A lot of consequences followed the crisis, specially related with the future of securitization.

First, although there is still an incentive for investors to search better deals and notes in the capital markets, they have lost their confidence in securitization as a way to find good investments

> 'More importantly, the general aversion to securitisation continues, particularly in the RMBS space. Serious questions about the quality of the assets underlying these products and the risks in the structures continue to make investment in securitisation products less attractive to investment managers.' (Bank for International Settlements, 2011, p 17)

Therefore an important financial instrument for resource generation and allocation of cheap credit is now deemed as a risky and unreliable investment, making the access to the capital markets harder.

Secondly, the behaviour of the Banks has generated a regulatory reaction in which the freedom of contract, creation of new products and the financial system is hardly intervened by government control agencies under Basel III rules. The Basel III framework will be exposed in the next part of this work.

Thirdly, the crisis discovered that investors could still make bad decision even with enough information disclosure when they over rely in other participants and do not act in the markets with due diligence. (See i.e. Schwarcz, 2008, p 375-376)

Fourthly, securitization fail to reallocate risk to the parties that where more prepared (under Basel regulation) or more inclined to take higher risk. For instance, it took from the banks and another Basel's regulated institutions burdens and passed them to unregulated financial agents and shadow bankers (Bank for International, 2011, p 6 par 27) that were not capable to properly manage the risk, something that infected the whole financial system.(Ibid.)

It also showed, once again, how just the pure market discipline is not sufficient to generate an stable financial market since the participants behaviour are determine by their own incentives in the market.(Ibid.) And that there are a lot other institutions that are doing the so called 'shadow banking' (Bank for International Settlements, 2011 p 6 par 27) without the capital, leverage or buffer requirements, and have been used as vehicles to avoid regulatory burdens.(Ibid.)

Finally it discovered that the different kind of conflicting incentives and misalignments produced a

> '(...) weakening of due diligence along the securitisation chain. This resulted in poorly-underwritten assets being securitised by originators and those securities being bought by many investors who did not understand the extent of the risks they were taking on.' (Bank for International Settlements, 2011, p 13)

In conclusion, it was not the securitization itself (as a financial instrument) the cause of the crisis or the incentives exposed by other authors,[2] but the breach of Basel rationale by Banks, other financial institution, other shadow banking institutions, and other par-

[2] See i.e. J Mitchell and I Fender, *´The future of securitisation: how to align incentives?´*, BIS Quarterly Review, September 2009; Joint Forum, *´Report on Asset Securitization Incentives´*, Bank for International Settlements, July 2011, p 9-18; D Munoz, *´SEC v Goldman Sachs and the new Wave of (Asset-Backed) Securities Litigation. What are the Arguments? What is at Stake?´*, [2010] LFMR 413-420; S Schwarcs, *´The Future of Securitization´*, (2009) 41 Conn L Rev 1315-1325

ticipants in the markets (including employees and Rating agencies) which were motivated by the maximization incentives.

III. Basel III the raction to the crisis

A. Context of Basel III reforms

Basel III is conceived as a reaction to the crisis. In this context they are intending to make banks more resilient to another crisis, improve corporate governance in the banks, improve the transparency of the financial system and impose basic standards of risk management that would prevent another collapse. (Bank for International 2011, p 1 par 2)

The Basel Committee are really worried because financial crisis are happening more often

> 'Moreover, banking crises have been much more frequent than we would like, occurring on average about every 20 to 25 years in both industrial and emerging market countries. That is an annual probability of about 4-5%, which is simply unacceptable.' (Walters, Bank for International Settlements, 2010, p. 1)

The crisis showed that banks have a paramount role in the stability of the international financial systems as they are key intermediaries, allocate resources, generate markets and provide liquidity to deficit sectors. (Ibid)

Basel III approach started analysing the excessive liquidity and the lacks in capital quality and buffers in the system. Therefore they adopted micro-prudential and macro-prudential measures, which feed on each other, that hopefully would correct the mistakes that caused the crisis. (Ibid)

The micro-prudential measures to produce more resilience can be divided in five:

