Basilea I, Basilea II y Basilea III: Mayores impactos e implicaciones

Basel I, Basel II, and Basel III: Main impacts and implications

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ABSTRACT

Since the foundation of the Basel Committee on Banking Supervision in 1974 an effective regulation and supervision of banks accounting for widespread economic and geographical diversity has been sought. To this end, the cooperation of different parties has been fostered, which enabled the issuing of three main papers: Basel I, Basel II and Basel III. The financial turmoil of 2007 is an evidence of the inefficiency of Basel II, the improved framework of Basel I, with regard to its main goal: financial stability. At present, relevant authorities devote themselves body and soul to the achievement of financial sustainability through the effective implementation of Basel III. This paper attempts to discuss the role played by these three main frameworks in the financial sector as a whole, and in particular concerning their greatest shortcomings and the amendment of such throughout different initiatives.

Keywords: Basel Committee, Bank of International Settlements (BIS), capital requirements and financial crisis.

JEL Classification: G18.

RESUMEN

Desde que se fundó el Comité de Basilea en Supervisión Bancaria en 1974 se ha perseguido una regulación y supervisión efectiva en el sector bancario. Para este fin, la cooperación de diferentes autoridades ha sido trivial y la misma ha hecho posible la expedición de los tres predominantes marcos: Basilea I, Basilea II y Basilea III. La crisis financiera del 2007 es una clara evidencia de la ineficiencia de Basilea II, el marco mejorado de Basilea I, respecto a su principal objetivo: la estabilidad financiera. En la actualidad, las autoridades relevantes se dedican totalmente a la consecución de la estabilidad financiera a través de la eficaz puesta en marcha de Basilea III. Este escrito trata de analizar el papel que han jugado estos tres marcos en el sistema financiero en general y sus mayores deficiencias y correcciones en particular.

Palabras clave: Finanzas, Basilea, Banco de Pagos Internacionales (BPI), requisitos de capital y crisis financiera.

Clasificación JEL: G18.

1. INTRODUCTION. A THEORETICAL FRAMEWORK

1.1. About the Basel Committee

The Committee on Banking Supervision has the role of facilitating a forum to promote worldwide cooperation subject to banking supervisory issues. The purpose of the Committee is to improve the quality of banking supervision globally providing a better understanding in the field of supervision. Information on national supervisory matters, techniques and approaches are exchanged and discussed so as to attain the previous goals. Occasionally, guidelines and supervisor standards addressing relevant concerns are developed so as to fill the gaps detected. International standards on capital adequacy, The Core Principles of Banking Supervision and the Concordat on cross-border banking supervision are some of the published standards. The Secretariat of the Committee is located at the Bank for International Settlements in Basel, Switzerland, under the supervision of Mr Wayne Byres, the Secretary-General of the Basel Committee. The staff consists chiefly in professional supervisors on temporary secondment from member institutions. Secretarial work of the Committee or sub-committees and providing advices to supervisory authorities in all countries are some of the tasks performed.

The Basel Committee was founded in 1974 composed by ten central-bank governors. Today, the members of The Committee come from Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Committee has never counted with legal force, it is not a formal supranational authority that forces the application of supervisory standards and guidelines, but these are recommendations of best practice individual authorities should follow and implement suitably in their own states. The Committee has focused on international supervisory coverage, particularly in pursuing two basic principles: Supervision in all foreign banking establishment and adequacy of supervision. To achieve them, several documents have been developed in the field.

In 1988, a capital measurement system named *Basel Capital Accord* was introduced with the aim of implementing a credit risk measurement framework which would be applied in member countries, as well as countries having internationally active banks. Its minimum capital standard of 8% was intended to be standardized by the end of 1992. In 1999 a revised *Capital Adequacy Framework* was issued based on three main elements: Minimum capital requirements; supervisory review of an institution's internal assessment process and capital adequacy; and the effective use of disclosure to strengthen market discipline as a complement to supervisory efforts. In 2004 the revised framework was issued which could have been a basis for national legislation implementation and for banks to be prepared to it.

In 1997, the Committee developed the *Core Principles for Effective Banking Supervision*, a tool to enhance an adequate supervisory system. Besides, the *Core Principles Methodology* was issued including helpful hints in implementation and assessment. These two latter reports were revised and released in 2006. With regard to the current financial crisis, a reform program has been written taking into consideration lessons drawn from the crisis and mandates for banking sector reforms. *Basel III* conveys the new global standards concerning firm specific and systemic risks. Cooperation among member states and other banking supervisory authorities is essential so as to enlarge the membership involved in the objectives to be pursued. International Conferences of Banking Supervisors (ICBS) take place once every two years, the meetings also sought to strengthen links between both countries and pave the way for continuous exchanges of knowledge and practices.

1.2. Basel I

In 1998 *The Capital Accord*, which is also denominated *Basel I*, was agreed by all members of the Committee and endorsed by the Group of Ten [1] (G10) Central Bank Governors. This paper displays the agreed framework for capital adequacy measurement and standards that respective countries should include under the national supervisory authorities.

Primarily, it was focused on credit risk which refers to the risk that borrowers will fail to pay. The basic criterion is to request banks to dispose of a capital higher or equal to the 8 % of the notional value of the assets. According to their risk degree, assets are divided in four groups: 0%, 20% 50% and 100% of risk. The safest assets, such as the sovereign debt of G10 countries, have no capital requirement. The higher the risk the larger the capital weighted with an 8% risk. For instance, credits to other OCDE Banks required a 1, 6% of reserves over the notional amount (8%*20%).Besides, banks with international presence are required to hold capital equal to 8% of the risk-weighted assets.

