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**The role of Basel II in the
subprime financial crisis:
guilty or not guilty?**



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The role of Basel II in the subprime financial crisis: guilty or not guilty?

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Abstract

Since mid-2007, an increasing number of people among economists, policy-makers and market operators have blamed the Basel II framework for banks' capital adequacy to be a major cause for the subprime financial crisis. While several issues related to the functioning of financial markets have been examined, the new prudential regime for banks might appear as the main suspect to be blamed. However, some simple questions arise. Can we just ascribe the financial crisis to Basel II? Should regulators discard the whole Framework or, rather, try to overcome its limits but preserving the backbone of the new discipline?

The objective of this paper is to provide some answers to these questions. After a short review of the main features of the financial crisis as well as of the rationale behind the Basel II rules, we try to describe the actual role played by the new prudential regulation in the crisis and discuss the main arguments raised in the current debate, discriminating between more constructive criticisms and weaker accusations. We conclude that, while it is urgent to strengthen those aspects of Basel II that have not worked properly during the crisis, there are not sound reasons for abandoning the philosophy underlying the new Framework.

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1. INTRODUCTION

Since mid-2007, an increasing number of 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. As a matter of fact, several issues related to the functioning of financial markets have been closely examined, but the new prudential regime for banks seems the first suspect to be blamed: the adequacy of the capital levels in the banking system, the role of rating agencies in financial regulation, the procyclicality of minimum capital requirements, the fair-value assessment of banking assets are among the most debated issues.

However, in spite of that, some simple questions still arise. Can we just ascribe the financial crisis to Basel II? Is it correct to focus on elements of the new Framework that, to a deeper analysis, are not strictly linked to the financial turmoil? Should regulators discard the whole Basel II framework or, rather, try to overcome its limits while preserving the backbone of the new discipline?

The objective of this paper is to provide some answers to these questions. After a short review of the main features of the financial crisis as well as of the rationale behind the Basel II rules, we try to describe the actual role played by the new prudential regulation in the crisis and discuss the main arguments raised in the current debate. While we do not aim either at bringing new arguments or at identifying ways forward to address the current situation, we intend to provide a systematic review of the issues under discussion, discriminating between more constructive criticisms and weaker accusations.

2. THE FINANCIAL CRISIS: SOME STYLIZED FACTS

The 2007-08 financial crisis, which erupted in the US sub-prime mortgage sector and led to a worldwide collapse in the financial system, has deeply-rooted causes¹. The first determinant has been certainly the evolution of the banks' business model. Indeed, major international banks, particularly in the US, have gradually changed the nature of their operations from a traditional business model, where they grant loans to customers and hold them in their balance-sheet (buy and hold), to a model where loans are originated and then securitised (originate-to-distribute, OTD). As most economic phenomena, the OTD model has pros and cons. On the one hand, it implies that assets that would have been otherwise held up to maturity are sold to a large number of operators, generating a high volume of funding and thus giving a thrust to the economy as a

¹ See *Buiter (2007) and Borio (2008) for a detailed discussion of the crisis.*

whole. On the other hand, it favours a high level of leverage and a possible reduction of the intermediaries' incentives to monitor the quality of their portfolios.

In fact, since the mid-Eighties a rapid growth of the indebtedness in the world economy, especially in the household sector, has been noticed; after 2000, it has reached the highest levels. Furthermore, from the second half of 2005 lending to riskier customers has been intense in the United States; this has also been the result of the proliferation of unregulated intermediaries, mainly brokers, that made it easier to match credit supply and demand.

According to a common practice, originators of subprime loans have subsequently sold their mortgages to other intermediaries – often unregulated vehicles – and used the revenues for granting new loans. Securitized loans have been then transformed into securities, and tranced according to their creditworthiness. Specialized international agencies have assigned high ratings to the senior tranches of such securities (i.e. to higher quality ones). Securities have been underwritten by institutional investors and the banks themselves. In addition, the securities issued in such a context have been further used as inputs for the creation of other financial instruments, with a risk/return profile determined according to the size of the underlying activities and tailored to the needs of different types of investors. Accordingly, high ratings were assigned to tranches presumed to be of higher quality.

When the quality of subprime mortgages started to deteriorate in 2005 (also in connection with the rapid decline of US housing prices and the increase of interest rates), the securities backed by these loans started to lose value, causing losses in investors' portfolios. The unwise use of leverage by some investors has made losses more remarkable. Banks holding these securities have encountered difficulties. Liquidity needs, also increased because of the drawing of credit lines offered to vehicles, have brought about widespread disruptions in the interbank market. Problems arising in the subprime segment have then affected the markets of all structured products, which were too complex and not liquid enough to be correctly assessed under stressed conditions. The deleveraging process has been rapid and disordered.