(i) The first measures are related with capital. Basically they create a unanimous definition and measures that increase the quality of the capital that the Banks and other financial institution must have to be more resilient. (Ibid)

(ii) Basel III linked the capital quality with the correct measurement of the risk, trying to make banks be more prepared. (Ibid)

(iii) In third place, they are increasing the amount of capital requirement for an effective absorption of the losses. (Ibid)

(iv) Fourthly accompanying the capital regulations', the Basel Committee are changing the liquidity standards aiming that

> 'Banks will have to do more to self-ensure against periods of stressed liquidity, just as they need to hold capital to absorb unexpected losses. Going forward, liquidity should not be viewed as a free good and therefore needs to be priced appropriately.' (Ibid, p. 12)

(v) Finally, they are introducing risk measurement, management rules and higher disclosure standards to help control agencies and investors be aware of the real risks involved in the financial system (Ibid)

> 'If a bank's capital falls below the 2.5% conservation buffer, supervisors will constrain distributions and bonuses, addressing the collective action problem that prevailed before the crisis, namely market pressure to keep paying out dividends. This will ensure that capital

is conserved in a downturn and rebuilt during the upswing.' (Ibis, p. 3)

As well, the macro prudential rules can be grouped into four:

(i) First, as a complement to the harder liquidity standards, they make clearer and higher the leverage ratios. (Ibid)

(ii) Secondly, they are introducing a good times' and bad times' policy, which aim is that in good times the capital and the liquidity standards will be strengthened to be prepared for bad times

(iii) Thirdly, they are taking focused measures related with important systemic banks. As the crisis showed the financial markets are interconnected and biggest banks can have a huge impact in the economy. Also those banks are in some cases taking advantage of smaller banks and institutions to achieve their capital and liquidity ratios. Therefore the regulations are harder for those Banks.(Ibid)

(iv) Finally, they made an extend chapter related with the application of the Basel III rules and the duties of the governmental control agencies to ensure that the rules are going to be adopted and followed. (Ibid)

In summary, the measures can be easily found in the next table

Table 1

Basel Committee on Banking Supervision reforms - Basel III

Strengthens microprudential regulation and supervision, and adds a macroprudential overlay that includes capital buffers.

