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**Panagiotis Delimatsis**

## Abstract

Financial markets and institutions proved to be much more fragile to shocks than regulators and supervisors expected. Financial innovation was accused of having played a decisive role in the recent financial turmoil. In the wake of the crisis and after the adoption of generous rescue packages and liquidity facilities by several governments, a co-ordinated effort is being made to revise prudential standards, both at the micro- and the macroprudential level. In these efforts, governments appear to follow the rules promulgated within the Basel Committee on Banking Supervision (BCBS). After an examination of the interaction between prudential regulation and financial innovation, the paper critically reviews the new prudential standards adopted within the BCBS known as ‘Basel III’, in particular those relating to regulatory capital and liquidity. One of the essential lessons of the crisis is that such requirements can no longer be limited to banks, in view of the contribution of the shadow banking system to the crisis. Furthermore, relevant national initiatives in the EU and the US are discussed and potential conflicts with the Basel III framework are pinpointed. In addition, the relevance of the prudential carve-out within the General Agreement on Trade in Services (GATS) is examined.

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# Financial Innovation and Prudential Regulation – The Impact of the New Basel III Rules

PANAGIOTIS DELIMATIS\*

## Abstract

Financial markets and institutions proved to be much more fragile to shocks than regulators and supervisors expected. Financial innovation was accused of having played a decisive role in the recent financial turmoil. In the wake of the crisis and after the adoption of generous rescue packages and liquidity facilities by several governments, a co-ordinated effort is being made to revise prudential standards, both at the micro- and the macroprudential level. In these efforts, governments appear to follow the rules promulgated within the Basel Committee on Banking Supervision (BCBS). After an examination of the interaction between prudential regulation and financial innovation, the paper critically reviews the new prudential standards adopted within the BCBS known as ‘Basel III’, in particular those relating to regulatory capital and liquidity. One of the essential lessons of the crisis is that such requirements can no longer be limited to banks, in view of the contribution of the shadow banking system to the crisis. Furthermore, relevant national initiatives in the EU and the US are discussed and potential conflicts with the Basel III framework are pinpointed. In addition, the relevance of the prudential carve-out within the General Agreement on Trade in Services (GATS) is examined.

## A. Introductory Remarks

The recent financial crisis has revealed significant failures in prudential regulation and supervision of the financial sector. Such failures have related not only to individual institutions but also to the financial system as a whole.<sup>1</sup> Regulatory frameworks and the regulatory orthodoxy of financial markets which prevailed in recent decades have proved incapable in terms of prevention, management and resolution of the financial turmoil. One of the many useful lessons that the crisis has taught to regulators and governments was that nationally-focused regulatory models are doomed to fail in an integrated and interconnected global financial system, where financial institutions and

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<sup>1</sup> Financial system can be defined as the set of markets, intermediaries, and infrastructures through which households, corporations, and governments obtain funding for their activities and invest their savings. See P. Hartmann; A. Maddaloni; and S. Manganelli, ‘The Euro Area Financial System: Structure, Integration and Policy Initiatives’ (2003) 19 *Oxford Review of Economic Policy* 180.

the ‘shadow banking system’ know no borders.<sup>2</sup> More crucially, the crisis cast doubt on the abilities of national supervisors to cooperate and coordinate. It even led to a reassessment of the mutual recognition tradition upon which the EU financial system was built under the aegis of the EU single market.

During the first summit in Washington, the G20 leaders committed to the implementation of policies in accordance with five common principles for reform of financial markets and regulatory regimes: strengthening transparency and accountability; enhancing sound regulation; promoting integrity in financial markets; reinforcing international cooperation; and reforming international financial institutions. With respect to the second objective of enhancing sound regulation, the G20 leaders pledged to strengthen prudential oversight and risk management, while ensuring that no financial markets, products or participants remained unregulated or not subject to oversight. In addition, they committed to ensuring that regulation is efficient, does not impede financial innovation, and supports the expansion of trade in financial services.<sup>3</sup>

Financial innovation is an essential part of any activity within the financial system, as investors search for instruments to address market inefficiencies or imperfections. It allows for the effective diffusion of financial products and improved service to consumers. Financial innovation can ameliorate agency conflicts, reduce transaction costs, or provide a shield against taxes or burdensome regulations.<sup>4</sup> It has also allowed financial activities to be split up so that outsourcing could dominate certain areas such as clearing and settlement of payments or management of data. Financial innovation has also been an engine of economic growth, notably due to its crucial role in financing otherwise ineligible investments or technological projects that were not sufficiently mature in the eyes of traditional financial institutions, as they lacked the tools to adequately evaluate and manage risks.<sup>5</sup> Thus venture capital firms and investment banks changed the landscape of technological innovation, confirming the

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<sup>2</sup> Financial Stability Board (FSB), ‘Shadow Banking: Scoping the Issues’, Background Note, April 2011.

<sup>3</sup> Declaration, Summit on Financial Markets and the World Economy, Washington, 15 November 2008, para. 9.

<sup>4</sup> B. Henderson and N. Pearson, ‘The Dark Side of Financial Innovation’, 2009, available at: <http://ssrn.com/abstract=1342654>

<sup>5</sup> S. Michalopoulos; L. Laeven; and R. Levine, ‘Financial Innovation and Economic Growth’, NBER Working Paper No 15356, September 2009.

positive relationship between financial innovation, technological innovation and economic growth.<sup>6</sup>

When it comes to regulating financial institutions, regulators need to ensure that their intervention minimizes moral hazard and the danger of systemic risk, and that it safeguards the safety and soundness of the system while not discouraging financial innovation. Prudential rules relate mainly to capital and liquidity requirements.<sup>7</sup> One of the main deficiencies of the system that prevailed in past decades was that it had undermined the importance of liquidity regulation in favour of capital adequacy. However, even the capital adequacy levels previously established were considered inadequate because they did not take procyclicality into account.<sup>8</sup>

This paper will critically review the work on prudential regulation, both at the micro- and macro-prudential level, notably that of the Basel Committee on Banking Supervision (BCBS), and the initiatives for improved regulatory cooperation at the global level. Micro- and macro-prudential regulation and supervision are interrelated, as increased resilience at the level of individual banks inevitably diminishes the probability of a system-wide shock. The paper will further examine national initiatives aimed at regulating institutions and products which have been regarded as innovative such as hedge funds, derivatives, or securitization. As market discipline has failed in several respects, a thorough examination of the current pro-regulation stance is needed to support the necessity of intervention and the choice of instruments.<sup>9</sup> Interestingly, after the decision of various large non-banking institutions and investment banks such

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<sup>6</sup> For instance, it was found that venture capital in the United States was responsible for some 10% of US industrial innovation in the period 1983–1992, even though it represented on average not more than 3% of corporate R&D in that period. See S. Kortum and J. Lerner, ‘Assessing the Contribution of Venture Capital to Innovation’ (2000) 31 *RAND Journal of Economics* 674.

<sup>7</sup> Disclosure requirements, which also constitute part of prudential regulation, are outside the scope of this paper, and they have been discussed elsewhere. See P. Delimatsis, ‘Financial Innovation and Transparency in Turbulent Times’, (2011) *Journal of Financial Transformation* (forthcoming). In any case, disclosure measures cannot be regarded, strictly speaking, as financial soundness measures, as their main objective is to prevent fraud and strengthen corporate governance. See R. Ahrend; J. Arnold; and F. Murtin, ‘Prudential Regulation and Competition in Financial Markets’, OECD Economics Department Working Paper No 735, ECO/WKP(2009)76, December 2009, p. 17.

<sup>8</sup> However, other voices argue that bank regulation is ‘inherently procyclical; it bites in downturns, but fails to restrain in booms’. See C. Goodhart, B. Hofmann; and M. Segoviano, ‘Bank Regulation and Macroeconomic Fluctuations’ in X. Freixas; P. Hartmann; and C. Mayer (eds), *Handbook of European Financial Markets and Institutions* (Oxford University Press, 2008), pp. 691, 700ff.

<sup>9</sup> For instance, as noted infra, one interesting development post-crisis is that financial institutions involved in the trading of such financially innovative products are essentially required to hold more capital.

as Goldman Sachs and Morgan Stanley to become bank holding companies,<sup>10</sup> any new prudential rules will be decisive for the avoidance (or not) of any collapse of individual institutions or the entire financial system. A key justification of this assessment is that such institutions are the preachers of universal banking, which is admittedly to blame for the financial crisis of 2007–9.<sup>11</sup> Thus, the fact that the rules will be applying to increasingly complex institutions dealing with various financial activities, which may barely be regarded as traditional banking activities, gives a different, more important weight to the new prudential rules applying to such institutions.

