

Capital Adequacy and Risk Management Issues in Banking before, during and after 2007-2008 Financial Crises

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Abstract

The paper provides evidence about Basel II, as international banking regulations failure in recent global financial crisis. It describes old and new banking regulations main aspects on the base of before and during financial crisis periods. Banks' holding of reasonable capital buffers in excess of minimum requirements could alleviate the procyclicality problem potentially exacerbated by the rating-sensitive capital charges of Basel II. Determining the sufficient buffer size is an important risk management task for banks. Actual bank capital is driven by bank income and default losses, whereas capital requirements within Basel II are driven by rating transitions. New regulatory approach to measuring capital adequacy appears consistent with banks' own risk evaluations. The purpose of the paper is to show Basel II's role in financial crisis based on qualitative inductive research. Also paper mentions some political aspects of modern banking regulations and future suggestions and recommendations for after crisis banking future.

Keywords: bank capital, banking regulation, Basel II, global crisis, lobbying

JEL: G15, G18, G21

Introduction

The world financial market is a highly complex system that includes many different participants from local bank to the central bank and even the investor. The word "bank" is derived from the Italian word *banca*, which referred to the table, counter, or place of business of a money changer. In modern parlance, commercial banks are defined as institutions that are allowed to take deposit liabilities and extend loans to commercial businesses. Due to its importance on the global economy and our everyday lives it is vital that it is functioning properly.

One tool that helps the financial markets run smoothly is a set of international banking agreements called the Basel Accords. These accords coordinate the regulation of global banks, and are "an international framework for internationally active banks". They are the backbone of the financial system; the Basel Accords were created to guard against financial shocks, which is when a faltering capital market hurts the real economy, as opposed to a mere disturbance (Harper, 2009).

In middle of 2007 the subprime mortgage crisis hit world economy, resulting huge banking institutions loss reporting and in 2008 the crisis had already named world economic crisis. When the system started crashing, most banks were undercapitalised and ill-prepared. Banking supervisors have grossly underestimated the level of capital needed by banks to prevent such a crisis.

Paper examines problems related to the failure of Basel Accords, designed to protect banks against financial crisis. Instead of mitigating risks and guidance from shock, it made more confuses, and caused procyclicality of banking sys-

tem. Hence paper tries to answer the question, did really Basel II Accord took portion in failure of banking system? Because recent financial crisis was extremely harmful for world economy, touching almost every field of our lives, it is vitally important to identify all weaknesses of banking system regulations.

Theoretical framework discusses pre-crisis and during crisis periods, comparing Basel I and Basel II accords, and their effectiveness in risk management for banking institutions as well mentions some incentives and proposals of after crisis banking future.

As study does not have specific hypothesis of theory that must be tested, a more inductive approach has been used. An inductive approach develops a theory from data that is first being collected. An inductive approach generally uses a qualitative approach (Saunders, 2009, pp.480-482). Relationship between risk weighted assets and bank capital adequacy according to Basel I and after implementation Basel II framework are incentives for inspection. Qualitative discussion with facts and quantitative data comparison are the type of research.

Analysis and discussion is based on the statistical information about banks performance and the previous works regarding Basel II's role in world financial crisis 2008.

Basel accord

The Basel Committee on Banking Supervision is a commit-

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tee of banking supervisory authorities that was established by the central bank governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. It usually meets at the Bank for International Settlements in Basel, where its permanent Secretariat is located (Bank for International Settlements, 2001).

The trend toward stricter standards received further impetus in November, 1988, when the United States and 11 other countries entered into the Basel Accord, which established uniform international capital standards for banks. The accord specified the amount of capital that banks must hold relative to assets.

Basel Accord established requirements for core capital and for total capital. Core capital is the historical value of outstanding stock plus retained earnings. Total capital is core capital plus supplemental capital (loan-loss reserves plus subordinated debt). Subordinated debt is long-term debt that is paid off after depositors and other creditors have been paid in the event that the institution goes under (Burton, 2009, pp.262-264). The amount of capital that must be held is based on the larger of two measures: One measure is based on risk-adjusted assets and the other on total assets.

The Basel Accords determine how much equity capital - known as regulatory capital - a bank must hold to buffer unexpected losses. Equity is assets minus liabilities. For a traditional bank, assets are loans and liabilities are customer deposits. But even a traditional bank is highly leveraged (i.e., the debt-to-equity or debt-to-capital ratio is much higher than for a corporation). If the assets decline in value, the equity can quickly evaporate. So, in simple terms, the Basel Accord requires banks to have an equity cushion in the event that assets decline, providing depositors with protection (Burton, 2009, pp.263-264).

