

# *New Zealand Journal of Public and International Law*



VOLUME 10 • NUMBER 1 • JULY 2012

## SPECIAL ISSUE

ENHANCING STABILITY IN THE INTERNATIONAL ECONOMIC ORDER  
SPECIAL ISSUE EDITORS: ALBERTO COSTI AND SUSY FRANKEL

---

THIS ISSUE INCLUDES CONTRIBUTIONS BY:

David A Wirth  
Baris Karapinar and Kateryna Holzer  
Alistair Birchall

Krystyna Zoladkiewicz  
Sofya Matteotti and Olga Nartova  
Jo Feldman and David Brightling

---

THE NEW ZEALAND CENTRE OF  
INTERNATIONAL ECONOMIC LAW  
*Innovation Trade Investment*

## Victoria

UNIVERSITY OF WELLINGTON

*Te Whare Wānanga  
o te Ūpoko o te Ika a Māui*



FACULTY OF LAW  
*Te Kauhanganui Tātai Ture*

NEW ZEALAND JOURNAL OF  
PUBLIC AND INTERNATIONAL LAW

© New Zealand Centre for Public Law, New Zealand Centre of International Economic Law and contributors

Faculty of Law  
Victoria University of Wellington  
PO Box 600  
Wellington  
New Zealand

July 2012

The mode of citation of this journal is: (2012) 10 NZJPIL (page)

The previous issue of this journal is volume 9 number 2, December 2011

ISSN 1176-3930

Printed by Geon, Brebner Print, Palmerston North

Cover photo: Robert Cross, VUW ITS Image Services

# CONTENTS

## Foreword

*Alberto Costi and Susy Frankel* ..... vii

## A World of Choices

*David A Wirth* ..... 1

## Legal Implications of the Use of Export Taxes in Addressing Carbon Leakage: Competing Border Adjustment Measures

*Baris Karapinar and Kateryna Holzer* ..... 15

## Beggar Thy Neighbour? An Architecture for Systemic Risk Regulation

*Alistair Birchall* ..... 37

## Development of an International Economic Order: Constraints Regarding Non-WTO Members

*Krystyna Zoladkiewicz* ..... 75

## Climate Change Risk Management and the Regulation of Insurance

*Sofya Matteotti and Olga Nartova* ..... 107

## Imagining a Post-Doha Future: The Future Stability of the Global Trading System

*Jo Feldman and David Brightling* ..... 123

The **New Zealand Journal of Public and International Law** is a fully refereed journal published by the New Zealand Centre for Public Law at the Faculty of Law, Victoria University of Wellington. The Journal was established in 2003 as a forum for public and international legal scholarship. It is available in hard copy by subscription and is also available on the HeinOnline, Westlaw and Informat electronic databases.

NZJPIL welcomes the submission of articles, short essays and comments on current issues, and book reviews. Manuscripts and books for review should be sent to the address below. Manuscripts must be typed and accompanied by an electronic version in Microsoft Word or rich text format, and should include an abstract and a short statement of the author's current affiliations and any other relevant personal details. Manuscripts should generally not exceed 12,000 words. Shorter notes and comments are also welcome. Authors should see earlier issues of NZJPIL for indications as to style; for specific guidance, see the *New Zealand Law Style Guide* (2 ed, 2011). Submissions whose content has been or will be published elsewhere will not be considered for publication. The Journal cannot return manuscripts.

Regular submissions are subject to a double-blind peer review process. In addition, the Journal occasionally publishes addresses and essays by significant public office holders. These are subject to a less formal review process.

Contributions to NZJPIL express the views of their authors and not the views of the Editorial Committee or the New Zealand Centre for Public Law. All enquiries concerning reproduction of the Journal or its contents should be sent to the Student Editor.

Annual subscription rates are NZ\$100 (New Zealand) and NZ\$130 (overseas). Back issues are available on request. To order in North America contact:

Gaunt Inc  
Gaunt Building  
3011 Gulf Drive  
Holmes Beach  
Florida 34217-2199  
United States of America  
e-mail [info@gaunt.com](mailto:info@gaunt.com)  
ph +1 941 778 5211  
fax +1 941 778 5252

Address for all other communications:

The Student Editor  
New Zealand Journal of Public and International Law  
Faculty of Law  
Victoria University of Wellington  
PO Box 600  
Wellington  
New Zealand  
e-mail [nzjpil-editor@vuw.ac.nz](mailto:nzjpil-editor@vuw.ac.nz)  
fax +64 4 463 6365