	Capital					Liquidity
	Pillar 1			Pillar 2	Pillar 3	
	Capital	Risk coverage	Containing leverage	Risk management and supervision	Market discipline	Global liquidity standard and supervisory monitoring
All Banks	**Quality and level of capital** Greater focus on common equity. The minimum will be raised to 4.5% of risk-weighted assets, after deductions. **Capital loss absorption at the point of non-viability** Contractual terms of capital instruments will include a clause that allows – at the discretion of the relevant authority – write-off or conversion to common shares if the bank is judged to be non-viable. This principle increases the contribution of the private sector to resolving future banking crises and thereby reduces moral hazard. **Capital conservation buffer** Comprising common equity of 2.5% of risk-weighted assets, bringing the total common equity standard to 7%. Constraint on a bank's discretionary distributions will be imposed when banks fall into the buffer range. **Countercyclical buffer** Imposed within a range of 0-2.5% comprising common equity, when authorities judge credit growth is resulting in an unacceptable build up of systematic risk.	**Securitisations** Strengthens the capital treatment for certain complex securitisations. Requires banks to conduct more rigorous credit analyses of externally rated securitisation exposures. **Trading book** Significantly higher capital for trading and derivatives activities, as well as complex securitisations held in the trading book. Introduction of a stressed value-at-risk framework to help mitigate procyclicality. A capital charge for incremental risk that estimates the default and migration risks of unsecuritised credit products and takes liquidity into account. **Counterparty credit risk** Substantial strengthening of the counterparty credit risk framework. Includes: more stringent requirements for measuring exposure; capital incentives for banks to use central counterparties for derivatives; and higher capital for inter-financial sector exposures. **Bank exposures to central counterparties (CCPs)** The Committee has proposed that trade exposures to a qualifying CCP will receive a 2% risk weight and default fund exposures to a qualifying CCP will be capitalised according to a risk-based method that consistently and simply estimates risk arising from such default fund.	**Leverage ratio** A non-risk-based leverage ratio that includes off-balance sheet exposures will serve as a backstop to the risk-based capital requirement. Also helps contain system wide build up of leverage.	**Supplemental Pillar 2 requirements.** Address firm-wide governance and risk management; capturing the risk of off-balance sheet exposures and securitisation activities; managing risk concentrations; providing incentives for banks to better manage risk and returns over the long term; sound compensation practices; valuation practices; stress testing; accounting standards for financial instruments; corporate governance; and supervisory colleges.	**Revised Pillar 3 disclosures requirements** The requirements introduced relate to securitisation exposures and sponsorship of off-balance sheet vehicles. Enhanced disclosures on the detail of the components of regulatory capital and their reconciliation to the reported accounts will be required, including a comprehensive explanation of how a bank calculates its regulatory capital ratios.	**Liquidity coverage ratio** The liquidity coverage ratio (LCR) will require banks to have sufficient high-quality liquid assets to withstand a 30-day stressed funding scenario that is specified by supervisors. **Net stable funding ratio** The net stable funding ratio (NSFR) is a longer-term structural ratio designed to address liquidity mismatches. It covers the entire balance sheet and provides incentives for banks to use stable sources of funding. **Principles for Sound Liquidity Risk Management and Supervision** The Committee's 2008 guidance *Principles for Sound Liquidity Risk Management and Supervision* takes account of lessons learned during the crisis and is based on a fundamental review of sound practices for managing liquidity risk in banking organisations. **Supervisory monitoring** The liquidity framework includes a common set of monitoring metrics to assist supervisors in identifying and analysing liquidity risk trends at both the bank and system-wide level.
SIFIs	In addition to meeting the Basel III requirements, global systemically important financial institutions (SIFIs) must have higher loss absorbency capacity to reflect the greater risks that they pose to the financial system. The Committee has developed a methodology that includes both quantitative indicators and qualitative elements to identify global systemically important banks (SIBs). The additional loss absorbency requirements are to be met with a progressive Common Equity Tier 1 (CET1) capital requirement ranging from 1% to 2.5%, depending on a bank's systemic importance. For banks facing the highest SIB surcharge, an additional loss absorbency of 1% could be applied as a disincentive to increase materially their global systemic importance in the future. A consultative document was published in cooperation with the Financial Stability Board, which is coordinating the overall set of measures to reduce the moral hazard posed by global SIFIs.					

Source, Bank for International Settlements, *'Basel Committee on Banking Supervision reforms - Basel III,'* www.bis.org/bcbs/basel3/b3summarytable.pdf

B. Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems

1. *Strengthening the Global Capital Framework* (Bank for International Settlements, 2011 p 1 par 2)

The Capital framework is related with the capital of the banks that is supporting the its liabilities and determines its solvency in the market. Therefore is paramount that Banks have a good quality capital and that the definition of capital is uniform in order to ascertain banks true strength. (Ibid)

To make clear the difference between capital minimum requirement and buffers, 'the regulatory minimum requirement is the amount of capital needed for a bank to be regarded as a viable going concern by creditors and counterparties' (Bank for International Settlements, 2010, p 1), while buffer '(…) can be seen as an amount sufficient for the bank to withstand a significant downturn period and still remain above minimum regulatory levels.' (Ibid p 1) The capital measurement definition is in the paragraphs 52 to 56 of the Basel III framework.

In relating with capital

> '(…) the Committee in July 2009 completed a number of critical reforms to the Basel II framework. These reforms will raise capital requirements for the trading book and complex securitisation exposures, a major source of losses for many internationally active banks. The enhanced treatment introduces a stressed value-at-risk (VaR) capital requirement based on a continuous 12-month period of significant financial stress.' (Bank for International Settlements, 2011, p 3 par 12)

The rise of capital requirements are especially related with securitization and re-securitization. Since the crisis was triggered by the complex securitization transactions, the Committee enacted a higher capital requirement to the banks that are involved in these complex transactions and also (Ibid.) '(…) introduces measures to strengthen the capital requirements for counterparty credit exposures arising from banks' derivatives, repo and securities financing activities.' (Ibid. p 3 par 13)

To achieve their goals of more resilient banks in the face of complex transactions, the Committee decided to introduce the following reforms in Basel III:

(i) The capital requirement for the bank must be determine using stressed inputs to be prepared for that scenario.