The method based on risk-adjusted assets assigns different weights to different types of assets according to their risks. Once risk-adjusted assets have been determined, they are subject to two capital constraints:

- (1) Core capital must be equal to at least 4 percent of risk-adjusted assets; and
- (2) total capital must be equal to at least 8 percent of risk-adjusted assets.

According to the Basel Accord requirements, a bank must have core capital equal to at least 3 percent of total assets (Bank for International Settlements, 2005).

Many years passing after original Basel Accord issuance it was subject of significant changes and revision by issuing Basel I Accord and modern Basel II Accord with significant development in 2004.

The Basel II Framework describes a more comprehensive measure and minimum standard for capital adequacy that national supervisory authorities are now working to implement through domestic rule-making and adoption procedures.

It seeks to improve on the existing rules by aligning regulatory capital requirements more closely to the underlying risks that banks face.

A significant innovation of the revised Framework is the greater use of assessments of risk provided by banks' internal systems as inputs to capital calculations. In taking this step, the Committee is also putting forward a detailed set of minimum requirements designed to ensure the integrity of these internal risk assessments.

In addition, the Basel II Framework is intended to promote a more forward-looking approach to capital supervision, one that encourages banks to identify the risks they may face, today and in the future, and to develop or improve their ability to manage those risks. As a result, it is intended to be more flexible and better able to evolve with advances in markets and risk management practices.

With Basel II, the Basel Committee abandons the 1988 Capital Accord's "one-size-fits-all" method of calculating minimum regulatory capital requirements and introduces a three-pillar concept that seeks to align regulatory requirements with economic principles of risk management.

Basel II's three pillars are:

Minimum capital is the technical, quantitative heart of the accord. Banks must hold capital against 8% of their assets, after adjusting their assets for risk.

Supervisor review is the process whereby national regulators ensure their home country banks are following the rules. If minimum capital is the rulebook, the second pillar is the referee system.

Market discipline is based on enhanced disclosure of risk. This may be an important pillar due to the complexity of Basel. Under Basel II, banks may use their own internal models (and gain lower capital requirements) but the price of this is transparency (Bank for International Settlements, 2005).

Basel II makes substantive changes to the current Accord's methods of calculating regulatory capital requirements, specifically in its Pillar I treatment of credit risk and operational risk.

Basel I

$$\frac{\text{Total Capital}}{\text{Credit Risk (old)} + \text{Market Risk}} = \\ = \text{The Bank's capital ratio (minimum 8\%)}$$

Basel II

$$\frac{\text{Total Capital}}{\text{Credit Risk (new)} + \text{Market Risk} + \text{Operational Risk}} = \\ = \text{The Bank's capital ratio (minimum 8\%)}$$

Note: Major banking risks not reflected in Pillar One: interest rate risk in the banking book, concentration risk, strategic business risk, reputation risk; structural interest rate risk not covered by capital requirements, but included in Pillar II.

As regards Pillar 1, the aim of creating a more risk-sensitive framework is pursued through a range of options for addressing credit risk, including:

(1) a standardised approach, in which riskweights are based on the evaluation of credit quality by external credit assessment institutions (rating agencies and other institutions authorised according to a set of specified criteria), (Bank for International Settlements, 2005);

(2) a "foundation" internal rating based (IRB) approach, based both on banks' internal assessments of risk components and supervisory parameters;

(3) an "advanced" IRB approach, in which all risk components are estimated internally by banks.

Both IRB approaches to computing risk-weighted assets rely on four quantitative risk factors:

(a) the probability of default (PD), which measures the likelihood that the borrower will default over a given time horizon;

(b) the loss given default (LGD), which measures the proportion of the exposure that will be lost if the default occurs;

(c) the exposure at default (EAD), which includes the on-balance sheet exposure and an estimate of the off-balance one (as an example, for loan commitments the purpose is to measure the amount of the facility that is likely to be drawn if a default occurs);

(d) the maturity (M) of the exposure, which measures the remaining economic maturity of the asset.