## **B. The Interaction between Prudential Regulation and Financial Innovation**

### *1. The role and importance of prudential regulation in the financial system*

Several factors can explain the rapid growth of the financial sector. First, technological progress in communications and information technology has given a fillip to the expansion of trade in financial services.<sup>12</sup> The use of innovative processes and technologies in the financial sector has transformed its *modus operandi*.<sup>13</sup> This trend continues with the ever-increasing use of Internet-based banking services.<sup>14</sup> In addition, deregulatory trends have dominated for a long time, whereas light regulation of certain niches in the sector also led to considerable amounts of capital being directed towards such options. Furthermore, financial services and the movement of capital were liberalized fast – for some countries, too fast – driven by well-organized

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<sup>10</sup> Goldman Sachs Press Release, ‘Goldman Sachs to Become the Fourth Largest Bank Holding Company’ (21 September 2008), available at: <http://www2.goldmansachs.com/our-firm/press/press-releases/archived/2008/bank-holding-co.html> (visited 10 July 2011). On the same day, Morgan Stanley was successful in obtaining permission to become a bank holding company. One reason for this may have been the ability of bank holding companies to qualify for financial assistance just like commercial banks. See also K. Dam, ‘The Subprime Crisis and Financial Regulation: International and Comparative Perspectives’ (2010) 10 *Chicago Journal of International Law* 1.

<sup>11</sup> E. Avgouleas, ‘Breaking Up Mega-Banks – A New Regulatory Model for the Separation of Commercial from Investment Banking’ in Delimatsis and Herger (eds), *Financial Regulation at the Crossroads – Implications for Supervision, Institutional Design and Trade* (Kluwer Law International, 2011), p. 179.

<sup>12</sup> A. N. Berger, ‘The Economic Effects of Technological Progress: Evidence from the Banking Industry’ (2003) 35 *Journal of Money, Credit and Banking* 141.

<sup>13</sup> For some nuances, see H. Degryse and S. Ongena, ‘Technology, Regulation, and the Geographical Scope of Banking’ in Freixas; Hartmann; and Mayer (eds), above note 8, p. 345, at 362.

<sup>14</sup> Cf. Bank for International Settlements (BIS), ‘The implications of electronic trading in financial markets’, Committee on the Global Financial System, January 2001.

efforts and arrangements within the International Monetary Fund (IMF) and the World Trade Organization (WTO). Notably the agreement on liberalizing financial services in the aftermath of the Uruguay Round heralded an era of financial globalization and unprecedented openness in the sector. Finally, globalization and competition for increasing returns and diminution of cost around the globe – eg through outsourcing – could only reinforce integration, consolidation and interdependence of financial markets worldwide.

Financial services, together with telecommunications and transport, are the infrastructural backbones of any modern economy. They have important spillovers across all economic sectors and are essential inputs for economic development. All the branches of economic activity essentially rely on access to financing. In that sense, financial services are far more important than their direct share in the economy suggests. A growing body of empirical analyses, including firm-level studies, industry-level studies, individual country studies and broad cross-country comparisons, demonstrate a strong positive link between the expansion of financial services and long-term economic growth.<sup>15</sup> The financial sector is a ‘make-or-break’ sector for many developing countries in determining whether they achieve real economic growth – especially given the challenges that both industrial and developing countries have faced in their efforts to build robust financial systems.<sup>16</sup> However, such links are not absolute and several considerations and factors are relevant.<sup>17</sup> For instance, it was argued that certain deregulatory practices were imposed on them without account being taken of their domestic market conditions. In addition, investment by foreign banks did not really benefit small and medium-sized enterprises (SMEs), but was focused on serving the government or multinational enterprises.<sup>18</sup>

It comes as no surprise that the financial services sector is one of the most densely regulated sectors in any advanced economy. There are two main reasons for this. The

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<sup>15</sup> See R. Levine, ‘Finance and Growth: Theory and Evidence’ in P. Aghion and S. Durlauf (eds), *Handbook of Economic Growth*, Vol. 1A (North Holland, 2005), p. 865. Also R. Rajan and L. Zingales, ‘Financial Dependence and Growth’ (1998) 88 *American Economic Review* 559.

<sup>16</sup> See also R. King and R. Levine, ‘Finance and Growth: Shumpeter Might be Right’ (1993) 153:3 *Quarterly Journal of Economics* 717.

<sup>17</sup> See D. Rodrik and A. Subramanian, ‘Why did Financial Globalization Disappoint?’, 56(1) *IMF Staff Papers* (2009), 112; also M. Ayhan Kose; E. Prasad; K. Rogoff and S.-J. Wei, ‘Financial Globalization: A Reappraisal’, December 2006, available at: [http://www.economics.harvard.edu/faculty/rogoff/files/Financial\\_Globalization\\_A\\_Reappraisal\\_v2.pdf](http://www.economics.harvard.edu/faculty/rogoff/files/Financial_Globalization_A_Reappraisal_v2.pdf) (visited 10 March 2010).

<sup>18</sup> See ‘Report of the Commission of Experts of the President of the United Nations General Assembly on Reforms of the International Monetary and Financial System’ (the Stiglitz Report), September 2009, p. 104.

first is the central economic role the financial system enjoys: what distinguishes the financial services sector from other service activities is its close links with the economy at large. Second, it is possible that problems arising in particular institutions or markets may, if allowed to spread, lead to a loss of the confidence of consumers, investors and stakeholders in that system and, therefore, prudential policies that preempt or reduce systemic risk and provide safety nets are vital for a safe and sound financial system that functions competitively.<sup>19</sup> Therefore, governments interfere with financial markets to reduce risk and enhance financial stability.<sup>20</sup>

The financial crisis of 2007–9 has, however, revealed inexplicably lax regulatory frameworks for certain non-banking institutions, failures arising from attempts made by banks to get active in non-traditional banking activities or strict, but nevertheless inadequate, prudential rules to prevent the crisis. Thus, in the aftermath of the current credit crunch, the stringency of the rules may increase, but a central question remains as to how, at the same time, to improve the effectiveness of such rules. The shape of the new rules will have significant repercussions on trade as well, as trade in financial services is essentially dependent on macroeconomic management, financial regulation and supervision. As the intrusiveness of the ‘rules of the game’ increases, trade will inevitably be affected. However, if such rules can ensure financial stability and resilience in the long run, then trade will be one of the beneficiaries of such changes. Indeed, in periods of instability and distress resulting from inadequate regulation and supervision, trade is negatively affected, inter alia, through severe contractions in the demand for exports or in the availability of credit and external financing. Thus, whereas liberalization of trade in financial services requires the removal of trade barriers, it gains equally from strong and high-quality prudential regulation and supervision.

Prudential rules refer to the financial soundness of financial service suppliers and aim to prevent the risk of suppliers not being able to meet their liabilities as they fall due.<sup>21</sup> From another perspective, prudential regulation constitutes the governance mechanism

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<sup>19</sup> Cf M. Kono; P. Low; M. Luanga; A. Mattoo; M. Oshikawa; and L. Schuknecht, ‘Opening markets in financial services and the role of the GATS’, WTO Special Studies No.1, 1997, p. 27.

<sup>20</sup> Financial stability is a rather elusive concept. A financial system may be proven to be unstable only once financial distress has emerged. See C. Borio and M. Drehmann, ‘Towards an Operational Framework for Financial Stability: “Fuzzy” Measurement and Its Consequences’, BIS Working Paper No 284, 2009.

<sup>21</sup> Paul Sharma, ‘The Integrated Prudential Sourcebook’ in M. Blair QC and G. Walker (eds), *Financial Services Law* (Oxford University Press, 2006), p. 369.

for representing depositor interests and protects the interests of taxpayers providing the deposit insurance.<sup>22</sup> The General Agreement on Trade in Services (GATS) adopts a seemingly broader definition (with a pro-regulation touch) by regarding as prudential those policies or measures adopted to protect consumers of financial services such as investors or depositors and to maintain the integrity and stability of the financial system.<sup>23</sup> Prudential rules typically relate to rules relating to capital adequacy, loan loss reserve requirements, minimum cash reserve and liquidity requirements or regulations on what constitutes an adequate level of diversification of risk.

Regulating financial services for prudential purposes is an internationally accepted regulatory prerogative.<sup>24</sup> Prudential rules are mainly necessary to protect consumers of financial services against financial institutions that are rapacious or incompetent. Rules of a prudential nature typically aim to remedy information inadequacies and appear to be a prime example of a soft paternalistic regulatory approach on the part of the state. Markets are rarely able to provide appropriate incentives for the acquisition and dissemination of pertinent information for consumers relating to the qualities of financial products. Therefore, regulatory interference requires, inter alia, disclosure or notification of certain information. The imposition of minimum regulatory requirements on service suppliers reflects a certain uniformity of preferences or expectations among consumers as regards the quality and safety of services. For instance, the competent regulatory authorities ensure that all banks operating in the market meet a certain threshold of financial soundness.<sup>25</sup> Prudential regulations can be discriminatory or may be applied in a discriminatory manner. Most notably, however, these types of regulation can amount to unnecessary barriers to entry into the domestic market.

Domestic prudential rules have been greatly influenced by the Basel process, which started its work in the 1980s under the aegis of the BCBS, which in turn is a significant arm of the Bank for International Settlements (BIS). The most advanced

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<sup>22</sup> M. Dewatripont and J. Tirole, *The Prudential Regulation of Banks* (MIT Press, 1994).

<sup>23</sup> See J. Marchetti, 'The GATS Prudential Carve-Out' in Delimatsis and Herger (eds), above note 11, p. 279.