1.3. Basel II International convergence of capital measurement and capital standards: A revised framework

In 2005, the Committee introduced the *Updated version of the revised Framework* incorporating the additional guidance set forth in the Committee's paper *The Application of Basel II to Trading Activities and the Treatment of Double Default Effects.* In 2006, the Committee issued a comprehensive version of the Basel II Framework. It consisted of *2004 Basel II Framework*, the elements of the *1988 Accord* that were not revised during the Basel II process, the *1996 Amendment to the Capital Accord* to Incorporate Market Risks, and the *2005 paper on the Application of Basel II* to Trading Activities and the *Treatment of Double Default Effects*. A basic trait of this accordance is the enlargement of supervisory requirement of relevant authorities, as well as the implementation of internal methodologies based on different perspectives in order to evaluate more suitably the risk of each entity. It consists of three pillars:

1) *Pillar 1: Minimum Capital Requirements*

According to Basel II framework, *"The Committee's proposals for minimum capital requirements are based on fundamental elements of the 1988 Accord: a common definition of regulatory capital that remains unchanged and minimum ratios of capital to risk-weighted assets" (*Bank for International Settlements,2001:12). In this new approach, the minimum total capital ratio will cover the sum of all risk-weighted assets and will be computed out of the credit risk, operational risk and market risk considered the major components of risk that a bank faces. The total capital ratio must not be below 8%. The capital requirements of operational and market risk will be multiplied by 12, 5 to obtain the total risk-weighted assets. Each kind of risk is calculated in a specific way.

For the credit risk computation several perspectives are accepted depending on the sophistication degree:

- External Ratings-Based approach: Under this focus, the approval of the bank´s supervisor is needed. Besides, the national supervisor will state whether the External Credit Assessment Institutions meets the following requirements: objectivity, independence, transparency, disclosure, resources and credibility.
    - Standardized approach: Under this focus, the bank applies risk weights depending on the nature of assets and certain characteristics. A 100% of weighting means an 8% of capital requirement and so on being this ratings developed by External Credit Rating Agencies. This approach is similar to Basel I and many countries would only approve this focus in the initial phase of Basel II implementation.

- Internal Ratings-Based approach: The possibility of developing own risk indicators is only within the reach of banks with the supervisory approval to use this approach.
    - Foundation IRB: Risk components are measured according to supervisory estimates except of Probability of Default.
    - Advanced IRB: Banks provide more regarding the Probability of Default, Loss Given Default and Exposure at Default own estimates and Effective Maturity own computation.

Operational risk is defined in the framework as*" the loss resulting from inadequate or failed internal processes, people and systems or from external events" (*Bank for

International Settlements, 2001:100). There are several ways of quantifying: Basic Indicator Approach; Standardized Approach and Advanced Measurement Approaches.
At this point, the concept of market risk amendment is replaced by the trading book concept which refers to long positions in financial instruments and commodities with the aim of trading or as a hedging instrument.

2) *Pillar 2: Supervisory review process*

The aim of this second pillar is to ensure the existence of internal processes in order to achieve an adequate amount of capital depending on the continuous evaluation of the risks faced. According to the framework, the principles to be followed to obtain it are the followings:

- Principle 1: "*Banks should have a process for assessing their overall capital in relation to their risk profile and a strategy for maintaining their capital levels" (Bank for International Settlements-2001:105).*

- Principle 2: *"Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the results of this process" (Bank for International Settlements-2001:108).*

- Principle 3*: "Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum" ((Bank for International Settlements-2001:110).*

- Principle 4*: "Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored" (Bank for International Settlements-2001:111).*

3) *Pillar 3: Market discipline*

The Committee highlights the empowerment of the markets´ disciplinary role. In order to measure accurately the capital-risk relationship it is essential financial entities to provide with the relevant information concerning risk to the public.

1.4. Basel III: International framework for liquidity risk measurement, standards and monitoring

This paper is issued by the Committee and covers a series of reform measures with the aim of strengthening the regulation, supervision and risk management in the banking sector. It is based on the *International Convergence of Capital Measurement and Capital Standards* commonly known as Basel II; and Basel II, Basel 2,5 and Basel III which form the framework of capital and liquidity.

With this document, it is intended to achieve:

- An improvement in the ability of the banking sector to mitigate financial or economic shocks, whatever the source.
- An improvement in risk management and governance.
- A major transparency in the banking sector and stronger disclosures.

This document is targeted to both microprudencial and macroprudencial regulation so as to strengthen the resilience of individual banks and the banking sector as a whole to ride out adverse periods. In this paper, focused not only in capital but also in liquidity, the three main capital pillars are enhanced and modified in order to meet the needs emerged due to the crisis started in 2008. The content of the document, targeted to all banks, is summarized below:

1) *Capital*

Pillar 1 covers capital, risk coverage and leverage. Whereas, Pillar 2 deals with risk management and supervision, and lastly, Pillar 3 displays market discipline.

Capital:

- Quality and level of capital: The minimum common equity will rise upon the 4, 5% of risky assets.
- Capital loss absorption at the point of non-viability: A clause allowing the conversion of common shares will be included in capital instruments´ contracts in all non-viable classified banks.
- Capital conservation buffer: Whenever banks fall into a certain buffer range, discretionary distributions will be limited.
- Countercyclical buffer: This might be imposed as long as pertinent authorities consider an increase in systematic risk as a result of a credit growth process.

Risk coverage:

- Securitizations: Banks are asked to analyze more rigorously externally rated securities.
- Trading book: Pro-cyclicality is intended to be mitigated by a value-at-risk framework in which liquidity is considered in addition to the default and mitigation risks of unsecuritized credit products.
- Counterparty credit risk: The framework of its control is enhanced.