Banking losses resulting from fair-value assessment of assets held in trading portfolios have been remarkable and reduced dramatically the profitability of a large number of intermediaries (in certain cases, with serious repercussions on capital levels). Increasing uncertainty on the effective amount and localisation of losses, along with the dramatic loss of confidence in the financial system's ability to recover from troubles, has disrupted the smooth functioning of interbank markets and entailed the collapse of intermediaries operating on a global scale. Second-round effects on other players and on the whole economy have been so impressive to lead people to make comparisons with the 1930s Great Depression.

3. THE ROLE PLAYED BY BASEL II IN THE FINANCIAL CRISIS

3.1 Main accusations

The main responsibilities ascribed to Basle II in connection with the financial crisis are the following:

- I. the average level of capital required by the new discipline is inadequate and this is one of the reasons of the recent collapse of many banks;
- II. the new Capital Accord, interacting with fair-value accounting, has caused remarkable losses in the portfolios of intermediaries;
- III. capital requirements based on the Basel II regulations are cyclical and therefore tend to reinforce business cycle fluctuations;
- IV. in the Basel II framework, the assessment of credit risk is delegated to non-banking institutions, such as rating agencies, subject to possible conflicts of interest;
- V. the key assumption that banks' internal models for measuring risk exposures are superior than any other has proved wrong;
- VI. the new Framework provides incentives to intermediaries to deconsolidate from their balance-sheets some very risky exposures.

In the next sections we will argue that, in most cases, it is not appropriate to link the current financial crisis to the Basel II Accord and that some of the main drivers of the crisis cannot be entirely ascribed to the new regulation. We will also describe how, when criticisms are founded, regulatory authorities have reacted and started to define corrective measures aiming at removing the weak points of Basel II without modifying the philosophy of the new Framework.

3.2 The rationale of Basel II: a flashback

Before focusing on the specific accusations, we briefly recall the recent evolution of prudential regulation which eventually led to the adoption of the Basel II framework.

Banks' involvement in the payment systems and their role in the allocation of financial resources have been the traditional justifications for some form of public regulation. In fact, the insolvency of even a single intermediary may entail social costs that are only partially paid by the defaulted bank itself and might affect the stability of the financial system as a whole. The

purpose to prevent banks from taking on excessive risks and, thus, reduce their probabilities of default was initially implemented through administrative constraints to operations. Such an approach directly sets up limits to the assets that intermediaries can hold, but it does not provide banks with any incentive for limiting the involvement of the riskiest operations. Administrative restrictions to the diversification of investments may encourage banks to look for higher yields, even though at the cost of higher risk.

The belief that a well-designed structure of incentives, which leaves the banks themselves free to choose their preferred risk/return profile, is more effective than structural controls has led regulators to consider minimum capital requirements as the main tool to prevent banks from excessive risk taking. The 1988 Basel Accord (Basel I) has endorsed this approach at the international level.

While contributing to financial stability and to the level-playing field across countries, the Basel I principles have gradually shown a few shortcomings, such as the focus on mere credit risk², the lack of risk-sensitive measures of the creditworthiness of counterparties, the weak incentives for banks to develop and strengthen risk management systems. These limits, along with financial innovation, resulted in significant opportunities for regulatory arbitrage. 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 I.

The Basel II framework aimed at overcoming these limits, by making prudential regulation more updated and consistent with evolving financial markets and a wider spectrum of banking risks.

Against this background, the main objectives underlying the new Framework are pursuing the stability of the banking system, keeping level playing conditions among banks and countries, introducing a stronger link between capital and risks. The latter goal defines the borderline between the old and the new rules, and represents the most relevant device for overcoming the main shortcoming of the previous discipline.

As for the major innovations introduced by Basel II, the most important ones certainly are a ‘three-pillars’ structure, the coverage of a wide range of risks, the possibility for banks to choose risk measurement methods more suitable for their operations and complexity (proportionality principle).

The interaction between minimum capital requirements (Pillar 1), a supervisory review process (Pillar 2) and market discipline (Pillar 3) is the way to pursue the soundness of banks as well as the stability of the entire financial system. The maintenance of minimum capital levels is the first device for safeguarding bank stability, but it is not sufficient by itself to carry out the regulatory objectives: in a complex scenario, effective actions against risk should be based on the banks’ ability to identify, measure and control risks. The reliance on the banks’ internal systems for the assessment of capital adequacy allows higher accuracy and guarantees that supervisory tools and action are better tailored to the needs of different banks. However, this also calls for a continuous dialogue between banks and supervisors. In such a way, authorities can thoroughly

² *The 1996 Amendment extended minimum capital requirements to market risk.*

assess the adequacy of banks' capital levels and risk management systems; where needed, they are required to adopt corrective measures. Finally, the disclosure of adequate information to the public at large enables market operators to assess the conditions of financial institutions, thus contributing to discipline intermediaries' behaviour.