# NEW ZEALAND JOURNAL OF PUBLIC AND INTERNATIONAL LAW

## *Advisory Board*

Professor Hilary Charlesworth  
*Australian National University*

Professor Scott Davidson  
*University of Lincoln*

Professor Andrew Geddis  
*University of Otago*

Judge Sir Christopher Greenwood  
*International Court of Justice*

Emeritus Professor Peter Hogg  
*Blake, Cassels and Graydon LLP,  
Toronto*

Professor Philip Joseph  
*University of Canterbury*

Rt Hon Judge Sir Kenneth Keith  
*International Court of Justice*

Professor Jerry Mashaw  
*Yale Law School*

Hon Justice Sir John McGrath  
*Supreme Court of New Zealand*

Rt Hon Sir Geoffrey Palmer  
*Distinguished Fellow, VUW*

Dame Alison Quentin-Baxter  
*Barrister, Wellington*

Professor Paul Rishworth  
*University of Auckland*

Professor Jeremy Waldron  
*New York University*

Sir Paul Walker  
*Royal Courts of Justice, London*

Deputy Chief Judge Caren Fox  
*Māori Land Court*

Professor George Williams  
*University of New South Wales*

Hon Justice Joseph Williams  
*High Court of New Zealand*

## *Editorial Committee*

Professor Claudia Geiringer (Editor-in-Chief)

Dr Rayner Thwaites (Editor-in-Chief)

Amy Dixon (Student Editor)

Professor Tony Angelo

Mark Bennett

Professor Richard Boast

Associate Professor Petra Butler

Associate Professor Alberto Costi

Dr Joel Colón Rios

Dean Knight (on leave)

Meredith Kolsky Lewis

Joanna Mossop (on leave)

Professor ATH (Tony) Smith

## *Assistant Student Editors*

Carissa Cross

Holly Hill

Rachel Hyde

Louisa Jackson

Grace Liang

Leeanne Templer



The New Zealand Centre for Public Law was established in 1996 by the Victoria University of Wellington Council with the funding assistance of the VUW Foundation. Its aims are to stimulate awareness of and interest in public law issues, to provide a forum for discussion of these issues and to foster and promote research in public law. To these ends, the Centre organises a year-round programme of conferences, public seminars and lectures, workshops, distinguished visitors and research projects. It also publishes a series of occasional papers.

*Officers*

Director

*Professor Claudia Geiringer*

Associate Director

*Associate Professor Petra Butler*

Associate Director

*Carwyn Jones*

Associate Director

*Dr Rayner Thwaites*

Centre and Events Administrator

*Anna Burnett*

For further information on the Centre and its activities visit [www.victoria.ac.nz/nzcpl](http://www.victoria.ac.nz/nzcpl) or contact the Centre and Events Administrator at [nzcpl@vuw.ac.nz](mailto:nzcpl@vuw.ac.nz), ph +64 4 463 6327, fax +64 4 463 6365.

# BEGGAR THY NEIGHBOUR? AN ARCHITECTURE FOR SYSTEMIC RISK REGULATION

*Alistair Birchall\**

---

*This paper takes the view that the effectiveness of regulatory structures should be measured primarily on efficiency grounds, albeit with significant deference to approaches promoting systemic resilience, given the vast social dislocation associated with financial crises. Based on this premise, the financial regulatory reforms underway fail to address the externalities within the international financial architecture that served to facilitate and exacerbate the development of systemic risk and are, therefore, unlikely to be effective. The oversight of financial markets should move away from nationalistic models towards a much greater degree of international cooperation. The paper thus considers an alternative vision for financial regulation, and in particular a model for systemic risk regulation based around the devolution of substantive hard law power to a newly formed international systemic risk regulator. Conceding that the window of opportunity for such a paradigm shift may have passed now, the paper concludes nonetheless that until nations are prepared to move beyond self-interest, excessive systemic risk will remain latent within the financial system. In particular, the absence of a broad based and neutral approach to regulation is likely to simply drive risk to the deepest recesses of the market, leaving the system superficially safer but in fact more unsound*

---

## ***I INTRODUCTION: HOLLOW SOLUTIONS?***

In a May 2010 address to the Chicago Federal Reserve, Alan Greenspan argued that the world was in the midst of "what, in retrospect, is likely to be judged the most virulent global financial crisis ever."<sup>1</sup> While one may quibble with Greenspan's conclusion, it is inarguable that the events of

---

\* LLB(Hons) Otago; BA(Hons)/LLM(Hons) Auckland.

<sup>1</sup> Alan Greenspan, Federal Reserve Chairman (Speech at the Federal Reserve Bank of Chicago Bank Structure Conference, 7 May 2008). The International Monetary Fund has noted that:

No other financial crisis since the Great Depression has led to such widespread dislocation in financial markets, with such abrupt consequences for growth and unemployment, and such a rapid and sizeable internationally-coordinated public sector response.



the past five years have served as a great shock to those who perceived the growing financialisation of world markets as a sign of progress.<sup>2</sup> As a result, there now exists a widespread consensus that we cannot allow the financial sector to slip comfortably back into old habits.<sup>3</sup> Encapsulating this mood, Lord Turner, current chairman of the United Kingdom's Financial Services Authority, told the British Bankers' Association in a June 2009 address that it was:<sup>4</sup>

... essential that we learn lessons and accept the need for radical change – change in the style of supervision, change in the regulations applied to banks, and changes in the banks themselves. We hope to return to more normal economic conditions: we must not allow a return to the "normality" of the past financial system.