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- Bank exposures to central counterparties (CCPs): Trade and default fund exposures to a qualifying CCP are suggested to: earn a certain amount of risk weight and be capitalized in order to estimate the risk, respectively.

Containing leverage:

- Leverage ratio: The risk-based capital requirement will be limited by a non-risk based leverage ratio considering off-balance sheet items.

Risk management and supervision:

- Supplemental pillar 2 requirements: The requirements are: "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".

Market discipline:

- Revised pillar 3 disclosures requirements: There is a greater focus on securities´ exposure and off-balance sheet vehicles´ sponsorship.

As mentioned above, the document stresses the important role of liquidity:

2) *Liquidity*

Global liquidity standard and supervisory monitoring:

- Liquidity coverage ratio (LCR): This ratio makes banks to count enough high quality assets to face an adverse situation for 30 days.
- Net stable funding ratio: Aims to provide incentives to banks so as to acquire stable-sourced assets. This long term indicator alerts about possible liquidity mismatches.
- Principles for Sound Liquidity Risk Management and Supervision: In 2008, The Committee issued *Principles for Sound Liquidity Risk Management and Supervision* which focuses on proper liquidity risk management in the banking sector.
- Supervisory monitoring: A set of monitoring metrics is developed as a tool for supervisors to detect and analyze liquidity risk trends.

2. BASEL I. ANALYSIS

Public regulation in private financial entities is justified given the role played by them in the world´s economy. The insolvency of such entities might affect the whole financial system, and thus, the social stability. The publishing of the Capital Accord in

1988 had two major objectives: strengthening the stability of the international banking system; and that the framework should be fair and highly consistent in its application to banks in different countries diminishing competitive inequality among international banks. Basel I provided with the framework for measuring capital adequacy and minimum standards to be achieved. In spite of contributing to equality among international banks and certain level of financial stability, some weaknesses were detected: Firstly, it did not consider the risks beyond credit risk; Secondly, it was unable to stimulate banks to implement own developed accurate risk management systems. Therefore, it was simple to implement but risk management was unsatisfactory given that its simplicity enabled capital reduction without risk transfer. Capital Accord´s main shortcoming was it displayed a simplified and rigid quantification of credit risk that was not in line with best practices applied by banks in their risk management. Furthermore, innovative financial instruments developed mainly in the early 2000s, in addition with aforementioned shortcomings, led to regulatory arbitrage, so the purpose of Basel I could have been easily sidestepped.

In addition, capital arbitrage arose from securitisation; among other techniques. There was no guide displayed for proper risk management supervision neither rules for suitable market disclosure, then, market discipline was not fostered. The widespread use of the OTD model, the increase of off balance-sheet exposures, the significant role of non-regulated and highly-leveraged intermediaries testify how different players exploited the flaws of Basel. In response to this, in 2004 the Basel Committee launched Basel II. It settled on more stringent capital levels for risky borrowers and empowered risk sensitivity. Moreover, economic capital and regulatory capital would not differ as with the previous Capital Accord. Nevertheless, financial institutions took advantage of some gaps and there was no homogenization in banks and exposures treatment.

3. BASEL II AND THE FINANCIAL CRISIS

The subprime financial crisis has questioned some of the Basel II requirements given that some of its matters included, such as the framework on bank capital adequacy, are considered as the major drive of the financial crisis.

3.1 Overview of the financial turmoil

The period before the crisis is also known as the “Great Moderation” due to a remarkable decline in the variability of both output and inflation. According to Olivier Blanchard and John Simon (2001) the variability of quarterly growth in real output declined by half and the variability of quarterly inflation decreased by two thirds since 1985. Therefore, in many assets volatility and risk premium were low. The world economy achieved record growth rates in 2004, 2005 and 2006. Financial markets performed accordingly, displaying strong stock prices. This occurred due to the increase in real estate prices in English speaking countries, Europe and Asia, and therefore the increase in households spending.

Financial intermediaries increased capital and benefits in an unusual way whilst balance sheets and repayment capability were not affected by the increase in credits. This was all made possible because high asset prices kept leverage ratios stable. Moreover, debt service ratios were sustained by low interest rates and high income rates. Given this, corporates used to be liquid and highly profitable. In this optimal position, several innovative financial instruments were launched particularly in the field of credit risk transfer. Risk Transfer instruments led to the trade, hedge and transfer of credit risk; Credit Default Swaps and Structured Credit Products, including collateralized debt obligations and derivatives are the most highlighting examples. Hence, the OTD intermediation business model (Originate-to- Distribute) empowered. The OTD business model consists of securitizing the loans and distributing those securitized assets as well as selling the mortgages to other intermediaries, with the revenues it is possible to grant new loans. Therefore, it means that assets that would have been held up to maturity are converted and bought by the public strengthening the multiplier effect of the banks. Nevertheless, a higher level of leverage is supported and intermediaries have fewer incentives to address the quality of the assets, if it is possible to determine it. Given the economic growth, lending to risky clients was usual since 2005 given the increase of intermediaries in the economy. In addition, the debt in the household sector, world economy in general, had risen from 2000 onwards. Under these circumstances, securitized loans are transformed into securities and qualified according to certain credit agencies.

In 2005 Investors, particularly banks, were adversely affected as the value of the subprime mortgages decreased aligned with the increase in interest rates and the decrease in household prices. The high leverage of the instruments aggravates the investor´s position and affected the markets of all structured products. The reason is that subprime instruments were too complex and not liquid enough. Under this scenario, the fair-value assessment of assets provoqued considerable looses as well as the exacerbated pro-cyclicality Basel II conveys owing to the minimum capital requirements. Furthermore, the role of the rating agencies in financial regulation or the adequacy of the capital levels in the banking system are among the most debated issues.