For corporate, sovereign, and interbank exposures, under the "foundation" IRB approach banks satisfying minimum supervisory requirements will be allowed to input their own assessment of the probability of default associated with the borrower. The other risk factors (EAD, LGD and M) are determined by supervisors. Under the advanced IRB approach, banks will provide internal estimates of LGD, EAD and M. For each portfolio, a risk-weight function translates the risk components into specific capital requirements.

The accord recognizes three big risk buckets: credit risk, market risk and operational risk. In other words, a bank must hold capital against all three types of risks. A charge for market risk was introduced in 1998. The charge for operational risk is new and controversial because it is hard to define, not to mention quantify, operational risk (The basic approach uses a bank's gross income as a proxy for operational risk). It is not hard to challenge this idea (Bank for International Settlements, 2005).

Basel II represents a long-term opportunity but with budget issues and operating profits under pressure worldwide, the initial investments banks must make to comply with the New Accord also represent a short-term challenge. Over time, however, the improvements in risk management Basel II is intended to drive may enhance risk culture, reduce volatility of all risks, lower provision for bad debts, reduce operational losses, improve the institutions' external ratings, and thereby help ensure access to capital markets and raise organizational efficiency.

Literature review

The world of finance has always had an inherent understanding of risk. The risks that emerge from the increased variety and complexities of banking business, as well as from the various new drivers of growth has pushed the frameworks of risk management in banks much beyond what would probably have existed in the more traditional forms of banking activity of accepting deposits and extending loans in relatively stable environments.

When restrictions that separated commercial banking from investment banking were lifted in the late '90s, almost all the big banks jumped right in and started competing directly with the Wall Street investment banks. There is a lot of merit in allowing banks to offer a wide array of services to their customers, or to become one-stop financial superstores. The insatiable appetite for better returns on capital and fatter bonuses encouraged bankers to move into more complex and risky businesses. Proprietary trading, where a bank made trading bets using its own money, called global markets division by many banks, contributed more to the

bottom line of many banks. When the business of asset securitisation exploded, it opened up lucrative opportunities in origination and trading of derivatives.

International scope during the last two decades has witnessed significant changes in the profile of the banking sector, as well the essence of risk management in banks. What accordingly has changed the nature of risk management, advances in technology that have aided quantitative approaches to risk management, like models etc., and the increasing volumes of transactions in derivatives and other structured products that are so complex that they are often labeled "exotic".

In 2004, the Basel Committee on Banking Supervision adopted a revision of its accord on capital regulation, which was implemented in 2007. The new accord, called Basel II, seeks to better adjusting regulatory capital with economic risk, sometimes also called economic capital. In comparison to the old framework, the capital charges of Basel II are based on asset quality rather than on asset type. Banks are allowed to choose among several approaches. The standardized approach is based on the borrower's public ratings by attributing specific risk weights to the respective rating classes. More sophisticated banks will be authorized for the two internal ratings based approaches (IRB), which permit the use of the banks' own internal rating systems to quantify the creditworthiness of their debtors. As in the old framework, total capital charges are 8% of risk-weighted assets. Basel Committee strongly beholds that capital charges will on average stay at the current level. Matching regulatory capital with economic risks has obvious microeconomic benefits mainly because it reduces the potential for regulatory arbitrage. Perhaps, by increasing the sensitivity to credit risk, the new accord will make required minimum capital more cyclical. This could potentially cause capital management problems to banks due to the fact that capital charges are likely to increase in an economic downturn at a time when banks are confronted with the erosion of their equity capital as a result of write-offs in their loan portfolios. However, the impact on the macro economy may be even more severe if capital constrained banks are forced to reduce their lending.

After the Global Financial Crisis 2007-2008, the effectiveness of global financial regulation, as promoted by the Basel Committee on Banking Supervision, has been questioned. People among economists, policy-makers and market operators have accused the Basel II framework on bank capital adequacy to be a major cause for the financial crisis, which occurred in the subprime loans' sector in the US first and subsequently spilled over at the global level.

There is no surprise that a large body of literature is centered to the study of the Basel II Accords role in global financial crisis. Analyzing related literature identifies 5 major key weaknesses of banking regulation:

1. The average level of capital obliged according to the new discipline was not eligible and this was one of the reasons of the recent failure of many banks;

Based on the Quantitative Impact Studies conducted during the Basel reform, Benink and Kaufman (2008) note that for many banks capital requirements measured according to the new directives showed to be lower than those calculated under Basel I.