<sup>24</sup> Cf NAFTA Chapter 11 Arbitral Tribunal Report of 17 July 2006, *Fireman's Fund v. Mexico* (ICSID Case No ARB(AF)/02/01), para. 163.

<sup>25</sup> In general terms, the asymmetric information problem plays a crucial role in the financial sector. First, owing to the existence of asymmetric information the proximity to the consumer and *a fortiori* commercial presence becomes essential. Second, a credit institution acting as lender will probably prefer to lend to borrowers with whom it is familiar. See L. White, 'Unilateral International Openness: The Experience of the U.S. Financial Services Sector' in J Bhagwati (ed), *Going Alone: The Case for Relaxed Reciprocity in Freeing Trade* (MIT Press, 2002), 450ff.



economies have typically adopted the prudential banking rules that the BCBS promulgated even if the objective of this forum was to set out rules applicable to internationally active banks. At the onset of the crisis, the implementation of Basel II was still under way. This said, the prudential rules of the time had reached a high degree of uniformity.

The adequacy of both micro- and macro-prudential rules came to the forefront during the recent crisis. The current financial system failed in the micro-prudential supervision of financial service providers because it was concentrating on individual providers rather than the system as a whole. For instance, the main instrument for measuring risk, value at risk (VaR), can only capture the risk linked to an individual bank in isolation and thus may be important for micro-prudential regulation, but does nothing to identify systemic risk. The financial system also failed in macro-prudential supervision as demonstrated by insufficient capacity to supervise effectively and to assess macro-systemic risks of contagion of correlated horizontal shocks.<sup>26</sup> In particular, the importance of macro-prudential regulation for the overall stability of the financial system was largely disregarded.<sup>27</sup>

According to Borio,<sup>28</sup> the macro-prudential level of regulation has two traits: first, it focuses on the financial system as a whole, aiming at limiting the macroeconomic costs of episodes of financial distress. Second, it suggests that aggregate risk is a function of the collective behaviour of financial institutions and thus is partly endogenous. In contrast, under a micro-prudential approach, this would be regarded as exogenous, as individual institutions would be too small to affect asset prices, market conditions and the like. Furthermore, Borio identifies two important dimensions relating to the macro-prudential approach: first, the cross-sectional dimension, which deals with the identification and management of *common* exposures across financial institutions. Under this dimension, policymakers need to create those prudential rules that limit the risk of losses on a big chunk of the overall financial system.<sup>29</sup> Second, the time dimension, which attempts to find out how system-wide risk increases through interactions within the financial system and between the financial system and

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<sup>26</sup> See, generally, M. Dewatripont; X. Freixas; and R. Portes (eds), *Macroeconomic Stability and Financial Regulation: Key Issues for the G20*, Centre for Economic Policy Research, 2009.

<sup>27</sup> See the de Larosière Report, above note 41, p. 37. See also The Turner Review, above note 41, p. 83.

<sup>28</sup> C. Borio, 'The macroprudential approach to regulation and supervision', April 2009, available at: <http://www.voxeu.org/index.php?q=node/3445>

<sup>29</sup> M. Knaup and W. Wagner, 'Measuring the Tail Risk of Banks', NCCR Working Paper No 2010/14, June 2010.

the real economy – or, as the current sovereign debt crisis reveals, macro-economic policy. Mitigating procyclicality becomes a central objective under this dimension.

## *II. The interaction between prudential regulation and financial innovation*

Financial innovation is driven by investor demand for particular cash flow patterns.<sup>30</sup> This demand allows intermediaries to profitably engineer these patterns out of other cash flows.<sup>31</sup> Gennaioli *et al* linked financial innovation with financial fragility, by arguing that neglect of risks can lead to over-issuance of innovative securities. Investor optimism boosts the incentive of intermediaries to innovate, as their ability to sell their innovative products increases. The risk in this case is borne by the investors who are unaware of the risks (for instance, because historical analysis is favourable), whereas intermediaries do not have sufficient liquidity to absorb unexpectedly high supply due to a negative event. Once risk is revealed, investors overreact and get rid of the false substitutes for the traditional securities, fleeing en masse to safety. The authors' main message is summarized as follows:<sup>32</sup>

...when investors neglect certain risks, financial innovation creates a false substitutability between the new and traditional claims [that is, between innovative and 'traditional' financial products]. This false substitutability explains both the excessive volume of innovation ex-ante and the ex-post flight to quality occurring as investors come to realize that the new claim exposes them to previously unattended risks.

Gennaioli *et al.* assume that, under certain circumstances, whereas intermediaries will benefit from innovation, investors will lose, because they will sell their assets only once the price drops. This result, however, assumes that the intermediaries know about the risk profile of the product that they sell and thus misrepresent the innovative product to investors, thereby creating a principal–agent-type of situation.<sup>33</sup> Alternatively, both investors and intermediaries may lose out if both groups neglect the risks associated with the innovative product. In that case, the authors actually offer

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<sup>30</sup> F. Allen and D. Gale, *Financial Innovation and Risk Sharing* (MIT Press, 1994).

<sup>31</sup> N. Gennaioli; A. Schleifer; and R. Vishny, 'Neglected Risks, Financial Innovation, and Financial Fragility', NBER Working Paper 16068.

<sup>32</sup> *Ibid*, at 26.

<sup>33</sup> For instance, in an attempt to restore confidence in securitization, the new Dodd–Frank framework adopted in the US requires that companies selling securities such as mortgage-backed securities retain at least five per cent of the credit risk. This should give an incentive to intermediaries to carefully examine the safety of a given product before they put it on the market.

another argument to those calling for higher capital and liquidity requirements. In all cases, if intermediaries offer guarantees backing certain products, then the regulatory framework should require that the intermediaries hold sufficient capital to honour those guarantees. Thus, prudential regulation can play a crucial role not only in harnessing the risks (preventive function) but also in managing the risk once it becomes evident ex post.

Financial innovation is linked with prudential regulation in that the former may help bypass the latter. The so-called regulatory arbitrage has been one of the reasons why financial innovation has been criticized so much during the past three years. Taking the recent financial crisis as an example, financial innovation was blamed for allowing prudential regulation to be bypassed. Regulatory arbitrage and short-run profits were regarded as one of the notoriously sad ‘achievements’ of financial innovation, at least in the past decade, enhancing the welfare of few to the detriment of the many. Non-bank institutions were active in equally dangerous financial instruments, without having to comply with prudential requirements relating to capital adequacy or liquidity that banks abided by, thereby distorting competition and creating leverage in the world economy which proved to be disastrous.

Prudential regulation can negatively affect the scope and speed of financial innovation.<sup>34</sup> However, this may also lead to a reorientation of financial innovation back to its initial, socially valuable function of managing risk and allocating capital. In the long run, well-designed prudential regulation and appropriate incentive mechanisms can delay, but will ultimately enhance well-thought out financial innovation. Be this as it may, financial innovation has come to the forefront and has drawn regulators’ attention. For instance, the US Securities and Exchange Commission (SEC) created a new Division (the first in almost 40 years!) to deal with, inter alia, financial innovation. Such a move is expected to improve the SEC’s expertise in the evaluation of risk and the screening of complex financial instruments. Indeed, supervisors worldwide were criticized for their failure to grasp the mechanics of derivatives markets or the conduct of hedge funds.<sup>35</sup>

However, in a globalized market, such actions will be useless if they are not accompanied by similar actions in other countries. This fact exemplifies the importance of the current work within the BCBS, notably in its new, enlarged form in

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<sup>34</sup> Cf the Stiglitz Report, p. 59.

<sup>35</sup> R. Levine, ‘Finance, Growth, and Opportunity: Policy Challenges’, October 2009, p. 5.

which emerging economies also participate and share their experience and good practices, especially because some of them were affected by the crisis only slightly compared to more advanced economies.<sup>36</sup> If accompanied by a wider mandate whereby non-banking institutions active in systemically important activities similar to those of banks are also subject to stringent rules just as banks are, then this work at the supranational level may have beneficial results for the safety of the financial system. Recall that even if, individually, non-banking institutions may not be systemically important, in the aggregate the picture may be different and their activities can have a significant procyclical systemic impact.<sup>37</sup>

Domestically, a great deal can be done to create a responsive regulatory framework that punishes cheating and rewards well-designed financial innovation, along with a system that allows for effective and expedited crisis management and resolution of failed institutions. Regulation cannot and should not be static. A responsive regulatory framework has dynamic aspects which necessitate close observation and regular reviews of regulatory choices with a view to ensuring that objectives remain valid over time and that the policies that were initially implemented remain necessary for achieving those objectives. Regular review of regulatory choices and the evolution of the regulatees is indispensable to ensure effective, well-functioning competition in liberalized services sectors and to pursue important legitimate public policy objectives over time, such as consumer protection or financial integrity.<sup>38</sup> Such reviews are warranted for dealing appropriately with market distortions and failures.<sup>39</sup> For instance, the dramatic effects following the failure of Lehman Brothers reflect the failure of the US regulatory authorities to adequately follow the evolution of the major US investment banks into systemically important, albeit non-banking, institutions and thus modify their approach towards regulating and supervising them.

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<sup>36</sup> Currently, the BCBS gathers central bank and supervisory authority representatives from Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the US.