Nowhere was the failure of the "old normality" more evident during the financial crisis than in the sphere of international macro-prudential regulation. At Bretton Woods in 1944, it was implicitly decided that financial firms would be regulated domestically.<sup>5</sup> In the past several decades, however, finance has become a truly global industry, and the regulatory architecture has failed to sufficiently adapt, leaving regulators to combat international problems with national tools.<sup>6</sup> Indeed, if anything, as finance has become more globalised, regulation has moved in the opposite direction. Financial oversight has increasingly become anchored at the level of the firm, on the assumption that "if the 100 largest banks were individually safe, then the system was too."<sup>7</sup>

---

See José Viñals and others "Shaping the New Financial System" (International Monetary Fund Staff Position Note, 3 October 2010) at 6.

- 2 Financialisation can be defined as the "increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of domestic and international economies": Gerald A Epstein "Introduction" in Gerald A Epstein (ed) *Financialization and the Global Economy* (Edward Elgar Press, Cheltenham (UK), 2005) 3 at 3.
- 3 In the view of the Financial Times, "the world has received a frightening warning. Failing to learn cannot be an option": Editorial "Last Chance Saloon" *Financial Times* (online ed, United Kingdom, 14 June 2009).
- 4 Lord Turner, Financial Services Authority Chairman (Address to the British Bankers' Association Annual International Banking Conference, 30 June 2009).
- 5 See Douglas W Arner and Michael W Taylor "The Global Financial Crisis and the Financial Stability Board: Hardening the Soft Law of International Financial Regulation?" (2009) 32 UNSWLJ 488 at 510.
- 6 For example, foreign claims by banks based in the five major advanced countries have increased markedly in the past decade, from USD 6.3 trillion in 2000 to USD 22 trillion by June 2008: see Olivier Blanchard "The Perfect Storm" (2009) 46 *Finance Devel* 37 at 38.
- 7 Editorial "The gods strike back" *The Economist* (online ed, United Kingdom, 11 February 2009). Indeed, while it is always easy to look wise after the event, if one is to look for an overriding "lesson" of the crisis, it would be the "dangers of putting atomised thinking ahead of systems thinking": Editorial "How to change the system" *The Economist* (online ed, United Kingdom, 3 November 2009).

As a consequence, the pre-crisis regulatory framework placed insufficient focus on "systemic risk". In seeking to define this complex term, this article will borrow from the work of Schwarcz, who argues that systemic risk represents:<sup>8</sup>

[T]he risk that (i) an economic shock such as market or institutional failure triggers (through a panic or otherwise) either (X) the failure of a chain of markets or institutions or (Y) a chain of significant losses to financial institutions, (ii) resulting in increases in the cost of capital or decreases in its availability, often evidenced by substantial financial-market price volatility.

In the build-up to the crisis, the absence of a regulator – or regulators – possessing both the capacity and willingness to monitor the financial system as a whole allowed a tremendous quantity of such risk to accrete inside financial institutions that appeared superficially sound. In particular, the existence of externalities within the financial architecture encouraged firms to pursue individually rational but systemically risky business models notable for their employment of high levels of leverage and opacity.<sup>9</sup> When a housing price shock in 2007 placed this system under pressure, these superficially safe entities suffered massive losses; many would either fail or require substantial capital injections from the public purse. It is estimated that the subsidies and guarantees extended by the governments of the United Kingdom, the United States and the Euro zone countries amounted to 25 per cent of the global Gross Domestic Product (GDP) as at November 2009.<sup>10</sup>

Given the scale of this dislocation, the need for an improved and internationally integrated approach to systemic risk regulation has not gone unnoticed,<sup>11</sup> and in the principal international capital centres, systemic risk management systems are now progressing through the legislative process. This article will argue, however, that these proposed responses are flawed and will, therefore, prove ineffective as a means of preventing future crises. Current proposals focus

- 
- 8 Steven L. Schwarcz "Systemic Risk" (2008) 97 Geo LJ 193 at 204. See also John Kambhu and others "Hedge Funds, Financial Intermediation, and Systemic Risk" (2007) 13 Fed Reserve Bank New York Econ Pol Rev 1 at 5–6. In order to qualify as systemic, it is not sufficient that the losses are large; there must be a ripple effect on other market participants or systems.
  - 9 Iman Anabtawai and Steven Schwarcz believe the "tragedy of the commons suggests that, absent intervention, financial market participants will progressively pursue their self-interest in the form of socially excessive risk-taking." Iman Anabtawai and Steven L. Schwarcz "Regulating Systemic Risk: Towards an Analytical Framework" (2011) 86 Notre Dame L Rev 1349 at 1375.
  - 10 Andrew Haldane, Piergiorgio Alessandri and The Bank of England *Banking on the State* (Paper based on a presentation delivered at the Federal Reserve Bank of Chicago 12<sup>th</sup> Annual International Banking Conference, Chicago, 2009).
  - 11 Hal Scott argues that "[g]oing forward, the central problem for financial regulation ... is to reduce systemic risk": Hal S. Scott "The Reduction of Systemic Risk in the United States Financial System" (2010) 33 Harv J L & Pub Pol'y 671 at 673. Some 50 Bills and other serious proposals for financial reform have now been tabled in the United States and Europe: see Editorial "Blocking out the sirens" *The Economist* (online ed, London, 11 February 2010). See also Jon Hilsenrath "The Task of Taming Highs and Lows" *Wall Street Journal* (online ed, New York, 19 June 2009).