(ii) The capital requirements for banks are taking into account the possibility of the deterioration of the counterparties' solvency. Therefore Basel III makes wider the credit valuation adjustment to prevent grater losses as experienced in the financial crisis. (Ibid.)
'The Committee is raising counterparty credit risk management standards in a number of areas, including for the treatment of so-called wrong-way risk, i.e. cases where the exposure increases when the credit quality of the counterparty deteriorates. It also issued final additional guidance for the sound back-testing of counterparty credit exposures.' (Ibid p 4 par 14)

(iii) Related with the collateral, the Committee is requiring that banks, in calculating the regulatory capital requirement, spread over longer periods when they are involved in derivative transactions. (Ibid)

(iv) The Committee generates index to measure the interconnectivity of the banks in the financial system and developed incentives, in the way of higher standards of risk management, to encourage banks to reduce their exposures in the derivatives transactions. (Ibid)

2. Leverage ratio requirements

Capital requirements are not enough to prevent a crisis. Even with solvent banks, if they lack in liquidity or the financial system has excess of it, it would cause a new crisis. For that reason the Committee imposed international liquidity standards that complement the capital policies. (See Ibid p 9-10 par 43) Therefore, it is establishing minimum requirements in development of the policy of good time's savings to prepare for the bad times,

> 'Governor King said, "The aim of the Liquidity Coverage Ratio is to ensure that banks, in normal times, have a sound funding structure and hold sufficient liquid assets such that central banks are asked to perform only as lenders of last resort and not as lenders of first resort. While the Liquidity Coverage Ratio may represent a significant challenge for some banks, the benefits of a strong liquidity regime outweigh the associated implementation costs."' (Bank for International Settlements, 2012)

The liquidity risk is understood under Basel III as

> '(…) the risk that a counterparty, whether a participant or other entity, will have insufficient funds to meet its financial obligations as and when expected, although it may be able to do so in the future. (…) Liquidity problems have the potential to create systemic problems, particularly if they occur when markets are closed or illiquid or when asset prices are changing rapidly, or if they create concerns about solvency.' (Bank for international settlements, 2012, p 19)

This newest view changes the perspective of the banks in time. While in the financial crisis banks were motivated by a short term maximization of profits strategy, this new perspective make banks start to plan their business under a short, midst and long term stability parameters.

Similarly, by introducing the leverage ratio regulation, the Committee is aiming to mitigate the risk of excessive liquidity in the market as one of the main predecessors of any financial crisis, (Bank for International Settlements, 2011) make the bank sector strong enough to bear any big shock in the financial systems (Ibid) and '(…) introduce additional safeguards against model risk and measurement error by supplementing the risk-based measure with a simple, transparent, independent measure of risk.' (Ibid p 4 par 16)

The leverage ratio reforms are more specific and developed in the Basel III: International Framework for Liquidity Risk Measurement. For that reason, it would be explain further in more detail.

3. Buffer management

The buffers regulation also response to the same good times savings for bad times policy. The task of the conservation buffer is that the banks holds the regulatory buffers as a minimum, but also is the regulation goal that banks go further the regulatory minimum to be prepared to a stress period, even in the absence of a credit bubble. (Ibid p 54 par 122-123, See also p 7 par 31)

The regime introduced by the Committee '(…) will adjust the capital buffer range, established through the capital conservation mechanism outlined in the previous section, when there are signs that credit has grown to excessive levels. The purpose of the countercyclical buffer is to achieve the broader macro-prudential goal of protecting the banking sector in periods of excess aggregate credit growth.' (Ibid p 7 par 30)

In the buffer section, Basel III established that is not acceptable to continue the pre-crisis practice of distribution of capital on the face of a stress period. This behaviour, done by Banks to send the message of stability into the market, is describe as irresponsible because put the interests of shareholders over the depositors, in detriment of the financial system. (Ibid p 55 par 127)

4. Harder Credit Risk Management Standards

One of the main lessons from the financial crisis is that the participants in the financial and Capital markets did not manage the risk in a responsible way and some of them lack in understanding the risk that they were taking (i.e. investors and insurance corporations).