As regards the risk spectrum, Basel II requires banks to meet minimum capital requirements referring to new types of risk, in order to keep abreast with financial innovation and banking practices and, thus, minimise the incentives for regulatory arbitrage. For each risk type intermediaries can choose among different methodologies, ranging from simple methods to more complex and accurate tools. In this way, the proportionality principle is fully implemented: level playing field is no longer ensured by one-size-fits-all type of regulation, but by several rules that depend on the activity, size and risk-profile of the bank.

3.3 Evidence for the defence

Having recalled the aims and structure of Basel II, we now go back to the accusations listed in section 3.1, These are discussed below, providing a few qualifications when necessary.

I. The average level of capital required by the new discipline is inadequate and this is one of the reasons of the recent collapse of many banks.

The first accusation is that Basel II would have contributed to the undercapitalization of many banks with respect to their actual risk exposures; those banks have thus experienced serious problems during the financial crisis.

Among others Onado (2008), while recognizing that the new regulation aims at overcoming the insufficient correlation between risk and capital of Basel I, claims that regulators did not properly exploit the Basel II reform for raising the capital base of the international banking system; rather, they committed to set up Pillar 1 rules aimed at keeping the level of capital on an aggregate basis unchanged with respect to the previous discipline³. This is correct, but a few points should be clarified.

First of all, it is fair to remind that the objective of keeping the level of capital unchanged was thought as a pragmatic way to foster a gradual transition from the old to the new Framework, thus avoiding remarkable variations in capital requirements and potentially in credit supply. Indeed, if the new rules had required a stronger capital base, the risk of credit rationing would have been apparent, with possible effects on the real economy. In that respect, the 2004 press release of the

³ "The very long international debate leading to the definition of the new Framework (ten years after the first consultative paper) was intended to avoid to banks new charges in terms of capital, but to allow the more efficient ones to save capital" (Onado, 2008).

UE Economic and Financial Affairs Council (Ecofin) is instructive: *“The Council agreed on a general approach on proposals for two Directives introducing new capital adequacy requirements for banks and investment firms, in accordance with guidelines established in June by the Basel Committee on Banking Supervision. [...] The proposals are part of an EU action plan aimed at ensuring a single market for financial services with a view to strengthening the competitiveness of the European economy by lowering capital costs for companies”*.

We also note that the strong willingness within the Basel Committee to find an agreement among G10 countries has advised to strike a balance among different financial systems and business practices⁴. As every compromise, this may have led to sub-optimal solutions. Finally, it is important to highlight that the Basel II framework, while stressing the role of adequate capital requirements, has also underlined the role played by banks’ organisation and risk management processes in maintaining sound economic and financial conditions. For certain risks, robust internal controls are more effective than large capital cushions.

Other economists, though sharing the goals pursued by international regulators, wonder whether the objective of ‘capital invariance’ with respect to Basel I has been actually accomplished. For example, recalling the Quantitative Impact Studies (QIS) carried out during the Basel reform, Benink and Kaufman (2008) remark that for many banks capital requirements measured according to the new rules resulted to be lower than those computed under Basel I⁵. This is indeed true, but – if real data will confirm the results of QIS simulation – this is another confirmation of the willingness of regulators to provide banks with substantial incentives for the adoption of the more advanced risk measurement methods.

In any case, the rules and formulae that are used for determining banks’ minimum capital levels in the new Framework are not an absolute truth; even though they result from accurate analyses and well-balanced negotiations, they can still be discussed and possibly revised. For example, US regulators – in delaying up to 2010 the implementation of Basel II – have claimed that the capital relief for some asset classes deriving from the simulation of the new rules might be too high. Therefore, they will decide whether the 1.06 scaling factor introduced in the final version of the Framework is adequate for the US banking system⁶.

The discussion on the need to modify the scaling factor is still open also at international level; only when sufficient quantitative data on the effects of the new rules on capital levels are be

⁴ This is consistent with the approach to lawmaking known as “better regulation”. In the EU, the Commission “proposes opening up the policy-making process to get more people and organisations involved in shaping and delivering EU policy. It promotes greater openness, accountability and responsibility for all those involved. This should help people to see how Member States, by acting together within the Union, are able to tackle their concerns more effectively”. See, EU Commission (2001).

⁵ “During the past five years, several so-called “quantitative impact studies” (QISs) have been conducted under the auspices of the Basel Committee on Banking Supervision to explore the consequences of shifting from Basel I to Basel II for large banks. These studies show that bank capital requirements will fall further for many banks when the Basel II rules are fully implemented. In the US, the QIS results indicate potential reductions in required capital of more than 50 per cent for some of the largest banks.”

⁶ The scaling factor was introduced by the Basel Committee with the aim to ensure that, on average, capital level of international banks deriving from the implementation of the Basel II rules would be broadly in line with that one computed under the Basel I framework.

available, supervisors will be able to take a thorough decision on the calibration of the Framework⁷.

