

# Rethinking the Law and Economics of Post-Crisis Micro-prudential Regulation- The Need to Invert the Relationship of Law to Economics?

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## Introduction

In the decade after the global financial crisis 2007-9, financial regulation reforms have been extensive, led at the international level by the Basel Committee of the Bank for International Settlements<sup>1</sup> and the Financial Stability Board.<sup>2</sup> The European Union has implemented most if not all of the international standards,<sup>3</sup> in addition to overhauling regulatory architecture such as introducing the direct micro-prudential supervision of key euro-area banks by the European Central Bank (Banking Union)<sup>4</sup> and instituting pan-European architecture to ensure implementation of regulatory reforms to a robust and faithful standard (the European System of Financial Supervision, notably the role of the European Banking Authority).<sup>5</sup>

Where banks are concerned, being the perpetrators of the last crisis has put them in the spotlight and few would opine that the regulatory framework has made little impact.<sup>6</sup> Banks have experienced not only a marked rise in the capital requirements imposed upon them, but also the controlling forces of other micro-prudential regulatory rules on leverage and liquidity.<sup>7</sup> They are also experiencing much more intense supervisory scrutiny through significantly increased obligations in transparency<sup>8</sup> and stress-testing.<sup>9</sup> These micro-

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<sup>1</sup> <https://www.bis.org/bcbs/>, discussion of the measures recommended by the Committee will be discussed in the text of the article.

<sup>2</sup> <http://www.fsb.org/>, discussion of the measures recommended by the Board will be discussed in the text of the article.

<sup>3</sup> The Basel Committee measures are implemented in the Capital Requirements Regulation 575/2013 and Capital Requirements Directive 2013/36/EU and their Commission delegated legislation. The Financial Stability Board's recommendations on remuneration of bankers have been implemented in the Capital Requirements Directive 2013/36/EU and Commission delegated legislation, while recommendations in relation to overhauling capital requirements for systemically important financial institutions (TLAC, which will be discussed in Section B) and recommendations dealing with resolution of financial institutions in crisis are implemented in the Bank Recovery and Resolution Directive 2014/59/EU.

<sup>4</sup> Single Supervisory Mechanism Regulation 1024/2013.

<sup>5</sup> European Banking Authority Regulation 1093/2010, amended in 2013.

<sup>6</sup> Regulatory reforms have been extensive and intensive, see for eg Mads Andenas and Iris H-Y Chiu, *The Foundations and Future of Financial Regulation* (Oxford: Routledge 2014) generally, see also general scepticism of the regulatory surge in Armin J Kammel, 'Governments versus Markets- A Change in Financial Regulation' in Friedl Weiss and Armin Kammel (eds), *The Changing Landscape of Global Financial Governance and the Role of Soft Law* (Nijhoff: Brill, 2015) at chapter 1.

<sup>7</sup> These will be discussed in Sections A and B.

<sup>8</sup> On a stock-take of increased transparency obligations for banks and financial institutions after the crisis see Iris H-Y Chiu, 'Transparency Regulation in Financial Markets- Moving into the Surveillance Age?' (2011) 3 *European Journal of Risk and Regulation* 303.

<sup>9</sup> Stress-testing refers to banks' obligations to put their business models, capital and liquidity positions through simulated stressful scenarios of business unviability that are stressful but plausible. Banks need to ascertain how they would manage or survive those scenarios and report the results to regulators. See Art 177, Capital Requirements Regulation above, Basel Committee, *Principles for Sound Stress-testing Practices and Supervision* (May 2009) at <http://www.bis.org/publ/bcbs155.pdf>.

prudential regulatory reforms are targeted at changing banks' strategic behaviours so that their essential financial risk-taking can be calibrated at a level that is appropriate for the bank but also for the wider financial system and economy that the bank is nested in.<sup>10</sup>

This article focuses on the development of micro-prudential regulation since the time of the crisis, although it is acknowledged that many other regulatory tools have developed to deal with the problems that surfaced.<sup>11</sup> Micro-prudential regulation remains a key feature in 'preventing failure' and it is important to question how far the reforms have moved closer to the objective. The essence of micro-prudential regulation is that it is aimed at preventing financial institution failure by introducing behavioural levers through the setting of regulatory price for different types of financial risk-taking. Pre-crisis it may be argued that the regulatory price was set too low and unrealistic, and after 2006, regulatory pricing became manipulable and of little significance in shaping risk-taking behaviour. Post-crisis, the reforms have reset regulatory prices to much higher levels and closed off gaps for manipulating and undermining such regulatory prices. The underlying methodology remains the same and continues to rely on a fundamentally micro-economic framework for shaping behaviour.

Micro-prudential regulation is quintessentially law and economics at work in regulatory design, as regulation gives expression to micro-economic tools in shaping the regulated entity's behaviour. The weaknesses of 'law and economics' in pre-crisis micro-prudential regulation have been criticised,<sup>12</sup> and post-crisis, the reforms are arguably founded upon 'new and improved' law and economics which takes into account flawed assumptions of earlier micro-economic models and incorporates insights from macro-economics.<sup>13</sup> It seems that the economic foundations for the law and economics of micro-prudential regulation have been made more comprehensive and robust. However, commentators continue to point out the shortcomings of the 'law and economics' foundations,<sup>14</sup> and are also concerned about the increasing complex prescriptions in micro-prudential regulation.<sup>15</sup> In

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<sup>10</sup> Micro-prudential regulation is chiefly targeted at preventing the individual institution from failing. However, there is now also accepted a wider dimension of preventing risk to the financial system that can occasion from the failure of individual institutions, see systemic risk discussed in Tom CW Lin, 'Too Big to Fail, Too Blind to See' (2010) 80 *Mississippi Law Journal* 355.

<sup>11</sup> Such as liquidity ratios and leverage ratio which will be discussed in Section B.

<sup>12</sup> Eg see Steven L Schwarcz, 'Banking and Financial Regulation' in Francesco Parisi (ed), *The Oxford Handbook of Law and Economics: Volume 2* (Oxford: OUP 2017); Simon Deakin, 'The Evolution of Theory and Method in Law and Finance' in Niamh Moloney, Eilís Ferran, and Jennifer Payne (eds), *The Oxford Handbook on Financial Regulation* (Oxford: OUP 2015); David M Driesen, 'Legal Theory Lessons from the Financial Crisis' (2014) 40 *Journal of Corporation Law* 55.

<sup>13</sup> Will be discussed in Section B, see for eg Yair Listokin, 'Law and Macroeconomics: The Law and Economics of Recessions' (2016) at <http://ssrn.com/abstract=2828352>; Richard A Posner, 'On the Receipt of the Ronald H. Coase Medal: Uncertainty, the Economic Crisis, and the Future of Law and Economics' (2010) 12 *American Law and Economics Review* 265.

<sup>14</sup> Will be discussed in Section C, see for eg Tamara Lothian, 'The Past and Future of Financial Reform: From Regulation to Reorganization' in *Law and the Wealth of Nations* (NY: Columbia University Press 2017); Timothy Canova, 'Financial Market Failure as a Crisis in the Rule of Law: From Market Fundamentalism to a New Keynesian Regulatory Model' (2009) 3 *Harvard Law and Policy Review* 369; Steven A Ramirez, *Lawless Capitalism: The Subprime Crisis and the Case for an Economic Rule of Law* (NY: NYU Press 2013).

<sup>15</sup> Armin J Kammel, 'Governments versus Markets- A Change in Financial Regulation' in Friedl Weiss and Armin Kammel (eds), *The Changing Landscape of Global Financial Governance and the Role of Soft Law* (Nijhoff: Brill, 2015) at chapter 1.

other words, ‘new and improved’ law and economics has supported a new regime for micro-prudential regulation that is increasingly unwieldy, complex and burdensome without clearly connecting to the wider benefits in public interest that were articulated as necessary in the wake of the crisis- such as the need for finance to serve socially useful needs and in a long-termist and inter-generational manner, and for financial markets and economies to be sufficiently stable, competitive and not to be highly susceptible to boom and bust.<sup>16</sup>

The regulatory adoption of a methodology to govern behaviour formation in financial institutions is necessary as financial institutions do suffer from perverse incentives in managing ‘other people’s money’<sup>17</sup> and from behavioural heuristics in the face of market pressures.<sup>18</sup> The regulatory price for risk-taking is however largely set in micro-economic and quantitative terms, in the vein of the law and economics tradition. We argue that such an approach does not address certain shortfalls which are better addressed by qualitative regulatory methodologies, such as regulatory standards of conduct and duties that have both *ex ante* and *ex post* effects on behaviour formation. The rebalancing of law’s role can introduce qualitative duties and obligations that re-embed regulatory objectives of public interest in the formation financial institution behaviour, as quantitative methods tend to compel focus on ‘numbers as boundaries’, dis-embedding the behaviour formation process from the wider context of regulatory objectives and public interest. Hence, a rebalancing of the ‘law’s’ role in law and economics has the potential to assist in constructing a more enduring regulatory design with both quantitative and qualitative aspects.

The article proceeds as follows. Section A provides an outline of the nature of micro-prudential regulation in the pre-crisis context, in terms of how it reflects a certain tradition in law and economics and what blind spots were uncovered in the wake of the crisis. Section B discusses key features of post-crisis micro-prudential reforms including new capital buffers, loss-absorbing capital for systemically important financial institutions, liquidity, leverage and stress-testing reforms as well as the introduction of macro-prudential supervision, in order to demonstrate how the regulatory foundations in law and economics have developed into a ‘new and improved’ version. Section C critically questions if ‘new and improved’ law and economics is better placed to calibrate behaviour in financial institutions towards the regulatory objectives that were not met during the crisis, and what deficits remain. It argues that these deficits are arguably due to the continued reliance upon the quantitative nature of the ‘new and improved’ law and economics methodology and that these deficits may be better addressed by adding to the predominantly economic methodology, a rebalancing of law’s role and its qualitative contribution. Section D explores the broad contours of what law’s qualitative contribution would be. It is noted that the UK is already heading towards a qualitative dimension for controlling behaviour by introducing individual liability for financial institution personnel based on broadly worded principles.

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<sup>16</sup> See references in n14.

<sup>17</sup> See the essential agency problem in financial intermediation discussed in John Kay, *Other People’s Money: The Real Business of Finance* (Profile Books, 2015).

<sup>18</sup> Behavioural finance has been extensively written upon, see classic works Thomas Gilovich, Dale Griffin and Daniel Kahneman (eds), *Heuristics and Biases: The Psychology of Intuitive Judgment* (Cambridge: Cambridge University Press 2002); Daniel Kahneman and Amos Tversky (eds), *Choices, Values and Frames* (Cambridge: Cambridge University Press 2003); D Langevoort, “Taming the Animal Spirits of the Stock Markets: A Behavioral Approach to Securities Regulation” (2002) 97 *Northwestern University Law Review* 135; Emilios Avgouleas, ‘The Global Financial Crisis, Behavioural Finance and Financial Regulation: In Search of a New Orthodoxy’ (2009) 9 *Journal of Corporate Law Studies* 23.

These however support the quantitative nature of compliance in the post-crisis micro-prudential reforms reflecting the ‘new and improved’ law and economics foundations. In that approach, law remains subservient and does not offer a rebalancing role that can much better frame the economic implementation in micro-prudential regulation. We suggest new and qualitative regulatory duties that rebalances the useful role of law in behaviour formation at financial institutions. Law needs to become an equal partner to economics in this challenging but socially important area of financial regulation.

### **A. The Development of Micro-prudential Regulation**

In this Section we set out the trilogy of the stages of development in micro-prudential regulation, how its law and economics foundations were laid, how this methodology became predominant, and post-crisis, how this methodology has been changed and adapted. The embrace of law and economics in micro-prudential regulatory policy has arguably progressed through a cycle of dipping into ‘shades of grey’ to immersing in ‘shades darker’, finally emerging as ‘shades freed’ (nevertheless, one could still be in doubt as to the new level of credibility achieved).

#### ***The First Capital Adequacy Standards and their Law and Economics Foundations***

Micro-prudential regulation developed first as a set of international standards in capital adequacy in the 1980s, and has morphed from a minimalist regulatory tool in law and economics to a maximal regime today.

The Basel Committee of the Bank for International Settlements developed its first set of capital adequacy standards in the Basel I Capital Accord of 1988.<sup>19</sup> The Committee whose membership comprises central bankers in leading financial jurisdictions, recommended the Accord as a set of universally applicable standards for international banks in order to create a level playing field in international banking where disparate practices of risk management were observed. There was concern that the capital ratios of many international banks were deteriorating at a time of growing international risk, reflecting a ‘race to the bottom’ in global banking competition.<sup>20</sup> As such, the move towards global harmonisation of capital adequacy standards sought to mitigate that trend. As Basel I was intended to set only the minimum requirements, countries would be free to impose higher standards, and demonstrate a ‘race to the top’. Moreover even if countries stuck to the minimum Basel I standards, a landscape of fragmented and low regulatory standards would have been prevented.

Basel I introduced a regulatory methodology of linking banks’ lending risks to their levels of capital. In economic terms, the regulatory price for risk-taking by banks in lending activities would be the levels of capital they are required to hold against such risks. Linking capital requirements to the risks associated with bank lending acts as a form of control upon banks’ taking on of excessive risks in creating credit. In this way, shareholders (ie. the providers of

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<sup>19</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards* (July 1988) at <http://www.bis.org/publ/bcbs04a.pdf>.

<sup>20</sup> Basel Committee on Banking Supervision *A Brief History of the Basel Committee* (Oct 2014) at <http://www.bis.org/bcbs/history.pdf>.

capital) are enrolled into the monitoring process for bank risk-taking. Basel I prescribes a scale of measuring the riskiness of different types of bank loans (or assets) in percentage terms of capital required, therefore introducing a standardised, easy-to-use regulatory pricing system for bank risk-taking. Based on this system, banks are required to hold 8% of capital against risk-weighted assets. The fundamental ideology is micro-economic in nature, that rational decision-making is based on price. However regulatory pricing is not a reflection of a scientific method for guaranteeing the prudence or safety of banks. First, regulatory pricing was determined based on broad impressions of creditworthiness of different types of assets, and the pricing system has attracted criticism for being rather ill-refined and over-inclusive.<sup>21</sup> Second, the settling for 8% as a minimum capital-asset ratio was arrived at by negotiation and bargaining at the Committee, not based on empirical or scientific research on what levels of capital actually support bank resilience and safety.<sup>22</sup>

The Accord reflects an economic analysis of bank risk-taking behaviour that is then translated into regulatory policy. Hence the development of capital adequacy regulation is rooted in a 'law and economics'<sup>23</sup> approach of treating law as functionally implementing an economic tool that calibrates incentives through price.<sup>24</sup> The economic method in predicting and calibrating behaviour has become predominant as it provides an objective, sometimes pseudo-scientific approach to justifying and designing regulatory policy, and its quantitative orientation mitigates the uncertainties and debates that may entail with more qualitative orientations. Further, as Lagenbucher points out, the economic language of policy-making effectively facilitates international harmonisation of regulatory standards.<sup>25</sup> The law and economics approach in the Accord quickly found favour with EU policy-makers<sup>26</sup> as they embarked on legal harmonisation<sup>27</sup> to remove barriers to entry within in the intra-EU banking and capital markets, in order to construct the Single Market in the European Economic Area.

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<sup>21</sup> Indeed, the Committee itself recognises that there are 'inevitably some broad-brush judgments in deciding which weight should apply to different types of assets.' See n19.

<sup>22</sup> Eric A Posner, 'How Do Bank Regulators Determine Capital Adequacy Requirements?' (2014) at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2493968](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2493968).

<sup>23</sup> This is taken from Cooter and Ulen's classic treatise, Robert Cooter and Thomas Ulen, *Law and Economics* (6th ed), freely available at

<https://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1001&context=books>. Miceli however provides a different definition, that the relegating of law to a functional implementation of economic methods is an 'economic analysis of law', whereas 'law and economics' shows how economic behaviour is regulated within institutions including law, and in particular whether economic behaviour is better regulated by market mechanisms or other non-economic institutions. Thomas J Miceli, 'Economic Models of Law' in Francesco Parisi (ed), *Oxford Handbook on Law and Economics Vol 1* (Oxford: OUP 2017).

<sup>24</sup> This is a micro-economic approach.

<sup>25</sup> Katja Lagenbucher, 'Economic Methodology, Its Scientific Turn and the Question 'Which Economics'', 'Economic Imperialism', 'The Promises of Economic Transplants' and 'The Promises and the Legislator' in *Economic Transplants: On Lawmaking for Corporations and Capital Markets* (Cambridge: Cambridge University Press, 2017).

<sup>26</sup> See for eg Thomas Biebricher, 'Ordoliberalism as a Variety of Neoliberalism' in Josef Hien and Christian Joerges (eds), *Ordoliberalism, Law and the Rule of Economics* (Oxford:Hart 2017). The EU Single Market policy is often referred to as an ordoliberal project where institutions of law are built up to support economic policy.

<sup>27</sup> Legal harmonisation is key to constructing the Single Market so that the application of equivalent and similar laws will promote cross-border movement of capital and commerce, see Iris H-Y Chiu, *Regulatory Convergence in EU Securities Regulation* (The Hague: Kluwer Law International 2008) for example.

The Accord was adopted by the European Economic Area by virtue of the now-obsolete Own Funds Directive<sup>28</sup> which defined the constituents of capital, and the repealed Solvency Ratio Directive<sup>29</sup> which specified the rules for estimating the banks' risk-weighted assets. Unsurprisingly, given the fact that the Basel Committee included representatives from seven member countries of the EU, the rules of the 1988 Basel Capital Accord and the two directives were very similar.

### ***The Law and Economics Predominance in Developing Capital Adequacy Standards***

The Basel II Accord which sought to refine Basel I can be thought of as the pinnacle of the law and economics approach in capital adequacy regulation. As the Basel I Accord gained international recognition and adoption, even when banking practices changed, there was appetite to further develop the Accord for the purposes of continued international harmonisation. The Accord was seen as poised to become a leading and mature standard with the turn of the millenium, and not just a pioneering 'starting point'.<sup>30</sup>

By the 1990s, it was recognised by the Basel Committee that banks were exposed to considerable risk of losses from interest rate and foreign currency movements. These risks were not taken into account in Basel I. Further, banks in the US in particular started to move into investment banking aggressively in the 1990s after the repeal of the Glass-Steagall Act that prevented such consolidation of activities.<sup>31</sup> Although European banks had never faced such restrictions and always embraced a 'universal banking' model which allowed banks to conduct a variety of financial intermediation services, the newly competitive forces coming from the US were crucial in European and UK banks' expansion into investment activities. Thus, many international banks started to undertake activities such as securities underwriting, corporate finance in restructuring and mergers and acquisitions, proprietary trading, collective investment schemes and advisory and brokerage services. As banks became exposed to investment activities, the nature of their business risks changed too. Hence it became important to consider how capital adequacy rules should compel banks to make provision for market risks and operational risks deriving from international banks' increasingly multi-faceted lines of businesses.

Extending the approach taken in Basel I for regulatory prices in capital to be set according to level of risk undertaken, the Basel Committee developed 'standardised' approaches for risk-weighting a much wider range of financial assets and instruments. For financial assets and instruments that could be traded in financial markets, standardised approaches were based on conventional observations on market price fluctuations in 'normal' (not stressed) times.<sup>32</sup> Moreover, responding to criticism that the Basel I methodology for risk-weighting loan assets was too crude and over-inclusive, the standardised approach for credit risk-weighting

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<sup>28</sup> Own Funds Directive (1989/229/EC).

<sup>29</sup> Solvency Ratio Directive (89/647/EEC).

<sup>30</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards: A Revised Framework -- Comprehensive Version* (June 2006) at <http://www.bis.org/publ/bcbs128.htm>.