Basel II admits the use of internal quantitative modeling techniques by banks in calculating their regulatory capital. Set of experts have expressed worries about the disclosure of these more complex models, and the fact that the use of internal models by banks could potentially lead to conflicts of

interest (Griffin, 2009).

Under Basel I, based on research evidence, capital buffers increase during economic downturns and decrease during economic booms, but under Basel II (increased risk sensitivity) would amplify sensitivity of capital charges, demonstrated in the studies (Ojo, 2009).

Capital requirements should increase in downturns and decrease in upturns. But Basel II involves a number of tools that deteriorate this effect due to making capital requirements more risk sensitive than under Basel I (Saurina, 2008).

Basel II has led to the undercapitalization of many banks in accordance to their actual risk exposures; those banks have faced serious problems during the financial crisis.

2. Basel II Accord in relationship with fair-value accounting resulted in impressive losses in the portfolios of most financial institutions;

Contemporary implementation of Basel II and the fair-value accounting standards increased sensitivity of banks' balance sheets to assets value fluctuations.

Both U.S. Generally Accepted Accounting Principles (U.S. GAAP) and International Financial Reporting Standards (IFRS) use a mixed characteristic model, where different valuation criteria are applied to different types of assets and liabilities, depending on their characteristics and on management's intentions in holding them to maturity or not. In essence, both frameworks require FV valuation for financial assets and liabilities held for trading purposes and available-for-sale (AFS) assets, and all derivatives. Held-to-maturity (HTM) investments, loans, and liabilities not fair valued are valued at amortized cost (Novoa, 2009).

In its specific analysis of FVA and procyclicality by IMF specialists (2008) find that, FVA methodology promotes unwanted volatility across time, but for the purposes of obtaining a point estimate at a specific date of a bank's current financial condition, FVA ensures the most accurate assessment. But serious difficulties exist not only in determining the fair values of assets in downturns and illiquid markets, but also during boom times in active markets when prices can pass over and incorporate risk premium that inflate profits. Under such circumstances, market prices may not accurately reflect risks and can result in unrealistic profits that distort incentives and amplify the cyclical upturn.

Therefore, market players and supervisors would expect to see banks' external auditors use a very prudent approach to inspect the prices and inputs used to FV financial instruments for minimizing late write-offs and opportunities for management related to "cherry-picking accounting".

3. Capital requirements required by the Basel II regulations contribute procyclical effect on business cycle fluctuations;

According to Basel II's Standardized Approach, risk weights are based on external ratings constructed to see through the cycle, so that cyclical effects are muted. In the internal ratings-based (IRB) approaches that deterioration in credit risk feeds more directly into the capital requirements. The three main risk components in the IRB approaches (probability of default, loss given default, and exposure at default) are themselves influenced by cyclical movements and may give rise to a cyclical impact on banks' capital requirements (Novoa, 2009).

In recession, the number of borrowers that are cannot pay back their debts increases, profits start to decrease and banks need to raise loan loss provisions, to match them with

growing default rates. If profits are not enough to cover loan losses, own funds start to evaporate. Since Basel II entails greater sensitivity to risk of minimum capital requirements, cyclicity is the result of both changes of capital levels and fluctuations of risk-weighted assets (due to the migration of customers from better to worse rating classes).

Repullo and Suarez (2007) evaluate the cyclical effects of transition from risk-insensitive (Basel I) to risk-sensitive (Basel II) capital requirements in the context of a dynamic equilibrium model of relationship lending in which banks are unable to access the equity markets every period. Banks assume that shocks to their earnings as well the cyclical effect of the economy can diminish their capacity to lend in the future and therefore tend to hold capital buffers. Work find that the new regulations can change the effects of these buffers from countercyclical to procyclical. The higher buffers maintained in expansions may be insufficient to prevent a significant contraction in the supply of credit at the arrival of a recession. This credit slump can be reduced by smoothing the transition from low to high capital charges.

Banks exacerbate the cyclical behavior of the real economy. In good times they incur in more risks than it reasonably should through by excessive lending with poor standards. In bad times they change lending policies reducing radically the loans to the economy and exacerbating the downturn.

According to research of Heid (2007) about macroeconomic fluctuations, the influence of Basel II on aggregate demand can be serious, even if banks hold significant capital buffers in particular for economies where bank lending plays an important role in the firms' investment decisions. However, the pro-cyclical effects on macroeconomic fluctuations will vary among countries. In general, bank-based economies will most probably experience the biggest effects, while the effects in financial markets-based economies will be smaller.