As for the definition of “own funds” to be used for covering supervisory capital needs, Caprio, Demirgüç-Kunt and Kane (2008) underline that the new Accord has not modified the eligibility criteria, particularly for Tier 1 capital components. However, at least in the EU, the revision of the Capital Requirement Directive, currently under way, should address the strong request for stricter and more homogenous eligibility criteria⁸, in order to improve the overall quality of capital instruments.

II. The new Capital Accord, interacting with fair-value accounting, has caused remarkable losses in the portfolios of intermediaries.

The second charge for the Basel II rules is that they would have badly interacted with the international accounting principles that introduced the fair-value accounting for trading book assets. Those assets are to be marked-to market, if there is an active market, or marked-to-model otherwise, i.e. at a value deriving from the application of pricing models. Zingales (2008) argues that: *“The second problem of mark-to-market arises from its interaction with Basel principles on banks’ capital requirements. Balance-sheet losses (even if predicted) affect capital ratios thus compelling banks to raise new capital or reduce lending”*.

Actually, fair-value assessment has certainly played a major role during the financial crisis, pushing banks to raise new capital to cover losses and avoid possible defaults. However, in our opinion, the Basel II rules did not play a specific role in this process. Zingales’ arguments would apply also to the 1988 Capital Accord. As a matter of fact, this would definitely apply to any regulation requiring banks to meet minimum capital levels.

On the other hand, it is true that the simultaneous implementation of Basel II and the new accounting standards has made banks’ balance sheets more vulnerable to assets value fluctuations. With respect to minimum capital requirements, such an effect has been smoothed by the introduction of prudential filters, i.e. adjustments made to balance-sheet capital items in order to protect the quality of supervisory capital (in other words, to quantify the fair-value portion of balance-sheet equity capital to be included in the calculation of supervisory capital). However, such a mechanism has been designed asymmetrically: while fair-value re-evaluations are not considered for prudential purposes (so as to avoid fictitious increases in supervisory capital), fair-value devaluations are generally required to contribute to the calculation of supervisory capital. The experience gathered in the current crisis may call for some form of correction to this mechanism.

⁷ The monitoring activity recently started by Basel Committee and CEBS will enable supervisory authorities to get further information on this issue, with the advantage of relying on actual data (not simulated anymore, as in QIS) likely to reflect also the crisis’ effect.

⁸ Last October the EU Commission has published a proposal for revision of the CRD, which should be approved by mid-2009.

III. Capital requirements based on the Basel II regulations are cyclical and therefore tend to reinforce business cycle fluctuations.

Basel II is also frequently blamed for being procyclical. Since capital requirements computed according to the new rules are cyclical, it is argued that they tend to reinforce business cycle fluctuations. In this respect, Goodhart and Persaud (2008) claim that “*the main problem is not the structure of regulatory oversight, either national or international, but the lack of counter-cyclical control mechanisms or instruments. Having foreseen the danger, the regulatory authorities did not have the instruments to do much about it. The Basel regime for capital adequacy does nothing to constrain credit booms. Its effect, if any, on the crunch will be to deepen it further*”.

Notwithstanding the lack of robust empirical evidence, it is undeniable that the Basel II Framework may entail procyclical effects. In fact, any rule intended to guarantee that banks hold a minimum amount of capital may determine such effects. In recession, the number of borrowers that are not able to pay back their debts increases, profits decline and banks need to raise loan-loss provisions, so as to make them consistent with growing default rates. If profits are not sufficient to cover loan losses, own funds start to run down. 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).

However, in our view, it is not completely fair claiming that Basel II does nothing to limit cyclicity. Indeed, the new Accord does take explicitly into account the interaction between the micro and macro perspectives. Already during the preparatory work, specific solutions have been adopted in order to reduce the possible procyclical impact of the prudential rules, particularly for small and medium enterprises. While it is beyond the purpose of this paper to illustrate the different steps of the negotiations that eventually led to the new discipline, we wish to recall at least the main amendments made to the second Consultation Paper in order to alleviate possible procyclical effects of the prudential rules: provisions for reducing the fluctuation of the risk parameters estimated by banks; lower sensitivity of capital requirements to borrowers' downgrading; introduction of more favourable risk-weights for exposures to less cyclical borrowers such as small and medium-sized firms. In addition, within Pillar 2, the new Framework requires banks to carry out a forward-looking assessment of their capital adequacy, also under stress conditions, and to build up capital buffers to be used in bad times and restored in good ones. Unfortunately, as we will show in the next sections, the timing of the crisis has prevented banks from fully carrying out this self-assessment and increasing capital cushions as well as supervisory authorities to check their adequacy.