<sup>31</sup> The Gramm-Leach Bliley Act 1993 that repealed the restrictions under the Glass-Steagall Act.

<sup>32</sup> Basel Committee, *Amendment to the Capital Accord to Incorporate Market Risks* (1996) <http://www.bis.org/publ/bcbs24.pdf?noframes=1>, later consolidated into Basel II, below.

also changed to be more sensitive to externally-produced data for the creditworthiness of different borrowers, such as the credit ratings produced by credit rating agencies.<sup>33</sup>

The regulatory focus is thus placed on pursuing greater efficiency in accurate risk measurement, in order to apply efficient and accurate regulatory pricing in terms of capital. The mathematical and quantitative modus has arguably taken over in dominating regulatory methodology and policy, culminating in Basel II's best-known and now-controversial strategy of accepting an 'internal models' approach to risk-weighting. Over time, banks have developed internal scoring and modelling systems to measure the creditworthiness of their borrowers in a more sensitive fashion as well as loss estimation models to measure market risk in a quantitative manner.<sup>34</sup> Policy-makers have become convinced that such 'internal models' may yield quantitatively more sensitive and accurate risk measures and have therefore adopted a policy to allow banks to use internal models for risk-weighting, subject to supervisory oversight and market transparency.<sup>35</sup>

With the benefit of hindsight in the light of the global financial crisis 2007-9, Basel II's approach of co-opting banks to develop internal models for risk management turned out to be a hazardous approach. Banks, in a fiercely competitive international landscape, chose to engage in high levels of risk-taking that brought immediate rewards, while developing internal models that would minimise their need to keep capital adequacy levels high. Empirical evidence<sup>36</sup> on the application of internal approaches developed by banks for credit and operational risk under Basel II showed that the internal models encouraged banks to set aside less capital than otherwise would have been the case applying standardised Basel II approaches. Further, as risk management and internal control were not centres of revenue generation for banks, some banks marginalised their risk management functions in order not to interfere with business decisions.<sup>37</sup>

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<sup>33</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards: A Revised Framework -- Comprehensive Version* (June 2006) at <http://www.bis.org/publ/bcbs128.htm>.

<sup>34</sup> Jose A Lopez and Mark R Saidenberg, 'The Development of Internal Models Approaches to Bank Regulation & Supervision: Lessons from the Market Risk Amendment' (2001) at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.134.4270&rep=rep1&type=pdf>.

<sup>35</sup> These are known as Pillars 2 and 3 of the Basel II Accord. The Second Pillar (Pillar 2) referred to bank regulators' supervisory role and review of banks' compliance with the capital adequacy framework. The Third Pillar (Pillar 3) referred to market discipline, which imposed mandatory disclosure on banks to their investors in the securities markets, in order to allow investors to assess key pieces of information on the capital, risk exposures, risk assessment processes, and hence the capital adequacy of the bank. Pillars 2 and 3 were intended to ensure that banks' internal models would be subject to appropriate transparency to regulators and investors and scrutinised by them.

<sup>36</sup> Paul H Kupiec, 'Financial Stability and Basel II' (September 2006) FDIC Center for Financial Research Working Paper No 2006-10 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=942297](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=942297); Michael Jacobs Jnr, 'An Empirical Study of the Returns on Defaulted Debt and the Discount Rate for Loss-Given-Default' (September 2009) [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1425146](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1425146); Jukka Vauhkonen, 'Bank Safety under Basel II Capital Requirements' (November 2009) Bank of Finland Research Paper No 29-2009 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1513239](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1513239).

<sup>37</sup> Michael McAleer, Juan-Angel Jiménez-Martin and Teodosio Pérez-Amaral, 'What Happened to Risk Management during the 2008-2009 Financial Crisis?' in Robert W Kolb (ed), *Lessons from the Financial Crisis* (New Jersey: John Wiley 2010). House of Commons and House of Lords, Parliamentary Commission on Banking Standards, *An Accident Waiting to Happen: The Failure of HBOS* (4 April 2013).

Where banks have used internal models merely to avoid regulatory burdens, it could be argued that regulatory supervision (Pillar 2) and market transparency (Pillar 3) should have been able to keep such manoeuvres in check. In reality, regulators were operating at a meta-level of supervision, as risk management had become devolved to banks' internal models, and regulators found it hard to make judgments on the technical robustness of those models. Hence, the use of internal models by approved banks devolved into a form of self-regulation in banks, and they were effectively left unchecked.<sup>38</sup>

In relation to Pillar 3, it could be argued that market discipline was exercised not to the effect of making banks more prudent in risk management, but more competitive in risk-taking. Investors would scrutinise banks' short-term profitability quarter to quarter as banks reported their financial performance to investors, so banks were under tremendous pressure to generate earnings and profits. Hence, being able to increase risk-taking and grow market share were important to bank strategy and some of this was achieved at the expense of maintaining high capital adequacy levels or prudent risk management.<sup>39</sup> Some commentators<sup>40</sup> opined that bank shareholders had indeed driven excessive risk-taking by banks instead of acting as the checking and moderating influence wrongly assumed in Basel II. For example, the Halifax Bank of Scotland in the UK embarked on aggressive market growth in lending, and generated significant bad debts in corporate lending that ultimately led to its £45bn deficit. Shareholders did not seem to have exerted any moderating influence upon the bank's strategy. At its worst, the bank relied on a £25bn liquidity assistance line from the central bank to keep it going until it was bought and merged into Lloyds in September 2008.

### ***The Law and Economics Renewal in the Wake of the Global Financial Crisis 2007-9***

Basel II had not been fully implemented internationally before the onset of the global financial crisis 2007-9. However, in the wake of the crisis, the approach of devolving to banks to develop stringent internal models that could achieve responsible risk management became severely doubted.<sup>41</sup> Nevertheless, the banking business had become complex and not easily susceptible to standardised approaches in risk-weighting for the purposes of calculating the 'regulatory price' of capital adequacy.

The global financial crisis arguably brought about a potential turning point for the regulatory policy in micro-prudential regulation. Should policy-makers address the problems of low capital adequacy due to inappropriate and overly optimistic use of internal models by

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<sup>38</sup> The internal review of the UK Financial Services Authority in the wake of the Northern Rock failure showed that the FSA department dealing with prudential supervision were not equipped to critically understand banks' models and processes and did not raise relevant queries. See FSA, *The Supervision of Northern Rock: A Lessons Learnt Review* (March 2008) at [http://www.fsa.gov.uk/pubs/other/nr\\_report.pdf](http://www.fsa.gov.uk/pubs/other/nr_report.pdf).

<sup>39</sup> Such as in HBOS. House of Commons and House of Lords, Parliamentary Commission on Banking Standards, *An Accident Waiting to Happen: The Failure of HBOS* (4 April 2013).

<sup>40</sup> Peter O Mülbart, 'Corporate Governance of Banks after the Financial Crisis - Theory, Evidence, Reforms' (April 2010) ECGI Law Working Paper No 130/2009 <http://ssrn.com/abstract=1448118>.

<sup>41</sup> See n37.



focusing on reducing banks' discretion to use them? Or should a broader approach be taken to critically question the micro-economic assumptions and quantitative methodology in capital adequacy regulation? The policy changes that have been implemented since the crisis lie somewhere in between the minimal approach in the former and the more radical approach in the latter. Policy-makers have persisted in holding on to the micro-economic model of setting an appropriate regulatory price for risk-weighting, which they continue to endeavour to measure, but more conservatively.<sup>42</sup> They would also by 2023 introduce an absolute 'floor' to the capital requirements differences that are derived from using standardised approaches and internal models approaches to risk-weighting.<sup>43</sup> This means that banks' discretion to use internal models approaches to manipulative effect to reduce their capital adequacy burdens would be curtailed. Further, policy-makers have added to the capital adequacy tool other similar tools for regulating behaviour, such as calibrating banks' assets and liabilities according to quantitative requirements of liquidity.<sup>44</sup> A further set of regulatory tools intended to shape banks' behaviour by incentives continue in the law and economics tradition of introducing levers to affect rational decision-making and behaviour.<sup>45</sup>

In other words, regulatory reforms continue to be aimed at regulating banks' behaviour in relation to their risk-taking and resilience, in the tradition of law and economics, but taking on more conservative assumptions, correcting for the flaws of previous assumptions and application, and becoming more multi-faceted in capturing bank risk-taking behaviour in a more holistic paradigm. However, efforts have also been made to address the broader criticisms of over-relying on micro-economic methods to regulate bank behaviour, and new regulatory tools have been introduced to deal with macro-prudential regulation.<sup>46</sup>

The character and key highlights in post-crisis reforms to micro-prudential regulation will be fleshed out shortly, but we suggest that such micro-prudential regulatory reforms are now founded on a form of 'new and improved law and economics' which incorporates more complex micro-economic modelling and a recognition for the importance of the macro-economic dimension. Regulatory policy continues to rely on economic solutions although

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<sup>42</sup> Will be discussed in Section B in relation to capital buffers, reforms to risk-weighting methodologies in the standardised and internal model approaches and in relation to loss absorbing capital requirements for systemically important financial institutions.

<sup>43</sup> Basel Committee, *Finalising the Post-Crisis Reforms* (Dec 2017) at <https://www.bis.org/bcbs/publ/d424.htm>.

<sup>44</sup> Basel Committee, *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems* (Dec 2010, rev June 2011), at <http://www.bis.org/publ/bcbs189.pdf>; *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools* (Jan 2013) at <http://www.bis.org/publ/bcbs238.pdf> and *Basel III: The Net Stable Funding Ratio* (Oct 2014) at <http://www.bis.org/bcbs/publ/d295.pdf>.

<sup>45</sup> Such as regulation of bankers' remuneration, see Financial Stability Forum, *FSF Principles for Sound Compensation Practices* (2009) (FSB Principles 2009) and the Financial Stability Board's *Implementing Standards* (2009) at <http://www.fsb.org/what-we-do/policy-development/building-resilience-of-financial-institutions/compensation/>, and the FSB's update to these Principles in FSB, *Supplementary Guidance to the FSB Principles and Standards on Sound Compensation Practices* (March 2018) at <http://www.fsb.org/wp-content/uploads/P090318-1.pdf>. The remuneration regulation is adopted in Art 90, Capital Requirements Directive 2013, above and the Commission delegated Material Risk-Takers Regulation 2015.

<sup>46</sup> Discussed in Colin Mayer, 'Economic Development, Financial Systems, and the Law' in Niamh Moloney, Eilís Ferran, and Jennifer Payne (eds), *The Oxford Handbook on Financial Regulation* (Oxford: OUP 2015); Peter O. Mülbart, 'Managing Risk in the Financial System' in Niamh Moloney, Eilís Ferran, and Jennifer Payne (eds), *The Oxford Handbook on Financial Regulation* (Oxford: OUP 2015); David M Driesen, 'Legal Theory Lessons from the Financial Crisis' (2014) 40 *Journal of Corporation Law* 55. The nature of macroprudential policy will be discussed in Section B.

the quantitative nature of the previous regime has been somewhat balanced by qualitative aspects. The next Section discusses the key features of micro-prudential regulation reflecting ‘new and improved law and economics’ foundations and Section C critically queries what gaps may remain in regulating for the safety of individual financial institutions and overall financial system stability.

## **B. New and Improved Law and Economics in Post-Crisis Micro-prudential Regulation**

A number of commentators, in diagnosing the causes of the global financial crisis and weaknesses of the regulatory regimes prior to the crisis identified common themes such as the lack of capital adequacy requirements that reflected systemic risks that banks posed, and the lack of an overall view by regulators of the financial system and markets as a whole.<sup>47</sup> The Basel Committee responded by robustly reforming the capital adequacy regime and recommending new micro-prudential regulatory tools to support each other. In terms of the overall picture, micro-prudential regulation is still a key part of a more comprehensive regulatory regime that covers corporate governance and risk management regulation and oversight,<sup>48</sup> structural reforms for systemically important banks in the UK,<sup>49</sup> regulation of non-bank entities for both resilience and stability purposes,<sup>50</sup> market regulation over hitherto unregulated markets in order to demand transparency and promote more risk-conscious transactions,<sup>51</sup> regulation of credit rating agencies,<sup>52</sup> recovery, resolution and crisis management regimes for banks and other financial institutions,<sup>53</sup> and more formalisation in terms of cooperation and coordination amongst regulators for international banks.<sup>54</sup>

Capital adequacy regulation underwent significant change in the years between 2009 and 2017 that the Basel Committee developed, phased in and finalised their recommendations. Capital adequacy is no longer the exclusive regulatory tool and is flanked by other micro-prudential measures designed to introduce different dimensions of regulatory price and controls upon banks’ risk-taking behaviour. We discuss this multi-faceted approach in four key ways. First, capital adequacy regulation now incorporates a more conservative regulatory price calibration. Second, less trust is reposed in risk-weighting calculations

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<sup>47</sup> Markus Brunnermeier et al, ‘Fundamental Principles of Financial Regulation’ (The Geneva Report 2009) at <https://www.princeton.edu/~markus/research/papers/Geneva11.pdf> at ch3; Viral V. Acharya, Lasse H. Pedersen, Thomas Philippon, and Matthew Richardson, ‘Measuring Systemic Risk’ (2010) at <http://ssrn.com/abstract=1573171>.

<sup>48</sup> Such as Art 88, Capital Requirements Directive 2013; David Walker, *A Review of Corporate Governance in Banks and Financial Institutions* (2010) at [http://www.hm-treasury.gov.uk/d/walker\\_review\\_261109.pdf](http://www.hm-treasury.gov.uk/d/walker_review_261109.pdf).

<sup>49</sup> Independent Commission on Banking, *Final Report* at <http://bankingcommission.s3.amazonaws.com/wp-content/uploads/2010/07/ICB-Final-Report.pdf>; implemented in Financial Services (Banking Reform) Act 2013 sections 142Aff.

<sup>50</sup> Covering a wide range from investment firms to investment funds, even alternative funds such as hedge and private equity funds, see European legislation the Markets in Financial Instruments Directive 2014/65/EU for investment firms, the Alternative Investment Fund Managers Directive 2011/61/EU for hedge and private equity funds, Money Market Funds Regulation 2017/1131.

<sup>51</sup> European Markets Infrastructure Regulation 648/2012 that compels certain derivative instruments to be centrally cleared and reported. The Securities Financing Regulation 2015/2365 introduces greater transparency requirements for shadow banking transactions such as repo financing by financial institutions.

<sup>52</sup> Credit Rating Agencies Regulation 1060/2009 amended in 2011, 2013.

<sup>53</sup> Bank Recovery and Resolution Directive 2014/59/EU.

<sup>54</sup> Such as supervisory colleges recommended by the Basel Committee, Basel Committee, *Good Practice Principles on Supervisory Colleges* (2010) at <http://www.bis.org/publ/bcbs177.pdf>, amended in 2015.

derived from internal models approaches, as regulatory intervention has made inroads into the implementation of such models. Third, systemically important financial institutions are treated separately in relation to capital adequacy and the regulatory price for them reflects the potential price that is to be paid if the institution fails. Finally, micro-prudential regulation has become elevated to be indispensable for implementing the regulatory ideology for financial stability. This will be discussed in relation to the EU's reforms for the micro-prudential regulation of non-bank financial institutions, in particular investment firms.

### ***Greater Conservatism in Capital Adequacy***

One of the first measures that the Basel Committee introduced in the immediate wake of the global financial crisis was the addition of 'capital buffers' to the baseline 8% capital asset ratio.<sup>55</sup> There are two types of capital buffers. One type is 'absolute' in the sense that these are imposed on banks across the board regardless of their risk profile, the other is institution-specific, i.e. regulators may determine to impose on banks subject to certain criteria or discretionary assessment.

In terms of 'absolute' capital buffers, the capital conservation buffer and the counter-cyclical buffer introduced by Basel III fall within this category. In order to comply with the capital conservation buffer, banks are required to set aside an extra 2.5% of risk-weighted assets as a mandatory capital conservation buffer, effectively raising the capital asset ratio from 8 to 10.5%, in order to address criticisms of the 8% being perceived as too low. The capital conservation buffer is phased in between 1 January 2016 and year end 2018 becoming fully effective on 1 January 2019. Next, Basel III provides that where national regulators determine it to be necessary, a counter-cyclical buffer may be imposed on the banking sector in that jurisdiction. The objective of the counter-cyclical buffer is to allow national regulators to compel banks to control risk-taking in times of market exuberance, so that banks can be more prepared and resilient in challenging times. Banks may be required to provision for up to 2.5% of risk-weighted assets in addition to the risk asset ratio of 8% and the capital conservation buffer of 2.5%. The countercyclical buffer regime is phased-in in parallel with the capital conservation buffer becoming fully effective on 1 January 2019. The UK has recommended a 1% counter-cyclical buffer to be in place. In total, in the UK for example, capital adequacy requirements have arguably been raised by 30% from the Basel II regime.

The EU regulators introduced further 'absolute' capital buffers. The systemic risk buffer introduced by the EU's Capital Requirements IV Directive 2013<sup>56</sup> (CRD IV Directive) allows national regulators to impose an additional buffer on the financial sector or one or more subsets of the sector, in order to address long-term non-cyclical and macro-prudential risks. In other words, the Directive permits Member States to allow their regulators to introduce an additional forward-looking buffer based on the outlook of general economic conditions. The systemic risk buffer is to at least 1% of risk-weighted assets. This requirement is in

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<sup>55</sup> Basel Committee, *Basel III: A global regulatory framework for more resilient banks and banking systems* (2010 rev 2011) at <https://www.bis.org/publ/bcbs189.htm>.

<sup>56</sup> Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (CRD IV Directive).

excess of the recommendations made under Basel III. These capital buffers are intended to improve a bank's resilience by acting as increased controls on risk-taking behaviour.

Institution-specific capital buffers are imposed on banks in order to reflect their individual risk profiles. An example would be the institution-specific counter-cyclical buffer introduced in the CRD IV Directive 2013. European banks that have credit exposures in a number of jurisdictions would have to meet an extra capital requirement calculated by obtaining a weighted average of the counter-cyclical buffers set in each jurisdiction where the bank has exposures,<sup>57</sup> including both EU and non-EU jurisdictions.

Next, regulators may, after supervisory review of individual institutions, impose additional requirements tailored to the bank's risk profile, called the Pillar 2 buffer, therefore bringing supervisory oversight to bear upon banks. Such a buffer is intended to fill in gaps for areas of risk not taken into account of in the harmonised Basel III and EU measures as well as to compensate for any risk management deficiencies in the institution assessed by the regulator.<sup>58</sup> Finally, systemically important financial institutions are required to meet additional buffers,<sup>59</sup> pending the rollout of a more bespoke regime that deals with their capital requirements shortly to be discussed.

The capital buffers regime add, in a modular fashion, to the baseline capital asset ratio of 8% incremental amounts of capital requirements, on the one hand giving time for banks to adjust to the new conservatism, on the other hand demonstrating the range of regulatory tools that can be developed to take into account of different mixes of risk profiles. It may be argued that buffer tools are not exactly risk-sensitive as they conflate banks' individual risk profiles with wider economic contextual factors and the jurisdictions in which they operate. However, this mix of micro-prudential and macro-prudential aspects in measuring risk and regulatory price was precisely what was missing in the pre-crisis era where focus was placed only on individual institutions' behaviour.<sup>60</sup>

### ***Regulatory Moderation of Internal Models Approaches***

A major weakness identified in relation to banks' risk management during the global financial crisis was the use of internal models to derive low risk-weightings of bank risk in order to minimise regulatory capital compliance. Hence, the use of internal models have to be subject to more robust standards and regulatory scrutiny. Under the European CRD IV Directive, regulators are compelled to review banks' internal models at least every three

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<sup>57</sup> Article 140 CRD IV Directive, PRA Rulebook, *Capital Buffers*.