<sup>37</sup> For instance, take the case of the simultaneous attempts of several hedge funds to deleverage. See also the Turner Review, p. 72.

<sup>38</sup> P. Delimatsis, *International Trade in Services and Domestic Regulations – Necessity, Transparency, and Regulatory Diversity* (Oxford University Press, 2007), p. 156.

<sup>39</sup> C Findlay and J-D Kim, 'Issues in Domestic Regulation of Services', 2001, p. 5.

## C. Prudential Regulation Revisited in the Aftermath of the Crisis

### *1. The new Basel III Framework: new wine...in a new bottle?*

The lack of adequate countercyclical prudential regulation was at the heart of the crisis. The capital adequacy rules of Basel I and II were not sufficient to contain risks stemming from bank exposures to transactions and instruments such as securitization or derivatives, nor did they take into account the systemic risk posed by the build-up of leverage in the financial system. In addition, the crisis revealed that regulation cannot focus on legal form in the legal sector, but rather it needs to adopt a functional approach which focuses on economic substance. Several non-bank institutions at the periphery of prudential regulation are to be blamed for the excessive leverage. Pension funds and asset managers bought dubious financial products or were otherwise exposed to vendors of such products. Private equity firms increased leverage in the corporate sector, whereas credit rating agencies (CRAs) failed to warn markets soon enough about the dangers of certain financial instruments.<sup>40</sup> All these events suggest that prudential regulation should no longer focus exclusively on banks.

The new Basel III framework focuses on the regulation of banks in the aftermath of the crisis. However, the BCBS does clearly allude to the need for applying similar rules to similarly important or systemic institutions, be they banks or not. Following recommendations by several study groups that were established to examine possible responses in the aftermath of the crisis,<sup>41</sup> the new Basel III framework, establishes, inter alia, higher capital and liquidity requirements, in terms of both quantity *and* quality, to ensure that banks are better equipped to absorb losses like those relating to the global financial crisis.<sup>42</sup> The BCBS justifies the new standards in the following terms:<sup>43</sup>

One of the main reasons the economic and financial crisis, which began in 2007, became so severe was that the banking sectors of many countries had built up excessive on- and off-balance sheet leverage. This was accompanied

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<sup>40</sup> Dewatripont *et al* (eds), above note 26, p. 166.

<sup>41</sup> See The de Larosière Report, pp. 16, 19; and the Turner Review, p. 57. Also K. French et al, *The Squam Lake Report* (Princeton University Press, 2010).

<sup>42</sup> Higher capital and liquidity requirements are expected to lead to a reduction, albeit minimal, of GDP. See Macroeconomic Assessment Group, 'Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements – Interim Report', August 2010.

<sup>43</sup> See BCBS, 'Basel III: A global regulatory framework for more resilient banks and banking systems', December 2010, para. 4.

by a gradual erosion of the level and quality of the capital base. At the same time, many banks were holding insufficient liquidity buffers. The banking system therefore was not able to absorb the resulting systemic trading and credit losses nor could it cope with the reintermediation of large off-balance sheet exposures that had built up in the shadow banking system. The crisis was further amplified by a procyclical deleveraging process and by the interconnectedness of systemic institutions through an array of complex transactions. During the most severe episode of the crisis, the market lost confidence in the solvency and liquidity of many banking institutions. The weaknesses in the banking sector were rapidly transmitted to the rest of the financial system and the real economy, resulting in a massive contraction of liquidity and credit availability. Ultimately the public sector had to step in with unprecedented injections of liquidity, capital support and guarantees, exposing taxpayers to large losses.

Insufficient capital bases were at the source of the failure of Lehman Brothers and Bear Stearns and played an important role in the sale of Merrill Lynch to Bank of America.<sup>44</sup> Thus, Basel III increases the loss-absorbing capacity of banks and therefore their resilience to crises by introducing capital requirements which oblige banks to build up capital in good times, which can be used in periods of distress.<sup>45</sup> Such capital buffers will allow procyclicality in the banking system to be mitigated. First, at a micro-prudential level, the Tier 1 capital requirement, which incorporates common equity and other financial instruments, increases from 4% to 6% (without taking the conservation buffer into account). The minimum total capital ratio will increase to 8%. The capital base of a given institution should be adequately disclosed and should reflect capital that is available whenever losses need to be absorbed. Previous techniques allowing artificial increase of capital will no longer be allowed. For instance, stricter rules for deductions of intangibles and minority interests from common equity rather than total capital may lead banks to move to a substantial increase of their capital resources.<sup>46</sup>

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<sup>44</sup> See H. Scott, 'Reducing Systemic Risk Through the Reform of Capital Regulation', (2010) 13:3 *Journal of International Economic Law* 763, at 766.

<sup>45</sup> *Ibid.* Also BCBS, 'The Basel Committee's response to the financial crisis: report to the G20', October 2010.

<sup>46</sup> For the challenges in implementing the new Basel III framework in a domestic context, see UK Financial Services Authority, *Prudential Risk Outlook 2011*, 2011.

Second, at a macro-prudential level, the existence of a capital conservation buffer is required. The capital conservation buffer restricts the payment of dividends and certain coupons and bonuses. It comprises common equity of 2.5% of risk weighted assets to be phased in between 2016 and 2019. This amounts to a total common equity capital ratio of 7% and can be increased if national authorities consider that (aggregate) credit growth in a given period may be causing a build-up of system-wide risk.<sup>47</sup> The higher level of capital is in addition to the stricter definition of common equity advanced by Basel III and the increase in capital requirements for trading activities, counterparty credit risk and other capital-market-related activities. Furthermore, Basel III adopts a countercyclical buffer (between 0 and 2.5 per cent) which comprises common equity or other capital. This buffer is regarded as an extension of the conservation buffer range. The countercyclical buffer will alleviate the risk of less available credit due to capital requirements. Through this buffer, supervisors can moderate or, depending on the circumstances, strengthen lending in different phases of the credit cycle.

Furthermore, Basel III requires better risk coverage, notably with regard to capital market activities. An important development constitutes the strengthening of capital requirements and risk management in case of counterparty credit exposures stemming from derivatives, repo and securities.<sup>48</sup> Thus, banks are required to have additional capital to cover possible risks caused by the deterioration of the credit quality of the counterparty. With respect to derivatives in particular, the objective is to incentivize banks to move over-the-counter (OTC) derivative contracts to central counterparties (CCP). Importantly, Basel III foresees the establishment of an internationally harmonized leverage ratio to constrain excessive risk-taking and to serve as a backstop to the risk-based capital requirement. The ratio will include both on- and off-balance sheet exposures and derivatives and will be tested at 3% from 2013 to 2017.

In addition, the new regulatory framework for banks introduces minimum global liquidity standards.<sup>49</sup> Two standards are central in this respect: first, the short-term liquidity coverage ratio (LCR), which aims at promoting short-term (i.e. thirty days)

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<sup>47</sup> Measures relating to capital aim to provide coverage for unexpected losses, while the relevant initiatives on provisioning focus on strengthening the banking system against expected losses.

<sup>48</sup> This is in accordance with the G20 mandate at the Washington Summit of November 2008, p. 3.

<sup>49</sup> On liquidity, see generally J. Tirole, 'Illiquidity and all its friends', BIS Working Paper No 303, March 2010. The fact that liquidity supervisory regimes have been national was criticized by commentators. See K. Follak, 'The Basel Committee and EU Banking Regulation in the Aftermath of the Credit Crisis' in M. Giovanoli and D. Devos (eds), *International Monetary and Financial Law – The Global Crisis* (Oxford University Press, 2010), p. 177, at 184.

resilience of the liquidity risk profile of a given bank. The LCR presupposes an acute stress scenario during which the bank will need to offset significant net cash outflows (eg loss of deposits or unsecured wholesale funding). A transitional period ensures that the LCR will not be introduced until 2015. Second, the long-term (i.e. one year) standard, which is called the structural net stable funding ratio (NSFR), is expected to give incentives to banks to look for more stable sources of funding rather than rely too heavily on short-term wholesale funding. The NSFR is to be introduced by 2018.

The new framework aims to address a major shortcoming of the global financial system during the crisis, that is, the lack of sound liquidity risk management during the crisis. Indeed, Basel III requires that individual banks maintain higher and better-quality liquid assets and manage their liquidity risk better. Nevertheless, this focus on individual banks appears to disregard systemic liquidity risk concerns.<sup>50</sup> Thus, the Basel III liquidity rules fail to deal with the risk that arises from the possibility of simultaneous breakdowns in the form of contagion due to the interconnectedness of various institutions in financial markets.

Moreover, the BCBS and the Financial Stability Board agreed on stricter loss absorbency rules for global systemically important banks. According to the relevant consultative document published by the BCBS, indicators that can be helpful in the identification of such institutions relate to the size of the banks; their interconnectedness; the lack of substitutability; their cross-jurisdictional activity; and their complexity.<sup>51</sup> For such banks, larger capital buffers – including common equity and ‘early trigger’ contingent capital – or minimum requirements for ‘bail-in able’ debt or a combination of similar measures are on the table. This initiative aims at reducing the moral hazard of such institutions while limiting the probability of their failure.<sup>52</sup> Taking advantage of regulatory differences among jurisdictions, large global banks have tended to maintain lower capital base and liquidity ratios. The higher loss absorbency requirements are to be introduced together with the capital conservation

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<sup>50</sup> Systemic liquidity risk is the tendency of financial institutions to collectively underprice liquidity risk in good times when funding markets function well because they are convinced that the central bank is likely to intervene in times of crisis to save such markets and thus limit the impact of liquidity shortcomings. See IMF, *Global Financial Stability Report: Durable Financial Stability – Getting There from Here*, April 2011, Chapter 2, p. 2.