Incidentally, we also note that – at least in Italy – the financial crisis has not (or not yet) led to a significant increase in the default rates (between June 2007 and June 2008, the average default rate of Italian banks' borrowers increased from 0.8. to 0.9 per cent⁹). While a future increase of default rates cannot be ruled out, the reduction of capital ratios over the last months cannot be ascribed to the cyclical evolution of the riskiness of intermediaries' banking books.

⁹ Banca d'Italia (2008).

However, we do not dispute that – notwithstanding these improvements – the potential risk of procyclicality of the new Accord remains remarkable. As a matter of fact, as argued above, procyclicality is a feature of any capital regulation; to some extent, it can be seen as the price to be paid in order to pursue its main goal: the reduction of the probability of banks’ defaults through a lower leverage and a greater consistency between capital and risk.

We also believe that the tools provided for by Pillar 2 might play a major role in dampening procyclicality risk. However, we are also aware that the effectiveness of such tools will largely depend on the quality of intermediaries’ self-assessment and on the effectiveness of enforcement and supervisory control. Indeed, market participants will be ready to tolerate buffers’ reduction in bad times only if banks’ capital planning are perceived as sound and robust. Otherwise, any additional buffer will turn into higher minimum requirements, with no benefit in terms of cyclicity smoothing¹⁰.

There is a final remark we would like to make on this point. Some critics of the Basel II framework tend to widen the concept of cyclicity to make their reasoning more appealing and the charges against the new Accord stronger. In our view, extensive definitions of cyclicity, while theoretically interesting, do not involve Basel II: as we have already mentioned, the volatility of asset values as a result of mark-to-market accounting has nothing to do with the new rules on capital¹¹; likewise, the myopia of some bank’s top managers due to remuneration schemes that reward short-term results does not stem from the new prudential rules.

IV. In the Basel II framework, the assessment of credit risk is delegated to non-banking institutions, such as rating agencies, subject to possible conflicts of interest.

The assessment of borrowers’ creditworthiness provided by credit rating agencies (CRAs) play a significant role in the Basel II regulation, particularly under the standardized approach for credit risk. Doubts on the quality and reliability of such assessment emerged, not only in the aftermath of the subprime crisis, but also when some major corporates defaulted in the United States and Europe.

Typically, two main criticisms have been raised.

The first one concerns the degree of independence of the rating agencies’ judgement. This is particularly true in the case of securitizations and structured products. According to the Financial Stability Forum (2008), “*while the issuer-pays model applies to all the products rated by these CRAs, including corporate bonds, the standard conflicts of interest may be more acute for structured finance ratings. Because structured products are designed to take advantage of different investor risk preferences, they are typically structured for each tranche to achieve a particular credit rating. To the extent that CRAs discuss with issuers during this structuring*

¹⁰ According to Rajan and Stein (2008), effective capital buffers should be flexible: “[...] A more sophisticated variant involves the ex-ante capital requirement, but at the same time precommitting to relax it in a bad state of the world”.

¹¹ For example, Pagano (2008) says “[...] In particular, this applies to the Basel 2 rules on capital adequacy ratios, which currently must be computed by evaluating bank capital at current market prices (‘marked to market’). While marking to market banks’ assets is certainly useful to inform investors [...] it becomes dangerous if used to compute capital ratios, as it forces banks to sell as asset prices fall in order to comply with capital ratios”.

*process the rating implications of particular structures, the potential for conflicts of interest becomes greater. The conflicts are exacerbated when CRAs also sell consulting services to entities that purchased ratings”.*¹²

The second criticism is more focused on rating methodologies. Indeed, the assignment of ratings is subject to many challenges; for complex financial instruments the limitations of statistical models have become even more evident since such products are often illiquid and, in certain market conditions, they do not have a market price.

Said that, the shortcomings of a model based on external ratings are clear and the need to identify possible solutions is unquestionable. However, it is quite hard to imagine, at this stage, plausible alternatives to the involvement of rating agencies in the assessment of credit quality. We also note that in the most developed countries banks using the standardized approach have a lower market share than those using methods based on internal ratings. As a matter of fact, the standardized approach should be interpreted as an interim solution for credit risk measurement, which banks are encouraged to overcome in favour of internal ratings. More importantly, we believe that, at least for plain-vanilla corporate debt, the shift from a system of fixed risk-weights to a ratings-based assessment of borrowers’ creditworthiness – although inaccurate and, admittedly, sometimes fraudulently mistaken – represents a step forward in risk management practices.

The story is different for structured products. In this case, there is little room for buoyancy. Indeed, the limitations of agencies’ methodologies seem mainly related to poor datasets and excessive trust in purely mathematical tools. As recalled by the FSF (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”*.

On the other hand, some proposals to deal with such shortcomings have been already put forward. In November 2008 the European Commission has finalized a proposal aimed at introducing specific rules for rating agencies; they include a requirement for their registration as well as the introduction of common standards on their internal organisation, methodologies and disclosure to the market. The agencies themselves have started rethinking their methodologies, particularly those applied for the assessment of structured products. It is certainly too early to assess the impact that such initiatives may have, but we believe that this is a constructive way to address existing concerns.