<sup>58</sup> PRA, *The PRA's Methodologies for Setting Pillar 2 Capital* (Dec 2017) at <https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/statement-of-policy/2017/the-pras-methodologies-for-setting-pillar-2a-capital-december-2017.pdf?la=en&hash=A157541ACACD7EC18CEA8C8695CDD5F30E5D1B53>.

<sup>59</sup> Para 47, Basel Committee, *Globally Systemically Important Banks: Updated Assessment Methodologies and the Higher Loss Absorbency Requirements* (July 2013), at <http://www.bis.org/publ/bcbs255.pdf>.

<sup>60</sup> Markus Brunnermeier et al, 'Fundamental Principles of Financial Regulation' (The Geneva Report 2009) at <https://www.princeton.edu/~markus/research/papers/Geneva11.pdf> at ch3; Steven L. Schwarcz, 'Systemic Risk' (2008) 97 *Georgetown Law Journal* 193.

years even if approval has been given for their use.<sup>61</sup> Regulators' scrutiny has also turned to addressing the consistency of application of internal models amongst banks, in order to ascertain if models are properly designed and used. The Basel Committee advocates the use of 'hypothetical portfolio exercises' to detect where the variations in risk-weighting lie as a result of using internal models, and the drivers for such variations.<sup>62</sup> Hypothetical portfolio exercises involve small samples of bank portfolios for comparative study in order to chart variations in approaches. These cannot be conclusive as they are small samples, but they would provide indicative directions for investigating into the nature and drivers of variations in risk-weighting methodologies.

In the EU, national regulators are required to collect information in order to assess whether and to what extent the applications of internal models by banks within their jurisdictions generate different risk-weighting results.<sup>63</sup> National regulators are to conduct yearly assessments and benchmarking exercises of banks' internal models approaches to credit risk and market risk.<sup>64</sup> Such transparency and regulatory scrutiny allows regulators to identify regulatory arbitrage practices and compel banks to justify their model designs and implementation.

In order to achieve a certain level of consistency in applying internal models and to prevent banks from severely under-estimating risk-weightings, there would also be 'floors' imposed on the results of using internal models so as to limit the room for deviation from the application of standardised approaches.<sup>65</sup> This addresses the problem discussed earlier in relation to empirical research findings that banks have used internal model approaches in the pre-crisis years to support less capital adequacy requirements for their risk-taking.

Reform has been recommended by the Basel Committee<sup>66</sup> to make banks publicly disclose, and not just to regulators, the risk-weighting measures as derived from internal models, and the risk-weighting measures that would apply to the same assets if a standardised approach had been taken. An 'output floor' is set at a prescribed level of the risk-weighting derived from standardised approaches. If the risk-weighting derived from internal models exceeds this level, then the measure from internal models will apply. If the risk-weighting from

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<sup>61</sup> Art 101, Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

<sup>62</sup> Basel Committee, *Reducing Excessive Variability in Banks' Regulatory Capital Ratios: A Report to the G20* (Nov 2014).

<sup>63</sup> Art 78, CRD IV Directive 2013.

<sup>64</sup> Commission Delegated Regulation (EU) 2017/180 of 24 October 2016 supplementing Directive 2013/36/EU of the European Parliament and of the Council with regard to regulatory technical standards for benchmarking portfolio assessment standards and assessment-sharing procedures. Also see PRA Rulebook, *Benchmarking of Internal Approaches*.

<sup>65</sup> Basel Committee, *Finalising Post-crisis Reforms* (2017) at <https://www.bis.org/bcbs/publ/d424.pdf>.

<sup>66</sup> Above.

internal models is below the output floor, then the output floor applies. The output floors are set and to be phased in as shown in the Table below.

<b>Table 1 Date</b>	<b>Output Floor Calibration</b>
1 Jan 2022	50% (of risk-weighting as if standardised approaches apply)
1 Jan 2023	55%
1 Jan 2024	60%
1 Jan 2025	65%
1 Jan 2026	70%
1 Jan 2027	72.5%

Finally, the use of internal models has become subject to limitations and more prescription. The Basel Committee envisages that internal models can be used for more unusual assets such as project, object finance, higher-risk real estate, sovereign exposures etc but they need to be classified into different classes for specific risk treatment, in accordance with the loan characteristics prescribed. Further, internal models could be excluded from use in relation to certain asset classes such as financial institution exposures, exposures to certain large corporate and to equities.<sup>67</sup> The reason for this is that there may be a relative lack of historical default information with respect to these exposures to support the use of these models in providing estimates in relation to default. Only the standardised approach will be used to determine the risk-weightings of these exposures. In relation to measuring operational risk, the internal models approach in Basel II are recommended to be abolished in favour of a more prescriptive approach.

Under Basel II, in measuring operational risk, two broad-brush standardised approaches were recommended alongside an internal models approach which allowed banks to estimate their exposure to operational risk based on historical information over 5 years. In finalising the Basel III reforms, the Basel Committee<sup>68</sup> recommended a replacement of the Basel II methodology for operational risk and introduced a more complex quantitative indicator based on banks' revenues and expenses, to be combined with banks' historical data over 10 years of operational risk incidents and losses, in order to derive a closer estimate for operational risk exposure in order to apply capital adequacy requirements. Basel III therefore abolished the use of internal models in relation to operational risk which could be perceived as giving banks too much discretion to play down their risk profiles.

### ***Imposing Capital Requirements Special to Systemically Important Financial Institutions***

Special regulatory standards are arguably needed for banks that are regarded as globally systemically important financial institutions (G-SIBs) as they tend to pose different types and extents of risks and require different regulatory treatment. In the pre-crisis environment, Basel II would have subjected them to a relatively low compliance regime for regulatory capital, and their frequent use of internal models would have allowed them to

<sup>67</sup> Basel Committee, *Finalising Post-crisis Reforms* (Dec 2017) at <https://www.bis.org/bcbs/publ/d424.pdf> at p59.

<sup>68</sup> Above.

underestimate risks while pushing for growth and empire-building. However, G-SIBs participate in many markets, carry on a wide range of bank business and is often at the forefront of financial innovation and complex transactions.<sup>69</sup> They are also often highly inter-connected with other financial institutions. If a part of a G-SIB becomes crisis-stricken, its adversities may infect the entire group and may also affect other financial institutions through contagion, resulting in systemic effects.<sup>70</sup> The global financial crisis has led to countless bank bailouts in the US and EU precisely because the banks concerned had G-SIB profiles and became 'too big' or 'too important' to fail.

The Basel Committee and its sister institution, the Financial Stability Board have developed international standards to identify G-SIBs and other systemically important financial institutions that may not be banks.<sup>71</sup> The identification approach is important as these institutions are distinguished for additional regulatory treatment. The Financial Stability Board sets out every year a list of 30 global banks or so in order to recommend an extra application of a systemically important financial institution buffer of up to 3% of risk-weighted assets.<sup>72</sup> The leadership of international institutions is important in this regard in order to achieve an internationally convergent approach that is objective and removed from domestic political interests. The EU has implemented the above requirements for G-SIBs in the CRD IV Directive, calling them 'Globally Systemically Important Institution' or the 'GSII' buffer.<sup>73</sup>

Further, since 2014, the EU started to develop the concept that capital requirements for G-SIBs should be sensitive to their systemic risk impact, and they should be prevented from failing as far as is possible, unlike in the case of non-systemically important financial institutions which could be allowed to fail. Hence, the micro-prudential regulatory regime for G-SIBs has shifted towards requiring them to hold levels of 'loss-absorbing' capital that can help them absorb losses and recapitalise after a stressful onset. This regime is known as the 'Minimum Requirement for Eligible Liabilities' (MREL)<sup>74</sup> in the EU, while a narrower scope of G-SIBs is targeted under a similar approach recommended by the Financial Stability Board known as the 'Total Loss Absorbing Capacity' (TLAC).<sup>75</sup>

The Financial Stability Board is of the view that the safety of G-SIBs lies very much in their resolvability if any G-SIB should encounter a crisis. As the objective is to prevent G-SIBs from

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<sup>69</sup> For e.g. see L Fischer, 'Major Risks of International Banking', University of St Gallen Law & Economics Working Papers No. 2008-20 at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1138253](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1138253).

<sup>70</sup> Tom CW Lin, 'Too Big to Fail, Too Blind to See' (2010) 80 Mississippi Law Journal 355.

<sup>71</sup> Basel Committee, *Global Systemically Important Banks: Updated Assessment Methodology and the Higher Loss Absorbency Requirement* (2013) at <https://www.bis.org/publ/bcbs255.pdf>.

<sup>72</sup> <http://www.fsb.org/what-we-do/policy-development/systematically-important-financial-institutions-sifis/global-systemically-important-financial-institutions-g-sifis/>.

<sup>73</sup> Article 131(4) CRD IV Directive.

<sup>74</sup> Art 45, Bank Recovery and Resolution Directive 2014/59/EU; Commission Delegated Regulation (EU) 2016/1450 of 23 May 2016 supplementing Directive 2014/59/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the criteria relating to the methodology for setting the minimum requirement for own funds and eligible liabilities.

<sup>75</sup> FSB, *Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution Total Loss-absorbing Capacity (TLAC) Term Sheet* (Nov 2015) at <http://www.fsb.org/wp-content/uploads/TLAC-Principles-and-Term-Sheet-for-publication-final.pdf>.

failing and entailing a cascade of global systemic risks, the adequate capitalisation of G-SIBs should not merely relate to *ex ante* controls on risk-taking effected by capital adequacy regulation but by the holding of capital instruments by banks that can actually be used to absorb losses and recapitalise the bank if a crisis should occur. G-SIBs should therefore hold loss absorbing capital in a sufficient quantity so that they are able to absorb losses should these occur. Banks therefore need to hold 'loss-absorbing' instruments, which are issued to investors willing to incur the risk of these instruments being used for 'loss absorption'. Loss-absorbing instruments will be priced by markets, and it is arguable that the price banks have to pay will act as a form of *ex ante* control upon their risk-taking.

The TLAC reforms<sup>76</sup> require banks to hold sufficient loss absorbing instruments so that private sector creditors and shareholders will take much of the hit of a bank crisis rather than the public sector (as seen in the global financial crisis).<sup>77</sup> G-SIBs must hold loss-absorbing instruments equivalent to 16-18% of the bank's risk weighted assets. This will in effect absorb the 8% risk-asset ratio, but will exclude all capital buffers, which means that all capital buffers continue to act as regulatory pricing for risk-taking, in terms of *ex ante* controls on banks' behaviour. TLAC requirements would meet both the needs of *ex ante* control as well as *ex post* recovery and resolution of a bank.

The EU's MREL is also defined<sup>78</sup> to comprise a 'minimum' component, that is set at the level of the baseline regulatory capital requirements ie the 8% capital asset ratio plus all capital buffers, and two additional discretionary components for loss absorption that regulators would apply depending on their assessment of the systemic risk profile of the G-SIB, viz the 'recapitalisation' component and the 'market confidence charge'. The recapitalisation amount is defined as the sum of 8% of risk-weighted assets and the Pillar 2 capital requirement imposed on the bank, while the 'market confidence charge' is defined as the sum of all regulatory capital buffers. In effect, MREL would double up from the baseline regulatory capital requirements for systemically important financial institutions, which arrives closely at the quantitative result as the FSB's TLAC. National regulators are however envisaged to have greater discretion in calibrating MREL, as they deal with a potentially wider scope of systemically important financial institutions than those identified by the FSB. The MREL applies not only to EU-licensed global banks but also regional/local banks of systemic importance that may not have been included in the FSB's list.

In sum, systemically important financial institutions expect to adhere to capital requirements that double up from those applicable to other banks. The reforms to capital adequacy above show a willingness on the part of international and national regulators to engage in ever-increasing sophistication and complexity in order to extract appropriately conservative regulatory prices for bank risk-taking. Does this rejuvenate faith and the appeal

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<sup>76</sup> Above.

<sup>77</sup> The MREL is intended to support the application of a resolution tool called 'bail-in' which makes creditors and shareholders absorb losses first in a crisis-stricken bank in order to mitigate the moral hazard of state bail out, see also Art 43, BRRD 2014; Tobias Troeger, 'Too Complex to Work: A Critical Assessment of the Bail-In Tool Under the European Bank Recovery and Resolution Regime' (2018) at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3023184](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3023184); Thomas Conlon and John Cotter, 'The Anatomy of a Bail-in' (2013) at <http://ssrn.com/abstract=2294100>.

<sup>78</sup> Commission Delegated Regulation (EU) 2016/1450 of 23 May 2016 supplementing Directive 2014/59/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the criteria relating to the methodology for setting the minimum requirement for own funds and eligible liabilities.



of the law and economics approach in capital adequacy regulation? Policy-makers continue to believe that risk-taking behaviour can be calibrated and controlled through capital pricing, and this belief is further exemplified in EU policy-makers' extension of micro-prudential regulation into an ideological starting point from which adaptations from the bank-based regime is made for the rest of the financial sector which we shall discuss shortly.

### ***Expanded Suite of Harmonised Micro-prudential Regulatory Tools***

Capital adequacy has been the dominant tool in the micro-prudential regulation of banks. However, after the global financial crisis, other micro-prudential measures have been developed internationally to support capital adequacy rules, as these rules are not able to capture certain aspects of bank risks. For example, capital adequacy rules do not deal with liquidity risk, that is the risk that banks may not meet immediate demands (such as withdrawal of deposits) that fall due as their assets may not be realised in time, or can only be realised at a major loss. Liquidity pressures can force banks to suffer more impairment to their assets than necessary and could even result in bank insolvency. Hence, banks need to manage their liquidity needs and this area is now subject to international regulatory harmonisation. We also discuss other measures of micro-prudential regulation developed or enhanced after the crisis. One is the leverage ratio, which sets an absolute amount of lending banks can engage in, regardless of risk-weighting. Further, regulation to control large exposures, which has existed in the EU prior to the crisis, deals with controlling the over-concentration by banks in lending to certain customers. This area is also reformed after the global financial crisis.

The Basel Committee has now introduced two liquidity standards for banks as internationally harmonising measures.<sup>79</sup> One is the liquidity coverage ratio, which refers to immediate term liquidity management by banks to meet present demands. The compliance with the liquidity coverage ratio is intended to be a prudent measure to ensure that banks have sufficient liquid assets to meet immediate demands for the next 30 days should a stressful event occur. The second is the net stable funding ratio which deals with the longer-term liquidity profile for bank assets, requiring banks to ensure that they have different assets and types of funding sources to call upon in order to meet their liabilities over the longer term of one year. These have been accepted in the EU<sup>80</sup> and apply to the UK.

Next, the regulation of large exposures is to allow regulators to monitor the credit risk of banks' significant lending to certain clients,<sup>81</sup> as the materialisation of such risk could pose dangers to banks' safety and soundness. Large exposures are defined as exposures (in terms of lending or trading) to a client or a connected group of clients in excess of 10% of the bank's 'eligible capital', which is the sum of its tier one capital and a third of its tier two capital.<sup>82</sup> Large exposures are subject to reporting to regulators and a cap of large exposures

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<sup>79</sup> Basel Committee, *Principles for Sound Liquidity Risk Management and Supervision - Final Document* (Sep 2008) at <http://www.bis.org/publ/bcbs144.htm> superseded by *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools* (Jan 2013) at <http://www.bis.org/publ/bcbs238.pdf> and *Basel III: The Net Stable Funding Ratio* (Oct 2014) at <http://www.bis.org/bcbs/publ/d295.pdf>.

<sup>80</sup> Arts 412-414, Capital Requirements IV Regulation 2013.

<sup>81</sup> since the superseded Capital Requirements Directive of 2006.

<sup>82</sup> Art 392, Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

to 25% of eligible capital to any one client or group of connected clients is imposed. The Basel Committee<sup>83</sup> has affirmed the importance of large exposures limitations as a means to control banks' credit risk. The Committee proposes that systemically important financial institutions should be subject to an absolute limit of large exposures at 15% of tier one capital, instead of the 25% of eligible capital imposed on other banks. This is because such financial institutions are already highly inter-connected with other global banks and are more likely to transmit contagion effects upon others. Hence, a more prudent approach of limiting the credit risk exposures of such institutions may be seen to be proportionate to the systemic risks they pose. The EU is in the process of implementing this reform to an amendment to the Capital Requirements Regulation.

Basel III also introduced the leverage ratio,<sup>84</sup> which restricts the total level of bank lending to bank capital without applying risk-weighting. This means that the leverage ratio would cap bank lending at an absolute level proportionate to their capital, whether such lending is extended to 0% risk-weighted governments or to residential mortgages. The Basel Committee regards the leverage ratio as 'a simple, transparent, non-risk based leverage ratio to act as a credible supplementary measure to the risk-based capital requirements'. The Committee recommends that a 3% leverage ratio be maintained, meaning that banks' tier one capital should be at a level of 3% or more of its total exposures. Like the capital asset ratio discussed above, the leverage ratio is not an exact science and does not represent absolute 'safe' levels of lending. In fact at first blush, it is rather low as gross leverage supported by as low as 3% tier one capital does not seem to be a substantial cushion for losses. Hence for globally systemically important banks, the Financial Stability Board recommends the maintenance of a higher leverage ratio, i.e. 6%. The UK has implemented a 3% minimum leverage ratio for all banks that accept deposits in the UK exceeding £50 billion. This was nudged higher to 3.25% following a recommendation by the Financial Policy Committee in October 2017.

The expanded suite of micro-prudential regulatory tools is envisaged to support each other in shaping bank behaviour in risk-taking, with capital adequacy implementing a conservative and more sophisticated regulatory pricing system and the other tools, liquidity, leverage and large exposures setting levels of constraints upon different types of risk. It may be argued that these other measures deal largely with credit risk and constraining measures have not really been developed for market risk and other types of non-Basel III risks captured within Pillar 2. Although we can appreciate the increased levels of sophistication and complexity that regulators have engaged with to develop reformed micro-prudential regulatory tools, there is a hazard of tending towards even more complex forms of quantification if more developments should be needed. Regulatory complexity itself can contain hidden dangers in relation to how these tools relate to each other and work together. Further, the predominance of quantification can still tempt banks to find ways in order to manipulate the 'numbers'. Nevertheless, more intense regulatory reporting and scrutiny as well as the support of more qualitative regimes such as structural reforms<sup>85</sup> and corporate

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<sup>83</sup> Basel Committee, *Supervisory Framework for Measuring and Controlling Large Exposures* (2014) at <http://www.bis.org/publ/bcbs283.pdf>.

<sup>84</sup> Basel Committee, *Basel III Leverage Ratio Framework and Disclosure Requirements* (Jan 2014) at <http://www.bis.org/publ/bcbs270.pdf>.

<sup>85</sup> See n49.

governance/risk management reforms<sup>86</sup> may address potential gaps for creative compliance.

The reliance on refining and improving micro-prudential regulation as a governance mechanism *du jour* for the financial sector is relentless. In the EU, micro-prudential regulation is elevated to an arguably ideological platform as we discuss below.

### ***Micro-prudential Regulation as Governance Ideology for the Financial Sector***

The EU's *raison d'être* for adopting harmonising micro-prudential regulation, since the first Basel Accord, is based on the usefulness of harmonising regulation for the purposes of building the Single Market for banking and capital, removing regulatory barriers to cross-border business that could be imposed by Member States.<sup>87</sup> The global financial crisis sounded an important wake-up call to the EU market integration project not to neglect public interest regulatory objectives in its single-minded pursuit of market integration. EU policy-makers, at the recommendation of the de Larosière report,<sup>88</sup> took seriously the importance of ensuring that regulatory design could meet the purposes of financial stability protection, consumer protection etc, not just for the purposes of creating harmonised standards that would incentivise the supply-side to expand cross-border financial business. Hence the EU created a European System of Financial Supervision<sup>89</sup> to have stewardship over a number of public interest objectives such as systemic risk oversight, financial stability protection and consumer protection.<sup>90</sup> With the elevation of systemic risk oversight and financial stability protection into pan-European regulatory objectives, the importance of micro-prudential regulation rose as its law and economics methodology is seen as applicable and relevant for governing risk-taking in all corners of the financial sector. Micro-prudential regulation has thus become functionalised as the go-to regulatory institution that is intrinsically necessary for the implementation of the financial stability objective.