Consequently the Committee is giving tools to the supervisors to ensure that when there is a transfer of the credit risk, it is properly secured and measured. For that reason banks are not going to be able to transfer the credit risk without paying for a security and, one way or another, assuming part of the risk that they are transferring to third parties. (Bank for International Settlements, 2011)

In the same way

'In addition to raising the quality and level of the capital base, there is a need to ensure that all material risks are captured in the capital framework. Failure to capture major on- and off-balance sheet risks, as well as derivative related exposures, was a key factor that amplified the crisis.' (Bank for International Settlements, (2011, p 29 par 97)

To ensure the application of the new risk management standards, Basel III has given the supervisors other tools to track the responsible management of the risk. As a result supervisors are entitled to closely scrutinise any complex transaction which involve transfer of credit risk, power that was not contemplated before. (Bank for International Settlements, 2011)

In order to determine when banks are properly managing their credit risk, supervisors have to take into account the risk appetite, risk profile and market and macro-economic conditions and consider that (Bank for International Settlements, '*Core Principles for Effective Banking Supervision*', 2012)

'Credit risk may result from the following activities: on-balance sheet and off-balance sheet exposures, including loans and advances, investments, inter-bank lending, derivative transactions, securities financing transactions and trading activities. (…) Counterparty credit risk includes credit risk exposures arising from OTC derivative and other financial instruments.' (Ibid p 46)

5. Transparency and disclosure

Basel III include in its regulation disclosure of information related with the capital, as an important element for the improvement of the corporate governance in banks. Moreover these disclosure regulations will help supervisors in their duties.

Consequently Banks are required to disclose:

(i) 'full reconciliation of all regulatory capital elements back to the balance sheet in the audited financial statements;
(ii) separate disclosure of all regulatory adjustments and the items not deducted from Common Equity Tier 1 according to paragraphs 87 and 88;
(iii) a description of all limits and minima, identifying the positive and negative elements of capital to which the limits and minima apply;
(iv) a description of the main features of capital instruments issued;
(v) banks which disclose ratios involving components of regulatory capital (eg "Equity Tier 1", "Core Tier 1" or "Tangible Common Equity" ratios) must accompany such disclosures with a comprehensive explanation of how these ratios are calculated.' (Ibid p 27 par 91-93)

Equally, any information related with any note or financial vehicles shall be published in the Banks' web page and those components of capital that 'are benefiting from the transitional provisions.' (Ibid p 27 par 91-93)

6. Special rules for Biggest Banks to prevent systemic risk

Under an interconnected system context, bigger banks could increase and transmit any internal shocks to the financial system, causing macro-economic problems. Therefore Basel III developed certain rules that ensure that those important banks have the capacity to absorb those shocks beyond the minimum criteria under ongoing basis. (Ibid p 7 par 32)

In order to do that the Committee imposed to the banks that

(i) 'capital incentives for banks to use central counterparties for over-the-counter derivatives;
(ii) higher capital requirements for trading and derivative activities, as well as complex securitisations and off-balance sheet exposures (eg structured investment vehicles);
(iii) higher capital requirements for inter-financial sector exposures; and
(iv) the introduction of liquidity requirements that penalise excessive reliance on short term, interbank funding to support longer dated assets.' (Ibid p 7-8 par 33)

C. Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring

The Committee made a different specific regulation involving liquidity and monitoring tools. This is a consequence of the importance of liquidity management to the financial system.

> 'The rapid reversal in market conditions illustrated how quickly liquidity can evaporate and that illiquidity can last for an extended period of time. The banking system came under severe stress, which necessitated central bank action to support both the functioning of money markets and, in some cases, individual institutions.' (Bank for International Settlements, 2010, p 1 par 2)

As a consequence, Basel III formulated two liquidity metrics which are complementary (Liquidity Coverage Ratio and Net Stable Funding Ratio) and would help supervisors to establish that Banks are properly and prudently managing its liquidity in ongoing business.