<sup>51</sup> BCBS, ‘Global systemically important banks; Assessment methodology and the additional loss absorbency requirement – Consultative Document’, July 2011.

<sup>52</sup> As they put it, ‘[i]t is imperative to reinstate a credible fear of bankruptcy for banks and other systemically significant financial institutions so as to ensure that banks once more play their proper role in a market economy’. See R. Lastra and G. Wood, ‘The Crisis of 2007–09: Nature, Causes, and Reactions’ (2011) 13:3 *Journal of International Economic Law* 531, at 549.



and countercyclical buffers foreseen by Basel III, that is, between 1 January 2016 and December 2018, becoming fully effective on 1 January 2019.

Moreover, Basel III makes proposals for more solid risk management, covering areas such as corporate governance, off-balance sheet exposures and securitization activities or compensation practices. It also calls for better supervision – for instance, when the assessment of the adequacy of a bank’s liquidity risk management framework and its level of liquidity is at stake – and effective cooperation not only among supervisors, but also central banks. Crucially, the BCBS also put forward good practice principles on supervisory colleges,<sup>53</sup> alluding to the need for coherent cross-border supervision of international banking institutions with a view to also improving financial stability at the macroprudential level.<sup>54</sup> In this respect, effective cross-border crisis management and the orderly cross-border resolution of cross-border banks are among the most critical areas on which work is currently being done.<sup>55</sup> The BCBS follows a principles-based approach in its guidance on creating supervisory colleges, putting an accent on the importance of consolidated supervision, whereby home and host supervisors exchange information that allows for a more effective overall supervisory assessment of a given cross-border financial institution.<sup>56</sup> This assessment is ultimately to be organized and made by the home supervisor, who remains the main authority in charge of ensuring the smooth functioning of its supervisee.

Indeed, insufficient international co-operation and information exchange appear to have had deleterious effects in the case of cross-border financial institutions, as shown by the cases of Lehman Brothers and the Landsbanki of Iceland.<sup>57</sup> The need for supranational supervisors with increased powers has come under the spotlight.<sup>58</sup>

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<sup>53</sup> Supervisory colleges are multilateral working groups of relevant supervisors formed for the collective purpose of enhancing effective consolidated supervision of an international banking group on an ongoing basis. See BCBS, ‘Good practice principles on supervisory colleges’, October 2010, p. 1.

<sup>54</sup> For the parallel work at the EU level, see the ten principles for the functioning of supervisory colleges agreed on by the Committee of European Banking Supervisors (CEBS) and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS), together with their Interim Working Committee on Financial Conglomerates (IWCFC) in January 2009. In December 2010 the CEBS and the CEIOPS came up with seven recommendations for supervisory colleges of financial conglomerates.

<sup>55</sup> See the Report and Recommendations of the Cross-border Bank Resolution Group, March 2010, available at: <http://www.bis.org/publ/bcbs169.htm>. See also IMF, ‘Resolution of Cross-Border Banks – A Proposed Framework for Enhanced Cooperation’, Report of the Legal and Monetary and Capital Markets Departments, 11 June 2010.

<sup>56</sup> See also R. Weber, ‘Multilayered Governance in International Financial Regulation and Supervision’, (2010) 13:3 *Journal of International Economic Law* 683, at 702–3.

<sup>57</sup> See the Turner Review, p. 96.

<sup>58</sup> See European Commission, ‘European Financial Supervision’, COM(2009)252, 27 May 2009.

Conceptually, single supervisors may prevent ‘competition in laxity’.<sup>59</sup> On the other hand, powerful supervisors increase the likelihood of regulatory capture and retard financial innovation.<sup>60</sup> The level of integration again plays a decisive role. For instance, following the de Larosière Report, the EU financial supervision legislative package establishes several supranational bodies,<sup>61</sup> both at the macro-prudential level, through the creation of the European Systemic Risk Board (ESRB), and at the micro-prudential level, through the creation of a European System of Financial Supervisors (ESFS), which will be a network of national supervisors. This system is to collaborate closely with the new European Supervisory Authorities (ESAs), the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA), and the European Securities and Markets Authority (ESMA).<sup>62</sup>

To sum up, regulators internationally have agreed new capital and liquidity standards for banks which aim at increasing the resilience of the financial system. These address the excessive leverage and over-reliance on short-term funding that lay behind the financial crisis. But the shift to a more crisis-proof banking system will take time. This is also made clear from the extended transitional periods that have been agreed on for implementing the new Basel III standards. On 1 January 2019, the new framework should be fully operational, but implementation should come about gradually, starting in 2013. Nevertheless, the danger of financial fragility will remain large if the regulatory focus does not expand to cover, with the same rigour, the institutions of the ‘shadow banking system’ that played a central role in the recent financial upheaval.

## *II. Reforming Prudential Regulation in the EU and the US*

In the EU, the effects of the financial crisis were very harsh, with crisis-related losses incurred by European credit institutions amounting to about €1 trillion or 8% of the EU GDP in the period 2007–2010. Based on the de Larosière Report, significant institutional changes have occurred in the aftermath of the crisis. As mentioned above, substantive powers were transferred to three new ESAs covering banking, insurance,

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<sup>59</sup> See J. Barth; G. Caprio Jr; and R. Levine, *Rethinking Banking Regulation – Till Angels Govern* (Cambridge University Press, 2006), p. 84.

<sup>60</sup> *Ibid*, p. 92.

<sup>61</sup> See the European Commission’s Staff Working Document, SEC(2009) 1233, 23 September 2009.

<sup>62</sup> This structure follows the proposal of the de Larosière Report of transforming the Lamfalussy level 3 Committees into European authorities with increased powers.

occupational pensions and securities. The EBA,<sup>63</sup> the ESMA,<sup>64</sup> and the EIOPA<sup>65</sup> will work together with supervisors from Member States to better address problems and coordinate rapid responses to possible risks. The ESAs are in charge of adopting rules for domestic authorities and financial institutions; to take urgent action (eg to ban financial products); to settle disputes among domestic supervisors; and to ensure the coherent application of EU law. The strengthening of the EU component in this matrix should be regarded as a fact that may allow harmonised rules and their strict and coherent enforcement to be fostered. One of the essential missions of the ESAs is to advise the Commission on the implementation of legislation and on drafting technical standards in those areas that the new or revised Directives envisage.

With respect to the macro-prudential level, the new ESRB monitors and assesses potential threats to financial stability, focusing notably on providing early warning signals of the build-up of system-wide risks.<sup>66</sup> At the same time the ESFS will assemble financial supervisors active at the national level and at the EU level.<sup>67</sup> At the level of the EU, the network consists of the ESRB and the three micro-supervisory ESAs.

In tandem with the work undertaken under the aegis of the BCBS and the aforementioned Basel III framework, the EU Commission is currently revising several important directives such as the Capital Requirements Directive (CRD), the Financial Conglomerate Directive and the Review of the Markets in Financial Instruments Directive (MiFID).<sup>68</sup> In the insurance sector, the Solvency II Directive which enters into force in 2013 also envisages new rules regarding capital.<sup>69</sup>

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<sup>63</sup> Regulation 1093/2010, [2010] OJ L331/12.

<sup>64</sup> Regulation 1095/2010, [2010] OJ L 331/84.

<sup>65</sup> Regulation 1094/2010, [2010] OJ L 331/48.

<sup>66</sup> Regulation 1092/2010, [2010] OJ L 331/1. The ESRB and the European Central Bank are closely intertwined. See Regulation 1096/2010, [2010] OJ L 331/162.

<sup>67</sup> The Omnibus Directive amends sector-specific legislation to ensure the effective operation of the ESFS. See Directive 2010/78/EU, [2010] OJ L 331/120.

<sup>68</sup> Cf. European Commission, 'Regulating financial services for sustainable growth – A progress report', February 2011, pp. 13–14.

<sup>69</sup> See Directive 2009/138/EC, [2009] OJ L 335/1. In fact, the objective of the Directive was to extend the Basel II rules to the insurance sector. Now that the banking framework is to change based on Basel III rules, modifications to the framework regulating the insurance sector should also be expected.