insufficiently on institutional design, and appear to be based on the premise that simply introducing a greater weight of oversight and regulation will be sufficient. This premise is unsupportable: if systemic risk is to be dealt with effectively, the underlying market failures within the financial sector must be addressed by forcing financial institutions to properly "price" the systemic risks they are taking.<sup>12</sup> As Viral Acharya and Arvind Krisnamurthy have noted:<sup>13</sup>

If a financial activity is viable only if its systemic risk must be borne by society while its profits in good times remain privatised in the financial sector, then it is time to revisit the desirability of the activity in the first place.

Instead, this article will put forward an alternative model for systemic risk regulation, based around an international systemic risk regulator. In particular, this article will argue that, in order to become both sustainable and stable in the long term, the financial markets must undergo a paradigm shift, moving away from nationalistic models of oversight towards a far greater degree of international cooperation.<sup>14</sup> In developing the line of argument set out above, this article will: 1) examine how the presence of externalities within the international financial architecture served to facilitate and exacerbate the development of systemic risk; 2) offer a critique of the likely effectiveness of current regulatory proposals; and 3) in the light of our crisis learnings propose an alternative vision for financial regulation, and consider what this vision portends for the future of

---

12 Kern Alexander, Rahul Dhumale and John Eatwell believe systemic risk arises:

... from the mispricing of risk in financial markets, which often means that risk is underpriced in relation to its cost and that the underpricing of risk results in too much of it being created in financial markets. Often, those private actors who create financial risk do not internalize its full cost, leading to excessive risk that may take the form of substantial exposures accumulated by banks and derivative-dealing houses in foreign exchange markets and in speculating in financial instruments whose values depend on variations in interest rates in different markets. Overexposures to risk may precipitate a financial crisis that may result in bank runs and/or a collapsed currency. These are the excessive costs of risk that can be shifted onto society at large as a negative externality ...

See Kern Alexander, Rahul Dhumale and John Eatwell *Global Governance of Financial Systems* (Oxford University Press, Oxford, 2006) at 24.

13 Viral Acharya and Arvind Krisnamurthy "Why bankers must bear the risk of 'too safe to fail' assets" *Financial Times* (online ed, London, 17 May 2010).

14 As Masahiro Kawai and Michael Pomerleano have stated:

The Westphalian principles governing international financial oversight are not adequate to address the problems in the contemporary financial system, such as cross border crisis contagion and insolvencies. The self-interest of financial centers, such as London, fails to reflect the global agenda of actively regulating the global financial system, and will inevitably lead to another race to the bottom in regulatory forbearance

See Masahiro Kawai and Michael Pomerleano "International Financial Stability Architecture for the 21st Century" *Financial Times* (online ed, London, 1 August 2009).

the financial sector. In doing so, this article will proceed from the underlying assumption that the effectiveness – or prospective effectiveness, in this case – of regulatory structures should be gauged primarily on efficiency grounds.<sup>15</sup> However, due to the vast social dislocation associated with financial crises, significant deference should be offered to approaches that promote systemic resilience.<sup>16</sup>

## **II A BROKEN PARADIGM**

### **A The Growth of Systemic Risk**

What precipitated the crisis? Given the complex underpinnings of the crisis, and the limited time that has subsequently elapsed, there is no universally acknowledged crisis "narrative". It is generally accepted by most commentators, however, that the following factors served as the primary "causes" of the crisis, although debate continues as to their relative importance:<sup>17</sup>

- Monetary policy imbalances;
- Rapid asset price inflation in the United States housing market;
- Under-regulation of international financial markets;
- Distorted incentives, including agency costs; and,
- The use (or more accurately, misuse) of sophisticated financial instruments.

---

15 Efficiency is an appropriate method of judging the effectiveness of regulation in the financial sector in the light of the absence of direct health or safety considerations: see Kip Viscusi, John M Vernon and Joseph E Harrington *Economics of Regulation and Antitrust* (3rd ed, MIT Press, Cambridge (Mass), 2000) at 9.

16 See Schwarcz, above n 8, at 207–208. These impacts are not just limited to reduced standards of living in developed economies, but are broad ranging. Ben Bernanke has noted that the financial crisis disproportionately affected poorer communities: see Ben S Bernanke, Federal Reserve Chairman "Community Development in Challenging Times" (Speech at the Federal Reserve Community Affairs Research Conference, Arlington, Virginia, 29 April 2011).