1. Liquidity Coverage Ratio (LCR)

The Liquidity Coverage Ration aims to ensure that banks have enough assets easily convertibles into cash that allows them to fulfilled their obligation in the short term (30 days period) assuming a highly stressed scenario. For that reason

> 'At a minimum, the stock of liquid assets should enable the bank to survive until Day 30 of the stress scenario, by which time it is assumed that appropriate corrective actions can be taken by management and/or supervisors, and/or the bank can be resolved in an orderly way.' (Ibid p 3 par 15)

The LCR is the minimum standard to ensure that the bank is prepared enough to survive 30 days in a stress period, (Ibid p 3 par 15) and 'stress period' understood as those situations that are alike with those occurred in the 2007 crisis and which are described in the regulation. (See ibid p 4 par 17)

2. Net Stable Funding Ratio (NSFR)

Net Stable Funding Ratio takes a longer perspective as a complement to the short term liquidity standard (LCR), 'This metric establishes a minimum acceptable amount of stable funding based on the liquidity characteristics of an institution's assets and activities over a one year horizon.' (Ibid p 25 par 119)

As Basel III searches for more resilient the banks, the Committee regulation pursuits Banks to be prepared to the most short, midst and long term stress scenarios '(…) away from short-term funding mismatches and toward more stable, longer-term funding of assets and business activities.' (Ibid p 25 par 119)

As the other metrics, Net Stable Funding Ratio

> '(…) aims to limit over-reliance on short-term wholesale funding during times of buoyant market liquidity and encourage better assessment of liquidity risk across all on- and off-balance sheet items. In addition, the NSFR approach offsets incentives for institutions to fund their stock of liquid assets with short-term funds that mature just outside the 30-day horizon for that standard.' (Ibid p 25 par 120)

Summarizing, the two main liquidity metrics are complementary and ensure more resilient banks while encourage them to adopt standards above the regulation and incentive banks to change their risk management perspective to a long term analysis.

3. Monitoring Tools

Committee create some monitoring tools to help the supervisors to have the necessary information, taking into account that the metrics cannot work by their own. As 'These metrics capture specific information related to a bank's cash flows, balance sheet structure, available unencumbered collateral and certain market indicators', (Ibid p 31 par 137) is necessary that supervisors complement them with other inner metrics to ensure that the liquidity risk in local jurisdictions is following Basel III parameters.

As a consequence Basel III discussed other metrics that the supervisor can use:

(i) 'Contractual maturity mismatch
(ii) Concentration of funding
(iii) Available unencumbered assets
(iv) LCR by significant currency
(v) Market-related monitoring tools' (Ibid p31 par 139)

These tools are discussed in the paragraphs 140-183 (Ibid) and provide a great scope for

supervisor to really evaluate the liquidity strength of banks.

D. Other Important Regulations Under Basel III scope

1. Corporate governance

Basel III introduced strong rules related with corporate governance to improve the risk management into banks and prevent detrimental collective actions as seen in the crisis[3]

> 'Given fundamental deficiencies in banks' corporate governance that were exposed in the last crisis, a new Core Principle on corporate governance has been added in this review by bringing together existing corporate governance criteria in the assessment methodology and giving greater emphasis to sound corporate governance practices' (Bank for International Settlements, 2012, p 2).

The principles of corporate governance in Basel III are structured as a complement to the disclosure and transparency policies, with the aim to recover the confidence of the investors in the financial system and correct the misbehaviour observed in the last crisis. (Ibid)

In order to do that the 'Core Principles' (Ibid) focus their rules in the supervision of risk management. The control agencies, in order to assess the risk, should take into account not only the financial metrics, but also the efficiency of the risk managers of the bank.

Therefore an active, early and constant supervision is expected by Basel III to grant the regulatory frame work application. 'This risk-based process targets supervisory resources where they can be utilised to the best effect, focusing on outcomes as well as processes, moving beyond passive assessment of compliance with rules.' (Ibid p 4)

By doing this, it is expected by the Committee that the operational risk[4] would be reduced.

