

A Viable Alternative to Basel III Prudential Capital Rules

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There is something surreal in the implementation process of the new Basel capital framework for banks, known as Basel III, in the two key jurisdictions of the European Union and the United States (see BCBS, 2013b, for the latest official update by Basel Supervisors). On the one hand, financial officialdom leaves no opportunity unexploited to reaffirm full support for the new rules. On the other hand, implementation appears fraught with frictions and resistances, while the system is by now utterly discredited in the eyes of financial markets and academia (e.g. Dewatripont et al., 2010; Goodhart, 2013a; Admati & Hellwig, 2013). Radical criticism has been voiced also by top regulators (e.g. Hoenig, 2013; Haldane & Madouros, 2012; SRC, 2013a and 2013b, and similarly Tarullo, 2008 on Basel II, which in its rationale and basic constituent elements is not much different from Basel III).

What's wrong with Basel capital standards?

The main criticism concerns the continuing reliance, for the determination of capital requirements, on banks' risk-weighted assets (RWA) calculated with unwieldy probabilistic econometric models of dubious analytical foundation that leave ample room for gaming the system and, more importantly, that are by

construction unable to deal with systemic shocks hitting the banking and financial system.

That **the system is open to gaming** is confirmed by irrefutable empirical evidence: risk-based capital ratios cannot tell the difference between a sound bank and a bank that is about to fail (IMF, 2009; FSA, 2010; Haldane, 2011) – as we were all reminded once again by the recent failure of the Dutch mortgage bank SNS Reaal, which went down overnight with adequate prudential ratios. This is precisely what had happened to Dexia in October 2011, and a long list of other financial institutions ever since the beginning of the financial crisis in 2008. And indeed, ratios of RWA to total assets exhibit large variations across large banking groups – ranging between below 20% and above 60% of total assets – implying that similar Basel capital ratios may correspond to widely different actual leverage ratios (Carmassi & Micossi, 2012). As noted by Tarullo (2008, p. 213): “The extent of national discretion and the opaque quality of the IRB calculations breed countless opportunities for the exercise of regulatory discretion in pursuit of national competitive advantage.”

These models are not only open to manipulation but are also **utterly unreliable** in their estimated probability distribution of losses on bank assets, which are the basis of RWA calculations. Financial asset prices are non-stationary time

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series that exhibit ‘jumps’ when the system is hit by exogenous shocks radically altering private agents’ expectations and market sentiment. Since these shocks are rare, model estimates of the probability of large losses on trading and credit risks based on past data are not robust and inevitably underestimate ‘tail’ risks; since these shocks typically generate strong correlation in asset price changes, they undermine the standard model assumption of serial independence of individual asset (or asset class) prices.

After ignoring the issue almost entirely during the negotiations leading to the Basel III Accord, **Basel supervisors** have awakened to the reality of wide divergences in RWA ratios to total assets for individual banks and are studying the issue as part of their new (and long-overdue) Regulatory Consistency Assessment. In January 2013, they have issued their first analysis of RWA variation across banks for market risks, finding that it is only partly explained by differences in business models and risk management techniques, but also reflects “elements of the flexibility provided to banks and supervisors within the Basel framework” (BCBS, 2013a, p. 11). Preliminary findings on banking books already point to similar results. Similar exercises undertaken by the European Banking Authority (EBA) have come to similar conclusions (EBA, 2013).

Furthermore, as pointed out by Hellwig (2010), **bank capital plays an important systemic role** that was overlooked due to the exclusive attention paid by regulators to the microeconomic dimension of banks’ behaviour. At the aggregate level, **the dynamics of financial instability** is a function of i) the amount of capital available to absorb incipient losses and ii) its ratio to total assets – the arithmetic inverse of aggregate leverage – which determines the speed of deleveraging, through the credit multiplier, and fire sale of assets for the banking system as a whole, when a systemic shock shakes confidence. Thus, a large aggregate capital cushion underpins systemic financial stability by reducing the need to sell assets under stress and making a run on the banking system less likely.