Adapting from its roots in banking regulation, the EU has developed micro-prudential regulation specific to the insurance sector, and is in the process of developing bespoke micro-prudential regulation for investment firms. Hence, micro-prudential regulation is not merely tied to bank business risks, but its more general and underlying law and economics methodology, ie to set regulatory prices according to a financial institution's business and financial risks, is more widely embraced. The law and economics foundations have given rise to first, the Solvency II Directive<sup>91</sup> for modernising and harmonising capital requirements for insurers.

Solvency II adopts a three pillar approach which first developed in Basel II for banks, in order to introduce capital requirements for insurers, supervisory reporting and review and market

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<sup>86</sup> See n135, 136.

<sup>87</sup> See Mads Andenas and Iris H-Y Chiu, 'Financial Stability and Market Integration' (2013) *European Law Review* 335.

<sup>88</sup> Jacques de Larosière, *Report by the High Level Group on Financial Supervision in the EU* (25 Feb 2009) at [http://ec.europa.eu/internal\\_market/finances/docs/de\\_larosiere\\_report\\_en.pdf](http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf).

<sup>89</sup> See n5, and Niamh Moloney, "EU Financial Market Regulation After the Global Financial Crisis: More Europe or More Risks?" (2010) 47 *Common Market Law Review* 1317.

<sup>90</sup> These objectives are found in the EBA Regulation, n5. The importance and elevation of financial stability as a public interest objective is discussed extensively in chapter 2, Mads Andenas and Iris H-Y Chiu, *The Foundations and Future of Financial Regulation* (Oxford: Routledge 2014).

<sup>91</sup> Solvency II Directive 2009/138/EC.

transparency. The capital requirements for insurers are different from banks in terms of their components, but they are also based on the insurers' balance sheet and regulatory price is set in terms of capital. The capital requirements are meant to shape behaviour in risk-taking as well as absorb losses and ensure that insurers and reinsurers are able to pay out on claims.<sup>92</sup>

Next, the EU is developing a completely bespoke micro-prudential regulatory regime for investment firms.<sup>93</sup> This regime continues to be premised on the law and economics foundations in micro-prudential regulation in terms of setting regulatory prices in capital requirements, but such prices are set not against the balance sheet of investment firms. This is a departure from the approach for banks and insurers, but takes into account of differences between the full intermediation nature of banks' and insurers' business<sup>94</sup> and the partial intermediation nature<sup>95</sup> of most investment firms' business. Investment firms do not take on their clients' capital risks unlike banks and insurers who fully intermediate their depositors' or policy-holders' risks. Hence micro-prudential regulation for investment firms warrant a different regulatory design.

Investment firms that are systemically important are envisaged to adopt the bank-based regime, and it may be because large investment banks that do not take deposits are more bank-like in character and warrant such regulatory treatment. However a large number of investment firms that are not systemically important would be subject to a completely different micro-prudential regulatory regime. Their risk calculations are based on a prescribed 'k-factor' applied to significant areas of the firm's business risk. For example 'assets under management' are a significant area of business risk for the firm as the firm may face pressures to generate yield if too much inflow is achieved. In the opposite case, the firm may face pressures in terms of liquidity if investors redeem and therefore cause outflows in significant measure. Hence, a k-factor of 0.02% is to be applied to assets under management as the regulatory price in capital that the firm needs to have in place in order to support the relevant level of assets under management. This k-factor approach is applied to the commonly-identified business risks of investment firms in relation to: client money held, client orders handled, assets under custody and daily trading flow. Further, a quarter of the firm's overheads calculated in the preceding year forms part of the regulatory capital calculations.

Although departing from the bank-based template for capital adequacy, micro-prudential regulation for investment firms continues with a quantitative approach attaching to what

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<sup>92</sup> Title I, Chapter 6 of Directive above.

<sup>93</sup> European Commission, Proposal for Regulation at [https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-790\\_en](https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-790_en) and Proposal for Directive at [https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-791\\_en](https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-791_en), based on EBA, *New Prudential Framework for Investment Firms* (Sep 2017) at <https://www.eba.europa.eu/documents/10180/1976637/EBA+Advice+on+New+Prudential+Framework+on+Investment+Firms+%28EBA-Op-2017-11%29.pdf>.

<sup>94</sup> full intermediation means the financial institution takes on fully the financial risks of intermediating between saver and borrower/investee, such as banks lending out on deposits and taking the risks of the default of borrowers while remaining committed to the safety of depositors' capital.

<sup>95</sup> Partial intermediation means the financial institution does not take on the financial risks of capital loss in intermediating between savers and investees, and savers are aware that their capital may be at risk, such as when savers invest in a mutual fund or hedge fund.

regulators identify as key risks, in order to set appropriate regulatory prices in capital vis a vis them. It may be argued that investment firms are already subject to duties in statutory trust<sup>96</sup> for client money held or assets under custody, and their partial intermediation business model means that they do not bear all the market risks for client trading. Why should capital adequacy for investment firms be attached to such risks that are concurrently managed in other ways?

We suggest that although there may be an overlap between conduct of business regulation such as duties to protect client moneys and assets and the capital adequacy requirements for investment firms holding client moneys and assets, the role of micro-prudential regulation serves a different objective. Statutory trust regulation in favour of clients protect clients' rights to their moneys and assets, but micro-prudential regulation is based on shaping business behaviour towards prudence in order to prevent the firm itself from failing, and adversely affecting the financial system. The quantitative levers in such regulation ultimately affect quantitative growth in business risk and would have an impact upon any firm that may have a systemically significant profile. It can however be argued that if this regime applies to non-systemically important investment firms, why is there a need to regulate business behaviour and prudence, as failure is not taboo for such firms? It is possible that the quantitative levers can be regarded as designed to constrain firms' business risk growth to the point of being systemically important, but this could be subject to the critique that there should be no such business inhibition, and if firms indeed become systemically important, they are subject to the bank-based regime which is perceived as more stringent. Overall it is more likely that the introduction of this regime is based on an indefatigable trend towards the EU's desire to govern all corners of the financial sector in a functionally convergent and equivalent manner- that the governance of business risks by regulatory capital pricing is applied to all financial sector institutions and activities, even if in different ways.

In this manner, the law and economics foundations of micro-prudential regulation have gained ideological elevation in EU policy-making and have transformed micro-prudential regulation into an umbrella of functionally equivalent approaches to govern strategic risk-taking behaviour in the financial sector, towards the objective of preserving financial stability in European financial economies and markets.

### ***Intensifying Regulatory Scrutiny in Micro-prudential Compliance***

Micro-prudential reforms are supported by the promise of more intensive and effective regulatory scrutiny. In order to ensure that financial institutions are complying with their micro-prudential requirements and that these requirements *are likely to work* in situations of stress, new regulatory frameworks for stress-testing have been introduced.<sup>97</sup> Stress-testing refers to the regular testing of financial institutions' capital and liquidity positions in order to take stock of their resilience. There are two types of stress-testing: one that financial institutions are to regularly perform themselves and account to regulators for doing so. Such stress-testing involves putting financial institutions' business models and financial positions through forward-looking hypothetical scenarios that are severe but

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<sup>96</sup> *Lehman Brothers International (Europe) (in administration) v CRC Credit Fund Ltd and others* [2010] EWCA Civ 917.

<sup>97</sup> Art 177, Capital Requirements Regulation 2013.

plausible. Financial institutions are to make regulatory reporting of stress-test results in order to assist in supervisory review.

The second type of stress-testing is only applicable to banks so far and that is partly as a result of the global financial crisis that involved largely banks. Regulators would carry out stress tests across the banks they supervise at regular intervals.<sup>98</sup> The EU CRD IV Directive makes it mandatory for regulators in EU Member States to develop stress-tests for the banks they oversee, at least on an annual basis.<sup>99</sup> The EBA, as meta-level supervisor over member state regulators further carries out EU-wide stress tests in addition to member state regulators' tests. The EBA's stress-testing is distinguished on the basis of its general powers to identify, measure, and monitor systemic risks.<sup>100</sup> The EBA carried out yearly stress-tests from 2009 to 2011, partly in response to the euro area debt crisis as sovereigns such as Greece and Ireland looked close to default. It has resumed biennial stress-testing from 2014. Although there is no particular legal framework that governs the EBA's carrying out of stress-testing, over the years, the EBA has developed a more predictable and transparent programme for its stress-tests and communications to banks. These communications are advisory in nature. Stress-testing, whether carried out by the financial institution or by regulators, are forms of health checks, one internally administered according to regulatory frameworks, and the other externally administered. These 'health checks' produce vital information for both financial institutions and regulators.

As regulatory scrutiny is made of essentially quantitative compliance in micro-prudential regulation, relevant regulatory expertise is crucial for effective regulatory supervision. This is the reason for the UK's reform in regulatory architecture in 2013, shifting from a multiple-objective single regulator for financial services<sup>101</sup> to a 'twin peaks' approach<sup>102</sup> where prudential supervision of systemically important financial institutions is reposed in the central bank. Central banks continue to be staffed with largely economically trained personnel and the Bank of England has transitioned seamlessly from its monetary policy focus to multiple objectives including micro-prudential oversight and financial stability oversight at a broader level. These objectives are however being delivered largely by regulatory designs rooted in economic methods, from micro-prudential regulation, to macro-prudential supervision, to which we now turn. The development of macro-prudential

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<sup>98</sup> PRA, 'The Bank of England's Approach to Stress-testing the UK Banking System' (Oct 2015) at <http://www.bankofengland.co.uk/financialstability/Documents/stresstesting/2015/approach.pdf> carries out annual tests.

<sup>99</sup> Art 100, Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

<sup>100</sup> Articles 23, 24 and 33, Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC.

<sup>101</sup> E Ferran, "Examining the UK's Experience in Adopting a Single Financial Regulator Model" (2003) 28 Brooklyn J of Int Law 257. Critical discussion of the Single Regulator see Richard A Abrams and Michael W Taylor, "Issues in the Unification of Financial Sector Supervision" IMF Working Paper 2000 at <https://www.imf.org/external/pubs/ft/wp/2000/wp00213.pdf>.

<sup>102</sup> Financial Services Act 2012 amending the Financial Services and Markets Act 2000. Discussion of the nature of 'twin peaks' which is reposing different objectives in different regulators, such as prudential regulation in one regulator and conduct of business in another, is found in Giorgio Di Giorgio and Carmine Di Noia, "Financial Market Regulation and Supervision: How Many Peaks for the Euro Area?" (2003) 28 Brooklyn J of Int Law 463.

supervision can also be regarded as a key change to the law and economics foundations of prudential regulation, moving from a solely micro-economic approach to a 'new and improved' approach incorporating macro-economic perspectives.

### ***Introduction of Macro-prudential Supervision***

Finally, key to the 'new and improved' law and economics foundations for the post-crisis reforms is the introduction of a macro-economic perspective to regulating finance. Even Posner,<sup>103</sup> a leading commentator in the predominance of micro-economics in analysing legal behaviour and rules, acknowledged the sad lack of a macro-economic perspective in regulating finance in the pre-crisis era, that caused the regulatory focus to become myopic and 'lost the big picture'.<sup>104</sup>

The US introduced the Financial Stability Oversight Council<sup>105</sup> to gather intelligence on financial stability risks in the US financial system and markets, with the assistance of the Office of Financial Research, in order to make recommendations to the Treasury in relation to financial regulation standards and to facilitate inter-agency coordination. This body is chaired by the Secretary of the Treasury and is part of the Treasury's umbrella of responsibilities although it is separately accountable to the Congress. Such a body is a macro-prudential supervisory body which is empowered to carry out systemic surveillance of the financial system and markets as a whole in order to determine if regulatory action should be recommended to deal with stability risks at an early stage.

Such bodies have been introduced in the EU and the UK as well. The European Systemic Risk Board ('ESRB')<sup>106</sup> is the pan-European body responsible for macro-prudential oversight.<sup>107</sup> It is responsible for collecting and analysing information in order to identify signals of risk in EU financial systems and markets, so as to determine if appropriate warnings and recommendations should be issued in view of these risks.<sup>108</sup> It is nested within the European Central Bank, and its Board comprises largely of European and national central bankers and the Chairs of the European financial regulatory authorities in the European System for Financial Supervision discussed above.

In order to fulfil its monitoring and policy functions, the ESRB has the power to collect and request information from the three European Supervisory Authorities, from national central

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<sup>103</sup> Richard Posner, *A Failure of Capitalism: The Crisis of '08 and the Descent into Depression* (MA: Harvard University Press 2008).

<sup>104</sup> Also see Yair Listokin, 'Law and Macroeconomics: The Law and Economics of Recessions' (2016) at <http://ssrn.com/abstract=2828352>.

<sup>105</sup> See <https://www.treasury.gov/initiatives/fsoc/about/Pages/default.aspx>.

<sup>106</sup> European Parliament and Council Regulation (EU) 1092/2010 of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board [2010] OJ L331/1 (ESRB Regulation 2010).

<sup>107</sup> See discussion of what this means in Chapter 6.D.

<sup>108</sup> ESRB Regulation, art 3.

banks and from Member State regulators.<sup>109</sup> It also provides information to the three European Supervisory Authorities where appropriate.<sup>110</sup> In 2012, the ESRB set out in its mandate document<sup>111</sup> that Member States should designate macro-prudential supervisors and that the ESRB should maintain information sharing and coordination relationships with them. This mandate ensures that macro-prudential supervision is not only centralised in the ESRB. The ESRB has also issued a policy document to guide national macro-prudential supervisors so that convergence can be achieved in relation to macro-prudential policy objectives.<sup>112</sup> These however relate largely to the use of micro-prudential tools such as setting capital buffer rates and leverage ratios. The ESRB's role is to issue warnings and/or recommendations to the EU as a whole or to individual Member States regulators,<sup>113</sup> but these are soft law and Member States are expected to comply or otherwise explain.

In the UK, the Bank of England has established the Financial Policy Committee<sup>114</sup> to provide macro-prudential oversight. The objective of the Financial Policy Committee is to protect financial stability in the UK by monitoring the development of systemic risks. Systemic risks are defined as including (a) risks attributable to structural features of financial markets, such as connections between financial institutions, (b) risks attributable to the distribution, such as whether there are concentrations of risk within the financial sector, and (c) unsustainable levels of debt, such as borrowing by households or businesses.<sup>115</sup> The Committee's membership comprises central bankers, representatives from the Treasury and the Chair of the Financial Conduct Authority.

We observe that macro-prudential bodies are now inter-agency bodies poised to have a holistic view of the financial system and markets as a whole to discern signals of risk. They are assisted by research capacity, usually within central banks or in the case of the US, the Treasury, in order to take proactive actions to deal with emerging signals of risk. What is however interesting is that macro-prudential supervisors nevertheless rely heavily on micro-prudential tools, and the counter-cyclical buffer capital requirement (as discussed earlier) in particular is to be monitored and determined by the macro-prudential supervisor. In the UK, the Financial Policy Committee has set the rate at 0.5% then raising to 1% to date.

Macro-prudential tools however also include novel tools to 'cool off' asset bubbles in markets. It is envisaged that such tools may be controversial as they intervene into

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<sup>109</sup> ESRB Regulation, art 15.

<sup>110</sup> ESRB Regulation, art 15.

<sup>111</sup> 'ESRB Publishes Recommendation on Macroprudential Mandate of National Authorities' (16 Jan 2012) at <https://www.esrb.europa.eu/news/pr/date/2012/html/pr120116.en.html>.

<sup>112</sup> ESRB, *Recommendation of the European Systemic Risk Board of 4 April 2013 on Intermediate Objectives and Instruments of Macro-Prudential Policy* (ESRB/2013/1) at [https://www.esrb.europa.eu/pub/pdf/recommendations/2013/ESRB\\_2013\\_1.en.pdf?ad6bc3424dd7690e2f818db264c03299](https://www.esrb.europa.eu/pub/pdf/recommendations/2013/ESRB_2013_1.en.pdf?ad6bc3424dd7690e2f818db264c03299).

<sup>113</sup> ESRB Regulation, art 16.

<sup>114</sup> Section 9A-V, Bank of England Act 1998 as amended by the Financial Services Act 2012.

<sup>115</sup> Section 9C, Bank of England Act 1998 as amended by the Financial Services Act 2012.



commercial decision-making by banks and financial institutions. For example, the UK Financial Policy Committee is given powers which it can exercise to direct the UK regulators to require regulated lenders to place limits on residential mortgage lending in both the owner-occupied and buy-to-let sectors. Such limits can be placed in terms of loan-to-value ratios, which means that lenders can only lend partially to meet the full purchase price of houses. Loans that require little funding from home purchasers (i.e. high loan-to-value ratios) are seen as more susceptible to the risk of default risk. This is because home purchasers are more likely to commit to mortgage repayments if they have themselves funded the purchase in a substantial amount. Restricting the proportion of high loan-to-value ratio loans can moderate lender behaviour towards more prudent and less risky loans, avoiding other negative effects such as housing price 'bubbles'. The Committee also has the power to direct the UK regulators to place limits on lending in buy-to-let markets using the debt-to-income ratio tool. The debt-to-income ratio is the ratio of the borrower's outstanding debt to his or her annual income. Where debt-to-income ratio is high, such as debt being more than 5 times annual income, borrowers are more likely to struggle in terms of servicing the debt, heightening default risk. While the Committee has not yet exercised such powers, their existence may cause banks to review and moderate their lending behaviour so as to avoid the imposition of formal restrictions.

The recognition for the need for regulators to be able to introduce systemic-wide corrective policies and measures complements the concurrent implementation of enhanced micro-economic levers for behavioural shaping in financial institutions.<sup>116</sup> These are however not uncontroversial as they tend to be anti-cyclical,<sup>117</sup> 'cooling off' asset bubbles and interfering with market profits that individual entities could gain. Macro-prudential measures are premised on achieving 'collective' goods and require collective participation or contribution.<sup>118</sup> We recognise that 'new and improved' law and economics has markedly changed the law and economics foundations of financial regulation since the global financial crisis. But the powers are sparingly used to date. The next question to ask is whether the reforms, based on 'new and improved' law and economics foundations have addressed the malaises of the global financial crisis and provide for us an enduring regulatory design for the future?

### **C. Shortfalls in the 'New and Improved' Law and Economics Foundations in Post-crisis Financial Regulation**

The 'new and improved' law and economics foundations of post-crisis regulation continues to support a regulatory methodology of introducing quantitatively-calibrated levers, commands or nudges (where there is soft law, such as the ESRB's recommendations

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<sup>116</sup> Dirk Heremans and Alessio M Paces, 'Regulation in Banking and Financial Markets' in R. J. van den Bergh & A. M. Paces (eds), *Regulation and Economics* (Cheltenham: Edward Elgar 2011).

<sup>117</sup> See Frank Partnoy, 'Financial Systems, Crises, and Regulation' in Niamh Moloney, Elis Ferran, and Jennifer Payne (eds), *The Oxford Handbook on Financial Regulation* (Oxford: OUP 2015) for the need for regulation to 'correct' markets.

<sup>118</sup> For eg Steven L Schwarcz, 'The Case for a Market Liquidity Provider of Last Resort' (2009) at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1346542](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1346542) on systemic solutions and collective goods for financial crises but these require financial institutions to internalise the cost *ex ante*. Also see Oliver Hart and Luigi Zingales, 'A New Capital Regulation for Large Financial Institutions' (2011) 13 *American Law and Economics Review* 453 on a proposal to incorporate macro or systemic costs into financial institutions' capital requirements, therefore internalising such cost on an *ex ante* basis.

discussed above) to incentivise or steer behaviour. In the post-crisis era, ‘financial stability’ has arisen to become a normative goal, although it we continue to struggle with defining what this means. We are sceptical that the same micro-economic approach targeted at individual firm behaviour would be effective in addressing the public good nature of financial stability. Post-crisis micro-prudential regulation has incorporated macro-prudential aspects in setting regulatory price and is supported by macro-prudential supervision. However, the regulatory methodology is still predominantly micro-economic in nature, with macro-prudential supervision playing a modest role.