17 Matthew Richardson argues that:

There is almost universal agreement that the fundamental cause of the financial crisis was the combination of the credit boom and a housing bubble. It is much less clear, however, why this combination led to such a severe crisis.

See Matthew Richardson "Causes of the Financial Crisis of 2007–2009" in Viral V Acharya and Matthew Richardson (eds) *Restoring Financial Stability: How to Repair a Failed System* (John Wiley & Sons, Hoboken (NJ), 2009) 57 at 57. See generally European Commission *The High-Level Group on Financial Supervision in the EU* (Brussels, 25 February 2009); Financial Services Authority *The Turner Review: A Regulatory Response to the Banking Crisis* (March 2009); Financial Crisis Inquiry Commission *Final Report of the Financial Crisis Inquiry Commission on the Causes of the Financial and Economic Crisis in the United States* (United States Government Printing Office, Washington, 2011).

The factors noted above are far from novel, and can be implicated in various guises in a number of financial crises throughout history.<sup>18</sup> The current financial turmoil can, however, be differentiated from earlier iterations on two grounds: the strength of the contagion effect associated with the downturn in the United States housing market, and its broad geographic spread.<sup>19</sup> These two factors have led Saule Omarova to argue that recent events have represented "the first truly systemic crisis."<sup>20</sup> This judgment can be evidenced by the distribution of losses: while the losses suffered in the United States mortgage market were large in absolute terms, they have paled in comparison to the decreases in both global GDP and stock market capitalisation that have subsequently occurred.<sup>21</sup>

How can we account for the systemic fragility of the financial sector? In many ways, this fragility was caused by the excessive confidence of market participants, both in respect of their risk management practices and future macroeconomic conditions. In the absence of countervailing regulatory pressure, this "irrational exuberance" led financial institutions to pursue a business model which left the system highly exposed to unanticipated shocks. The two pillars of this business model were as follows:

- First, against a backdrop of deregulation, financial institutions increasingly moved to an "originate-to-distribute" model.<sup>22</sup> Rather than holding financial assets on their books, these institutions instead began to synthesise securities and on-sell the subsequent product to end investors.<sup>23</sup>

---

18 See for example Carmen Reinhart and Kenneth Rogoff *This Time is Different: Eight Centuries of Financial Folly* (Princeton University Press, Princeton, 2009) [*This Time is Different*].

19 One of the more interesting developments over the course of the crisis has been the number of large losses sustained by institutions seemingly unconnected to the United States housing market: see Olivier Blanchard *The Crisis: Basic Mechanisms, and Appropriate Policies* (IMF Working Paper WP/09/80, April 2009) at 7 [*The Crisis*]. A notable example would be Landesbank Sachsen, one of a number of traditionally conservative German regional banks heavily exposed to sub-prime housing assets: see Ivar Simensen "Sachsen falls victim to credit crisis" *Financial Times* (online ed, London, 17 August 2007).

20 Saule T Omarova "Bankers, Bureaucrats and Guardians: Towards Tripartism in Financial Services Regulation" (2012) 37 J Corp L 621 at 625.

21 See Blanchard *The Crisis*, above n 19, at 3–4.

22 See for example Patricia A McCoy, Andrey D Pavlov and Susan M Wachter "Systemic Risk Through Securitization: The Result of Deregulation and Regulatory Failure" (2009) 41 Conn L Rev 493.

23 Markus K Brunnermeier "Deciphering the Liquidity and Credit Crunch 2007–2008" (2009) 23 J Econ Perspect 77 at 78 ["Deciphering the Liquidity and Credit Crunch"]. See also Anik K Kayshap, Raghuram Rajan and Jeremy Stein "Rethinking Capital Regulation" (paper presented to Federal Reserve Bank of Kansas City Symposium: Maintaining Stability in a Changing Financial System, February 2009).

- Secondly, financial institutions made a significant move towards funding their asset holdings with shorter maturity instruments, such as commercial paper.<sup>24</sup> This reflected both demand-side and supply-side pressures. Instruments like commercial paper were seen as cash equivalents, and were thus highly desirable to risk-averse investors, such as sovereign wealth funds or institutional investors requiring access to cash-like instruments in order to meet collateral or margining requirements.<sup>25</sup> On the supply side, financial institutions like investment banks found instruments like commercial paper attractive for arbitrage purposes: asset-backed commercial paper could be shifted off-balance sheet, thus avoiding regulatory capital charges.<sup>26</sup>

On its face, the originate-to-distribute model promised to improve the efficiency with which the financial markets allocated risk, in so far as it allowed the creation of financial products that more accurately matched the risk appetites of investors. In April 2006, for example, the semi-annual Global Financial Stability Report of the International Monetary Fund ("IMF") confidently argued that:<sup>27</sup>

There is growing recognition that the dispersion of credit risks by banks to a broader and more diverse set of investors, rather than warehousing such risk on their balance sheets, has helped make the banking and overall financial system more resilient.