Basel rules made it possible for the banking system as a whole **to operate with a very thin capital cushion** and a very high aggregate leverage (Carmassi & Micossi, 2012), laying the

basis for the subsequent implosion of credit when the financial crisis struck. The problem has not been resolved by Basel III, which will permit individual banks to keep a capital buffer as low as 3% of total assets – corresponding to a total leverage ratio above 33 – and the banking system de facto to operate with an overall capital cushion below 5% of total assets.

In this context, the new **Liquidity Coverage and Net Stable Funding ratios** are but another manifestation of low confidence in Basel rules’ ability to protect financial stability. And indeed, Basel capital ratios look solely at the banks’ asset side, while a key factor in prompting financial instability was reckless business relying on volatile short-term funding to finance risky trading positions on own account in capital markets (Carmassi & Micossi 2012; Admati & Hellwig 2013; Viñals et al. 2013,). These additional prudential requirements are meant to fill the hole by means of liquidity requirements and constraints on maturity transformation. However, far from responding to a clear rationale, they have simply applied new patches on a crumbling construction. Their costs and impact on banks’ operations have not been evaluated but may be substantial, and the risk is substantial that fierce industry lobbying, already under way, will lead over time to their emasculation.

As if this were not enough, important jurisdictions are also intervening directly to **prohibit trading on own account** (the Volcker rule in the United States) or **impose structural separation** between commercial (‘utility’) and investment banking (following the 2011 ‘Vickers Report’ issued by the Independent Commission on Banking (ICB) in the United Kingdom). In the European Union, the 2012 ‘Liikanen Report’ prepared by the High-Level Expert Group (HLEG) has brought up for consideration the possibility of segregating banks’ trading activities into a separate legal entity – albeit tortuous decision procedures are there to ensure that it doesn’t happen in practice.

Finally, the Basel system has **failed to create a level playing field** for ‘internationally active’ banks, as divergent implementation by national supervisors has increasingly ‘balkanised’ the field across the main jurisdictions – a process that Basel III special treatments will worsen. Suffice

to say here that the variation between jurisdictions in the ratios of regulatory capital to total assets permitted under the new rules potentially exceeds 100%¹ – which explains mounting uneasiness about the system amongst top bankers.

Meanwhile, **the United States** has yet to complete the move to Basel II capital standards, while its regulatory agencies apply different backstop capital ratios out of the Basel framework for different categories of banks; and the new proposed rules for the implementation of Basel III already provide new loopholes e.g. in the treatment of government-sponsored agencies and securitisation (BCBS, 2012a). **In the European Union**, the final compromise reached by Council and Parliament entails important departures from Basel III rule-book – both as regards the definition of capital and the application of internal models (BCBS, 2012b) – while the room for national discretion to vary prudential capital ratios has been increased (BCBS, 2013b). Even **the mild 3% back stop** for the unweighted capital ratio has been postponed to an indefinite future. Not surprisingly, the final compromise between Council and Parliament has been likened to a piece of Emmenthaler cheese, full with holes (Lannoo, 2013). In the end Europe has neither the back-stop capital ratio nor the prompt corrective action (PCA) that arm supervisors in the US system with effective power to intervene at an early stage when a bank weakens dangerously.

In sum, **Basel III** has made some progress in strengthening the definition of capital and raising capital requirements but has not resolved **the fundamental problem posed by reference to RWA** calculated by the banks with flawed

internal models.² It has left too much discretion to national supervisors and has left them exposed to capture because of its opacity. And it has failed to provide markets with a readable set of metrics of banks' strength as a basis for Pillar 3 market discipline. Piecemeal fixtures won't suffice; a complete overhaul of the system is in order.