4. Basel II framework assigns the evaluation of credit risk to non-banking institutions, such as rating agencies, which could be the subject to possible conflicts of interest;

The evaluation of borrowers' creditworthiness provided by credit rating agencies (CRAs) play a important role in the Basel II regulation under the standardized approach for credit risk. Suspense about the quality and reliability of such agencies became a subject, not only in the aftermath of the subprime crisis, but also when some major companies defaulted in the United States and Europe.

As explained by the Global Financial Stability Report (2008) "historical data on the performance of US subprime loans were largely limited to a benign economic environment with rising house prices. The lack of sufficient historical data or of scenario analysis that appropriately estimated 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".

The degree of independence of the rating agencies' is under discussion. Especially under serious judgments is disclosure of the securitized and complex products.

As BBC's former economic editor and presenter, Davies (2008) stated in a documentary called "The City Uncovered with Evan Davis: Banks and How to Break Them", rating agencies were paid to rate these products encouraging investors to buy them.

Rating methodologies of these agencies are also criticized. The granting of ratings is subject to many challenges;

for complex financial instruments the limitations of statistical models have become even more visible since such products are often illiquid and in certain market conditions, they do not have a market price.

5. The assumption that, banks' internal models for measuring risk exposures contribute better risk allocation than any other showed to be wrong;

The new Basel II Framework includes the principle that risk measurement for regulatory purposes should be based on the best practices adopted by the intermediaries themselves. Such a principle has been considered as a significant innovation in the way regulators have defined the rules to be applied by financial firms. Actually, it can be recalled that influential criticisms to this approach have been raised back in the day (Danielsson et. al., 2001).

The Basel II Accord monitors and encourages sensible risk taking by using appropriate models of risk to calculate Value-at-Risk (VaR) and subsequent daily capital charges. VaR is defined as an estimate of the probability and size of the potential expected financial loss over a given period, and is a standard tool in risk management.

Regulators went even further to validate VaR by allowing corporations and banks to rely on their own internal VaR calculations to set their capital requirements. So long as their VaR was reasonably low, the amount of money they had to keep as buffer to cover risks in case of shocks could also be low.

JPMorgan had originated the development of risk-sensitive risk models for banks. Banks and other financial institutions reacted to these risk-sensitive models by moving into favored sectors that had offered better risk-return trade-offs in the past and moving out of those that had not. But when one bank's risk-sensitive risk model observed a rise in short-term price volatility in the favored portfolio and tried to reduce its vulnerability, many other banks were trying to do the same thing at the same time, increasing volatility and correlation and prompting more model-driven selling. The observation of safe sectors by risk models turned them into risky sectors: increasingly overvalued, highly correlated, and prone to volatility (Persaud, 2008).

The financial turmoil took place under the "old" Basel framework, making evident its shortcomings, its low risk-sensitivity and the rare adaptability to financial innovation. Definitely, many banking institutions still under implementation Basel I requirements, had already revised their credit standards in order to match them with the incoming new Basel II regulations. During transforming established credit processes and risk management methodologies, many banks may have misjudged the actual exposures to new risk types (or new manifestations of traditional risks) and their risk management guided by Basel II failed during financial shock.

Method of analysis

For fulfilling the purpose of study, it is important to decide the approach to use. As study does not have specific hypothesis of theory that must be tested, a more inductive approach has been used. An inductive approach develops a theory from data that is first being collected. An inductive approach generally uses a qualitative approach (Saunders, 2009, pp.480-482). By gathering different facts and information from various sources study intends to construct entire picture around Basel II Accords, as a main document of in-

ternational banking regulation and its role in global financial crisis. Data are based on previous works regarding Basel II's role in world financial crisis, opinions of investors, experts and regulators of financial world. Also quantitative data about famous financial institutions performance and failure during the crisis.

Basel II after the crisis: The failure of banking regulation

Just before the crisis, in June 2007 most large banks held much more capital than required by Basel II. Since the beginning of the crisis, major banks have been forced into massive recapitalizations, both by private investors and governments all around the world. In spite of huge public support, more than 20 bank failures and generalized confidence crisis, freeze of liquidity markets, credit crunch and most probably worldwide recession. Banking supervisors have grossly underestimated the level of capital needed by banks to prevent such a crisis.