3.2 Main accusations to Basel II in connection with the financial crisis

3.2.1 Required capital

Experts claim that Basel II undercapitalized several financial entities with respect to the risk exposed. Onado, an expert in the area, accused banks of an inappropriate implementation of Basel II for raising the capital base of the international banking system (2008). However, we must recall that the capital level would remain unchanged with the aim of switching from the old to the new framework with no fluctuation in credit supply and capital requirements.The object of this measure was not to witness a superior credit rationing risk.

In addition, Basel II stresses the role of the banks´ organizations and risk management processes in fostering and sustaining stability in economic and financial sectors .Besides, the Basel Committee attempted to arrange measures endorsed by all member countries. Finding equilibrium among all might convey suboptimal results. Other authors, such as Benink and Kaufman (2008), attempt to expose the extent to which the capital has continued unchanged. These economists point out that capital requirements with Basel II resulted to be lower than with the previous framework. This is another evidence of the aim of regulators to provide with incentives to implement superior internal risk management methods in the banking sector. In any case, the rules and formulae used to compute the bank´s minimum capital requirements in the Basel II framework are not undisputable and they should be accurately analyzed and revised so as to meet the current needs. Indeed, some US regulators doubted whether the 1,06 scaling factor is adequate for the US banking system. In addition, Caprio, Demirgüç-Kunt and Kane (2008) claimed that the new framework did not improve the eligibility criteria, especially in the Tier 1 field. Basel III will attempt to fulfill these gaps.

3.2.2 Fair value accounting

International accounting principles concerning fair value implementation on trading book assets might have conflicts over the Basel II framework. According to the principle, these assets should follow the marked-to-market or market-to-model depending on the kind of market. That is to say, financial institutions had to mark their assets according to the value in the market at that moment. What happened during the crisis was that with no liquidity or buyers, the value of goods decreased sharply, meaning a simultaneous fall in the value of the assets. Under this scenario, it could happen that a stable company could suddenly be insolvent a few days after.

On the other hand, lending from banks was limited since their reduced assets´ value and more strict capital requirements made banks to cover losses and possible defaults by raising capital instead of providing funding. Nevertheless, Basel II should not be blamed of this fact but any regulation including minimum capital requirements; what Zingales states is also applicable to Basel I. In any case, balance sheets were more vulnerable during that period owing to the interaction of the New Accord, new accounting principles and the crisis. In the field of minimum capital requirements some adjustments were made to counter the instability. For instance, capital items of the balance sheets were adjusted so as to quantify the fair-value portion of balance-sheet equity capital to be included in the calculation of supervisory capital. This adjustment has shortcomings since the fair-value of assets is not re-evaluated according to prudential criteria; what is more, devaluations are added to the determination of supervisory capital. Thus, this mechanism should be modified for better results in the future.

3.2.3 Pro-cyclicality

The term pro-cyclical stands for reinforcing the business cycle fluctuations accelerating the economic prosperity and turmoil. Basel II in its attempt to implement minimum capital requirements cannot evade being pro-cyclical. This involves increasing the number of borrowers unable to pay back their debts, benefits decrease and banks increase the number of loan loss provisions in order to be alienated with the default rate. Basel II enhances risk sensitivity in minimum capital requirements; changes of capital levels and fluctuations of risk-weighted assets foster cyclicality.

On the other hand, Basel II pays especial attention to the interaction between the microeconomic and macroeconomic perspectives to smooth cyclicality. Indeed, in the second Consultation Paper displays certain measures to smooth the pro-cyclical effects of the prudential rules, especially concerning small and medium enterprises, such as: provisions for reducing the fluctuation of the risk parameters estimated by banks; lower sensitivity of capital requirements to borrowers' downgrading; introduction of more favorable risk-weights for exposures to less cyclical borrowers such as small and medium-sized firms. Furthermore, with regard to Pillar 2, banks are asked to assess capital adequacy under a forward-looking focus and to implement internal suitable capital buffers. Despite the tools mentioned, the pro-cyclicality of Basel II remains alarming. The measures under Pillar 2 are more likely to deal with pro-cyclicality. The best way of facing this matter would be improving the quality of intermediaries´ self-assessment and relying on an effectively implemented supervisory control.

3.2.4 Rating Agencies

The assessment provided by credit rating agencies (CRAs) concerning the creditworthiness of the borrowers is another essential part of the regulation of Basel II, especially under the standardized approach in credit risk. There are many doubts with regard to the reliability of such agencies given that some highly-rated corporate defaulted, such as Lehman Brothers in 2008. Firstly, the CRAs are accused of taking advantage of an excessive degree of independence in their judgment, particularly in the field of structured products Secondly, the methodologies applied are criticized as innovative financial instruments are difficult to rate according to existing statistical models´ limitations; some instruments are illiquid or might not have market price. Thus, alternative methodologies should be applied although it might be difficult. The fact that in developing countries banks with internal rating systems have larger market shares than others using the standardized approach shows banks are encouraged to use the internal approach in the credit risk field. Concerning structured instruments the FSF stated in 2008 *"historical data on the performance of US subprime loans were largely confined to a benign economic environment with rising house prices. The lack of* *sufficient historical data or of scenario analysis that adequately assessed how particular asset pools would respond to potential economic scenarios led to ratings mistakes. In particular, CRAs underestimated the correlations in the defaults that would occur during a broad market downturn"(FSF, 2008:33).*

Sovereign ratings go hand and hand with financial stability, and thus, ratings must be timely and transparent. Unfortunately, this was not the case during the crisis. This situation enabled another severe shortcoming with regard to the investor´s over reliance on ratings. In addition, CRAs might rate credits sidestepping the CRA Regulation and not held responsible for it. Differences among countries let credit rating agencies choosing most weak jurisdictions in this field. To address this concerns, in November 2008 the European Commission published a proposal with the aim of implementing several initiatives in rating agencies, such as a compulsory registration, an introduction of common standards on their internal organization, the application of certain methodologies and a mandatory disclosure to the market. Agencies started rebuilding methodologies, particularly structured products´ ones.