More broadly, the analyses of bank failures over the past five or six years confirm that failure was normally the result of high-risk business models adopted for some time before the crisis, and that what made the financial institutions vulnerable was a combination of high-leverage, volatile funding and risky bets in capital markets (Goodhart 2013b, Viñals et al., 2013). By concentrating on the asset side of the banks' balance sheets, the Basel III framework is overlooking much of the action that may bring a bank to the brink. It is not surprising, then, that many other patches are required to close holes all over the place, and that in response to industry pressures these extra measures are then diversified and adapted into an incomprehensible conundrum. The result is a cumbersome, distortive and inefficient prudential system that cannot be repaired and must be scrapped.

A fresh start

In our CEPS study, Jacopo Carmassi and I (2012) outlined a logical and complete prudential system for banking that is much simpler and far less distortive, which entails five components:

- i) Capital requirements set as a **straight ratio between common equity and total assets**. Its level should be (gradually) raised to between 7% and 10% of total assets, based on systemic stability considerations. The new capital ratio, with equity valued at market rates, would be used as a reference in both Pillar 2

¹ Taking into account the capital conservation buffer (2.5%), the countercyclical buffer (up to 2.5%), the SIFI surcharge (to be determined, up to 2.5%), the room left to national supervisors to modify model results in RWA calculations for individual assets classes (attendant 'multipliers' may vary between 3 and 5.5), and model manipulation by the banks to reduce RWA (as we were all reminded once again when a large European cross-border bank recently announced they were aiming at RWA reductions of €45 billion in order to economise capital). Ample room for variation was already a feature of Basel II but has increased with Basel III.

² Increased reliance on advanced internal models weakens the system even further since under the IRB the banks were required to estimate only the probability of default while the advanced internal model system estimates all the parameters (probability of default, loss given default and the correlation between the portfolio of loans and the macro-economic risk factor); see Dewatripont et al., 2010, p. 83.

- (supervisory review) and Pillar 3 (market discipline).³
- ii) Under Pillar 2, prudential capital ratios would be used to trigger enhanced supervisory review and **bind supervisors to a set of predetermined corrective actions** of increasing severity, when the bank's capital ratio falls below certain pre-specified thresholds, as under the current US FDIC system of PCA.
 - iii) In order to eradicate moral hazard, the system must be 'closed' by a **procedure for bank resolution**, to be triggered when a bank's capital falls beyond repair (Carmassi et al., 2010). Resolution costs would fall primarily on shareholders and unsecured creditors ('least cost' resolution, benefiting both the insurance fund and taxpayers), but even secured creditors and uninsured depositors would not be sure to escape.
 - iv) The **correction for risk-taking by individual banks** would be entrusted to deposit insurance, that would cover retail depositors only up to a maximum amount (€100,000, as already adopted by European regulators, seems a reasonable standard). Fees would be determined on the basis of banks' overall risk profile and systemic relevance, as will be described below, and be paid ex ante, thus generating over time an insurance fund of credible size to meet emerging losses (incurred by individual banks, even very large ones). Of course, no fund could ever be sufficient to meet the costs of a systemic banking crisis.
 - v) Under Pillar 3 (market discipline), solvency rules would be completed by the obligation for banks to **issue a substantial amount of contingent capital (Co.Co.)**, i.e. debentures convertible into equity. These securities

should be designed so as to create strong incentives for bank managers and shareholders to issue equity at an early stage, when capital weakens, in order to pre-empt conversion (Calomiris & Herring, 2011). Should nonetheless losses emerge and conversion takes place, this 'bail-in' capital would enhance the equity cushion to cover losses. It is important that conversion be triggered automatically upon crossing certain market-based capital indicators and not be left to supervisory discretion (as put forward in a misguided proposal by the Commission, 2012).

This set of rules should apply to all banks and, when a bank is part of a broader financial group, to the entire group (since the group is likely to have benefited from the benefits of a banking charter within its belly). Within the European Union, these rules should be applied by the new single supervisory authority under construction, and should include a supranational deposit insurance and resolution authority (which is yet not agreed upon).