The idea that banking risks can be reduced to asset risks is just wrong. First source of banks' fragility is transformation. How come the very sophisticated apparatus designed by BCBS does not even mention it? Basel II based on the notion of Value At Risk (VaR)= capital buffer needed to limit a bank's probability of failure to some threshold. May be appropriate for bank managers who aim at a certain rating, typically associated with maximum probability of failure. May be appropriate for bank shareholders, who are protected by limited liability: do not bear the losses above and beyond bank's capital. Losses in excess of a bank's capital are typically covered by public authorities: need to incorporate these losses into regulatory risk measures (TailVaR).

Monitoring banks one by one is not sufficient: a situation where 2% of banks fail every year can be acceptable, certainly not a situation where all banks fail together every fifty years. Need to measure banks' exposure to macroeconomic shocks, as well as banks' bilateral exposures. Systemic risk was in theory a major preoccupation of banking regulators. In practice: not a single specific measure against systemic risk in Basel III!

Urgent need for supervisors to assess banks' exposures to systemic risk: Macroeconomic shocks, Global disruption of financial markets. In finance, mathematical models have to be used with a grain of salt: limited predictive power, subject to regime changes and endogenous risk (herding behavior, bubbles). The use of complex mathematical formulas by the BCBS is just ridiculous: too simple to be true, too complex to be verified by outsiders. Risk management is more of an art than a science: better to cover all risks with rules of thumb than just one or two risks with very complex models and forgetting the rest.

Illustration of Example: Northern Rock

In September 2007, television viewers around the world witnessed the spectacle of what seemed like an old-fashioned bank run – of depositors waiting in line outside the branch offices of the UK bank, Northern Rock, to withdraw their money. The current generation of economists who study bank runs in their theoretical models have had few opportunities to experience what they study.



NorthernRock: one of the first banks to anticipate Basel II. It was granted the Basel II “waiver” allowing it to lower its capital requirement by calculating it on the basis of internal ratings.

Business model: borrowing in short term whole sale markets, investing in long term mortgage products. In spite of huge transformation risk, their capital requirement was reduced by Basel II!

Northern Rock CEO in the UK Treasury Committee after the bailout:

Question: “Why was it decided, a month after the first profit warning (July 2007), to increase the dividend at the expense of the balance sheet?”

Answer: “Because we had just completed our Basel II...process and under that, and in consultation with the FSA,...we had surplus capital”.

By June 2007, just as the crisis was to break, Northern Rock had total assets of £113 billion and shareholders equity of £2.2 billion.

Risk Weighted Assets (RWA) under Basel II was £19 billion (16.7% of total assets), compared to £34 billion under Basel I (30% of assets).

Total regulatory capital: £1.52 billion

In the end, British authorities had to inject £23 billion, i.e. 15 times the amount of regulatory capital required by Basel II (Shin, 2008)!

To all doom and gloom beside all these financial staff, this story of wall street surrounding whole financial world has deep political undercover. “Wolfs” of Wall Street are creators and designers of phenomena called securitization, which allowed them reach unbelievable rates of profits. Starting in Wall Street, others went after quickly. With top profits, all wanted in, even if it was beyond their area of expertise. Soar level of incomes encouraged big banks to challenge themselves for even more and more profits and in financial nirvana their behavior become gambling with the money of households. As everything was good, no-one wanted bad news.

Government and supervisors with their “eyes wide closed” were going on to protect and lobby multinational corporations and banks of Wall Street. When finally problems came out, confidence fell quickly. Assets were dropping in value so lenders wanted to take their money back, but banks had little in deposits. So some collapsed quickly and dramatically. Banks even with large capital reserves ran out, so governments had to bail out some of them. As Evan Davies (2008) described it, “banks had somehow taken what seemed to be a magic bullet of securitization and fired it on themselves”.

Banking regulation designed to protect against crisis, was well fitted to those big banks who were first violators of this regulation, and government as history shows just bailed

them out. Situation seemed like it is described in famous Hollywood film “Wall Street Money Never Sleeps”, when around round table representatives of big banks of Wall Street with representative of Fed are sitting and discussing which banks should be bailed out. Playing with the money of ordinal taxpayers.

As John Maynard Keynes once wrote, a “sound banker” is one who, “when he is ruined, is ruined in a conventional and orthodox way.”

Some reform proposals

After several years from financial crisis, both bankers and policymakers must contend with two questions: What have we learned from this extraordinary episode? And how can we apply those lessons to strengthen our banking system and to avoid or mitigate future crises? Getting the answers to these questions right is critical for our future financial and economic health.