¹² According to Zingales (2008): *“It is a mistake to think that the significant power attributed by these new mechanisms to these institutions would have not affected the independence of their judgment. As written by Montesquieu, power corrupts, absolute power corrupts absolutely. The rating agencies are no exception to this rule [...]”*.

V. The key assumption that banks' internal models for measuring risk exposures are superior than any other has proved wrong.

During the crisis banks' internal models for measuring risk exposures revealed serious shortcomings. This have led to a fierce debate on their use for regulatory purposes as provided for by the new Framework.

Among others, Benink and Kaufman (2008) highlight that a supervisory approach based on internal models may imply perverse incentives, which would induce banks to underestimate their exposure to risk¹³. By the same token, Onado (2008) disagrees that the market is more efficient than regulatory authorities in detecting the adequate capital level and rejects the assumption that “banks, thanks to their immeasurable operational expertise, are able to assess risks and, thus, optimal capital needs”.

Some of these charges are undoubtedly true, but a few points deserve some clarifications.

The Basel II Framework is inspired by the principle that risk measurement for regulatory purposes should be based to the extent possible 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 is also fair to recall that influential criticisms to this approach have been raised back in the day (see, for instance, Danielsson et al., 2001).

On the other hand, Basel II does not state the absolute supremacy of internal methodologies with respect to those developed by supervisors. Rather, it considers that any sensible risk assessment should go hand in hand with the evaluation carried out by intermediaries with the same tools that are also employed for risk management, pricing and capital planning purposes. Moreover, the fact that banks use the same metrics for both internal and supervisory purposes represents, in the first place for the authorities themselves, a guarantee of their reliability. We believe that such an approach is still convincing: since the identification of the adequate combination of capital and risk is not an easy task and financial markets and products are increasingly complex, it is reasonable that any assessment starts up with the evaluation made by the intermediaries themselves.

To tell the truth, as mentioned above, supervisors are not passive recipients of the outcome of banks' models. Both the methods used and the results of the risk assessment process are to be examined by supervisory authorities. Internal models may be used for regulatory purposes only after they pass a multifaceted validation process, aiming at checking their robustness and reliability. The accuracy of the self-assessment and capital planning is also challenged by supervisors in a continuous dialogue with banks. This is clearly a new process for both banks and the supervisory authorities, which requires a gradual learning-by-doing. The poor performance of some internal models, i.e., their unsatisfactory ability to predict and measure the impact of rare but extremely dangerous events, calls for an improvement of methodologies, not for blaming the entire philosophy of the new Framework. We share the view that “before totally rejecting a

¹³ “Basel II creates perverse incentives to underestimate credit risk. Because banks are allowed to use their own models for assessing risk and determining the amount of regulatory capital, they may be tempted to be overoptimistic about their risk exposure in order to minimise required regulatory capital and to maximise return on equity”.

sophisticated and modern system for determining capital adequacy such as Basel II, one should carefully assess whether the problems experienced in the last months might be more easily solved reviewing its relatively simpler elements” (Sironi, 2008).

Conversely, we think that it is crucial that sufficient emphasis is placed on the quality of the supervisory action that leads to the validation of banks’ internal models. The incentives in terms of lower capital requirements offered by the new Accord are only justified if these models are sound and prudent. In a few countries, validation standards may have not always been sufficiently rigorous; some banks may have underestimated the importance of developing strong risk management and audit functions¹⁴. This calls for a better and more harmonised enforcement of the existing rules rather than for their radical revision.

As far as the underestimation of risk by intermediaries is concerned, we do not believe that this is something that can be ascribed to Basel II, which, conversely, requires banks to define internal processes in order to continuously evaluate the consistency between capital endowment and the exposure to risk (Internal Capital Adequacy Assessment Process, ICAAP). In principle, such an assessment should cover a very wide spectrum of risks, not only the traditional ones (e.g., credit or market risk), which can be more easily quantified. One can certainly be sceptical on the actual possibility of measuring some types of risk, such as the risk underlying innovative financial products, where data shortages are considerable. As Kashyap, Rajan and Stein (2008) observe “[...] *here the potential for mis-characterizing risks – either by accident, or on purpose, in a deliberate effort to subvert the capital regulations – is bound to be greater*”. While we agree that Basel II has probably been too ambitious in requiring banks to quantify all the risks they are exposed to, we also believe that the greater attention paid to non traditional risks is a merit of the Accord. Indeed, banks are now forced to take into account any actual and perspective risk when they plan capital needs and design internal control systems. The new Framework also requires banks to strengthen control and risk management systems, not only from a methodological standpoint, but also – and probably more importantly – with reference to the governance that these functions deserve within the organisational structure. What can turn into the main limit of Basel II is, in our view, the unjustified sense of safety that a system that pretends to measure all risks may induce. Such risk can be however reduced through the pragmatic and mindful application of the regulation.