We set out our scepticism below in relation to three main arguments. First, there is a need to prevent the dominance of regulatory methodology over regulatory purpose or objectives, as the micro-economic and quantitative nature of regulatory rules can become insular and self-referential, losing connection with the public interest purpose of regulation in governing finance and the social purposes it should serve. Second there is a need to reconcile value judgments in financial stability with the quantitative methods in micro-prudential regulation which we believe is unaddressed, as the quantitative nature of compliance has already given rise to perverse incentives observed in empirical research. Finally, it is imperative to achieve coherence between micro-economic approaches in regulation with the collective goods that need to be achieved. We believe that such ‘collective goods’ remain poorly articulated and it remains unclear how the advancement of more intense and ‘new and improved’ micro-prudential regulation would address a suite of social expectations that we discuss below.

### ***Do Post-Crisis Micro-prudential Reforms Meet the Needs of Financial Stability?***

Bieri opines that ‘Financial stability carries all the textbook hallmarks of a public good: first, it is nonrival, ... [s]econd, financial stability is nonexcludable ... [l]astly, individual agents cannot actively withdraw themselves from the influence of financial stability.’<sup>119</sup> In its Charter, the Financial Stability Board refers to ‘addressing vulnerabilities affecting financial systems’ as being key to maintaining financial stability.<sup>120</sup> How is ‘financial stability’ defined and what are the ‘vulnerabilities’ to be managed? Can the vulnerabilities be managed by regulatory intervention?

Schinasi<sup>121</sup> argues that the financial sector’s essential purpose is to manage risks and allocate resources in the real economy, hence, in taking on its intermediary role, the sector becomes itself a clearing house for risk and an essential facilitator for wealth creation in the real economy. Hence, it may be said that a continuum exists between financial stability and instability insofar as the financial sector serves the needs of economic activity and, in so doing, must tolerate a certain number of deficiencies, vulnerabilities and disturbances.<sup>122</sup> The key issue in understanding financial stability or instability is *when* certain vulnerabilities

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119 David S Bieri, ‘Regulation and Financial Stability in the Age of Turbulence’ in Robert W Kolb (ed), *Lessons from the Financial Crisis* (New Jersey: John Wiley 2010), 327.

120 Financial Stability Board Charter 2012, art 1  
[http://www.financialstabilityboard.org/publications/r\\_090925d.pdf](http://www.financialstabilityboard.org/publications/r_090925d.pdf) accessed 3 December 2012.

121 Gary J Schinasi, ‘Defining Financial Stability’ (2004) IMF Working Paper WP/04/187  
<http://cdi.mecon.gov.ar/biblio/docelec/fmi/wp/wp04187.pdf> accessed 3 December 2012.

122 Joanna Gray and David Bholat, ‘Law, Systemic Risk and Resilience – Are We Asking the Right Questions?’ (Berle IV Symposium, London, 14-15 June 2012).

or suboptimal situations should be regarded as no longer tolerable in the system and should be regarded as a form of 'instability'. It is opined<sup>123</sup> that the measurability or objective quantification of stability or instability is difficult to achieve given the dynamics and the uncertainty of variables affecting the continuum. In other words, the 'financial stability' desired is a balanced state of risks, but it is '... difficult to decide ... what is undesirable as compared to what is tolerable or desired'.<sup>124</sup> Further, 'stability' or 'instability' may be regarded as occurring at different thresholds depending on whose perspective is adopted; the industry's perspective would likely differ from the perspective of policy-makers, stakeholders and the wider public. Davies and Green<sup>125</sup> also take the view that it is difficult to define stability or instability, particularly with forecasting purposes in mind, but with hindsight, one could refer to a state of 'loss of normalcy', 'harm to bystanders' or 'lack of resilience to shocks' as states of instability. These terms are not precise, however, and have to be understood within context. They are thus of the view that 'financial stability ... cannot be defined in terms other than broad and general ones that give little guidance on policy or action, and indeed that it could even be dangerous [to do so]'.<sup>126</sup> Ultimately in the UK, the role of the Financial Policy Committee and its relationship with the Treasury may be key to defining and strategically managing 'financial stability' at a level that is regarded as democratically and politically tolerable and acceptable. In this manner, 'financial stability' is not merely a quantifiable or technocratic policy goal but one that is deeply embedded in political and social appetite. There is a need to ensure that the socially desirable level of financial stability/instability is a choice that is politically and socially accountable and that achieves social justice.

The apparent precision and calculability in the quantitative methodologies that implement micro-prudential regulation actually relate to a regulatory objective that is far more subjective and ill-defined, therefore obscuring the policy choices that are made. The 'calculable' quantitative solutions are merely a proxy for addressing regulatory purposes, but they may be excessively relied on for comfort, and regulators may fail to review them over time to ascertain if they really achieve regulatory objectives in public interest.<sup>127</sup> Further, regulators can be captured by the 'expertise' appeal<sup>128</sup> of quantitative methods in regulation and trust such methods to 'work on their own' to produce results.<sup>129</sup> This dangerous reliance, which Goodhart<sup>130</sup> calls the domination of law by economics in

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123 Gary J Schinasi, 'Defining Financial Stability' (2004) IMF Working Paper WP/04/187 <http://cdi.mecon.gov.ar/biblio/docelec/fmi/wp/wp04187.pdf> accessed 3 December 2012.

124 Taken from Ulla Eriksson-Zetterquist, 'Risk and Organising: The Growth of a Research Field' in Barbara Czarniawska (ed), *Organising in the Face of Risk and Threat* (Cheltenham: Edward Elgar 2009), 14.

125 Howard Davies and David Green, *Banking on the Future: The Rise and Fall of Central Banking* (Princeton, NJ: Princeton University Press 2010), ch 3.

126 Howard Davies and David Green, *Banking on the Future: The Rise and Fall of Central Banking* (Princeton, NJ: Princeton University Press 2010), 61.

<sup>127</sup> Roberta Romano, 'Regulating in the Dark' in Cary Coglianese (ed), *Regulatory Breakdown: The Crisis of Confidence in U.S. Regulation* (University of Pennsylvania Press 2012).

<sup>128</sup> Robert F Weber, 'New Governance, Financial Regulation, and Challenges to Legitimacy: The Example of the Internal Models Approach to Capital Adequacy Regulation' (2010) 63 *Administrative Law Review* 783.

<sup>129</sup> Ch2, Alison Lui, *Financial Stability and Prudential Regulation: A Comparative Approach to the UK, US, Canada, Australia and Germany* (Abingdon: Routledge 2015).

<sup>130</sup> Charles AE Goodhart, 'Economics and the Law: Too Much One-Way Traffic?' (1997) 60 *Modern Law Review* 1.

excessive ‘one-way traffic’, can result in a myopic form of regulatory implementation that becomes disconnected from the institutions and values that form the context for delivering public interest objectives through regulation.

The predominantly quantitative measures of micro-prudential regulation do not cohere with and may indeed obstruct the achievement of political and social accountability and social justice. Depending on the numeracy of the population,<sup>131</sup> a quantitatively-based conversation may not be meaningful for stakeholder engagement, resulting in a form of technocratic supremacy.<sup>132</sup> This leads to the framing of the accountability of finance to its technocratic and quantitative standard-setters instead of to its constituents, the weakest in this group in terms of power, influence and expertise<sup>133</sup> being households and retail savers and customers.

However, it can be argued that the ‘new and improved’ micro-prudential regulatory framework is supported by (a) corporate governance and risk management regulation that is more qualitative in nature and (b) a more policy-based macro-prudential regulatory framework which makes appropriate evaluations for the level of financial stability that society desires. These arguably provide the necessary ‘qualitative’ balance in micro-prudential regulation. Moreover, it may be argued that the quantitative methodologies provide an objective check against the discretionary policy choices made by policy-makers.

In relation to (a), the Basel Committee<sup>134</sup> and European legislation<sup>135</sup> have introduced standards for corporate governance in financial institutions in order to instil the strategic importance of risk management in Boards, and to organise risk management in a way that is sufficiently empowered and credible. Further, financial institutions’ risk-takers’ compensation have become subject to regulation in order to moderate their risk-taking and short-termist incentives.<sup>136</sup> Further, the UK has introduced a ‘senior persons regime’ to

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<sup>131</sup> Levels of numeracy are lamented to be worsening in the UK, see <https://www.nationalnumeracy.org.uk/what-issue>, and is highly related to ability to understand and manage one’s financial needs. See Annamaria Lusardi, ‘Numeracy, Financial Literacy, and Financial Decision-Making’ (NBER Working Paper 2012) at <http://www.nber.org/papers/w17821>.

<sup>132</sup> This point is discussed in the author’s earlier work on policy-making in shadow banking in terms of how the conversation has become technocratic and bureaucratic and has disengaged economy-society conversations, see Iris H-Y Chiu, ‘Transcending Regulatory Fragmentation and the Construction of an Economy-Society Discourse: Implications for Regulatory Policy Derived from a Functional Approach to Understanding Shadow Banking’ (2016) 42 *Journal of Corporation Law* 327.

<sup>133</sup> The matrix of power and influence in financial policy-making is discussed in various contexts, internationally, at the EU and nationally, see Stefano Pagliari, ‘Who Governs Finance? The Shifting Public-Private Divide in the Regulation of Derivatives, Rating Agencies and Hedge Funds’ (2012) 18 *European Law Journal* 44; Stephen L Harris, ‘Regulating Finance: Who Rules, Whose Rules?’ (2004) 21 *Review of Policy Research* 743; Sol Piccioto and Jason Haines, ‘Regulating Global Financial Markets’ (1999) 26 *Journal of Law and Society* 351; Geoffrey Underhill and Xiaoke Zhang, ‘Norms, Legitimacy, and Global Financial Governance’ (2006) WEF Working Paper No 13 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=941389](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=941389); See generally Peter Mooslechner et al (eds), *The Political Economy of Financial Regulation* (Cheltenham: Edward Elgar 2006) at Part I in particular.

<sup>134</sup> Basel Committee, *Corporate Governance Principles for Banks* (2015) at <https://www.bis.org/bcbs/publ/d328.htm>.

<sup>135</sup> Capital Requirements Directive 2013 at Arts 76, 88.

<sup>136</sup> Capital Requirements Directive 2013, Art 90; Financial Stability Forum, *FSF Principles for Sound Compensation Practices* (2009) (FSB Principles 2009) and the Financial Stability Board’s *Implementing Standards* (2009) at <http://www.fsb.org/what-we-do/policy-development/building-resilience-of-financial-institutions/compensation/>, and the FSB’s update to these Principles in FSB, *Supplementary Guidance to the*

ensure that senior managers are allocated certain defined responsibilities in a financial institution<sup>137</sup> and to be made personally accountable for negligent failings or for falling below certain standards of conduct in relation to integrity, care and skill, effective control and oversight and transparency.<sup>138</sup> These qualitative standards may mitigate against the criticism that the law and economics nature of micro-prudential regulation is too quantitative and disengaged from the organisational and institutional contexts.<sup>139</sup> Nevertheless, these qualitative standards in risk management, corporate governance and personal liability serve the purposes of achieving the quantitative rules and are arguably subservient to them.

In relation to the qualitative regulation of corporate governance and risk management in financial institutions, these are to facilitate the achievement of micro-prudential compliance as per the quantitative thresholds set in regulation. In determining personal liability for senior managers' conduct, the UK tribunal that deals with challenges against the regulator's imposition of personal liability on senior managers<sup>140</sup> has opined that a case can only be made for falling below the required standards of conduct if there is a poor or non-compliant outcome. Hence, the qualitative standards of conduct for senior managers are hinged upon rule infringements, and are not judged purely on the basis of attitude or non-consequential behaviour.<sup>141</sup>

In relation to (b), macro-prudential regulation is achieved in two ways, by incorporating macro perspectives into regulatory price in micro-prudential regulation, such as the imposition of the counter-cyclical capital buffer discussed above, and by measures of macro-prudential supervision directly addressed to the financial sector. However, we query whether the infusion of macro-prudential aspects into the regulatory price-setting mechanism of micro-prudential regulation will work, as there may be incompatibility between the approach of micro-prudential regulation in targeting individual firm behaviour and the needs of collective good that macro-prudential regulation wish to address. Can the uncoordinated behaviour of individual, albeit regulated financial institutions collectively add up to the prevention of collective harm or bringing about of collective good?<sup>142</sup> This critique has precisely been levied by Schwarcz in relation to pre-crisis bank regulation.<sup>143</sup> Micro-prudential regulation that is addressed to each financial institution's behaviour may still fail to inculcate any consciousness of collective good or prevention of

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*FSB Principles and Standards on Sound Compensation Practices* (March 2018) at <http://www.fsb.org/wp-content/uploads/P090318-1.pdf>.

<sup>137</sup> See PRA Rulebook, Allocation of Responsibilities and Conduct Rules, at <http://www.prarulebook.co.uk/>. See PRA/FCA, *CP15/22 Strengthening Accountability in Banking: Final rules (including feedback on CP14/31 and CP15/5) and consultation on extending the Certification Regime to wholesale market activities* (July 2015).

<sup>138</sup> See PRA Rulebook, Conduct Rules at <http://www.prarulebook.co.uk/>.

<sup>139</sup> Viral V Acharya, Jennifer N Carpenter, Xavier Gabaix, Kose John, Matthew Richardson, Marti G Subrahmanyam, Rangarajan K Sundaram and Eitan Zemel, 'Corporate Governance in the Modern Financial Sector' in Viral Acharya and Matthew Richardson (eds), *Restoring Financial Stability: How to Repair a Failed Financial System* (Chicester: Wiley Finance, 2009) at 185.

<sup>140</sup> Section 133, Financial Services and Markets Act 2000, amended by The Transfer of Tribunal Functions Order 2010 (S.I. 2010/22) and the Banking (Special Provisions) Act 2008.

<sup>141</sup> *Carrinjee v Financial Conduct Authority* [2015] UKUT 79.

<sup>142</sup> Question also posed in Colin Mayer, 'Economic Development, Financial Systems, and the Law' in Niamh Moloney, Eilís Ferran, and Jennifer Payne (eds), *The Oxford Handbook on Financial Regulation* (Oxford: OUP 2015).

<sup>143</sup> Steven L. Schwarcz, 'Systemic Risk' (2008) 97 *Georgetown Law Journal* 193.

collective harm. Although one may see the quantitative nature of micro-prudential regulation as providing a check against discretionary policy choices in financial stability, we have only seen the sparing use of macro-prudential supervisory tools to date. Much of macro-prudential supervision relates to surveillance and reporting.<sup>144</sup> The qualitative powers and aspects in the regulatory framework have largely played a role of serving the compliance with quantitative rules. Further, a commentator<sup>145</sup> points out that there may also be conflicts between individual incentives and the collective good of the financial system, putting in doubt the assumption that there is coherence in the implementation of micro-prudential regulation and macro-prudential supervision.

There is yet a final fundamental issue with meeting the needs of financial stability through predominantly micro-prudential regulation. Value judgements need to be made as to the tolerance of levels for financial stability or instability, as discussed above.<sup>146</sup> As Driesen and Malloy argue, the law and economics foundations in regulation are aimed at achieving Kaldor-Hicks efficiency<sup>147</sup> which is that there are overall more benefits than cost engendered by the regulatory system, and in sum more 'gainers' than 'losers'. Would 'financial stability', within the framework of a law and economics approach to regulation settle at the majoritarian preference for the level of stability/instability in financial systems and markets? If so, there are certain hazards for policy-making. This article is concerned that the gainers are predominantly financial sector participants, while the losers are other participants, usually in the real economy. This is because of a sharp disparity in expertise, influence and voice in shaping policy choices between the financial industry stakeholders and the rest.<sup>148</sup>

A number of studies indicate that access to finance by households and small and medium sized enterprises has become more difficult as banks across the US and Europe have reduced lending to them,<sup>149</sup> while not necessarily shrinking large commercial exposures. The more profitable corporate businesses have taken priority<sup>150</sup> as financial institutions are forced to make more conservative decisions in light of the post-crisis micro-prudential requirements for compliance. Retail sector lending has also reduced as liquidity rules have compelled banks to hold more tradeable and liquid assets.<sup>151</sup> Research from the US shows an increase in banks parking their capital in the deposit accounts of other financial institutions, therefore being compliant and benefiting each other at the same time, while

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<sup>144</sup> Discussed above in Section B.

<sup>145</sup> Peter O. Mülbert, 'Managing Risk in the Financial System' in Niamh Moloney, Eilís Ferran, and Jennifer Payne (eds), *The Oxford Handbook on Financial Regulation* (Oxford: OUP 2015).

<sup>146</sup> Drawing on Niklas Luhmann, *Risk: A Sociological Theory* (Rhodes Barrett tr, New York: Walter de Gruyter 1993), 3

<sup>147</sup> David M Driesen, 'Legal Theory Lessons from the Financial Crisis' (2014) 40 *Journal of Corporation Law* 55.

<sup>148</sup> See n133 above.

<sup>149</sup> Sami B Naceur and Caroline Roulet, 'Basel III and Bank-Lending: Evidence from the United States and Europe' (IMF Working Paper 2017) at <https://www.imf.org/en/Publications/WP/Issues/2017/11/15/Basel-III-and-Bank-Lending-Evidence-from-the-United-States-and-Europe-45345>.

<sup>150</sup> Above; Martin Neil Baily, William Bekker, and Sarah E. Holmes, 'The Big Four Banks: The Evolution of the Financial Sector, Part I' (Brookings Institute Research Paper 2015) at [https://www.brookings.edu/wp-content/uploads/2016/06/big\\_four\\_banks\\_evolution\\_financial\\_sector\\_pt1\\_final.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/big_four_banks_evolution_financial_sector_pt1_final.pdf) detailing changes in the big four American investment banks' assets and liabilities pre-and post-crisis.

<sup>151</sup> Sami B Naceur and Caroline Roulet, 'Basel III and Bank-Lending: Evidence from the United States and Europe' (IMF Working Paper 2017) at <https://www.imf.org/en/Publications/WP/Issues/2017/11/15/Basel-III-and-Bank-Lending-Evidence-from-the-United-States-and-Europe-45345>.

lending to the real economy has stalled.<sup>152</sup> The European Central Bank also notes that lending in general has become more costly with the new compliance demands in the micro-prudential regulatory regime.<sup>153</sup> The societies that have bailed out financial institutions during the global financial crisis could indeed have different expectations of the financial institutions that are stabilised at great fiscal cost.<sup>154</sup> There may have been social expectations regarding the return of the financial sector to health and stability in order to allocate capital sensibly for productive economic activities instead of myopically profitable and possibly speculative and damaging activities<sup>155</sup> such as those that have surfaced during the crisis.

Complying with the quantitative outcomes of micro-prudential regulatory requirements seems to bear remote relation to what society would like finance to serve. The law and economics foundations of regulation relies too heavily on the price mechanism to steer individual firm behaviour and neglects other levers that affect behaviour such as social, organisational and values-oriented factors.<sup>156</sup> Indeed the behavioural levers in the law and economics approach are focused on keeping the financial institution and system safe, ie disaster-prevention, as far as is possible, but bear little relation to facilitating finance to serve normative and substantive purposes. Where in financial regulation are there standards that direct finance to serve for example, the reduction of financial disparities or the promotion of social justice?<sup>157</sup> There remain visions of unfinished work in governing finance towards for example, supporting a sustainable economy,<sup>158</sup> addressing socio-

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<sup>152</sup> Martin Neil Baily, William Bekker, and Sarah E. Holmes, 'The Big Four Banks: The Evolution of the Financial Sector, Part I' (Brookings Institute Research Paper 2015) at [https://www.brookings.edu/wp-content/uploads/2016/06/big\\_four\\_banks\\_evolution\\_financial\\_sector\\_pt1\\_final.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/big_four_banks_evolution_financial_sector_pt1_final.pdf).