3.2.5 Banks´ internal models for measuring risk exposures are not as effective as thought

During the crisis the shortcomings of the internal rating approach in banks were so remarkable that their use for regulatory purposes has been seriously doubted. The experts Benink and Kauffman (2008) claimed that internal methodologies might have encouraged banks to underestimate the risk exposure, and thus, to minimize the required regulatory capital and maximize the return on equity. Besides, Onado (2008) states regulatory authorities are more efficient than banks themselves in determining the adequate level of capital, he disagrees with the assumption that banks, thanks to their immeasurable operational expertise, are able to assess risks and, thus, optimal capital needs. It is true that the new Accord pursues the highest degree of internal methodology, such as best practices adopted by the intermediaries, for risk measurement purposes. However, this regulation should be complemented by methodologies developed by relevant supervisors in the fields of risk management, pricing and capital planning.

The pursuing of both supervisory and internal purposes with the same tools might be adequate given the difficulty of the risk management of complex instruments. Authorities need to monitor risk measuring methods and the outcomes of risk assessment processes. Hence, the internal models are only valid if regulators verify the reliability of such, as well as the self assessment and capital planning suitability. However, despite requiring a prior license in order to implement own developed methodologies, many of such showed poor predictability or risk measurement ability. This fact should be solved by adjusting chosen methodologies before accusing the whole Basel II framework of being unsuitable.

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The aforementioned adjustments should foster the improvement in the quality of supervision, so regulators rely on better and more harmonized set of rules rather than excessive scrutiny. In this line, banks will be encouraged to design methodologies which continuously evaluate the consistency between capital endowment and the exposure to risk as Basel II, indeed, requires (Internal Capital Adequacy Assessment Process, ICAAP- Basel II, Pillar 2- 2004). Concerning the underestimation of risk by banks, it should not be exclusively ascribed to Basel II. Besides offering a supervised framework it attempts to measure and take into account all kind of risks, even those difficult to measure. Besides capital plans and internal control systems must be developed with regard to perspective risks. Another criticism could be that banks might focus too much in quantitative data rather than qualitative data owing to the complexity of the latter to compute statistical models. To sum up, the scenario in which Basel II was implemented was not easy due to the OTD system, responsible for transferring credit risk from banks to public investors and intermediaries what entails a decreasing willingness to assess accurately the credit worthiness.

3.2.6 Regulatory arbitrage

The off-balance sheet instruments created by the intermediaries provided an easy way to have less required capital to support certain risky assets. Besides, banks investing in off-balance sheet products were undertaking a higher level of risk than allowed by their capital reserves. Moreover, these assets do not consider liquidity and risk derived by the deterioration of the value of the original asset. Yet, at the same time (2008) the Financial Stability Forum removes Basel II´s guilt and blames the lack of effective supervision and the prudential regime in force prior to the Basel II: "*Public authorities recognized some of the underlying vulnerabilities in the financial sector but failed to take effective countervailing action, partly because they may have overestimated the strength and resilience of the financial system. Limitations in regulatory arrangements, such as those related to the pre-Basel II framework, contributed to the growth of unregulated exposures, excessive risk-taking and weak liquidity risk management" (FSF, 2008: 9).* Hence, the risk of regulatory arbitrage could be decreased through the enforcement of relevant rules and control.

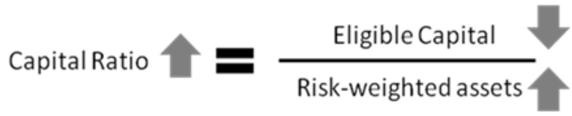
4. BASEL III. ANALYSIS

As mentioned, Basel III was written so as to amend the drawbacks of the previous framework. It attempts to promote financial stability through higher levels of capital, combined with a global liquidity framework. In this line, Basel III will significantly decrease the probability and severity of banking crises in the future. Besides, it supports a more sophisticated risk management and transparency as well as more solid bank´s disclosures. First of all, we would like to analyze whether the points discussed in Basel II have been amended in the new framework.

4.1 Amendment of Basel II shortcomings

4.1.1 Required capital

The capital ratio requirement increases under the last framework given that the amount of risk-weighted assets is greater and the amount of eligible capital lower.



Source: Financial Markets Journal

In the chart below it is shown a comparison between both frameworks concerning Tier 1 and Tier 2 capital:

Area	Basel II	Basel III
Tier 1	Tier 1 Capital Ratio = 4%	Tier 1 Capital Ratio = 6%
Core Tier 1	Core Tier 1 Capital Ratio = 2%	Core Tier 1 Capital Ratio = 4.5%
Tier 2	The difference between the total capital requirement of 8% and the Tier 1 capital requirement can be met with Tier 2 capital.	The difference between the total capital requirement of 8% and the Tier 1 capital requirements can be met with Tier 2 capital.