In practice, however, the much-vaunted diversification promised by the model proved to be something of a mirage. In the relatively benign macroeconomic environment of the 2000s, United States mortgage-based assets were seen as a safe investment, particularly in light of the seemingly inexorable rise of house prices.<sup>28</sup> Given high demand for these assets, both investment banks and mortgage originators were generally faced solely with "pipeline risk" and thus had little incentive to

---

24 For a general overview, see Marcin Kacperczyk and Phillip Schnabl "When Safe Proved Risky: Commercial Paper during the Financial Crisis of 2007–2009" (2010) 24 *J Econ Perspect* 29.

25 Daniel K Tarullo, Federal Reserve Bank Governor "Shadow Banking After the Financial Crisis" (Speech at the Federal Reserve Bank of San Francisco, Conference on Challenges in Global Finance: The Role of Asia, 12 June 2012).

26 See Brunnermeier "Deciphering the Liquidity and Credit Crunch", above n 23, at 80–81. Oliver Blanchard notes that for many banks, such as Citigroup, off-balance sheet assets such as "structured investment vehicles" exceeded those on the balance sheet: see Blanchard *The Crisis*, above n 19, at 8.

27 International Monetary Fund *Global Financial Stability Report: Market Developments and Issues* (April 2006) at 51.

28 See generally Charles W Calomiris "The Subprime Turmoil: What's New, What's Old and What's Next" (2009) 15 *Journal of Structured Finance* 6.

monitor the quality of underlying loans.<sup>29</sup> This resulted in both a vast expansion in the volume of lending, particularly sub-prime, and a substantial surge in the price of housing.<sup>30</sup>

However, buoyed by the returns offered by these securities, and believing them to be relatively low-risk, banks were increasingly holding these assets on their own books. In its review of the crisis, for example, the Financial Services Authority found that:<sup>31</sup>

... most of the holdings of the securitised credit, and the vast majority of the losses which arose, were not in the books of end investors intending to hold the assets to maturity, but on the books of highly leveraged banks and bank-like institutions.

Similarly, Viral Acharya has noted that government-sponsored entities (GSEs) and banks held the safest tranches on 53 per cent of all AAA mortgage-backed securities.<sup>32</sup>

As a result, rather than serving to diversify risk, the securitisation process was being used to opposite effect, as banks used complex products like credit default swaps (CDS) to increase their degree of leverage and exposure to the housing sector.<sup>33</sup> Given the increasing level of interconnection between market participation and the correlated nature of many portfolios, complexity had in fact generated fragility, a view presciently outlined by Raghuram Rajan in a seminal 2006 article:<sup>34</sup>

While the system now exploits the risk-bearing capacity of the economy better by allocating risks more widely, it also takes on more risks than before. Moreover, the linkages between markets, and between markets and institutions, are now more pronounced. While this helps the system diversify across small

---

29 "Pipeline risk" can be seen as the risk associated with carrying the asset on the balance sheet while the security is synthesised. For discussion regarding declining loan quality, see Benjamin J Keys and others "Did Securitization Lead to Lax Screening?" (2010) 125 Quart J of Econ 307.

30 Michael Lewis notes that:

In 2003 there had been a few tens of billions of dollars of subprime mortgage loans. From June 2004 until June 2007, Wall Street underwrote \$1.6 trillion of new subprime-mortgage loans and another \$1.2 trillion of so-called Alt-A loans – loans which for some reason or another can be dicey, usually because the lender did not require the borrower to supply him with the information typically required before making a loan.

See Michael Lewis "The Man Who Crashed the World" *Vanity Fair* (New York, 4 August 2009).

31 Financial Services Authority, above n 17, at 16.

32 Viral V Acharya and others *Guaranteed to Fail: Fannie Mae, Freddie Mac and the Debacles of Mortgage Finance* (Princeton University Press, Princeton, New Jersey, 2011) at 45.

33 These insurance policies allowed banks to substantially reduce the capital reserves that they were required to hold on their books: see Gillian Tett *Fool's Gold* (Free Press, New York, 2009) at 64.

34 Raghuram A Rajan "Has Finance Made the World Riskier?" (2006) 12 *Europ Finan Manage* 499 at 521–522.

shocks, it also exposes the system to large systemic shocks- large shifts in asset prices or changes in aggregate liquidity.