Another criticism to banks’ methodologies is that they would privilege the use of standardized and quantitative information, neglecting the soft information that is a key driver in bank-customer relationships. This is definitely a problem that should not be undervalued: rating systems developed by banks focus too often on quantitative data, disregarding the huge amount of qualitative information on borrowers, which can hardly be incorporated in statistical models. On the other hand, it is fair to mention that a more widespread use of quantitative techniques for measuring credit risk tends to make the relationship between banks and firms more transparent

¹⁴ *An anonymous risk manager (2008) mentions: “At the root of it all, however, was – and still is – a deeply ingrained flaw in the decision-making process. In contrast to the law, where two sides make an equal-and-opposite argument that is fairly judged, in banks there is always a bias towards one side of the argument. The business line was more focused on getting a transaction approved than on identifying the risks in what it was proposing. [...] Often in meetings, our gut reactions as risk managers were negative. But it was difficult to come up with hard-and-fast arguments for why you should decline a transaction, especially when you were sitting opposite a team that had worked for weeks on a proposal, which you had received an hour before the meeting started. In the end, with pressure for earnings and a calm market environment, we reluctantly agreed to marginal transactions”.*

and the selection criteria more objective. Furthermore, we humbly note that the need to use an internal rating would have probably limited the supply of the so-called Alt-A or no-doc loans (i.e., those granted with incomplete or no documentation on debtors' ability to pay back the loan), which played a significant role in the subprime crisis.

Rather than searching for shortcomings in the Basel II Framework, we suggest to look also in different directions. The widespread use of the OTD model, for example, has determined an anomalous behaviour of several market players. It enabled the extensive transfer of credit risk from banks' balance-sheets to other intermediaries and public investors. In doing so, it has dramatically reduced operators' willingness and ability to monitor the evolution of debtors' creditworthiness and to adopt prompt countermeasures should potential risks arise.

As a final remark, we also wonder what reasonable alternatives to the use of internal models are available. Sadly enough, the subprime mortgage crisis has highlighted the generalized weakness of forecasting methodologies, not only those used by banks. *“Every crisis leaves policymakers shaken by the poorness of their forecasting ability. While it is sometimes possible to see the risk factors clearly, it is nevertheless impossible to predict the precise moment that the market will choose to trigger the crisis, the exact forms this will take or the links decisive for its propagation”* (Draghi, 2007).

VI. The Basel II framework provides incentives to intermediaries to deconsolidate from their balance-sheets some very risky exposures

A last charge to Basel II is that it would have left room for regulatory arbitrages, leading intermediaries to set up off-balance sheet vehicles in order to reduce the capital charge against some types of risk. In this way, many banks have indirectly invested in structured products without building up adequate capital reserves, which would have been compulsory in the case of on-balance-sheet investments. Intermediaries have also underestimated liquidity and concentration risks determined by the deterioration of the quality of the assets bundled in the structured products and they have not properly assessed those risks arising from obligations vis-à-vis off-balance-sheet vehicles.

However, the Financial Stability Forum (2008) provides a possible explanation. *“Public authorities recognised 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”*. The main responsibilities should be therefore ascribed to the prudential regime in force prior to the introduction of Basel II and, in some cases, to poor supervision. Also, not always rigorous implementations of the international accounting standards in a few countries may have played a role.

Obviously, the transition from Basel I to Basel II does not completely eliminate the opportunities for regulatory arbitrage and some features of the new Accord require rapid interventions. As recalled by the FSF (2008): *“Basel II, unlike Basel I, requires banks to set aside capital to support liquidity commitments to such vehicles, but treats these commitments as senior exposures, with lower capital requirements for short maturities. [...] The Basel Committee for Banking Supervision (BCBS) will therefore strengthen the capital treatment for banks' liquidity facilities to off-balance sheet asset-backed commercial paper (ABCP) conduits to further reduce*

such regulatory arbitrage incentives. [...] By implementing the Basel II framework and incorporating the changes described above, supervisors will substantially reduce the incentives that motivated banks to generate and hold large off-balance sheet risk exposures". The initiatives undertaken at the G10 and EU levels, along with an effective enforcement of the new rules, may contribute to reducing the risk of regulatory arbitrage.

3.4

The ultimate piece of evidence

In the previous sections we have tried to describe how the charges made to the Basel II Framework are not always well-founded. For the sake of the *coup de theatre*, we left the final piece of evidence at the end of our defence: Basel II, our suspect, was not on the crime scene or, rather, showed up later. In the United States, the epicentre of the financial crisis, the introduction of the new prudential discipline has been postponed (so far) to 2010 and will involve a limited number of banks. In Europe, the actual use of the new rules was very limited in 2007, when the crisis erupted. Indeed, most banks exploited the provisions of the Capital Requirements Directive (which implemented Basel II in the EU) which allowed them to defer to 2008 the application of the new Framework.