<sup>153</sup> Lorenzo Bibi Smaghi, European Central Bank, 'Basel III and the Real Economy' at <https://www.ecb.europa.eu/press/key/date/2011/html/sp110401.en.pdf?6308646b7650c12c82fbfde7dddd4185>.

<sup>154</sup> The UK bank bailed out during the financial crisis, ie Royal Bank of Scotland and has remained until this year in almost 90% state ownership, was embroiled in accusations of abusively managing struggling small business borrowers and exploiting them even in their financial distress, see Financial Conduct Authority, *A Report on an Independent Review of Royal Bank of Scotland Group's Treatment of Small and Medium-Sized Enterprise Customers Referred to the Global Restructuring Group* (Nov 2017) at <https://www.fca.org.uk/publication/corporate/final-summary-independent-review-rbs-grg.pdf>.

<sup>155</sup> Eg see Ross P Buckley, 'The Changing Nature of Banking and Why It Matters' in Douglas W Arner, Emiliios Avgouleas and Ross P Buckley (eds), *Reconceptualising Global Finance and Its Regulation* (Cambridge: Cambridge University Press 2016) at chapter 2 on the evolution of more complex and speculative financial products that would make gains for bankers while socialising losses.

<sup>156</sup> Robert B Ahdieh, 'Beyond Individualism in Law and Economics' (2009) at <http://ssrn.com/abstract=1518836>.

<sup>157</sup> One may argue that social justice is in the province of the state as it allocates resources and makes distributive choices, but as the financial sector is, in an age of financialisation, increasingly important for making allocative decisions, why should such allocative decisions not take into account of or be governed by overarching socio-economic policy?

<sup>158</sup> High Level Expert Group in Sustainable Finance to the European Commission, *Financing a Sustainable European Economy* (2018) at [https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report\\_en.pdf](https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf).

economic phenomena such as financial insecurity<sup>159</sup> and inclusion,<sup>160</sup> weeding out ‘socially useless’<sup>161</sup> and speculative activity and ‘boom and bust’.<sup>162</sup> The conceptual disengagement of micro-prudential regulation from other non-economic factors obscures normative and substantive outcomes from being achieved, such as social justice.<sup>163</sup> The regulatory reforms may have artificially heightened our perceived sense of safety while the financial system is still regulated in such a way as dis-embedded from its social fabric<sup>164</sup> and the real economy it should serve.<sup>165</sup>

### ***An Alternative Proposal***

The shortfalls in micro-prudential regulatory reforms are fundamentally attributed to the nature of the law and economics approach, which continues to rely on micro-economic assumptions and models, quantitative methods of price-setting to calibrate behaviour and giving such an approach a supremacy that ought to be questioned.<sup>166</sup> An alternative proposal would be to rebalance the law and economics approach in regulating financial institution behaviour with law that is infused with policy informed by social and institutional values and other normative perspectives. In this way, the law and economics methodology need not be completely replaced, but can be rebalanced and enriched within a broader and more realistic socio-economic context.

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<sup>159</sup> Financial insecurity can entail from not knowing how to manage one’s financial affairs to mismanaging them, but also relates to diligent savers in schemes such as pensions having no security in how such savings would deliver for future financial needs. There is often no guarantee or safety net for expected returns, eg see Stepehn F Befort, ‘The Perfect Storm of Retirement Insecurity: Fixing the Three-Legged Stool of Social Security, Pensions, and Personal Savings’ (2006-7) 91 *Minnesota Law Review* 938; and the UK FCA’s study into retirement outcomes, *Retirement Outcomes Review* (2017) at <https://www.fca.org.uk/publication/market-studies/retirement-outcomes-review-summary.pdf>.

<sup>160</sup> Relating to access to finance, which requires a balanced approach of educating consumers to access finance appropriately and prudently and governing financial institutions to provide for such markets responsibly and in a non-exploitative manner, see FCA, *Consumer Vulnerability* (2015) at <https://www.fca.org.uk/publication/occasional-papers/occasional-paper-8-exec-summary.pdf>.

<sup>161</sup> Attributed to Lord Turner, the Chairman of the UK Financial Services Authority appointed to weather it through the global financial crisis in 2009, see interview in the *Financial Times*, <https://www.ft.com/content/bc424150-3165-11e6-ad39-3fee5ffe5b5b>. Also see ‘Carney tells banks to end ‘socially useless’ activities’ (BBC News, 8 August 2013).

<sup>162</sup> Indeed regulation itself can become relaxed in the following boom cycle, and contributes to the next bust cycle, Jihad Dagher, ‘Regulatory Cycles: Revisiting the Political Economy of Financial Crises’ (IMF Working Paper 2018) at <https://www.imf.org/~media/Files/Publications/WP/2018/wp1808.ashx>; Jeremy Cooper, ‘From Boom to Bust’ in Iain G MacNeil and Justin O’Brien (eds), *The Future of Financial Regulation* (Oxford: Hart 2010).

<sup>163</sup> Argued in Steven A Ramirez, ‘A Revolution in Economics but not in Law’, ‘Animal Spirits and Financial Regulation’ and ‘The Crisis in Crisis Management’ in *Lawless Capitalism: The Subprime Crisis and the Case for an Economic Rule of Law* (NY: NYU Press 2013).

<sup>164</sup> Karl Polanyi, *The Great Transformation* (Beacon Press, 2<sup>nd</sup> ed, 2002, original 1944), Part II; introduced and summarised in Carlo Trigilia, *Economic Sociology* (Oxford: Blackwell 2002), ch1. Fred Block and Margaret F Sommers, ‘Beyond the Economistic Fallacy: The Holistic Social Science of Karl Polanyi’ in Theda Skocpol (ed), *Vision and Method in Historical Sociology* (Cambridge: CUP 1984), ch3; Alexander Ebner, ‘The Regulation of Markets: Polanyian Perspectives’ in Bettina Lange, Fiona Haines and Dania Thomas (eds), *Regulatory Transformations: Rethinking Economy-Society Interactions* (Oxford: Hart 2015), ch 2 discuss the ramifications and new vision of corporations and markets that are socially oriented and embedded.

<sup>165</sup> As discussed above.

<sup>166</sup> Lagenbucher sets out extensive in Parts I and II why such approaches have significant appeal, but lessons ought to be learnt in the wake of the global financial crisis! See Katja Lagenbucher, *Economic Transplants: On Lawmaking for Corporations and Capital Markets* (Cambridge: Cambridge University Press, 2017).



We sketch the contours of this alternative proposal in Section D. However we first set out the likely resistance and challenges to such an alternative proposal.

First, as finance is highly transnational and global in nature, it is appealing for international standards to be harmonised for governing finance. In seeking consensus for such international harmonisation, Lagenbucher rightly argues that a common language which is apolitical is highly facilitative for such efforts. The quantitative, measurable promises in the economic method which can be modelled and tested provide such a 'common language' that seems to transcend political and institutional contexts. Hence, any effort in rebalancing a predominantly economic method in regulating finance with law or other socially-embedded or value-laden approach may be seen as counterproductive, as such may promote divergence and discontinuity. We however argue that the global financial crisis has produced an opportunity for many policy-makers in the world to agree on the normative collective good that finance should serve, such as financial stability,<sup>167</sup> and so high level principles of collective goods can be charted although each jurisdiction may have its own unique needs. The detailed needs of individual jurisdictions can be addressed differently, allowing for forms of differential implementation within an agreed broad framework.<sup>168</sup> We see nothing sub-optimal about this phenomenon as uniformity in governing finance for all corners of the globe will suffer from over-inclusion or over-exclusion. The main advantage that international harmonisation has secured through a form of quantitative uniformity in regulatory method is that international banks and financial institutions are provided with the convenience of not having to navigate too many local differences in developing their international footprints. Differences in legal duties, for example, imposed in different jurisdictions would be susceptible to criticisms of 'vagueness' and 'unpredictability', therefore raising the cost of doing financial business. However, an excessive focus on catering to the needs of the industry was exactly the reason for developing flexibility and devolving to bank self-regulation under the internal models approach in the capital requirements of Basel II. It is timely for regulators to rebalance the attention they have paid to supply-side needs with demand-side needs and other perspectives.

Second, the excessive attention paid to supply side needs has been very much supported by economic theory such as 'law and finance', which posits broadly that law has a part to play in developing successful financial markets.<sup>169</sup> Such a theory inevitably influences how policy-makers see the role of law and regulation, which is to facilitate financial development and growth, as there is a long line of literature on economic development being supported by financial development.<sup>170</sup> The US and EU have both developed financial regulation policies

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<sup>167</sup> See above discussion and the recognition of the Financial Stability Board above that reflects the a sense of collective position on the part of its global members.

<sup>168</sup> Mads Andenas and Iris H-Y Chiu, 'Financial Stability and Legal Integration in Financial Regulation'(2013) *European Law Review* 335.

<sup>169</sup> R La Porta, F Lopez-de-Silanes, A Shleifer and R Vishny, 'Law and Finance' (1998) 106 *Journal of Political Economy* 1113; R La Porta, F Lopez-de-Silanes and A Shleifer, 'What Works in Securities Laws' (2006) 71 *Journal of Finance* 1.

<sup>170</sup> Eg see Khan and Senhadji, 'Financial Development and Economic Growth : An Overview' (IMF paper 2012) at <https://www.imf.org/en/Publications/WP/Issues/2016/12/30/Financial-Development-and-Economic-Growth-An-Overview-3926>; D Durusu-Siftci et al, 'Financial Development and Economic Growth: Some Theory and More Evidence' (2017) 39 *Journal of Policy Modelling* 290; M Hassan et al, 'Financial Development and Economic Growth: New Evidence from Panel Data' (2010) 51 *Quarterly Review of Economics* 88.

in the vein of law and finance, the most notable in the US being the passing of the Gramm-Leach-Bliley Act in 1999 to repeal the longstanding prohibitions placed on investment banks and securities firms from undertaking retail banking activities. McGee argues that this is catalytic to the growth of US financial conglomerates and empires extending their footprints globally.<sup>171</sup> The EU has always also pursued regulatory harmonisation to promote the interests of financial firms to go cross-border in order to build up the Single Market and protective forms of regulation such as for consumers caught up much later.<sup>172</sup>

Law and finance ideology supports financialisation, which is defined as ‘the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies’,<sup>173</sup> or in a political scientist’s view, ‘financialisation is the increase in the influence of financial markets, institutions and elites over both the economy and other institutions of society, including the government.’<sup>174</sup> In this manner, regulating finance, in ensuring that financial consumers have wide access to financial products and services, results in augmenting opportunities and markets for the financial sector.<sup>175</sup> By elevating the social importance of finance, law and regulation has served the perceived social good of finance in meeting the financial needs of households, corporations and sovereigns all over the world. Policy-makers have thus preferred for financial regulation to be justifiable in terms of proportionality and cost, and economic methods of regulation which inherently lend themselves to calculability of cost and benefit and are aimed at the most efficient ways of providing governance, would naturally appeal to policy-makers.<sup>176</sup>

Finally, micro-prudential regulation is developed largely by the Basel Committee which comprises of central bankers, and many micro-prudential regulators are central banks staffed with economists.<sup>177</sup> The influence of central bank economists on standard setting inevitably skews regulators towards a preference for the ideological foundations of law and economics as well as its methods in regulation. Bank regulation is now in the hands of the

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<sup>171</sup> Suzanne McGee, *Chasing Goldman Sachs* (New York: Crown Business 2010); Gillian Tett, *Fool's Gold: How Unrestrained Greed Corrupted a Dream, Shattered Global Markets and Unleashed a Catastrophe* (London: Abacus 2010).

<sup>172</sup> Jean Dermine, ‘European Banking Integration: Don’t Put the Cart before the Horse’ (2006) 15 *Financial Markets, Institutions and Instruments* 57; Lucia Quaglia, ‘Setting the Pace? Private Financial Interests and European Financial Market Integration’ (2008) 10 *BJPIR* 46.

<sup>173</sup> Gerald A Epstein, ‘Introduction: Financialization and the World Economy’ in Gerald A Epstein ed, *Financialization and the World Economy* (Cheltenham: Edward Elgar, 2005) at 3.

<sup>174</sup> Gautam Mukunda, ‘The Price of Wall Street’s Power’ (2014) *Harvard Business Review* 70, on the effects of financialisation upon the American economy,

<sup>175</sup> Christos K Staikouras and Anastasia Koutsomanoli-Fillipaki, ‘Competition and Concentration in the New European Banking Landscape’ (2006) 12 *European Financial Management* 443, arguing that market integration has allowed universal banking institutions to become large concentrated behemoths capturing ever larger market shares.

<sup>176</sup> FCA, *Economics for Effective Regulation* (2016) at <https://www.fca.org.uk/publications/occasional-papers/occasional-paper-no-13-economics-effective-regulation> shows a predominantly economic leaning in allowing financial sector solutions and markets to work and to be facilitated and supported instead of being intruded upon by law and regulation. Critique against ‘law and finance’ see Colin Mayer, ‘Economic Development, Financial Systems, and the Law’ in Niamh Moloney, Eilís Ferran, and Jennifer Payne (eds), *The Oxford Handbook on Financial Regulation* (Oxford: OUP 2015).

<sup>177</sup> Charles Goodhart, Dirk Schoenmaker and Paolo Dasgupta, ‘The Skill Profile of Central Bankers and Supervisors’ (2002) 6 *European Financial Review* 397 at <http://personal.vu.nl/d.schoenmaker/Skill%20Profile%20EFR6.3.pdf>.

Bank of England via its Prudential Regulation Authority which is one of the Bank's committees. At the EU level, the European Central Bank is the micro-prudential supervisor for all systemically important Euro-area banks. Research by Goodhart et al show that non-central bank regulators have a higher proportion of lawyers, and such expertise is perceived as important to contribute to standard-setting over financial activities that are more market-based such as securities.<sup>178</sup> Particularly in jurisdictions where micro-prudential regulation is implemented and overseen by prudential regulators based in central banks, there is a need for increased awareness of the limitations of the law and economics approach to regulating financial institution behaviour. For central banks that have taken over prudential regulation such as in the UK and at the ECB mentioned above, the augmentation of central banks' responsibilities has taken them into a new era, as they are perceived to be guardians and providers of financial stability and economic growth.<sup>179</sup>

Although 'new and improved' law and economics shows a more holistic economic approach to regulating financial institutions, the increased responsibilities for prudential regulators import of wider social expectations and are not merely technocratic in nature. Hence, the guardians in micro-prudential regulation need to engage more widely with contextual, institutional, social and stakeholder perspectives,<sup>180</sup> and policy-making inevitably has to take on a more nuanced and qualitative character than excessively relying on micro-economic and quantitative approaches to governing the financial sector.

We suggest an alternative proposal for regulating financial institutions' prudent behaviour, and argue that there is a need for rebalancing law in this approach. The prudence needed in financial intermediation is a nuanced form of decision-making that should incorporate the interests of financial customers, the risks for the individual institution and the context of markets, economic and social policy. The socially-embedded policy choice of financial stability should incorporate what society envisages finance to serve,<sup>181</sup> and not merely leave finance to the commercial decision-making by firms. Ramirez also argues for a constitution for framing financial activity so as to prevent the financial sector from being self-serving, perpetuating excesses of 'lawless capitalism' in financial markets and amassing great power in this age of financialisation.<sup>182</sup> Quantitative regulatory approaches focused on measuring the price of risk in micro-prudential regulation continues to perpetuate an atomistic existence and purpose for finance in a socially dis-embedded manner.

#### **D. Rebalancing Law in Micro-prudential Regulation**

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<sup>178</sup> Above.

<sup>179</sup> Mohamed El-Erian, *The Only Game in Town: Central Banks, Instability, and Avoiding the Next Collapse* (London: Penguin, 2016) generally.

<sup>180</sup> James R Barth, Gerard Caprio and Ross Levine, *Guardians of Finance: Making Regulators Work for Us* (MIT Press 2012) generally; Saule T Omarova, 'Bankers, Bureaucrats, and Guardians: Toward Tripartism in Financial Services Regulation' (2012) 37 *Journal of Corporation Law* 621.

<sup>181</sup> Tamara Lothian, 'The Past and Future of Financial Reform: From Regulation to Reorganization' and 'Economic Progress and Structural Vision' in *Law and the Wealth of Nations* (NY: Columbia University Press 2017); also see Timothy Canova, 'Financial Market Failure as a Crisis in the Rule of Law: From Market Fundamentalism to a New Keynesian Regulatory Model' (2009) 3 *Harvard Law and Policy Review* 369; David M Driesen, 'Legal Theory Lessons from the Financial Crisis' (2014) 40 *Journal of Corporation Law* 55.

<sup>182</sup> Steven A Ramirez, 'The Potential for an Economic Rule of Law' in *Lawless Capitalism: The Subprime Crisis and the Case for an Economic Rule of Law* (NY: NYU Press 2013).

Goodhart reminds us that economic policy is anchored within the context of making choices within an institutional context.<sup>183</sup> Law gives formalisation to institutions established by political powers and social contexts, and economic policy works within such a context. However, the rise of neoliberal ideology since the 1980s has contributed to the elevation of micro-economic efficiency as a policy goal as such.<sup>184</sup> Micro-economic efficiency is perceived as individually liberating and capable of culminating in an ‘uncoordinated’ common good. This perspective has facilitated the development of economic policy in a disembedded manner from institutional contexts, such as promoting competition and globalisation without giving thought to local and social disruptions,<sup>185</sup> or promoting financial liberalisation without giving thought to the needs of financial stability.<sup>186</sup> ‘Regulating finance’ in such an ideological tide becomes concerned with achieving individual choice, efficiency and building markets to serve those purposes,<sup>187</sup> becoming a servant to micro-economic assumptions.<sup>188</sup>

Ramirez<sup>189</sup> reminds us that law reflects important institutional values and has the potential to give rise to a constitutional framework for economic activity- that economic activity should be directed towards achieving the values and goals of the society concerned, such as equalities in access to opportunities, social and distributive justice, and as suggested by Lothian,<sup>190</sup> service to the real economy in bringing about real prospects of self-realisation in an institutional context that promotes social cohesion and stability. A number of commentators<sup>191</sup> also argue in the EU context that legal integration in regulating economic activities is meant to be ordoliberal in nature, ie introducing an ordered, institutionally-coherent approach to regulation, and not just to introduce regulation in order to support and serve efficient markets. In light of the discussion in Section C on the shortfalls of post-crisis financial regulation reforms, law seems to have a part to play in bringing to bear important institutional values and social expectations upon financial regulation, in relation to connecting regulatory methodology to ultimate substantive outcomes.

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<sup>183</sup> Charles AE Goodhart, ‘Economics and the Law: Too Much One-Way Traffic?’ (1997) 60 *Modern Law Review* 1.

<sup>184</sup> Josef Hien and Christian Joerges (eds), *Ordoliberalism, Law and the Rule of Economics* (Oxford:Hart 2017) esp at Thomas Biebricher, ‘Ordoliberalism as a Variety of Neoliberalism’ at ch 6;Michelle Everson, ‘Ordoliberal Escape from Societas Economica: Re-establishing the Normative’ at ch12;Christian Joerges, ‘The Overburdening of Law by Ordoliberalism and the Integration Project’ at ch11.

<sup>185</sup> Tamara Lothian, ‘The Past and Future of Financial Reform: From Regulation to Reorganization’ and ‘Economic Progress and Structural Vision’ in *Law and the Wealth of Nations* (NY: Columbia University Press 2017).