Such a shift in asset prices would begin to take place from early 2007, precipitating the implosion of the entire system. Housing data indicated a fall in home sales and prices began to slip.<sup>35</sup> As prices fell, borrowers could not refinance, and many began to default.<sup>36</sup> These defaults triggered the downgrade of substantial quantities of investment grade securities. Given their reliance on short-term funding, many institutions were drawn into a spiral of losses, as falling asset values precipitated margin calls, requiring sales that further depressed asset values and weakened balance sheets across the market.<sup>37</sup> As a consequence of generalised uncertainty, liquidity began to dry up, dragging a large number of financial institutions into difficulty.<sup>38</sup>

This process, which played out between 2007 and 2009, was highly pro-cyclical in nature.<sup>39</sup> When the Reserve Primary Fund suffered a write-down of its Lehman Brothers holdings in September 2008 and was forced to "break the buck", this sparked a significant increase in

35 See Brunnermeier "Deciphering the Liquidity and Credit Crunch", above n 23, at 82–84.

36 See James Bullard, Christopher J Neely and David C Wheelock "Systemic Risk and the Financial Crisis: A Primer" (2009) 91 Fed Reserve Bank of St Louis Rev 403 at 406.

37 Markus Brunnermeier and others *The Fundamental Principles of Financial Regulation* (Geneva Reports on the World Economy 11, International Centre for Monetary and Banking Studies and Centre for Economic Policy Research, 2009) at 2–4. Gary Gorton and Andrew Metrick argue that:

... the financial crisis was centered in several types of short-term debt (repo, asset-backed commercial paper, MMMFs shares) that were initially perceived as safe and "money-like", but later found to be imperfectly collateralized.

As a result, the crisis progressed much in the manner of a traditional banking panic, as uncertainty over asset values and counterparty solvency led to a widespread withdrawal of liquidity: Gary Gorton and Andrew Metrick "Regulating the Shadow Banking System" (18 October 2010) Social Science Research Network <www.ssrn.com> at 16.

38 The Financial Stability Forum provided an excellent explanation of how such spirals operate:

Large dealers would be affected through losses on the part of leveraged counterparties to which they have credit exposure and through losses their own market risk exposures. Losses on these exposures in turn can lead to further risk aversion and liquidation of positions. Other participants will find the liquidity of their balance sheets reduced, which could lead to further fire sales or a reluctance to transact. Solvent but suddenly illiquid market participants may default on their obligations. If the disruption to markets lasts long enough, borrowing and lending for real investment could be curtailed.

See Financial Stability Forum *Update on the FSF Report on Highly Leveraged Institutions* (19 May 2007) at 12.

39 See Patrick A Pintus and Yi Wen *Leveraged Borrowing and Boom–Bust Cycles* (Federal Reserve of St Louis Working Paper, April 2012).



redemptions at other money market funds, including many with strong balance sheets.<sup>40</sup> Increased complexity and opacity meant it was difficult to discern the integrity of counterparties, and this lack of information implicated all financial firms.<sup>41</sup> The result was an almost total withdrawal of liquidity.

To many, including those working at the coalface in the asset securitisation sector, the rapid onset of the crisis came as something of a surprise.<sup>42</sup> While many believed that the United States housing market was due for a correction, it is clear that few were aware of the extent to which systemic risk had been allowed to build up throughout the financial system, and the speed at which this contagion was capable of spreading.<sup>43</sup> From the perspective of individual firms, there are many potential reasons one can cite for their failure to adequately adjust their business models ex ante – although to do so is beyond the scope of this paper. In respect of mortgage-backed securities, for example, poorly calibrated models based on limited data significantly understated the risk of a substantial rise in default rates.<sup>44</sup> Similarly, the presence of externalities within the financial system

---

40 Bullard, Neely and Wheelock, above n 36, at 408.

41 See Nouriel Roubini "The Shadow Banking System is Unravelling" *Financial Times* (online ed, London, 21 September 2008). In particular, the opacity of balance sheets made the task of separating robust institutions from those under financial stress incredibly difficult: Stijn Claessens and others *Lessons and Policy Implications from the Global Financial Crisis* (IMF Working Paper WP/10/44, February 2010) at 8.

42 For example, the losses associated with collateralised debt obligations [CDOs], and in particular the super-senior tranche, came as a surprise even to those responsible for originating these instruments. It was generally assumed that the super-senior CDO tranche was incredibly safe: "more than triple-A". Yet these instruments would lead to massive write-downs. Gillian Tett notes that:

To most Citi executives, the bottom-line hit was as stunning as if the ground had opened up under the bank. On the day of the announcement, Jamie Dimon, chief executive of JP Morgan, bumped into a former senior colleague at Citi. "What happened?" Dimon asked. "We are not entirely sure ourselves," the man replied.

See Gillian Tett "How panic gripped the world's banks" *Financial Times* (online ed, United Kingdom, 8 May 2009).

43 As Michael Lewis argues:

There's a long list of people who now say they saw it coming all along but a far shorter one of people who actually did. Of those, even fewer had the nerve to bet on their vision. It's not easy to stand apart from mass hysteria – to believe that most of what's in the financial news is wrong or distorted, to believe that most important financial people are either lying or deluded – without actually being insane. A handful of people had been inside the black box, understood how it worked, and bet on it blowing up.