Therefore, the financial turbulence occurred under the "old" Basel framework, making very palpable its shortcomings, particularly its low risk-sensitivity and the scarce adaptability to financial innovation.

Certainly, many banks, while still meeting Basel I minimum requirements, had already reviewed their credit standards in order to make them consistent with the incoming Basel II discipline. It is therefore likely that some (or many) banks, in the attempt to transform well-established credit processes and risk management methodologies, may have misjudged the actual exposures to new risk types (or new manifestations of traditional risks). In our view, this does not imply that the new Framework should be discarded, but rather it confirms the need that the "testing" phase of the new rules is quickly completed¹⁵.

¹⁵ However, we agree with Tarullo (2008) that it is crucial to start at this very moment the analysis of the shortcomings of the new Framework.

4. CONCLUDING REMARKS

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, if not the major, driver of the turmoil. In the present paper we 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 months and discussed their effective role.

Overall, we have tried to show that not all arguments raised by Basel critics are well-founded. In our view, even though the crisis did disclose some of the aspects of Basel II that need some rethinking and changes, Basel II has not played a major role in the financial crisis.

We have argued that some of the ‘regulatory failures’ that have been highlighted (inadequate growth of banks’ capital, proliferation of off-balance-sheet exposures) and that cannot be denied are failures of Basel I, rather than of the new Framework; in other cases, they are indeed related to Basel II, but international and domestic regulators are already in the process of making important adjustments (procyclicality, role of rating agencies); finally, other issues – still significant (fair-value assessment) – have nothing to do with prudential regulation. Last but not least, we have loudly reminded something that should be plain enough, but that it is very often forgotten: the Basel II rules were not actually applied in major countries when the crisis erupted. In Europe most banks have started to apply the new rules in 2008 and in the US regulatory agencies have decided to postpone its implementation to 2010.

Clearly, we do not deny that the financial turmoil has highlighted some drawbacks of the new Framework and the consequent need to address them. As a matter of fact, in the last months international regulators have been intensively working on some of these issues: among others, Pillar 1 rules for structured products; the treatment of credit lines to off-balance vehicles; the prudential framework for trading book assets; a stricter regulatory regime for rating agencies.

It is important to remind that Basel II is just a component – unquestionably an important one – of the supervisory toolkit. Other components have shown serious weaknesses during the crisis. Rules on liquidity, for instance, have revealed unsatisfactory; cross-border crisis management arrangements have been hardly employed. In addition, in some countries financial regulation has clearly shown some shortcomings, mainly with regards to the increasing share of unregulated intermediaries and markets; more importantly, the supervision itself has been not fully effective or, to be more outspoken, definitely weak.

Against this background, we think that it is not sensible to blame Basel II because it did not prevent unregulated intermediaries from excessive leveraging and risk taking. It is much more meaningful to propose the extension of the scope of application of the new prudential regime to those intermediaries. With regard to simplified supervisory tools, such as the ‘leverage ratio’, which are becoming increasingly popular, we do believe that these are likely to raise the same problems posed by Basel I (e.g. the low sensitivity to risk). While we cannot exclude that such tools could be used as a complement to Basel II, especially during stressed times when internal models are not fully reliable, we are sceptical that they can serve as a full substitute for a risk-sensitive regulation.

Said that, we wonder whether the eagerness for a deep rethinking of Basel II in the last months does not put the need to intervene on other areas of financial regulation and to effectively enforce the existing rules on the back burner. As Kashyap, Rajan and Stein (2008) underline, in this historical phase regulators should avoid “[to] just fight the last war”.

A frequently mentioned – and very evocative – way-forward is to abandon Basel II and quickly draft new Basel III rules. Honestly, it is not fully clear to us what Basel III would actually be. Our understanding is that a natural evolution of Basel II is to allow banks using portfolio models for regulatory purposes, which are – by definition – more complex and thus more subject to possible mistakes¹⁶.

At this point, we stop and leave the reader free to sentence. If our arguments have been convincing, it should be clear that it is urgent to strengthen those aspects of Basel II that have not worked properly during the financial crisis, but there are not sound reasons for abandoning the philosophy underlying the new Framework. Conversely, if this is not the case and Basel II is judged guilty, the only remedy is not going forward to Basel III but going back to Basel I.

¹⁶ There are also people calling for interim solutions. “While one may wish that the Basel Committee has pursued other approaches with more vigor a decade ago, [...] none of the existing options is at present a sufficiently developed regulatory model to be readily substituted for the A-IRB approach of Basel II. [...] Thus the recommendations that follow do not comprise a Basel III. Neither, though, are they mere glosses on Basel II. They may be better understood as Basel II½” (Tarullo, 2008).

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