These changes, as well as the implementation of a capital conservation buffer of 2,5% and total common equity requirements of 7,0% are to be implemented from 2013 to 2019. Capital base should be highly qualified, consistent and transparent in order to back the risk exposed adequately, the crisis demonstrated Basel II did not provide with these characteristics. Since in the crisis credit losses or write-downs derived from retained earnings, the predominant form of Tier 1 capital in Basel III will be common equity and retained capital instead of debt-like instruments. Therefore, so as to meet the minimum capital requirements common equity or retained capital will be raised. Moreover, since capital components with little loss-absorption are deducted - minority interests, holdings in other financial institutions or DTAs – regulators will be unable to include any capital instrument in Tier 1 and Tier 2 capital. Capital was defined in different manners across countries due to different jurisdictions.

With Basel III that would not happen so disproportionately. A set of principles allow comparability among companies, even non-joint stock ones, with regard to retained earnings. Besides, reduction filters and capital deductions have also been harmonized, what henceforth contribute comparable common equity. The rest of Tier 1 capital is to be comprised of subordinated instruments, fully discretionary non-cumulative dividends or coupons with no maturity or redeem incentives. Instruments belonging to Tier capital 2 will be harmonized and Tier 3 will be removed. Furthermore, Basel III considers certain entities are too relevant to fail. Hence, these banks are to follow higher capital requirements than those established by Basel III. Given this, we can undoubtedly state Basel III provides with a higher amount of minimum capital computed through more accurate formulae offering more quantity and quality. Nowadays, the capital level of a bank is more suitable with respect to the risk exposed than ever.

4.1.2 Fair value accounting

The conflict concerning the interaction between the fair- value accounting for trading book assets and Basel II is to be overcome since Basel III incudes a specific capital charge so as to cover risk pertaining to mark –to-market loses. This capital charge is denominated CVA and is the responsible for covering the risk derived by the decrease in the creditworthiness of the respective counterparty. With this measure it is expected banks not to devaluate their assets so drastically in such a short periods of times as it used to be during the crisis. Furthermore, it alleviates the inherent pro-cyclicality that this fact conveys.

4.1.3 Pro-cyclicality

Basel III displays a macroprudential overlay which promotes financial stability and pays special attention to pro-cyclicality and systemic risk. One of the Basel III implementations is the countercyclical capital buffer which holds between the 0% and 2.5% of capital in the form of common equity. This tool is to be activated by national authorities within the general guidance provided by an international agreement. If national authorities consider there is a rapid credit growth, financial entities will be asked to build up the buffer.

However, in recession the buffer would be released. In this line, banks will not be so dependent of the trends and, as they play an active role in the financial system, the financial sector as a whole will benefit from it. As mentioned, the new common equity requirement of the 7% includes a capital conservation buffer of 2,5%, which will cover losses when recession and will not allow capital to go below the minimum required. Under this framework, the probability of self-reinforcing adverse cycles is highly reduced.

During economic growth, banks are expected to build-up this buffer. However, experts claim that it is unlikely banks to draw on the capital conservation buffer during periods of stress owing to the related earning distribution constraints. Besides, The Counter Cyclical Capital Buffer amends the effects of rapid credit growth in the banking sector in the same manner as Capital Conservation Buffer does. The former ensures a buffer in critical periods and the latter is a macro-prudential tool to protect banks from excessive risk. Both are highly recommended under massive credit growth trends.

Basel II implementation	Requirement
Capital conservation buffer	Banks are to hold a Capital Conservation Buffer of 2.5% (by means of common equity, after deductions).
Counter-Cyclical Capital Buffer	Banks are to hold between 0% - 2.5% of capital in the form of common equity.
Capital for Systematically Important Banks	Systemically important banks should have loss absorbing capacity beyond the set standards.
Total Regulatory Capital Ratio	= [Tier1 Capital Ratio] + [Capital Conservation Buffer] + [Counter-cyclical Capital Buffer] + [Capital for Systemically Important Banks(if applicable)]

4.1.4 Rating Agencies

In 2010 The EU Regulation on Credit Rating Agencies- CRA Regulation- was published and they amended in May 2011 in order to fit in the European Securities and Markets Authority- ESMA. This regulation focuses on the registration, the conduct of business and supervision. Nonetheless, the current CRA regulation fails to take full account of the use of credit ratings or their impact on the market. However, it is remarkable that external ratings used by financial institutions are regulated in sectoral financial legislation -e.g. in the Capital Requirements Directive. Measures are implemented to reduce over-reliance on external credit ratings in assessing counterparty credit risk. A relevant initiative to assess the CCR is the code of conduct launched by the International Organization of Securities Commission for credit rating agencies. This report highlights in addition, in 2010, the Financial Stability Board [2] (FSB) drafted principles on reducing reliance on external credit ratings which the G20 approved. In the end of 2012, the FSB requested regulators to remove CRA ratings in laws and regulations; and banks, market participants and institutional investors to make their own credit assessments instead of simply relying on CRA ratings.

With regard to sovereign ratings, the EU regulatory framework for credit ratings already imposes measures on disclosure and transparency for sovereign debt ratings. Nevertheless, in order to rely on a more sophisticated process of sovereign debt ratings in the EU, accessing to more comprehensive information on the data and reasons underlying a rating is essential. In short, these are the new rules approved in the field of the CRA Regulation: Reduce overreliance on credit ratings; Improve quality of ratings of sovereign debt of EU Member States; Make credit rating agencies more accountable for their actions; Reduce conflicts of interest due to the "issuer pays remuneration model" and encourage the entrance of more players onto the credit rating market; and, Ensure the publishing of ratings on European Rating Platform.