2. Supervision and Financial Innovation

One of the most significant advances in Basel III is that the Committee foreseen the possibility of the creation of other innovative vehicles that, as securitization in the crisis, could be used to jump over the Basel rules, and so alert supervisors about this issue and imposed banks disclosure duties[8] (Bank for International Settlements, 2012)

> '(…) banks should analyse and document the economic substance of credit protection

[3] This could be seen as a consequence of the financial crisis because the personnel of the banks were acting motivated by their inner greed and encouraged by the revenue system as explain before

[4] '(…) which is the risk that deficiencies in information systems or internal processes, human errors, management failures, or disruptions from external events will result in the reduction, deterioration, or breakdown of services provided by an FMI? These operational failures may lead to consequent delays, losses, liquidity problems, and in some cases systemic risks. Operational deficiencies also can reduce the effectiveness of measures that FMIs may take to manage risk, for example, by impairing their ability to complete settlement, or by hampering their ability to monitor and manage their credit exposures. (…)'. Bank for international settlements, Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, '*Principles for financial market infrastructures*' (2012) www.bis.org/publ/cpss101a.pdf, p 20

> transactions that *have unusually high-cost or innovative features* to assess the degree of risk transference and the associated impact on the bank's overall capital adequacy. Banks should bring to the attention of their supervisor *any innovative positions* which fall under this guidance to ensure they are subject to appropriate prudential treatment. The analysis also should specify how the transaction aligns with the bank's overall risk management strategy.' (Bank for International Settlements, 2011)

In this context any new financial instrument would be closely supervised to prevent its misuse.

3. Implementation

Finally Basel III generates some tools for monitoring the frame work implementation. One example of those is the 'Progress report on Basel III implementation' (Bank for International Settlements, 2012) whereby the countries that are part of Basel has to report the advances in Basel II, Basel II.5 and Basel III for the Committee's' review.

Conclusion

The incentive of maximization of profits for banks and other participants are always present in the financial markets and is always going to be in an opposite direction of Basel rationale, at least in a short term perspective 'Safer banking will mean lower returns on bank equity, but returns will be more stable and more sustainable – and long-term investors will welcome this.' (Caruana, 2012)

In this context 'In maximising their private benefits, individual financial institutions may rationally choose outcomes that, from a system-wide level, are sub-optimal because they do not take into account these [negative] externalities' (Ibid p 1-2 par 3) as for example the incentives.

Although Basel III is a great tool to control those incentives, it is insufficient to recover the investors' confidence and control other financial institutions that, as seen in the last crisis, were acting as shadow banks

> 'Likewise, ad hoc actions taken in that crisis by the Federal Reserve to protect financial institutions, such as Bear Stearns, might be helpful but are still insufficient because they fail to address the underlying problem: financial-market collapse due to loss of investor confidence' (Schwarcz, *'Systemic Risk'*, 2008, Research Paper No. 163, p 248).

Additionally, even Basel principles and rationale exist before the crisis and were followed by Basel III, those principles and rationales were cleverly evaded using other financial and no-financial institution in the crisis and sophisticated financial instruments that were out of the scope of Basel.

> 'Moreover, the moral hazard costs associated with implicit guarantees derived from the perceived expectation of government support may amplify risk-taking, reduce market discipline and create competitive distortions, and further increase the probability of distress in the future. As a result, the costs associated with moral hazard add to any direct costs of support that may be borne by taxpayers.'

Biggest Banks are more affected by this moral hazard because its bankruptcy represents a macro-economic problem that governments cannot allow, so they are more inclined to invent another way for avoiding Basel.

In this order of ideas, the risk that those incentives cause another crisis is still on. For that reason the prevention of a future financial crisis and the mitigation of its negative effects would depend on the seriousness of the commitment of the banks and other financial institution with Basel III and the effective control and supervision of the system by the government agencies.