<sup>186</sup> Gerding argues that regulation promotes and stimulates financial markets and then retreats in the face of market bubbles and exuberance in order not to perturb the perceived optimal working of financial markets, see Eric Gerding, *Law, Bubbles, and Financial Regulation* (Oxford: Routledge 2014).

<sup>187</sup> Above.

<sup>188</sup> Charles AE Goodhart, ‘Economics and the Law: Too Much One-Way Traffic?’ (1997) 60 *Modern Law Review* 1; Katja Lagenbacher, ‘Economic Imperialism’ in *Economic Transplants: On Lawmaking for Corporations and Capital Markets* (Cambridge: Cambridge University Press, 2017).

<sup>189</sup> Steven Ramirez, *Lawless Capitalism: The Subprime Crisis and the Case for an Economic Rule of Law* (NY: NYU Press 2013).

<sup>190</sup> Tamara Lothian, ‘The Past and Future of Financial Reform: From Regulation to Reorganization’ and ‘Economic Progress and Structural Vision’ in *Law and the Wealth of Nations* (NY: Columbia University Press 2017).

<sup>191</sup> See n184.

By introducing qualitative standards in law to regulate prudent behaviour, and not just relying on economic levers, we could have the opportunity to consider the broad principles for governing finance, the standards of behaviour society wishes to hold financial intermediaries to, and develop less complex but meaningful regulatory standards. In this way one is also not lost in the myopia of ‘managing numbers’ for compliance with quantitative methods of economic regulation which has the tendency of insulating from the purposes and objectives of compliance, resulting in procedural forms of ritualization and box-ticking.<sup>192</sup> Many have lamented the complexity and volumes of post-crisis regulation and the demands placed on compliance.<sup>193</sup> We therefore suggest that the introduction of legal principles and standards can support genuinely useful economic levers, such as those that infuse macro-prudential perspectives, but could also pave the way for scaling back excessively prescriptive quantitative forms of regulation that bear uncertain relationships with normative outcomes such as the preservation of financial stability or promoting financial and social justice. Three legal duties are sketched out in their contours in the next section.

### ***Three Legal Duties for Financial Institutions***

First, as the global financial crisis has illustrated, large, complex and inter-connected financial institutions pose the greatest level of systemic risk regionally and globally when they fail.<sup>194</sup> Hence there should be legal principles to reflect the social expectations of institutions that attain that profile. As in general law, hazardous activities demand greater attention and care,<sup>195</sup> and this has been reflected in European legislation regarding financial market trading undertaken by automated and highly sophisticated traders so that they do not inflict market crashes and cause extreme losses for other market participants. We suggest that a legal duty framed along the lines of increasing prudential care proportionate to the systemic hazards posed can be framed for institutions that undertake financial intermediation risks at significant levels.

On 6 May 2010, the New York Stock Exchange experienced a flash crash. In 35 minutes, many stocks lost significant amounts in value and the Dow Jones Index had fallen by 9%. It emerged that a trader in London had developed an algorithm to place automated sell orders of certain derivative instruments for him in high frequency in order to drive prices down in those instruments.<sup>196</sup> Such conduct is illegal market manipulation and caused the underlying securities to dive in price. Although the trader Navinder Sarao was extradited to the US to

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<sup>192</sup> Michael Power, *Organised Uncertainty: Designing a World of Risk Management* (Oxford: Oxford University Press, 2008) at especially chapters 2, 3 and 6; Michael Power, *The Audit Society* (Oxford: Oxford University Press, 1997) at chapter 6; Kimberly Krawiec, ‘Cosmetic Compliance and the Failure of Negotiated Governance’ (2003) 81 *Washington University Law Quarterly* 487.

<sup>193</sup> Gerard Caprio, ‘Financial Regulation After the Crisis: How Did We Get Here, and How Do We Get Out?’ (2013) at <http://www.lse.ac.uk/fmg/assets/documents/papers/special-papers/SP226.pdf>; ‘Financial Regulations Will Surpass 300 Million Pages by 2020’ (16 April 2020) at <https://techandfinance.com/2016/04/20/financial-regulations-will-surpass-300-million-pages-by-2020-says-jwg/>.

<sup>194</sup> FSB, IMF and BIS, *Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations* (2009) at <https://www.imf.org/external/np/g20/pdf/100109.pdf>; Rosa Lastra, ‘Systemic Risk, SIFIs and Financial Stability’ (2011) 6 *Capital Markets Law Journal* 197.

<sup>195</sup> *Honeywill & Stein v Larkin Bros* [1934] 1 KB 191.

<sup>196</sup> ‘The 2010 Flash Crash: How it Unfolded’ *The Guardian* (22 April 2015) at <https://www.theguardian.com/business/2015/apr/22/2010-flash-crash-new-york-stock-exchange-unfolded>.

face charges to which he pleaded guilty, this episode highlights a more fundamental principle regarding augmentation of financial risk through significant scale of financial activity. Although smaller episodes of high volatility are now becoming the norm in the UK, European and US markets with the advent of automated and high frequency trading,<sup>197</sup> European legislation is dealing with such risks by conferring on high frequency traders certain duties in order to make them responsible for protecting financial and market stability.<sup>198</sup> European legislation designates traders who conduct a certain volume of trading in certain frequencies as market-makers. They are imposed with duties to carry out a level market-making consistent with market needs and to ensure that their systems and controls safeguard that responsibility. They are not to withdraw liquidity in stressed times and have to be mindful of overall market stability. Whether these duties go far enough may remain a matter for debate, but the broad principle of imposing legal duties of extra care and a sense of responsibility for their part in preserving financial stability is instructive for policy-making in other areas where significant levels of risk may be augmented due to scale of activities.

In applying to financial institutions in their undertaking of risks in financial intermediation, there should be a legal duty for those engaged in significant levels of risk, such as having large market shares in particular areas of lending (for eg the failed UK lender Northern Rock in residential mortgages), or asset managers with gargantuan amounts of assets under management, to justify their significant areas of risk and to take extra care in exercising prudence and in preventing adverse impact on financial stability and the real economy.

In defining what significant scale of risks mean, existing guidance from the Basel Committee's indicator approach<sup>199</sup> which identifies five indicators of systemically important financial institutions- by their size, inter-connectedness, complexity, cross-jurisdictional activity and substitutability can form a starting point. However national regulators should be able to adapt these to the financial markets that they are addressing, and identify unique indicators of significant risks that are appropriate, such as for example a firm's market share of vulnerable customers for high-cost short term credit (such as payday lending), which raises issues of concern unique to the UK.<sup>200</sup> A financial institution regarded as carrying out significant levels of risk-taking in its respective area caught by its regulator's indicators should have a duty to account to the regulator frequently in terms of the steps taken to mitigate prudential risks and risks to the wider financial system. As supervisory measures, regulators can prescribe quantitative micro-prudential tools such as regulatory pricing for certain risk levels as well as qualitative measures such as corporate governance and risk management, appropriate for each institution's profile. In this way financial institutions are inculcated with a broader consciousness of their impact on collective good, and quantitative micro-prudential tools can play a useful part in supporting and implementing supervisory and policy decisions.

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<sup>197</sup> 'The stock market has about 12 mini flash crashes a day — and we can't prevent them' (31 July 2017) at <https://www.marketwatch.com/story/the-stock-market-has-about-12-mini-flash-crashes-a-day-and-we-cant-prevent-them-2017-07-31>.

<sup>198</sup> Art 17(3), Markets in Financial Instruments Directive 2014/65/EU.

<sup>199</sup> Basel Committee, *Global Systemically Important Banks: Updated Assessment Methodology and the Higher Loss Absorbency Requirement* (2013) at <https://www.bis.org/publ/bcbs255.pdf>.

<sup>200</sup> Such as the UK FCA's High Cost Credit Review 2018 at <https://www.fca.org.uk/news/press-releases/fca-publishes-outcome-high-cost-credit-review>.

It may be argued that the UK's approach to ring-fencing the retail parts of a large banking group is, in addition to micro-prudential regulatory reforms discussed above, the key measure for dealing with systemically important banks.<sup>201</sup> This measure is far more certain in nature than the vagueness of a legal duty to account for prudential management and to take extra care. The objective of structurally ring-fencing the retail bank is to achieve a form of separation from its parent banking group and immunity from contagion if the parent banking group should be stricken.<sup>202</sup> The nature and extent of separation is prescribed in legislation,<sup>203</sup> and its implementation gives the impression of having achieved a socially desirable level of protection for banking aspects that relate most keenly to social utility. However, structural reforms do not necessarily ensure that the retail bank serves socially useful purposes such as 'the real economy'<sup>204</sup> nor do they improve the safety of the bank from excessive risks that such a bank may take in relation to retail activities.<sup>205</sup> Further, policy-makers' unwillingness to put in constraints on banking activities for banking groups means that although retail banks are ring-fenced, their connection to the group remains and it remains uncertain to what extent they are protected from contagion.<sup>206</sup> Ultimately this measure applies to only a handful of the systemically important banks in the UK and does not provide an organic framework for dealing with systemically risky profiles in non-banking sectors and non-bank firms.

Second, financial institutions should be imposed with duties to conduct financial intermediation in such a way as not to promote purely speculative activities. Such a duty is important for two reasons, one is that capital diverted to speculative activities is not put towards real economically productive purposes and can subvert the objective of financial intermediation to serve the real economy.<sup>207</sup> This 'diversion' is observed at a significant scale as 'speculative' activities have grown in volume,<sup>208</sup> and commentators note the rise in 'rentier' incomes made from speculating on financial assets, creating widening disparities between income that is generated from financial market activity and income generated from real economic productivity.<sup>209</sup> Second, high levels of financial risk such as leverage,

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<sup>201</sup> Independent Commission on Banking, *Final Report* (2010) at <http://bankingcommission.s3.amazonaws.com/wp-content/uploads/2010/07/ICB-Final-Report.pdf>. This is implemented in s142ff of the Financial Services and Markets Act amended by the Financial Services (Banking Reform) Act 2013.

<sup>202</sup> Above.

<sup>203</sup> Above.

<sup>204</sup> Discussed in Tamara Lothian, 'The Past and Future of Financial Reform: From Regulation to Reorganization' in *Law and the Wealth of Nations* (NY: Columbia University Press 2017); Timothy Canova, 'Financial Market Failure as a Crisis in the Rule of Law: From Market Fundamentalism to a New Keynesian Regulatory Model' (2009) 3 *Harvard Law and Policy Review* 369.

<sup>205</sup> Iris H-Y Chiu, 'The Vickers Independent Banking Commission Report – Does the Ring-fencing of Retail Banks Mitigate Systemic Risk Concerns in the Banking Sector?' (2012) 9 *International Corporate Rescue* 79

<sup>206</sup> Above.

<sup>207</sup> Jana Drutarovská, 'Speculative Activities in the Financial Markets and its Relation to the Real Economy' (2014) 6 *Journal of Public Administration, Finance and Law* 144; Emiliós Avgouleas, 'From Speculative to Sustainable Finance: Can Markets Do Good?', presentation at Murray Edwards College, University of Cambridge, 19 Jan 2017.

<sup>208</sup> Jana Drutarovská, 'Speculative Activities in the Financial Markets and its Relation to the Real Economy' (2014) 6 *Journal of Public Administration, Finance and Law* 144.

<sup>209</sup> RH Tawney, 'The Rentier and Financier', John Maynard Keynes, 'Speculation, Cyclicity and the Euthanasia of the Rentier' and Greta Krippner, 'Accumulation and the Profits of Finance' in Ismail Erturk, Julie Froud, Sukhdev Johal, Adam Leaver and Karel Williams (eds), *Financialization At Work: Key Tests and Commentary* (Oxford: Routledge, 2008); Gerald Epstein and Arjun Jayadev, 'The Rise of Rentier Incomes in

taking large trading positions are often associated with speculative activities,<sup>210</sup> and losses occasioned in this manner are both wasteful (in light of the first argument above) and could be catastrophic to the financial institution concerned<sup>211</sup> and perhaps entail systemic risk.

It can be argued that there is a thin line between speculative activities and activities that may perform the function of hedging for financial risks that are genuinely useful.<sup>212</sup> Further, why should one stop financial institutions from making financial profits out of speculation if 'good judgment' is made on the markets? However, as Duffie acknowledges, speculative financial activities are zero-sum games.<sup>213</sup> We are of the view that it is highly uncertain that such zero-sum games, which make huge profits for one financial institution but inflict losses upon another financial institution, is either collectively beneficial or systemically non-hazardous. Further, behavioural psychologists show that similar attitudes are at play in speculative finance and gambling,<sup>214</sup> entailing hazards of addiction which compromise the need to make informed and sound investment and financial intermediation decisions. There are likely to be challenges in defining what regulators should prohibit as speculative in nature, and we suggest broadly that regulators could look at the scale of derivatives, leverage and margined trading activities<sup>215</sup> to discern the extent these represent hedging and risk management as proportionate to the business of financial intermediation. The duty not to speculate should form part of the conditions for authorising the financial business and financial institutions should also have in place systems and controls to monitor culture and individual behaviour so that purely speculative activities are not undertaken.

We also argue that the current UK regime<sup>216</sup> for imposing criminal liability on directors who have made a risky decision being 'aware of a risk that the implementation of the decision may cause the failure of the .. institution' and in taking such decision has conducted himself/herself in a manner 'below what could reasonably be expected of a person in [his/her] position' does not address the concern regarding speculative activities discussed above.<sup>217</sup> The UK regime is very narrowly framed as it compares the standard of conduct of an indicted financier with what other reasonable financiers would do, therefore merely endorsing and not changing extant financial practices. The regime also only applies if the financial institution group should fail. Hence this regime does not deter purely speculative

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OECD Countries: Financialization, Central Bank Policy and Labor Solidarity' in Gerald A Epstein ed, *Financialization and the World Economy* (Cheltenham: Edward Elgar, 2005) at 46.

<sup>210</sup> Emiliios Avgouleas, 'From Speculative to Sustainable Finance: Can Markets Do Good?', presentation at Murray Edwards College, University of Cambridge, 19 Jan 2017.

<sup>211</sup> Such as Nick Leeson's bets on the Nikkei Index in 1995 that caused Barings Bank to collapse.

<sup>212</sup> Darrell Duffie, 'Challenges to a Policy Treatment of Speculative Trading Motivated by Differences in Beliefs' (2014) 43 *Journal of Legal Studies* 173.

<sup>213</sup> Above.

<sup>214</sup> Jennifer N Arthur, Robert J Williams and Paul H Delfabbro, 'The Conceptual and Empirical Relationship Between Gambling, Investing, and Speculation' (2016) 5 *Journal of Behavioural Addictions* 580.

<sup>215</sup> The explosion of such types of activities as speculation is identified in Jana Drutarovská, 'Speculative Activities in the Financial Markets and its Relation to the Real Economy' (2014) 6 *Journal of Public Administration, Finance and Law* 144.

<sup>216</sup> S36, Financial Services (Banking Reform) Act 2013.

<sup>217</sup> Schwarcz argues that the internalisation of losses by responsible individuals in financial institutions more widely will play a significant part in deterring wrong-doing, see Steven Schwarcz, 'The Governance Structure of Shadow Banking: Rethinking Assumptions about Limited Liability' (2014) 90 *Notre Dame Law Review* 1. The deterrence effect flanks the current thinking on micro-prudential regulation in terms of avoiding crises and mitigating trouble but goes not go a step further to govern finance in terms of what it ought to serve.



activities as it sends out a message that risky activities are not deterred unless there is a 'nuclear' risk of ultimate failure for the institution. This regime does not cover episodes of significant losses or damage to stakeholders' interests for example.

Finally, we suggest that there is a case for the corporate charter of certain financial institutions to incorporate the collective social interest of its financial intermediation role. This would apply to systemically important financial institutions that have a wide social and economic footprint and pose risks to systemic financial stability. This would also apply to institutions that although not yet systemically important, serve important purposes of financial intermediation with significant economic and social implications. We envisage these to include retail-facing institutions such as deposit-taking institutions, pensions-managing financial institutions and their intermediaries, financial institutions that offer products with wide retail appeal, such as savings, investment and insurance products that are regarded to be in wide demand or are staple. We also envisage that financial institutions serving wholesale market needs would fall within our scope if they engender financial stability risks, such as some hedge funds. In other words, unless a financial institution is inconsequential upon failure or likely to engender contained adverse impact upon failure, such a financial institution should be included within the scope of financial corporations that should have a public interest objective in its charter.

We agree with Hockett and Omarova<sup>218</sup> in re-introducing a public interest objective into the charter of financial institutions, as part of the condition for authorisation of business. In this age of financialisation where extensive household, individual, corporate and sovereign needs in financial management are met through financial intermediation, financial institutions should not merely regard their roles as for-profit private organisations primarily accountable to shareholders.<sup>219</sup> Their role is crucially important to economic allocation at a macro level and has a social impact in terms of financial provision and wealth distribution, thus justifying treatment as a 'public-private franchise'.<sup>220</sup> Some commentators<sup>221</sup> have also mooted the 'public interest' duty for directors of financial institutions, but Clark's discussion of its implementation in Ireland raises some doubts as to how it is interpreted and the uncertainties such a framing has caused in terms of directors' discharge of their functions.<sup>222</sup> We believe it is of primary importance to introduce a public interest corporate objective that necessarily cascades into strategic decision-making and organisational structures and culture, and supports any form of 'public interest' duty that directors may be imposed with.

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<sup>218</sup> Robert Hockett and Saule T Omarova, 'Special,' Vestigial, or Visionary? What Bank Regulation Tells Us about the Corporation - and Vice Versa' (2016) 39 Seattle University Law Review 453.

<sup>219</sup> Simon Deakin, 'Corporate Governance and Financial Crisis in the Long Run' in Cynthia A Williams and Peer Zumbansen (eds), *The Embedded Firm: Corporate Governance, Labor and Finance Capitalism* (New York: Cambridge University Press 2011).

<sup>220</sup> Term used in Robert Hockett and Saule T Omarova, 'Special,' Vestigial, or Visionary? What Bank Regulation Tells Us about the Corporation - and Vice Versa' (2016) 39 Seattle University Law Review 453.

<sup>221</sup> Steven Schwarcz, 'Too Big to Fool: Moral Hazard, Bailouts, and Corporate Responsibility' Minnesota Law Review (forthcoming) <[https://scholarship.law.duke.edu/faculty\\_scholarship/3677](https://scholarship.law.duke.edu/faculty_scholarship/3677)>. PM Vasudev, 'Credit Derivatives and Risk Management: Corporate Governance in the Sarbanes-Oxley World' [2009] Journal of Business Law 331.

<sup>222</sup> Blanaid Clark and Gail E Henderson, 'Directors as Guardians of the Public Interest: Lessons from the Irish Banking Crisis' (2016) 16 Journal of Corporate Law Studies 187.

It approximates towards Lothian's vision of 'reorganising finance' to serve the needs of the real economy.<sup>223</sup>

In this manner, it may be argued most financial institutions should be authorised upon the condition that they are incorporated into a special organisational form that gives effect to the public interest corporate objective, distinguished from the for-profit corporation whose governance is largely accountable to shareholders. 'Shareholder primacy', which is an orientation based on maximising corporate wealth in order to maximise shareholders' wealth invested in the corporation, may be an efficient way to control directors' agency problems vis a vis shareholders,<sup>224</sup> but commentators have pointed out that financial corporations are different from other for-profit corporations. In particular, banks are financed to a large extent by deposits, but depositors often only have a contractual right of demand for return of their deposit and no other governance or stakeholder rights in banks.<sup>225</sup> Banks and many financial corporations also generate significant amounts of funding from borrowing in institutional funding markets often on a short term basis, using the financial assets they hold as collateral.<sup>226</sup> Hence, financial corporations implicate many more stakeholders on the basis of their risk-taking, and conventional corporate governance structures and rights that flow from mainstream corporate finance structures are not necessarily appropriate for financial corporations.<sup>227</sup>

It would be necessary to explore a special organisational form, including structures, governance and rights in order to integrate a public interest objective, adapted forms of directors' duties and accountability, and to provide for financial and non-financial stakeholders' rights and obligations.<sup>228</sup> The persistence with the for-profit corporation and its institutions of protection for a limited set of stakeholders, in particular the tendency to uphold shareholder primacy, would continue to pose challenges for governing finance towards public interest purposes and in a socially-embedded manner.<sup>229</sup>

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<sup>223</sup> Tamara Lothian, 'The Past and Future of Financial Reform: From Regulation to Reorganization' in *Law and the Wealth of Nations* (NY: Columbia University Press 2017).