4.1.5 Banks´ internal models for measuring risk exposures are not as effective as thought

As mentioned above, Basel III enhances the capital ratio consisting of a firm's eligible regulatory capital divided by a regulatory prescribed calculation of risk weighted assets. In order to mitigate the aforementioned impacts of this updated ratio, banks might improve the performance of internal ratings based credit risk approach and Internal Models Method (IMM) market risk approaches. Indeed, Counterparty Credit Risk models are to be calibrated, such as IMM.

4.1.6 Regulatory arbitrage

If different countries implement Basel III in different ways issues concerning international arbitrage will remain. The reason for this is that regulatory arbitrage exists when investors take advantage of regulatory differences between markets and Basel III provides with too many implementation options in its attempt to fit with all countries, and therefore arbitrage is easily achievable. It is true that this new framework counts with a rules that requires banks to be able to use CDS if they want to hedge loses provided they show the insurance cost and charge a certain capital amount. In this respect, the aim of Basel III is to prevent banks to optimize their balance sheets and seem less risky than they really are. However, the scope of regulatory arbitrage should be reduced more toughly and this can only be achieved with a uniform regulation among all members. This is the weakness that remains most unattended out of all mentioned shortcomings in Basel II.

4.2 Other Basel III impacts

4.2.1 Leverage ratio

This ratio is a non-risk sensitive backstop measure to avoid leverage accumulation both in the entity and in the financial sector as a whole. It substitutes the risk-based measures of regulatory capital in some way except for taking the assets´ risk on board. Banks in the past –mainly in the US- had applied leverage ratios regardless Basel framework. The fact that now leverage ratios will be included in the regulation enhances transparency. However, these ratios might be subject to netting owing to gaps in accounting standards or rules- GAAP or IFRS. Furthermore, as it does not take into account the associated risk of assets, banks might focus on higher risk/ higher return lending. That is why an un-weighted ratio of 3% will be tested from 2013 to 2017 to be effective from January 2018. The aim is to track the ratio, its components and implications in order to adjust if needed and obtain an effective indicator. Thus, ambiguity remains about certain aspects of the mechanics yet.

4.2.2 Liquidity ratios

Subsequently, liquidity ratios are included:

- The 30-day Liquidity Coverage Ratio (LCR): It guarantees banks enough liquidity in critical periods for a short term. On the other hand, banks will be forced to hold more liquid and low-yielding assets which implies lower profitability.

- Net Stable Funding Ratio (NSFR): It provides with a long term structural liquidity ratio reducing the refinancing risk of banks´ balance sheet. With this measure it is sought banks to rely on stable funding mix. In this regard, banks will need to increase the level of wholesale and corporate deposits with maturities above one year. However, most banks will be unable to do so due to the limited market demand what it turns into greater costs. On the other hand, assets market price will be significantly influenced by strongest banks leading to the lack of competitiveness of weaker banks.

Even if similar ratios were developed in the internal models of several institutions, it is worth highlighting the NSFR conveys a more significant level of liquidity, and thus, should avoid critical situation to a great extent. Besides, with the LCR, entities will shift their funding perspective from the short term to the long term.

4.2.3 Counterparty credit risk

Risks that were not fully covered in the Basel II framework are to be captured under the Pillar I of Basel III. Basel III measures will affect the treatment of exposures to banks and the counterparty credit risk (CCR) exposures. As stated, counterparty credit risk was fostered through repos, securities or other financial derivatives. The new framework includes some new measures in this field, apart from higher capital requirements for CCR exposures, the aforementioned code of conduct of CRA and the Credit Valuation Adjustment (CVA). A relevant measure is the inclusion of Asset Value Correlation (AVC) according to which regulated financial institutions with $100 billion in assets or unregulated financial institutions will be requested the 25% of assets value correlation adjustment. Better risk management standards in the field of collateral-management and stress-testing leads to the adjustment of financial counterparties fare in the market. In addition, the use of Central Counterparties (CCPs) in the field of standardized derivatives though the “carrot and stick” [3] approach, decreases financial flow across international borders arising from several capital charges. Moreover, the correlation in the IRB formula will increase for certain financial entities so as to reflect the experience gained in the current crisis and several capital charges for CVA or wrong-way-risk. This implies an enhancement of central bodies from the risk perspective, and thus, controls and quality of such are highlighting.

4.2.5 Implications

With the aforementioned initiatives, a series of implications are expected with respect to individual banks and the financial system as a whole. This scenario has placed a greater pressure on profitability and Return on Capital. Margins and operating capacity might be affected by higher minimum capital requirements and more expensive funding; besides they need to deal with the new capital reform. This will imply weaker banks,

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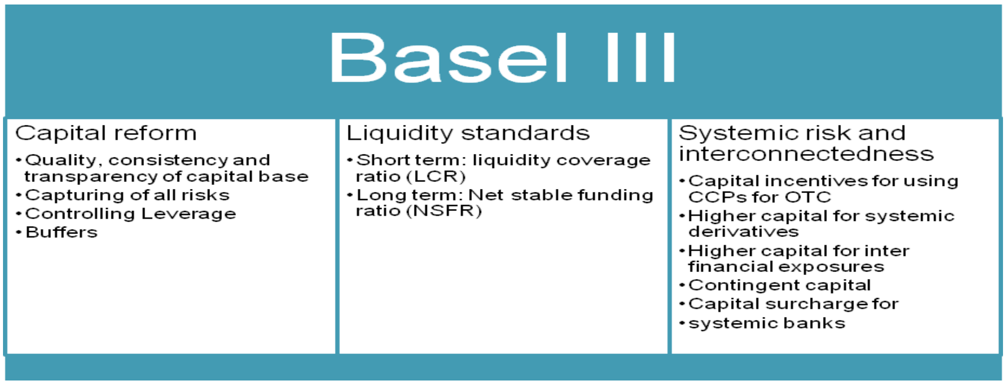
unable to raise capital or funding, will be out of the game and so specific business models will be reduced. Moreover, the two liquidity ratios will shift banks from short term funding to long term funding due to the liquidity requirements. With this changes margins and consequently, margins will have a significant impact. Furthermore, banks are likely to reorganize owing to the enhanced supervision on proprietary trading and financial or minority investments¨ treatment.