In July 2011, the EU unveiled its CRD IV package.<sup>70</sup> In line with Basel III, the Commission's proposals require banks to hold more and better capital that can be used in periods of distress. The proposal consists of a Directive relating to the access to deposit-taking activities and a Regulation governing the activities of credit institutions and investment firms. Thus, prudential requirements relating to the functioning of banking and financial services markets and which are meant to ensure the financial stability of the operators on those markets and to protect investors and depositors are essentially dealt with in the Regulation, whereas issues relating to authorization and ongoing supervision are tackled in the Directive.<sup>71</sup> It follows that the bulk of the Basel III reforms are dealt with in the proposal for a Regulation. Institutionally, this is an interesting development, as the proposed CRD IV replaces two *Directives*, that is, Directives 2006/48<sup>72</sup> and 2006/49.<sup>73</sup> Regulation as a legislative act is a powerful instrument leading to the consistent application of a set of rules across the EU, which become directly applicable. The proposal thereby aspires to combat the current divergence. It remains to be seen how this development entailing maximum harmonization will be perceived by the political organs in a policy area where minimum harmonization and mutual recognition has been the preferred policy *par excellence*. In addition, the EU aspires to apply the new rules to all banks active in the EU, that is more than 8,000 banks.

The proposal for a Directive puts forward in particular provisions relating to sanctions,<sup>74</sup> effective corporate governance<sup>75</sup> and provisions discouraging over-reliance on external credit ratings.<sup>76</sup> It also regulates the issue of initial capital and the increase of capital buffers consistent with Basel III, as well as issues relating to

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<sup>70</sup> See Proposal for a Directive on the access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms and amending Directive 2002/87/EC on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate, COM(2011) 453 final; and Proposal for a Regulation on prudential requirements for credit institutions and investment firms', COM(2011) 452, 20 July 2011. The two legislative proposals should be read together.

<sup>71</sup> The take up and pursuit of investment firm activities are not covered by the proposed Directive, but continue to be within the scope of Directive 2004/39/EC (MiFID).

<sup>72</sup> [2006] OJ L 177/1.

<sup>73</sup> [2006] OJ L 177/201.

<sup>74</sup> This can entail, for instance, administrative fines of up to 10% of a bank's annual turnover or temporary bans on members of the management body of a given institution.

<sup>75</sup> See also the Commission's Green Paper on corporate governance in financial institutions and remuneration policies, COM (2010) 284 final.

<sup>76</sup> For instance, banks with a significant exposure to a given portfolio are required to develop internal ratings for that portfolio rather than relying on external ratings. More generally, the CRD as a whole attempts to encourage banks to use internal and not external credit ratings, even to calculate regulatory capital requirements.

cooperation of home and host-state supervisors, information exchange and issues of jurisdiction relating to sanctioning. Capital buffers such as the capital conservation buffer (identical for all banks in the EU) and the countercyclical capital buffer (to be determined at the national level) are introduced in the proposal in accordance with the relevant Basel III rules described earlier. Notably for the countercyclical buffer rate, national authorities are required to work closely with and follow recommendations made by the ESRB. To comply with the new capital requirements and the conservation buffer the banks in the EU have to raise new own funds of €84 billion by 2015 and €160 billion by 2019.<sup>77</sup>

The Regulation, in turn, constitutes the essential text setting out the new prudential requirements for banks and investment firms. In accordance with Basel III, the Regulation establishes new requirements relating to capital, liquidity, leverage ratio, and counterparty risk. In addition, it imposes significant disclosure requirements with regard to securitization, notably vis-à-vis the investors, with a view to making public accurate and comprehensive information relating to the risk profile of a given institution.<sup>78</sup> Disclosure requirements are also set out for corporate governance arrangements and remuneration packages. Institutionally speaking, it would be interesting to see how the political organs of the EU, yet to be involved in the process of adopting the Regulation, will react to the provision giving the Commission the power to impose stricter prudential requirements for a limited period, for all exposures or for exposures to one or more sectors, regions or Member States.<sup>79</sup>

With respect to capital, the proposal underlines the negative effects of the lack of a harmonized definition of regulatory capital and the different approaches to the elements of capital that should be excluded from own funds. Combined with the ambiguity of regulatory ratios which did not allow markets to accurately assess the solvency of EU institutions, financial fragility in the EU was inevitable. The proposal for a Regulation essentially harmonizes the adjustments made to accounting equity in order to determine the amount of capital which it is prudent to recognize for regulatory purposes. For instance, banks are required to deduct from their own funds significant

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<sup>77</sup> See COM(2011) 452, above note 70, p. 7.

<sup>78</sup> Recital 54 of the proposal for a Regulation provides that: ‘for the purposes of strengthening market discipline and enhancing financial stability it is necessary to introduce more detailed requirements for disclosure of the form and nature of regulatory capital and prudential adjustments made in order to ensure that investors and depositors are sufficiently well informed about the solvency of credit institutions and investment firms’.

<sup>79</sup> See Art. 443 of the Proposal for a Regulation.

investment in unconsolidated insurance companies, thereby ensuring that financial conglomerates do not count in their own funds the capital used by an insurance subsidiary. The new adjustments would be gradually introduced to meet the target date of the Basel III framework, that is, by 2018.

With regard to liquidity, the proposal adopts the LCR (to be introduced after an observation and review period in 2015) and NSFR (to be introduced after an observation and review period in 2018). Another issue that may prove to be contentious when the proposal is discussed within the EU political organs is the provision of the proposal giving the power to the Commission to further spell out the liquidity coverage requirement consistent with the results of the observation period and international developments. For institutions active in more than one EU Member State, each national competent authority shall have the last say as to the adequacy of the group's liquidity management and the adequacy of the liquidity of the individual credit institutions or investment firms. In such cases, all national competent authorities have to agree that the group's liquidity level is sufficient.

Furthermore, the proposal strengthens the requirements for management and capitalization of the counterparty credit risk. An additional capital charge will be imposed to cover possible losses associated with deterioration in the creditworthiness of the counterparty. The proposal also increases the incentive for the big banks to clear OTC instruments through CCP.<sup>80</sup> In addition, the proposal introduces a non-risk based leverage ratio, consistent with the Basel III rules, with a view to applying it in a binding manner in 2018.

Along with CRD IV, financial reform of a prudential nature in the EU covers other controversial areas. For instance, the Commission's proposal for a Regulation on OTC derivatives, CCP and trade repositories is in the process of being adopted.<sup>81</sup> This proposal introduces a reporting obligation for OTC trading;<sup>82</sup> a clearing obligation for certain categories of OTC derivatives, measures to reduce counterparty credit and

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<sup>80</sup> Scott argues that attributing low risk-weight to centrally cleared derivatives may not be appropriate, as clearinghouses also face risks. See Scott, above note 44, at 769.

<sup>81</sup> European Commission, 'Proposal for a Regulation of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories', COM(2010) 484 final, 15 September 2010.

<sup>82</sup> OTC derivatives are derivatives which are traded and negotiated bilaterally, ie without going through an exchange or other intermediary. The OTC derivative market is the largest derivative market in terms of volume (almost 90% of derivatives are traded OTC, growing from US\$ 91 trillion in 1998 to US\$ 615 trillion at the end of 2009) and was not subject to any disclosure requirements regarding prices, trading parties, time or underlying assets until the onslaught of the recent financial crisis.

operational risk for bilaterally cleared OTC derivatives; common rules for CCP and trade repositories; and rules on the establishment of interoperability between CCPs.

More specifically, detailed information on OTC derivative trades entered into by both EU financial firms (such as banks, insurance companies, and funds) and non-financial firms (eg energy companies, airlines, and manufacturers) with significant positions in the OTC derivatives market is to be reported<sup>83</sup> to trade repositories and made accessible to supervisory authorities. In addition, trade repositories have to publish aggregate positions by class of derivatives, which shall be accessible to all market participants. In view of the systemic importance of CCP, the proposal provides that CCP have to comply with stringent capital requirements, organizational and conduct of business standards (for instance, disclosure of prices). CCP clearing for contracts that have been standardized becomes mandatory, while risk mitigation standards such as exchange of collateral are foreseen for contracts not cleared by a CCP. To reduce operational risk, the use of electronic means for the timely confirmation of the terms of OTC derivatives contracts is warranted to allow counterparties to net the confirmed transaction against other transactions and ensure the accuracy of book keeping.<sup>84</sup> Within this framework, the ESMA plays a crucial role, especially regarding the identification of contracts subject to the clearing obligation and the surveillance of trade repositories. The EU Commission is also in the process of revising several Directives that will affect OTC derivatives such as the Market in Financial Instruments Directive (to ensure trading of standardized contracts at organized trading venues, enhancing trade and pricing transparency across venue and OTC markets) and the Market Abuse Directive (extending its scope to OTC derivatives).<sup>85</sup> By way of comparison, work relating to derivatives within the BCBS has yet to start.

The US implemented the Basel II framework domestically for the largest US banks (approximately 20) and their holding companies in 2011, but has also pledged to implement the Basel III framework once it is finalized.<sup>86</sup> The adoption of the Dodd–

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<sup>83</sup> An exception is foreseen for contracts between two non-financial firms where neither firm exceeds a certain information threshold. Nor should these contracts be cleared unless they exceed a certain clearing threshold. Such thresholds are to be established by the ESMA and the ESRB.

<sup>84</sup> This legislative initiative is complemented with a proposal for a Regulation on short selling and credit default swaps (CDS). See European Commission, ‘Proposal for a Regulation of the European Parliament and of the Council on Short Selling and Certain Aspects of Credit Default Swaps’, COM(2010) 482 final, 15 September 2010.