Bibliography

A. Articles/Books/reports

1. Bank for International Settlements, *´Basel III: A global regulatory framework for more resilient banks and banking systems´*, (2011) www.bis.org/publ/bcbs189.htm

2. Bank for International Settlements, Basel Committee on Banking Supervision, *'Basel III: International framework for liquidity risk measurement, standards and monitoring'* (2010) www.bis.org/publ/bcbs188.pdf

3. Bank for International Settlements, *´Global systemically important banks: assessment methodology and the additional loss absorbency requirement´*, 2011 http://www.bis.org/publ/bcbs207.htm

4. Bank for international settlements, Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, *'Principles for financial market infrastructures'* (2012) www.bis.org/publ/cpss101a.pdf

5. Bank for International Settlements, Basel Committee on Banking Supervision *'Report on asset securitisation incentives'*, (2011) www.bis.org/press/p110713.htm

6. Bank for International Settlements, Group of Governors and Heads of Supervision *'Basel III liquidity standard and strategy for assessing implementation of standards endorsed report'* (8 January 2012), http://www.bis.org/press/p120108.htm

7. Bank for International Settlements, Basel Committee on Banking Supervision, *'Calibrating regulatory minimum capital requirements and capital buffers: a top-down approach'* (2010), www.bis.org/publ/bcbs180.htm

8. Bank for International Settlements, Basel Committee on Banking Supervision, *'High cost credit protection'* (2011), http://www.bis.org/publ/bcbs_nl16.htm

9. Bank for International Settlements, Basel Committee on Banking Supervision, *'Core Principles for Effective Banking Supervision'* (2012) www.bis.org/publ/bcbs213.pdf

10. Bank for International Settlements, Basel Committee on Banking Supervision, *'Progress report on Basel III implementation'* (2012), www.bis.org/publ/bcbs215.htm

11. Bank for International Settlements, Basel Committee on Banking Supervision, *'Application of own credit risk adjustments to derivatives'* (2012), www.bis.org/publ/bcbs214.htm

12. Bank for International Settlements, Basel Committee on Banking Supervision, *'Basel III counterparty credit risk - Frequently asked questions'* (2011), http://www.bis.org/publ/bcbs209.pdf

13. Bank for International Settlements, Basel Committee on Banking Supervision, – Consultative Document, *'Application of own credit risk adjustments to derivatives Consultative Document: Application of own credit risk adjustments to derivatives'* (2012), http://www.bis.org/publ/bcbs214/faogcb.pdf

14. Bank for International Settlements, Basel Committee on Banking Supervision, *'Instructions for Basel III implementation monitoring'* (2012), http://www.bis.org/bcbs/qis/biiiimplmoninstr.pdf

15. Bank for International Settlements, Basel Committee on Banking Supervision, *'Report to G20 Leaders on Basel III implementation'* (2012), http://www.bis.org/publ/bcbs220.pdf

16. Caruana J speech, *'Progress and challenges in financial reform'* (6 June 2012) XXI International Banking Congress on "Banking business and banking regulation: strategies, results, prospects", http://www.bis.org/speeches/sp120612.htm

17. De Vries Robbé JJ, ´Securitization Law and Practice: In the Face of the Credit Crunch´ (2008), Wolters Kluwer Law & Business

18. Fender I and Mitchell J, ´The future of securitisation: how to align incentives?´, September 2009, BIS Quarterly Review

19. Joint Forum, *´Report on Asset Securitization Incentives´*, Bank for International Settlements, July 2011, p 9-18

20. Muñoz D, *´SEC v Goldman Sachs and the new Wave of (Asset-Backed) Securities Litigation. What are the Arguments? What is at Stake?´*, [2010] LFMR 413-420

21. Schwarcs S, *´The Future of Securitization´*, (2009) 41 Conn L Rev 1315-1325

22. Schwarcz S, *'Understanding the Subprime Financial Crisis'*, 2009 Duke Public Law & Legal Theory Research Paper Series No. 222

23. Schwarcz S, *'Protecting Financial Markets: Lessons from the Subprime Mortgage Meltdown'*, (2008) Minnesota Law Review 93:373, p 375-376

24. Schwarcz S, *'Systemic Risk'*, (2008) Duke Law School Legal Studies, Research Paper Series, Research Paper No. 163

25. Walters S, Bank for International Settlements, *'Speech of the Secretary General of the Basel Committee on Banking Supervision, at the 5th Biennial Conference on Risk Management and Supervision, Financial Stability Institute'* (2010) http://www.bis.org/speeches/sp101109a.htm