Under this system, there would be **no need for special rules on liquidity or funding structures**, whose adequacy would be concretely verified within the supervisory review of the banks covering the overall business model, its riskiness and its sustainability. There would also be **no need for special restrictions** on particular activities and operations, since supervisors would be able to penalise risk-taking as needed with deposit insurance fees.

Mimicking the FDIC deposit insurance system

The system just outlined places a special burden on deposit insurance, which becomes the sole instrument for charging individual banks for the risk they pose for the deposit insurance fund and financial stability in general. Therefore, it seems useful to recall that this approach already has an important precedent in the system of deposit insurance developed in the United States by the FDIC.

Under the Federal Deposit Insurance Act, the deposit insurance system is risk-based, i.e. deposit insurance fees are determined on the probability that an institution may cause a loss to the deposit insurance fund due to the

³ On this, Goodhart (2013b) notes: "in view of the incentive of shareholders/management to focus on the Return on Equity (RoE), rather than the Return on Assets (RoA), and of the existing debt overhang, any requirement for a higher ratio will provoke deleveraging rather than equity re-build. The need instead is to require each bank to hold a higher absolute level of equity, related to its initial (risk-weighted) assets, and prevent pay-outs to shareholders and/or management until that level is attained."

“compositions and concentration” of the institution’s *assets and liabilities*. More precisely, deposit insurance fees are calculated with reference to two factors (I am simplifying the description to the essential elements):

- i) **An assessment base** calculated from the difference between total assets and Tier 1 capital, which entails lowering fees for better capitalised institutions.⁴ A debt adjustment factor grants a reduction in fees to institutions with a cushion of unsecured debt, due to the latter’s loss-absorbing capacity. Surcharges are applied, on the other hand, to institutions holding unsecured debt issued by depository institutions, and to large institutions that are not well capitalised or with a low CAMELS rating (described in the ensuing indent) when their brokered deposits exceed 10% of domestic deposits.
- ii) **An assessment rate** that is based on the risk profile of the bank and is calculated on the basis of a combination of capital and risk indicators. The latter, known as the CAMELS ratings, cover capital, assets, management, earnings, liquidity and sensitivity to market risks; for large institutions and highly complex institutions, assessment rates also include certain forward-looking measures, combined in two different ‘score-cards’.⁵

The important feature of this approach is that deposit insurance fees entail a comprehensive supervisory assessment of the bank’s business model, quality of management and risk-exposure, which is partly based on objective indicators and partly on a subjective evaluation by supervisors. The overall assessment includes the potential threat posed by each individual institution to overall financial stability. The individual components’ contribution to the final calculation of the fee are publicly known in advance, albeit the precise result for each bank involves some discretionary elements that cannot

⁴ This provision was introduced by the Dodd-Frank legislation of 2010. Previously, the assessment base was represented by deposits.

⁵ Over the years, and notably since the financial crisis, the system has been refined to ensure that the assessment rates reflect risk differences between banks and banking groups with sufficiently steep variations in assessment rates.

be ‘arbitrated’ away by means of balance sheet manipulation.

In sum, under this comprehensive approach, the deposit insurance fee seeks to place a price on all aspects of risk-taking by an individual institution and their systemic relevance. The system may well be subject to improvement – and indeed has periodically been adjusted in response to practical experience – in order to make sure that emerging risk in evolving bank business models are recognised and properly accounted for, but once this is done it seems to require no complements in the form of ad hoc capital surcharges or special constraints on banking activities or legal structure.

The ‘arbitrage’ objection to a straight prudential capital ratio

A main objection to this approach is that the **elimination of all risk adjustment** in the determination of prudential capital ratios would create fresh opportunities for regulatory arbitrage by banks seeking to maximise their returns on equity. This is an old argument that played a paramount role in the demise of Basel I and the adoption of risk-based capital ratios in Basel II (Tarullo, 2008). And it also happens to be completely groundless.