<sup>85</sup> Cf. European Commission Communication, ‘Ensuring efficient, safe and sound derivatives markets: Future policy options’, COM(2009)563 final, 20 October 2009.

<sup>86</sup> Cf. Statement by Daniel K Tarullo, Member of the Board of Governors of the Federal Reserve

Frank Act brought striking changes to the US financial system. This legislation affects several stakeholders and instruments in the financial system, such as commercial banks, investment banks, thrift institutions, hedge and private funds, OTC derivatives, and credit rating agencies. In addition, the Collins Amendment puts forward changes reflecting several Basel III rules. Importantly, the Collins Amendment also requires that the relevant federal supervisors develop minimum leverage and risk-based capital requirements for all insured depository institutions, depository institution holding companies and systemically important non-bank institutions. Institutionally, the Financial Stability Oversight Council (FSOC) is in charge of risk identification and management and shall ensure effective interagency cooperation.<sup>87</sup> Supervision is divided between the Federal Deposit Insurance Corporation (FDIC), the Office of the Comptroller of the Currency (OCC) and the Federal Reserve (Fed). The first two authorities shall regulate state banks of all sizes (FDIC) and national banks (OCC) with assets below US\$ 50 billion, whereas the Fed will regulate banks and thrift holding companies with assets of over US\$ 50 billion.

One possible clash between the Dodd–Frank Act and the Basel III rules relates to the use of credit ratings for regulatory purposes. While the Dodd–Frank Act reduces reliance on external credit ratings for federal agency regulation purposes, Basel III still uses external credit ratings for the determination of capital charges for certain assets and for deciding whether assets can be counted towards the LCR. Additionally, the Dodd–Frank Act does not require the smallest banks to phase out trust-preferred securities, whereas the Basel III rules do not provide for a similar exception. Furthermore, it will be interesting to see to what extent the framework relating to the capital requirements for systemically important financial institutions (SIFIs) yet to be adopted under the aegis of the BCBS will diverge from the one prepared in the US. Section 165 of the Dodd–Frank Act requires the Fed to impose stricter prudential standards, including capital requirements, on bank holding companies with consolidated assets of over US\$ 50 billion that pose risks for financial stability in the US.

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System before the Committee on Financial Services at the US House of Representatives, 16 June 2011, p. 7, available at: <http://www.federalreserve.gov/newsevents/testimony/tarullo20110616a.pdf> (visited 20 July 2011).

<sup>87</sup> The FSOC can, by a two-thirds majority vote, (a) require that a non-bank financial service provider be regulated by the Federal Reserve (Fed) provided that its failure would put financial stability at risk; and (b) approve a Fed decision to require that a large complex firm divests itself of some of its holdings if it poses a grave threat to the financial stability of the US.



The Dodd–Frank Act also covers regulatory reform for OTC derivatives. The authorities in charge are the SEC and the Commodity Futures Trading Commission (CFTC). The former shall exercise oversight over security-based swaps, while the latter is to supervise swaps in general. Clearing houses or swap repositories shall publish the collected data with a view to enhancing transparency and providing regulators with the tools for monitoring and responding to risks. According to the Act, for those swaps that are not cleared through a regulated clearing house under the Commodity Exchange Act as a Derivatives Clearing Organization, the Dodd–Frank Act requires that rules be adopted to establish initial margin, variation margin and capital requirements for swap dealers, security-based swap dealers, major swap participants and major security-based swap participants. The CFTC, the Fed and other US prudential regulators proposed such rules in April 2011.<sup>88</sup>

#### **D. Financial Innovation, Prudential Regulation and the GATS Prudential Carve-out**

The GATS is the first multilateral, legally enforceable agreement dealing with trade and investment in services and *a fortiori* financial services. The GATS brings the largest service sector under the multilateral trade umbrella. In view of the interest that the US financial industry had in the creation of global rules for regulating financial services trade,<sup>89</sup> it comes as no surprise that, after intensive bargaining during and after the Uruguay Round, the WTO Members agreed on the adoption of the Financial Services Annex and the Fifth Protocol, which resulted in the full integration of financial services into the GATS.<sup>90</sup>

The substantially improved Schedules of Commitments agreed upon in December 1997 were incorporated into the GATS through the Fifth Protocol, which entered into force in March 1999. For WTO Members that participated in the 1997 negotiations, but accepted the Fifth Protocol after March 1999, commitments entered into force upon acceptance.<sup>91</sup> By the conclusion of the negotiations, more than 100 WTO

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<sup>88</sup> See <http://dodd-frank.com/cftc-and-bank-regulators-propose-capital-margin-rules-for-swap-dealers-and-major-swap-participants/> (visited 20 July 2011).

<sup>89</sup> Also J. Bhagwati, 'Splintering and Disembodiment of Services and Developing Nations' (1984) 7(2) *The World Economy* 133, at 140.

<sup>90</sup> WTO, 'Fifth Protocol to the General Agreement on Trade in Services', S/L/45, 1997. Also P. Sorsa, 'The GATS Agreement on Financial Services – A Modest Start to Multilateral Liberalisation', IMF Working Paper, WP/97/55, 1997.

<sup>91</sup> Note, however, that commitments may not yet have been implemented in the absence of formal

Members had undertaken binding commitments in the financial sector. All developed countries undertook commitments in all sub-sectors of financial services, whereas developing economies opted to schedule commitments relating to insurance and banking services rather than to capital market-related services. Several, mainly OECD, countries, undertook commitments based on the Understanding on Commitments in Financial Services. This is another illustration of the GATS' variable geometry.

This means that, according to their method of scheduling commitments in the financial sector, WTO Members can be divided into two groups: first, those countries that made specific commitments consistent with Part III of the GATS; and, second, the countries that voluntarily scheduled bolder liberalization obligations in accordance with the Understanding. However, based on the most-favoured nation (MFN) principle, those countries that did not use the scheduling method of the Understanding would still benefit from the greater financial services liberalization that the limited number of Members adopting the Understanding agreed on.

As one can infer from the analysis above, prudential requirements are for the most part origin-neutral. Similar to domestic regulation measures under Article VI of the GATS, the prudential measures are not regarded as limitations on market access or national treatment. Therefore, they are typically not inscribed in the Members' Schedules.<sup>92</sup> Nevertheless, prudential regulations may create barriers to trade in financial services in two cases: one is when regulatory authorities impose prudential requirements upon foreign financial service suppliers which are *additional* to those imposed upon domestic suppliers; and the other is when regulatory authorities impose prudential requirements upon financial service suppliers which are *different* from those imposed by another jurisdiction in which the same suppliers are active. Taking into account the previous discussion on the Basel III rules, it follows that the further we move towards convergence of prudential standards based on the guidelines of the BCBS, the less

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ratification of the Protocol according to the domestic legal order. This is, for instance, the case of Brazil.  
<sup>92</sup> See A. Mattoo, 'Financial services and the WTO: Liberalisation in the Developing and Transition Economies', WTO Staff Working Paper, 16 March 1998, p. 6. In this context, some Members inscribed prudential measures and other regulatory interventions in their Schedules. This caused a certain ambiguity in the distinction between those measures that restrict market access and/or national treatment, and therefore should be in the Schedules, and those that pursue public policy objectives of a non-protectionist nature and consequently should be excluded. These problems were to be expected mainly due to the lack of a definition in the GATS or the Annex of what a prudential measure actually is. During the ongoing GATS negotiations, some Members seem to have identified the problems that the lack of a definition has caused. cf WTO, Committee on Trade in Financial Services, 'Report of the meeting held on 13 April 2000', S/FIN/M/25, 8 May 2000, para. 20; WTO, Committee on Trade in Financial Services, 'Report of the meeting held on 13 July 2000', S/FIN/M/27, 23 August 2000, paras 24-44.

likely any dispute over the WTO consistency of a given prudential measure will become. However, a third source of dispute can still be identified – when countries decide to impose the same prudential requirements on institutions that may not pose similar risks to financial stability.<sup>93</sup>

In light of the peculiar nature of prudential regulations, the GATS recognizes in principle the right of Members to adopt these non-discriminatory measures to protect, inter alia, financial stability. In this respect, paragraph 2(a) of the Financial Services Annex provides:<sup>94</sup>

Notwithstanding any other provision of the Agreement [i.e. the GATS], a Member shall not be prevented from taking measures for prudential reasons, including for the protection of investors, depositors, policy holders or persons to whom a fiduciary duty is owed by a financial service supplier, or to ensure the integrity and stability of the financial system. Where such measures do not conform with the provisions of the Agreement, they shall not be used as a means of avoiding the Member's commitments or obligations under the Agreement.

Despite the illustrative nature of the list of objectives, it becomes clear that the permissible scope of prudential reasons that can be invoked is fairly wide.<sup>95</sup> The GATS seems to allow for broad discretion on the part of the authorities to adopt measures to protect the safety and soundness of the financial system, the integrity of financial markets, and the financial interests of investors and consumers, provided that they are applied even-handedly. Nevertheless, the second sentence of paragraph 2(a) clarifies that this provision may not be used as an escape route to circumvent GATS obligations or nullify commitments undertaken in the Schedule of a given Member, where the impugned measures do not conform with the GATS provisions. This language differs from that used in Article XIV GATS on General Exceptions in that it does not require that the measures be *necessary* to achieve the stated objectives. It would, therefore, seem that Members have considerable freedom in their choice of prudential measures.<sup>96</sup>

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<sup>93</sup> See, for instance, P. Delimatsis, 'Promoting Renewable Energy through Adaptive Prudential Regulation in Financial Services' in Delimatsis and Herger (eds), above note 11, p. 333.