- Strong independent supervisors
- Simpler but broader regulations
- Crisis management systems

Recent crisis analysis reaffirms that capital adequacy, effective liquidity planning, and strong risk management are essential for safe and sound banking.

Because capital serves as such an important bulwark against potential unexpected loss, U.S. supervisors have been giving it very close attention since the beginning of the crisis.

“We have been closely monitoring firms’ capital levels relative to their risk exposures and discussing our evaluations with senior management. We have also been revisiting our policies regarding capital; for example, earlier this year we issued supervisory guidance for bank holding companies on dividends, capital repurchases, and capital redemptions, reemphasizing in the process that holding companies must serve as a source of strength for their subsidiary banks”.

“The key element of safe and sound banking, after capital and liquidity, is effective risk management. The crisis exposed the inadequacy of the risk-management systems of many financial institutions. We have stepped up our efforts to work with banks to improve their risk-identification practices. For instance, we have emphasized to banks the importance of stress testing to help detect risks not identified by more-typical statistical models, such as abnormally large market moves, evaporation of liquidity, prolonged periods of market distress, or structural changes in markets. A critical component of risk management is understanding the links between incentives and risk-taking, such as in the design and implementation of compensation practices. Bonuses and other compensation should provide incentives for employees at all levels to behave in ways that promote the long-run health of the institution. The Federal Reserve has been working in international forums on compensation and incentives issues; one product of those efforts was the publication last month by the Financial Stability Board of new principles for sound compensation practices. Certainly, an important lesson of the crisis is that the structure of compensation and its effect on incentives for risk-taking is a safety-and-soundness issue” (Parts from Speech of Chairman Bernanke at the Federal Reserve Bank of Chicago Conference on Bank Structure and Competition, May 7, 2009).

Suggestions and recommendations could be:

Need to set up strong supervisory agencies that have

the power to curb the behavior of “black sheep” before it is too late.

Need to protect supervisory agencies from pressure by politicians and lobbies.

Regulations should not be seen as recommendations for bankers but instead as early warning systems, forcing supervisors to intervene before it is too late.

Regulations must be simple, in order for supervisors to be accountable.

It is important to specify *ex ante* how these crises will be managed, instead of improvising under pressure, like in the current crisis.

Crisis management necessitates the collaboration between banking supervisors, Central Banks, governments, and international institutions.

As much as possible, who does what when has to be agreed upon in advance.

Special institutional features have to be designed, precisely because exceptional measures have to be taken during crises.

Response

More considerable revisions, known as Basel III, have also been approved in principle, and individual countries are supposed to adopt rules that would phase them in by the beginning of 2019. On December, 2010 Basel Committee released the new framework, called Basel III that were approved by the G-20 leaders (Bank for International Settlements, 2010). New elements of changes in Basel III are: Raising quality of capital base; Strengthening of risk coverage; Leverage ratio; Capital conservation buffer; countercyclical buffer; systematically important financial institutions; Liquidity standards.

First, capital requirements have been increased in several respects. There is a greater reliance on common equity capital, since equity is a more stable buffer against losses. In diversity, other forms of regulatory capital, which proved to be poor buffers during the financial crisis, now play a more limited role in meeting regulatory capital requirements. For example, two forms of capital used in the past — deferred tax losses and mortgage servicing rights — did not prove to be very good buffers during the financial crisis and are now more restricted.

Basel III also requires a capital conservation buffer. This buffer consists of an additional 2.5 percent of risk-weighted assets that banks can draw on during times of stress, but doing so will place limits on earnings distributions. That is, if losses are large enough that a bank needs to use the buffer to meet its capital requirements, the bank will be restricted in its dividend distributions, stock repurchases, and discretionary executive compensation such as bonuses (Leitner, 2012). Repullo and Suarez (2013) develop a model in which they show that this type of buffer can help mitigate the negative effects resulting from the procyclicality of the Basel II capital requirements.

Basel III also introduces two capital ratios to supplement the existing one based on risk-weighted assets. The first is a leverage ratio, in this case a minimum 3 percent of capital against all assets, without any risk-weighting; the other is the liquidity coverage ratio. In addition to the leverage ratio adopted in Basel III, in July 2013 U.S. regulators proposed that large institutions be subject to stricter requirements, in particular 5 percent for the largest bank holding companies and 6 percent for their insured depository institutions.