<sup>224</sup> Shareholders are treated by economists as 'residual claimants', meaning that their supply of capital to the company is under an open-ended arrangement which renders them liable to be ultimate losers if the company should fail. The 'residual claimant' status of the shareholders therefore requires protection so that managers do not abuse the privilege of being in control of the use and application of capital. See Armen A Alchian and Harold Demsetz, 'Production, Information Costs and Economic Organisation' (1972) 62 *The American Economic Review* 777; Oliver Williamson, 'Corporate Governance' (1984) 93 *Yale Law Journal* 1197; M Jensen and W Meckling, 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure' (1976) 3 *Journal of Financial Economics* 305; R Kraakman et al, *The Anatomy of Corporate Law* (Oxford: OUP, 2017) at ch2.

<sup>225</sup> *Foley v Hill* (1848) 2 HLC 28, 9 ER 1002.

<sup>226</sup> Manmohan Singh, *Collateral and Financial Plumbing* (Risk Books, 2014).

<sup>227</sup> Penny Ciancanelli and Jose Antonio Reyes Gonzalez, 'Corporate Governance in Banking: A Conceptual Framework' (2000) < [http://papers.ssrn.com/paper.taf?abstract\\_id=253714](http://papers.ssrn.com/paper.taf?abstract_id=253714).

<sup>228</sup> A blueprint for a corporation attuned towards a broader range of stakeholders is discussed in Iris H-Y Chiu, 'Operationalising A Stakeholder Conception in Company Law' (2017) 10 *Law and Financial Markets Review* 173.

<sup>229</sup> The adverse impact of shareholder primacy on banks, see Karen Ho, 'Disciplining Investment Bankers, Disciplining the Economy: Wall Street's Institutional Culture of Crisis and the Downsizing of "Corporate America"' (2009) 111 *American Anthropologist* 177; Elisabetta Gualandri, Aldo Stanziale and Enzo Mangone, 'Internal Corporate Governance and the Financial Crisis: Lessons for Banks, Regulators and Supervisors' (2011) at <http://ssrn.com/abstract=1971659>; Lawrence J White, 'Corporate Governance and Prudential Regulation of Banks: Is There Any Connection?' in James R Barth, Chen Lin and Clas Wihlborg (eds), *Research Handbook on International Banking and Governance* (Cheltenham: Edward Elgar 2012) arguing

## ***Drawbacks of Introducing Legal Duties?***

It may however be argued that the qualitative nature of legal duties entails vagueness and lack of certainty for financial institutions to organise and make strategic and operational decisions that need to be made quickly in competitive global markets. This would be counterproductive to their financial intermediation roles. Further, duties such as resisting a significant scale of activities in order not to become 'systemically important' could be regarded as unnecessary in the light of existing regimes for competition regulation, and could be counter-productive for financial institution groups that enjoy economies of scale. A 'public interest' charter in financial institutions could also become manipulated for political ends and subvert the efficient working of the financial institution.

Such critique on the one hand deals with the very qualitative nature of the proposed duties, but on the other hand simply deals with challenges in implementation, which is a more practical rather than conceptual issue.

The qualitative nature of regulating financial institutions for prudence is arguably necessary, as risk management is itself not an exact science. The qualitative duties discussed above are better able to feed into strategic deliberations, operational consciousness and control and firm culture<sup>230</sup> than a form of compliance based on quantitative calculations that would be devolved to small departments of specialists.

Commentators have described financial risk management as dealing with the measurement and analysis of risks in the form of 'known' risks ('k'), 'unknown risks' ('u') and 'unknowable' risks ('U').<sup>231</sup> 'Known risks' refer to risks that can be identified and quantified. Often past

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broadly that the business model of banking has been shaped by embracing 'shareholder value', an ideology which encourages the corporate world to be obsessed with stock market prices and to take a short-termist approach to profitability. Empirical research on the adverse impact of shareholder primacy on bank risk-taking and financial performance, see Andrea Beltratti and René M Stultz, 'Why Did Some Banks Perform Better during the Credit Crisis? A Cross-Country Study of the Impact of Governance and Regulation' (July 2009) NBER Working Paper No 15180 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1433502](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1433502); Reint Gropp and Matthias Köhler, 'Bank Owners or Bank Managers: Who is keen on Risk? Evidence from the Financial Crisis' (January 2010) European Business School Research Paper No 10-02 <http://ssrn.com/abstract=1555663>; Hanna Westman, 'The Role of Ownership Structure and Regulatory Environment in Bank Corporate Governance' (January 2010) <http://ssrn.com/abstract=1435041>.

<sup>230</sup> The call for enterprise-wide risk management has been loud in the wake of the global financial crisis as business, operations and strategic parts of a financial firms should all be aware of and implement prudent risk management as inherent in their roles. This would call for a qualitative form of policy cascading in firms based on senior management leadership and effective systems, see European Banking Authority, *Guidelines on Internal Governance under Directive 2013/36/EU* (2017) at <https://www.eba.europa.eu/documents/10180/1972987/Final+Guidelines+on+Internal+Governance+%28EBA-GL-2017-11%29.pdf>; paras 94-98; René M Stultz, 'Rethinking Risk Management' in Donald H Chew (ed), *Corporate Risk Management* (New York: Columbia Business School Publishing 2008); Betty Simkins and Steven A Ramirez, 'Enterprise Wide Risk Management and Corporate Governance' (2007-8) 39 *Loyola University of Chicago Law Journal* 571.

<sup>231</sup> Andrew Kuritzkes and Til Schuermann, 'What We Know, Don't Know and Can't Know about Bank Risk: A View from the Trenches' in F.X. Diebold, N. Doherty, and R.J. Herring (eds.), *The Known, The Unknown and The Unknowable in Financial Risk Management* (Princeton University Press, 2010); Richard J Herring, 'The Known, the Unknown, and the Unknowable in Financial Policy: An Application to the Subprime Crisis' (2009) 26 *Yale Journal on Regulation* 391; Phillippe Jorion, 'Risk Management Lessons from the Credit Crisis' (2009) 15 *European Financial Management* 923.

data and statistical information are used in analytical models which use mathematical probabilities to generate risk measurements.<sup>232</sup> ‘Unknown risks’ refer to risks that are not entirely unexpected although the likelihood of occurrence is uncertain, and the magnitude of the materialisation of such risk is also not exactly predictable. Hence, ‘unknown risks’ present problems of objective measurability.<sup>233</sup> ‘Unknowable risks’ refer to risks that are unexpected and therefore not measured at all. Often, systemic type events may be regarded as manifestations of ‘unknowable risk’.<sup>234</sup> This taxonomy of risks shows that some risks may be more easily measured than others and Kuritzkes et al<sup>235</sup> has in an empirical study found that market risk is the easiest to measure due to the availability of market transparency and is therefore managed to a greater extent in banks and financial institutions. Credit, operational, legal and reputational risks are much harder to measure by comparison. Unknown and unknowable risks can also be augmented by behavioural weaknesses. The uncertainties in measuring risk provided room for financial institutions in the pre-crisis era to underestimate such risks when there were strong incentives to engage in the business that could generate high returns.<sup>236</sup> Further the errors in risk measurement were augmented by subjective assumptions made in light of cognitive biases.<sup>237</sup> Unknown and unknowable risks have been underestimated due to business pressures, a lack of resources,<sup>238</sup> error of judgment<sup>239</sup> and over-optimism.<sup>240</sup>

There are thus limitations to quantitatively and objectively managing unknown and unknowable risks, and it is arguably misleading to steer the judgment and behaviour of financiers towards managing the quantitative thresholds set in micro-prudential regulation as a proxy for safe risk management. Imposing qualitative duties is proportionate to and coheres with the nature of managing the full suite of financial risks as matters for strategic, business and operational judgments that are highly qualitative in nature. Requiring the financial institution to adhere to the three duties of ensuring that their profile is accountable for systemic implications, their financial intermediation is not purely speculative and is consistent with public interest are qualitative dimensions that shape financial decision-making at firms. These duties are envisaged to work with economic levers

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<sup>232</sup> Joël Bessis, *Risk Management in Banking* (Chichester: John Wiley & Sons 2011) at xi and Sections 4 and 5.

<sup>233</sup> Andrew Kuritzkes and Til Schuermann, ‘What We Know, Don’t Know and Can’t Know about Bank Risk: A View from the Trenches’ in F.X. Diebold, N. Doherty, and R.J. Herring (eds.), *The Known, The Unknown and The Unknowable in Financial Risk Management* (Princeton University Press, 2010); Phillippe Jorion, ‘Risk Management Lessons from the Credit Crisis’ (2009) 15 *European Financial Management* 923.

<sup>234</sup> Above.

<sup>235</sup> Andrew Kuritzkes and Til Schuermann, ‘What We Know, Don’t Know and Can’t Know about Bank Risk: A View from the Trenches’ in F.X. Diebold, N. Doherty, and R.J. Herring (eds.), *The Known, The Unknown and The Unknowable in Financial Risk Management* (Princeton University Press, 2010).

<sup>236</sup> Arnold Kling, ‘The Financial Crisis: Moral Failure or Cognitive Failure?’ (2010) 33 *Harvard Journal of Law and Public Policy* 507; Karl S Okamoto, ‘After the Bailout: Regulating Systemic Moral Hazard’ (2009) 57 *UCLA Law Review* 183. Kose John, Anthony Saunders and Lemma W Senbet, ‘A Theory of Bank Regulation and Management Compensation’ (2000) 13 *Review of Financial Studies* 95 is an early paper that has warned that incentives such as in remuneration fundamentally affect risk-taking at banks and financial institutions.

<sup>237</sup> Riccardo Rebonato, *Plight of the Fortune Tellers: Why we Need to Manage Financial Risk Differently* (NJ: Princeton University Press, 2007) at 18ff, 28ff, 43ff, 127ff and 144ff.

<sup>238</sup> Michel Crouhy, ‘Risk Management Failures During the Financial Crisis’ in Robert W Kolb (ed), *Lessons from the Financial Crisis* (New Jersey: John Wiley 2010), and see discussion in Section B.

<sup>239</sup> Robert T Miller, ‘Oversight Liability for Risk-Management Failures at Financial Firms’ (2010) 84 *South California Law Review* 47.

<sup>240</sup> Steven L Schwarz and Lucy Chang, ‘The Custom to Failure Cycle’ (2012) 62 *Duke Law Journal* 767.

and quantitative tools that regulators should deploy appropriately in supervisory assessments.

At a less challenging level, the critique levied against qualitative duties is implementational in nature, such as in relation to how 'speculative' activities are defined, when a 'systemic profile' threshold is crossed, and how 'public interest' is interpreted. These are important as they set the boundaries for conduct that can be enforced against. However they are also not insurmountable as legal duties are replete with qualitative norms that require judicial and administrative interpretation. At the very least, as mentioned above, we propose that 'speculative' be defined in accordance with purpose and scale in relation to the financial intermediation business of the financial institution, and it is envisaged that supervisory relationships provide a context for such interpretations to be framed and defined, and would not necessarily result in a financial institution being slapped with a nuclear enforcement without adequate notice or due process of challenge.<sup>241</sup> The interpretation of 'systemic profile' or 'public interest' would also be fostered in the context of supervisory processes and exchange, as well as judicial interpretation where challenge is made.<sup>242</sup> Compelling financial institutions to give an account of how they perceive, manage risks and how they relate to their socially important purposes in financial intermediation helps foster a more accountable and embedded financial services industry in its institutional and social context.

It may be argued that the proposed legal duties are no different from the qualitative regulation of corporate governance and risk management highlighted earlier in Section C. Firms would need to interpret how to comply with qualitative duties and would inevitably install governance, systems and procedures to do so. It can be argued that legal duties would only give rise to procedural forms of compliance and would go no further in actually moderating financial firms' excessive or imprudent ambitions, or weed out 'socially useless' speculative activities. We are however of the view that these qualitative duties are not servant to quantitative thresholds in micro-prudential regulation but provide for the framework for any quantitative tools to be used, ie in a 'master' and not servant relationship to economic levers for behaviour. In this way, legal duties provide a framework for the *ex ante* supervisory judgment of a financial institutions' prudential management, but also reinforce *ex post* enforcement of the financial institution's judgment of its prudential risk management.

We see the legal duties as providing an *ex ante* framework for regulators to assess each regulated financial institution's prudential risk management so that appropriate supervisory judgments can be made in relation to the regulator-regulated dialogue on how behaviour should be shaped. But such legal duties also provide the legal framework for *ex post* enforcement, such as by regulators and in civil actions against financial institutions. *Ex post*

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<sup>241</sup> Indeed the UK regulators set out their supervisory frameworks clearly and enforcement is not usually before a thematic review of industry or an in-depth supervisory audit or report into a financial institution has been made, see for example PRA, *Our approach to Banking Supervision* (Oct 2012), <http://www.fsa.gov.uk/static/pubs/other/pr-a-approach-banking.pdf>; FCA, *Firm Systematic Framework for Supervision* at <https://www.fca.org.uk/publication/other/factsheet.pdf>.

<sup>242</sup> The administrative law of the regulators' powers is a growing area in the UK as the PRA and FCA undergo challenges in the Upper Tribunal for Chancery and Tax and useful jurisprudence is produced, eg see *BBA v FSA* [2011] EWHC 999.

enforcement is important, as a financial institution would have to justify its conduct in care, or in speculative-type activities how it has served its public interest purposes in financial intermediation. Such accountability re-embeds the conduct of finance in the social fabric, which is less likely achieved by technocratic applications of compliance with quantitatively-calibrated rules. The *ex post* enforcement reinforces *ex ante* supervision,<sup>243</sup> bringing about a coherent and consistent signal of governance for banks in relation to their prudential risk management, and brings together the regulator and the financial institution's stakeholders in a more comprehensive governance space for the financial institution.

Of course there is a need to ensure that regulatory supervision is credible and robust, and the quality of regulatory supervision could be another story. Regulatory capture is acknowledged to be a problem,<sup>244</sup> and there is a need to recruit, train, empower and equip regulators and also make them accountable to a diversity of government, judicial and stakeholder channels<sup>245</sup> in order to support the robustness and credibility of regulatory supervision. There are international efforts related to improving supervisory architecture and best practices.<sup>246</sup> As the Basel Committee has also taken steps to formalise regulatory cooperation and dialogue,<sup>247</sup> regulators could also engage in such exchanges in terms of how they administer qualitative duties in order to detect gaps and loopholes for regulatory arbitrage and foster an international system based on common principles and regulatory goals. At the EU level, European Supervisory Authorities provide public accountability through annual reporting<sup>248</sup> and engage intensively with stakeholders.<sup>249</sup> The UK as a national regulator is transparent about its supervisory framework,<sup>250</sup> informs the industry and public of forthcoming supervisory themes in annual business plans<sup>251</sup> and is itself subject to government, judicial and stakeholder accountability,<sup>252</sup> such as the FCA's annual public meetings.<sup>253</sup> The article does not propose to engage in more detail regarding regulatory structures and powers, but a broad point can be made- even if regulators may

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<sup>243</sup> The importance of these two dimensions is discussed in Iman Anabtawi & Steven L. Schwarcz, 'Regulating Ex Post: How Law Can Address the Inevitability of Financial Failure' (2013) 92 Texas Law Review 75-131, although in relation to a different combination of *ex ante* and *ex post* rules.

<sup>244</sup> Daniel C Hardy, 'Regulatory Capture in Banking' (IMF Working Paper 2006) at <http://ssrn.com/abstract=892925>; Stavros Gadinis, 'From Independence to Politics in Financial Regulation' (2013) 101 California Law Review 327.

<sup>245</sup> See n180.

<sup>246</sup> Bank for International Settlements, *Core Principles for Effective Banking Supervision*, (rev 2012)) at <http://www.bis.org/publ/bcbs230.htm>; FSB, *Key Attributes of Resolution Regimes*, at <http://www.fsb.org/2014/10/key-attributes-of-effective-resolution-regimes-for-financial-institutions-3/>.

<sup>247</sup> Basel Committee, *Principles for Effective Supervisory Colleges*, at <https://www.bis.org/publ/bcbs287.pdf>.

<sup>248</sup> See for example ESMA's annual report, at <https://www.esma.europa.eu/document-types/annual-report>; EBA's annual report at <http://www.eba.europa.eu/about-us/annual-reports>.

<sup>249</sup> Stakeholder panels are mandatory for the European Supervisory Agencies and the European Systemic Risk Board, Arts 37, EBA Regulation 1093/2010; ESMA Regulation 1095/2010; Art 12 on expert stakeholders for the ESRB, Regulation 1092/2010. The Authorities also engage in public consultation extensively and hold public days of engagement for stakeholders such as the Consumer Day.

<sup>250</sup> N222.

<sup>251</sup> See for eg PRA Business Plan 2018/19, at <https://www.bankofengland.co.uk/prudential-regulation/publication/2018/pr-a-business-plan-2018-19>; FCA's business plan 2018/9 at <https://www.fca.org.uk/publications/corporate-documents/our-business-plan-2018-19>.

<sup>252</sup> See Schedule 1ZA and 1ZB for the FCA and PRA in the UK respectively, also s1N-1Q, s2M-2N Financial Services and Markets Act as amended in 2012; classic reading Eva Lomnicka, "Making the Financial Services Authority Accountable" [2000] Journal of Business Law 65.

<sup>253</sup> Schedule 1ZA, Financial Services and Markets Act 2000 as amended in 2012.

not be perfect, genuine endeavours can be made towards supporting regulatory capacity and expertise in governing the regulated industry in a credible and accountable manner.

## **E. Conclusion**

This article takes stock of the post-crisis regulation for financial institutions' prudential safety and their impact on financial stability, and acknowledges that the earlier micro-economic and quantitative methods of micro-prudential regulation that have failed to shape bank behaviour optimally have given way to 'new and improved' law and economics approaches to micro-prudential regulation. These 'new and improved' regulatory approaches infuse macro-economic perspectives into micro-prudential regulation and also calibrate the quantitative nature of micro-prudential regulation to become more conservative and demanding in terms of setting regulatory prices for risk-taking.

However, the 'new and improved' law and economics approaches to post-crisis micro-prudential regulation have to grapple with the need for complex and precise regulatory pricing for risks and has led to rulebooks that are prescriptive, long, complex and arguably unwieldy. Such regulation in its quantitative focus also risks becoming dis-embedded from regulatory goals and social good while not being clearly related to the social expectations for finance, such as serving the real economy, desisting from 'socially useless' speculation and protecting financial stability.

We propose that the substantive public interest and social goods that we desire finance to serve can better be framed in relation to qualitative legal duties for financial institutions, namely to justify their attainment of systemically important profiles and to take extra prudential care if they do, to desist from purely speculative activities that do not serve a genuine or proportionate purpose to their financial intermediation business and to be subject to a public interest purpose in their corporate charters. Although legal duties are qualitative in nature and require interpretation in order to become refined and more certain, they can better foster a consciousness for regulatory compliance that is embedded in regulatory goals and social expectations. We discuss the contours of the legal duties we have sketched and the promise they hold in transforming the efficacy of prudential regulation for financial institutions, while acknowledging the challenges for implementing these.