<sup>94</sup> See Marchetti, above note 23.

<sup>95</sup> E. Leroux, 'Trade in Financial Services Under the World Trade Organization' 36(3) *Journal of World Trade* (2002) 413, at 430.

<sup>96</sup> cf A. von Bogdandy and J. Windsor, 'Annex on Financial Services' in R. Wolfrum; P.-T. Stoll; and C. Feinäugle (eds), *Max-Planck Commentaries on World Trade Law, Volume 6: Trade in Services*

Disagreements over the prudential nature of a given measure and its coverage by the prudential carve-out are to be solved in accordance with WTO dispute settlement procedures.<sup>97</sup> The fact that – unlike other public policy exceptions such as national security – all prudential measures are considered necessary, does not resolve the issue of whether a measure is prudential or is being used to avoid the obligations of the Agreement.<sup>98</sup> If the latter is established, then a prudential measure could still be outlawed. Crucially, however, the structure and wording of paragraph 2 seem to call for judicial restraint.

Creating a regulatory framework that does not interfere with – and ideally encourages – financial innovation has been one of the recurring concerns of the financial industry, particularly in the US. In this respect, one of the interesting features of the Understanding is the provision relating to the use of new financial services. WTO Members that adopted the Understanding must allow financial service suppliers of any other Member established in their territory to offer in their territory any new financial service.<sup>99</sup> Paragraph D.3 of the Understanding further specifies that ‘a new financial service is a service of a financial nature, including services related to existing and new products or the manner in which a product is delivered, that is not supplied by any financial service supplier in the territory of a particular Member *but which is supplied in the territory of another Member*’.

This provision has three interesting elements: first, it only functions to the benefit of established financial service suppliers in the host-country market. Second, it may relate to the introduction of a given new financial product such as stock-market index funds, futures and forwards, swaps or securitization, but it can also relate to a process such as new means of processing and pricing transactions. Third, the introduction of the product or the process to the home market (obviously, upon approval by the home-country supervisor) becomes a precondition for the acceptance of the product in the host-country market, thereby creating a type of equivalence standard, at least with respect to the scrutiny by the home-country authority of the risks associated with that product. In fact, there is no requirement for the introduction of the new financial service in the home market, but rather it appears that the introduction of the new

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(Brill, 2008), p. 618, at 635.

<sup>97</sup> S. Key, *The Doha Round and Financial Services Negotiations*, The AEI Press, 2003, p. 12.

<sup>98</sup> P. Sorsa, ‘The GATS agreement on financial services – A modest start to multilateral liberalisation’, IMF Working Paper, WP/97/55, May 1997, p. 11.

<sup>99</sup> See paragraph B.7 of the Understanding.

service in the market of any WTO Member would suffice. If this is true, then the equivalence standard appears to be relevant for all WTO Members. This is a fairly liberal approach, which seems to be contravened by current developments even within the BCBS whereby the home-country regulator regains several powers with regard to foreign financial products and institutions. Nevertheless, just as with any other obligation in the Understanding, the obligation relating to the acceptance of new financial services is subject to the GATS prudential carve-out.

## **E. Conclusion**

Financial innovation has altered the risk profile of financial institutions and substantially contributed to the increase of interconnectedness among financial as well as among non-financial institutions. In the aftermath of the crisis, prudential regulations are being revised and being made more stringent with a view to increasing resilience in the financial sector. The design of the regulatory framework for financial services is important due to the speculative nature and complexity of the financial system which, in turn, accentuates the significance of trust-building and the protection of reputation in this sector.<sup>100</sup> Striking the appropriate balance between the two ostensibly conflicting objectives of avoiding overregulation and ensuring the robustness of institutions, the continuity of markets, the lust for innovation and the competitiveness of the financial system is again in the limelight. This exercise seems never to have been more daunting than it is now.

Higher capital requirements will certainly affect the capacity of financial institutions to finance the real economy. However, small banks, which usually have a large clientele base in SMEs, already maintain a strong capital base both in terms of quantity and quality. Large banks, which are by definition systemically more important than small banks, seem to have applied stringent capital requirements more loosely. A study conducted by Barclays Capital of November 2010 found that the 35 largest US banks fail to meet the common equity requirements of Basel III by between US\$ 100 billion and US\$ 150 billion. According to the Barclays study, 90% of this

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<sup>100</sup> See The Group of Thirty, *Financial Reform: A Framework for Financial Stability* (the Volcker Report), 15 January 2009, p. 13. Cf. C-384/93, *Alpine Investments* [1995] ECR I-1141, para. 42. In that case, the ECJ confirmed that the protection of the good reputation of the national financial sector constitutes an imperative reason in the public interest which can justify a restriction of the freedom to provide services.

gap is concentrated in the six largest banks.<sup>101</sup> Worldwide, 91 of the world's biggest banks have a capital shortfall of €577 billion.<sup>102</sup> This means that assumptions that higher capital requirements will force small banks out of the market should not be expressed so lightly. In view of these considerations and taking into account that small firms are actually responsible for the most financial innovation,<sup>103</sup> higher capital requirements alone may not have detrimental effects on financial innovation. Rather, higher capital requirements will serve their role, that is, essentially allowing harnessing large institutions that have benefited from moral hazard to the detriment of smaller financial institutions and the economy at large to be harnessed.

The new liquidity requirements may prove more difficult for medium sized and smaller banks to cope with than for larger banks, and this may cause the smaller banks to exit lines of business that tie up liquid assets.<sup>104</sup> Nevertheless, this should not be taken to mean that larger banks are better-positioned. According to BCBS, the world's biggest banks have a combined gap of over €1,730 billion in liquid investment that they must fill within four years.

In this respect, a recurring theme in financial regulation is how to identify the optimal level of capital requirements. In the past, capital requirements have proven to be too low, at least for some institutions active in the shadow banking system. The danger now is that capital requirements are set at a level that is unduly high. More generally, it appears that setting the optimum level of capital adequacy ex ante is a daunting task. Be this as it may, and in view of the past and new developments, it is important to adopt a dynamic approach with respect to capital requirements, with supervisory institutions and regulators which can at any moment check the appropriateness of capital requirements and if necessary adjust these requirements to reflect changes in the financial environment.

This is also associated with the demand for a functional, open-minded approach to prudential regulation, targeting mainly the institutions, be they financial or non-financial, which may undermine financial stability. A functional approach to financial supervision would require that supervisors focus on the type of business undertaken and pay no particular attention to the institutional structure. The Dutch central bank,

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<sup>101</sup> See Reuters, 'Top banks face \$100 billion Basel shortfall: report', 22 November 2010, available at: <http://www.reuters.com/article/2010/11/22/us-banks-basel-idUSTRE6AL0A220101122>

<sup>102</sup> BCBS, 'Results of the comprehensive quantitative impact study', December 2010.

<sup>103</sup> See Delimatsis, above note 7.

<sup>104</sup> See Financial Times, 'Liquidity Rules to Squeeze Smaller Banks', 30 December 2010.

for instance, is in charge of prudential supervision in the pursuit of financial stability, whereas the Authority for Financial Markets is tasked with the conduct of business supervision. Both authorities cover the full range of financial markets (banking, securities, insurance and pensions).<sup>105</sup> Nonetheless, one should not lose sight of the fact that integrated supervision may discourage innovation. Multiple regulators may lead to financial instruments being approved more easily, whereas an integrated regulator would require that an innovative instrument is approved by successive screens.<sup>106</sup> A more nuanced approach is needed which would not make the approval of innovative financial products unduly burdensome. For this, new, more sophisticated methods for measuring risk appear to be required.

Finally, it is worth noting that financial innovation has remained somewhat neglected in the recent attempts at regulatory reform mainly because financial innovation, in the past decade at least, has served regulatory arbitrage and tax evasion. Ethical values should also have a role to play in the new landscape. This not only concerns financial innovation, but it touches upon the mechanics of financial markets. The crisis was not the result of non-compliance with certain rules but rather the result of taking advantages of gaps, ambiguities or inefficiencies and omissions in the regulatory framework applied at the time. Thus, the crisis occurred ‘not because of non-compliance, but in spite of compliance’.<sup>107</sup> Observations of this type should guide regulatory intervention in the future.

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<sup>105</sup> See C. Goodhart and R. Lastra, ‘Border Problems’, (2010) 13:3 *Journal of International Economic Law* 705, at 708.

<sup>106</sup> L. Garicano and R. Lastra, ‘Towards a New Architecture for Financial Stability: Seven Principles’, (2010) 13:3 *Journal of International Economic Law* 597, at 607.

<sup>107</sup> W. Blair, ‘Standards and the Rule of Law After the Global Financial Crisis’ in Giovanoli and Devos (eds), above note 49, p. 96, at 98.