Regulating leverage ratios has several utility. Tobias and Shin (2010) show, financial institution leverage tends to be very procyclical (rising during booms and falling during busts) and so imposing a maximum leverage ratio can help moderate these cycles. A simple rule like a leverage ratio is harder to manipulate by shifting portfolios away from activities with high risk weights toward risky activities with low risk weights. The leverage ratio reduces the incentive for regulatory arbitrage. Finally, because it does not rely on complex models to determine the proper risk weight for assets, the leverage ratio may provide better protection against loss even when modelers — at both banks and regulatory agencies — have relatively imprecise knowledge about the true risks, as they inevitably do.

As is seen from example, Northern Rock failed in part because of illiquidity. Basel III adds liquidity requirements. One is the liquidity coverage ratio: the requirement that a bank have enough liquid assets to resist outflows under a 30-day stress scenario. One example would be a significant runoff of wholesale deposits. Wholesale deposits are those obtained through nontraditional demand deposit accounts, such as from Internet accounts. Wholesale deposits tend to be much more mobile and typically evaporate when a bank gets into trouble. Another liquidity requirement added by Basel III is the net stable funding ratio, which requires that at least some fraction of long-term assets (such as loans with maturities greater than one year) be funded with long-term financing sources to reduce liquidity risk.

Also, because of the transmission of shocks from one bank to another during the crisis, capital reform has also focused on increasing capital and supervisory measures for institutions deemed to be “systemically important.” The banks that are seen as systematically important financial institutions (SIFI) there are a special requirements regarding capital level. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, U.S. bank holding companies with assets of \$50 billion or more will be designated as systemically important. These institutions will be subject to additional regulation; for example, they will be required to develop a “living will” to facilitate their orderly liquidation (Berlin, 2011). The act tasks the newly established Financial Stability Oversight Council with determining whether nonbanks should be designated as systemically important and subject to Federal Reserve oversight. In addition to the SIFIs designated by U.S. regulators under the Dodd-Frank Act, the Financial Stability Board has published a list of 29 global systemically important financial institutions (G-SIFIs). Under Basel III, these institutions will be subject to additional capital requirements.

Today many critics agree that Basel III framework is better than previous accords. But still there is some critics regarding new regulation. The most important argument for the critics is that Basel III recommendations are not accepted by many countries and there is a thread that many SIFIs do not satisfy higher capital requirements. Therefore everyone agrees that Basel III is step forward and when it is fully implemented in 2019 it will give a better protection. But the regulation still cannot exclude moral hazard from commercial banks and Central banks will always in charge to help other financial institutions to avoid potential collapses.

Conclusion

Following the financial crisis, an intense – and somehow expected – debate on the roots of the problems has emerged. The Basel II prudential framework for banks has been often

identified as one of the major driver of the turmoil. The paper reviewed the features of the new banking rules which have been directly or indirectly blamed for the shocking performance of the financial system in recent crisis and discussed their effective role. The crisis did disclose some of the aspects of Basel II that need some rethinking and changes, one of the financial regulatory weaknesses identified in the recent financial crisis includes an underestimation of the impact of macro prudential regulation and systemic risks. Basel II has not played a major role in the financial crisis, but it certainly got some portion. Of course, this does not imply that the new Framework should be neglected, but definitely can be stated that there is need of revision in banking regulation.

The global financial landscape has reshaped significantly. New models as the fallout from the credit crisis continues and financial services providers grapple with a new environment. Commenting on the new financial services world order, Jeremy Scott, PwC Global Financial Services Chairman (2009) said:

“Financial transformation of this kind is unprecedented and as the financial crisis has developed it has become clear that the only thing you can expect is the unexpected. Consequently, old ways of working may no longer apply in some instances and wholesale change across the sector can be predicted. The interdependency of the global markets combined with the vast array of stakeholders - government, regulators, management and shareholders - with interests in returning to less volatile times, make it ever more vital that action to deal with uncertainty is taken. What began as a crisis for individual markets and institutions has now undermined the foundations of the entire global financial system. Systemic problems require systemic solutions”.

The recent revisions to the Basel Accords are designed to address some of these concerns. Integrating all of these revisions with the Dodd-Frank Act will be another challenge.

The banking industry should not repeat the same mistakes all over again and it is the job of regulators to ensure that they do not.

The world cannot afford another financial crisis... at least for a few decades.

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