On the other hand, financial system in overall will be affected in several ways. Firstly, the main goal is aimed to achieve: financial stability. The aforementioned capital and liquidity buffers will be the main instruments through which this objective is expected to achieve. Together with risk management standards and capability the risk will be reduced in banks individually and in the whole system in broad terms. One of the costs of this enhancement is the reduced lending capacity of entities. In fact, it is planned to implement changes smoothly through large time lines to mitigate this effect. Nevertheless, banks will be likely to reduce their lending capacity and to increase the cost of such lending. Another drawback is that reduced ROE and margins will affect investors relying on bank debt or equity issuance. In order to rebuild capital bases, entities might reduce dividends; in addition, some non-equity instruments, in entities where are applied, might shift some debt instruments form liquidation to loss-absorbing. All this will have implications both in this will be reflected in the increased cost of new capital issuance and the interbank lending rate.

In short, Basel III aims to avoid dramatic financial crisis and to build a more solid banking sector through this scheme:



5. CONCLUSIONS

At this stage, after the development of the subject matter, I would like to end with a few thoughts. First, it must be noted Basel I had many shortcomings resulting from its simplicity: They only focused on credit risk and its quantification was not accurate enough, besides, they fail to stimulate IMM among others. Nonetheless, it was the first framework issued and, bearing in mind it had no legal force, it is understandable not to be strict enough in order to encourage the use of it and the increase of the membership. In addition, since its appearance, the Basel Committee on Banking Supervision has pursued a framework that would ensure equality among all international banks, thus removing competitive inequality. However, this goal might be overly optimistic given that the Committee lacks supranational authority.

Furthermore, countries which include relevant measures in their jurisdiction are able to choose among a rich variety of manners to do so. That being said, it is true that from Basel I to Basel III the scope have been fairly decreased. Nevertheless, in the last framework there is still a significant array of choices: Different approaches, different deadlines, different options, or different national discretions. Both facts support flexibility but foster regulatory arbitrage, which should be thoroughly removed, especially with innovative financial instruments in the market. In my view, the lack of legal force could be balanced by other incentives. For instance, banks implementing such frameworks suitably could be enhanced in the Dow Jones Sustainability Index or similar. This initiative would make investors to rely on such financial entities, and thus, profits would increase. Hence, this approach would encourage banks to implement measures effectively and countries including them in their law.

With regard to the variety of manners to implement Basel III, I believe we are currently on a process of trial and error and after discovering empirically which are the best metrics and practices the scope will be narrower and so will be the competitive inequality among banks.

Concerning Basel II, most of shortcomings were amended by Basel III. In my view, the field of capital regulation has been significantly overcome providing banks with higher capital quality and quantity. Regarding fair-value accounting the capital charge requested in Basel III might reduce the effect de arising from mark-to-market accountability to a great extent. Pro-cyclicality is also expected to be mitigated by the buffers included although, to my mind, it will never be completely removed given that is a natural tendency growing trends to boost more growing trends and vice versa. It is remarkable the Code of Conduct regarding credit rating agencies, though, an International Framework Agreement (IFA) might be more suitable as it requires more strict compliance of the principles. The lack of existence of such document might be owing to the aforementioned situation: prematurity. There are only around 50 IFAs all around the world what reflects its exclusivity. I would deeply recommend encouraging banks to sign such agreements through different initiatives, such as reflecting in the Dow Jones Index for instance.

In the field of internal models, apart from incentivizing the use of better internal models, there is little that can be done since banks themselves develop these indicators. The transparency in the formulae applied and facilitating relevant information could be a key issue for supervision purposes. Leverage measures cannot be criticized concerning metrics, since they are yet on trial. However, I profoundly believe the risk of assets should be taken into account and develop risk-weight according to it. Besides, included liquidity ratios inspire, in my opinion, a sound support for banks. The way CCR is limited through adjustments and ratios seems to be accurate and the fact that greater financial entities are subject to higher capital requirements is deeply appropriate. To be honest, implementing all measures requested by the Bank of International Settlements in all banks is unfeasible, and thus, weaker banks won´t be able to be in the market. The reduced ROE and margins will affect bank debt investment and equity issuance leading to a decrease in lending.

On the other hand, it is a must to recall that the risk assumed is inversely proportional to the profits gained. Hence, if the aim is to reduce the risk, these might be the "incurred loses". Even so, we should keep in mind nothing is more expensive than a financial crisis arising from risky and irresponsible exploitation of the financial system.

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[1] Group of ten (G10): Is comprised by eleven industrialized countries that meet annually to discuss and consult each other relevant financial issues. The member countries are: France, Germany, Belgium, Italy, Japan, the Netherlands, Sweden, the United Kingdom, the United States and Canada, with Switzerland playing a minor role.

[2] Financial Stability Board (FSB): The FSB has been established to coordinate at the international level the work of national financial authorities and international standard setting bodies and to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies in the interest of financial stability.

[3] Carrot and stick: This idiom refers to the achievement or fostering of certain behavior through punishment and reward policy. It calls to mind a cart driver swinging a carrot in front of a mule and punishing it with a stick.