The argument first made its appearance with reference to Basel I, which was based, as may be recalled, on a limited number of risk buckets, mainly identified on the basis of the counterparty.⁶ Regulators, academics and policy analysts soon started to argue that banks were picking the riskiest assets within each bucket in order to maximise returns (albeit with scanty empirical confirmation; cf. Tarullo, 2008).⁷ Banks, meanwhile, denounced the system as inefficient and costly for imposing a wasteful excess of

⁶ E.g. public sector entities, banks, mortgages on residential property, private sector loans, with further adjustment for the jurisdiction, e.g. OECD vs. non-OECD.

⁷ Much larger opportunities for arbitrage were probably offered by the binary character of some rules (as with the provision that required capital only for loans with maturity of one year or longer, which according to some studies explained the explosion of short-term lending to some high-rated non-OECD countries in the 1990s) and by large gaps in coverage created by securitisation, as the financial crisis later on made all too clear (Tarullo, 2008).

capital. Eventually, they all converged on the notion that capital ratios should be finely tuned to the risk characteristics of individual assets, measured with the new internal ratings-based (IRB) approach, opening the way to the use of banks' risk management models for the determination of prudential capital. The unequivocal effect of the new system was to lower capital requirements for large cross-border banks (Carmassi & Micossi, 2012) while opportunities for arbitrage, far from being closed, were magnified, as has been recalled.

What should have been clear from the start is that the arbitrage objection assumes that the bankers' only goal is to maximise returns *regardless of risk*. Unless we believe that bankers' utility function is by nature characterised by zero risk-aversion – a rather worrisome presumption, which however to my knowledge has no empirical confirmation – the only explanation for that kind of behaviour can be perverse incentives created by regulation and systematically encouraging bankers to take reckless risks. And indeed there is plenty of evidence that legal rules and financial market regulation **have created moral hazard** by shielding bankers from the consequences of their mistakes (or reckless gambles). This is, for instance, a direct consequence of the legal provision of limited liability; of the promise that in case of difficulty, the bank will enjoy special access to the central bank liquidity facilities; and of the implicit promise that the bank will not be allowed to fail.

In sum, reckless risk-taking by bankers is the result of perverse incentives stemming from regulation and not, in the main, of prudential capital rules. Shifting to a straight, risk-unadjusted capital ratio would reduce internal arbitrage opportunities, relative to the present system, as current incentives for the banks to manipulate internal risk management models, in order to reduce capital absorption, would disappear.

The notion, in this context, that a straight capital ratio could be used **in combination with a risk-adjusted ratio** (e.g. as called for in the Liikanen Report 2012; see also Véron, 2013) also appears ill-conceived, once it is accepted that all risk-adjustment for correcting perverse incentive stemming from the banking charter may be entrusted to a properly designed deposit insurance fee. Once that is done, continuing reference also to a risk-adjusted capital ratio would only send confusing signals while creating room to manipulate the system.

Conclusions

The Basel framework for bank prudential requirements is deeply flawed; the Basel III revision has failed to correct these flaws and in the main has made the system even more complicated, opaque and open to manipulation. In practice, the present system does not offer regulators and financial markets a reliable capital standard for banks; its divergent implementation in the main jurisdictions of the European Union and the United States has broken the market into special fiefdoms governed by national regulators in response to untoward special interests. The time is ripe to stop tinkering with minor adjustment and revisions in the hope of rescuing the system, because the system cannot be rescued.

Reference to risk-weighted assets calculated by banks with their internal risk management models for the determination of banks' prudential capital must be abandoned, together with predominant attention to the asset side of banks in correcting for risk exposure. The alternative may be provided by a combination of a straight capital ratio and a properly designed deposit insurance system. It is a logical, complete and much less distortive alternative; it would serve better the cause of financial stability as well as the interest of the banks in creating clear, transparent and level playing field.

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