See Michael Lewis "The End" *Portfolio* (online ed, New York, 11 November 2008).

44 Richard Green and Susan Wachter note that:

... while the algorithms for rationing credit became sophisticated, the algorithms for pricing subprime mortgages (to the extent such things even exist) faced a serious identification problem. From the period 1997 to 2005, the period in which the subprime market grew dramatically,

meant firms failed to make allowance for the pressure their own short-term borrowing would place on the system in the event of a sudden outside shock. As a result, firms relied far too heavily on short-term borrowing: the fraction of total investment banking assets financed by overnight repos, for example, roughly doubled from 2000 to 2007.<sup>45</sup>

Far more confusing was the failure of regulators tasked with oversight of the system as a whole to detect this growing fragility. Why did macro-prudential regulators allow systemic risk to pool so readily within financial institutions? In the remainder of this Part, I will argue that this failure of regulation can best be explained as the consequence of a misaligned financial architecture.

## ***B A Broken Paradigm***

As cross-border capital markets have become progressively more liquid, the financial sector has increasingly become a global network.<sup>46</sup> The degree of interconnection existing between financial institutions means the health of the system can no longer be determined solely by reference to the health of individual institutions. In this vein, Andrew Haldane, the Bank of England's Executive Director for Financial Stability, has commented that:<sup>47</sup>

Evaluating risk within [financial] networks is a complex science; indeed, it is the science of complexity. When assessing nodal risk, it is not enough to know your counterparty; you need to know your counterparty's counterparty too.

However, while the financial sector operates as a network, it is not regulated as such. Rather than being regulated in a global, systemic fashion, the financial sector has instead been regulated on a piece-meal basis, with the international financial architecture arranged as follows:

- A domestic level of regulation, where financial institutions are subject to national rules and regulations; and,

---

nominal house prices in the United States rose rapidly and nearly ubiquitously. This meant that the incentive to default was extremely low—households had a strong incentive to sell their houses and preserve their equity rather than default.

See Richard K Green and Susan M Wachter *The Housing Finance Revolution* (paper presented to Federal Reserve Bank of Kansas City, 31st Economic Policy Symposium: Housing, Housing Finance & Monetary Policy) at 37.

<sup>45</sup> Brunnermeier "Deciphering the Liquidity and Credit Crunch", above n 23, at 80.

<sup>46</sup> Between 2003 and 2006, for example, the value of foreign securities holdings by United States investors doubled from USD 3.1 trillion to USD 6.0 trillion, reflecting the growing traffic in cross-border financial services. United States Department of the Treasury *Report on US Portfolio Holdings of Foreign Securities as of December 31, 2006* (2007) at 3. For a general overview, see Maurice Obstfeld and Alan Taylor *Global Capital Markets: Integration, Crises, and Growth* (Cambridge University Press, New York, 2004).

<sup>47</sup> Andrew Haldane, Bank of England Executive Director for Financial Stability "Why Banks Failed the Stress Test" (Speech at the Marcus-Evans Conference on Stress Testing, London, 9 February 2010).

- A quasi-international level of regulation. Where financial institutions and regulators are expected to meet international standards set and promoted by a patchwork of standard setting bodies and international fora.

During the crisis, both levels of regulation were shown to be badly flawed, primarily as a consequence of institutional design shortcomings.<sup>48</sup> In particular, there existed significant mismatches between the scope of the problems faced by regulators and the jurisdiction over which they were able to exercise effective control. Prior to the crisis, none of the principal institutions ostensibly tasked with systemic oversight (such as the IMF or the Financial Stability Forum) possessed the necessary political capital required to forge agreement on an architecture for international macro-prudential regulation. As a result, the task of systemic oversight fell principally to national regulators.

Due to the widespread presence of multi-jurisdictional spillovers in the financial sector, regulatory competition between these national bodies has had largely negative results.<sup>49</sup> While collectively irrational, it has been individually rational for national regulators to introduce "light touch" regulatory structures.<sup>50</sup> This is because the benefits of looser regulation (such as more liquid capital markets and increased financial sector employment and tax revenue) accrue domestically, while the costs of greater systemic instability are borne both domestically and internationally.<sup>51</sup>

---

48 In reviewing the causes of the crisis, the European Commission observed a high degree of regulatory failure. These failures included the fact that:

... financial supervisors frequently did not have and in some cases did not insist in getting, or received too late, all the relevant information on the global magnitude of the excess leveraging; that they did not fully understand or evaluate the size of the risks; and that they did not seem to share their information properly with their counterparts in other Member States or with the US. In fact, the business model of US-type investment banks and the way they expanded was not really challenged by supervisors and standard setters. Insufficient supervisory and regulatory resources combined with an inadequate mix of skills as well as different national systems of supervision made the situation worse.

See European Commission, above n 17, at 10–11.

49 Robert Inman and Daniel Runbinfeld note that the efficient allocation of public goods in the presence of significant spillovers requires cooperation: Robert P Inman and Daniel L Rubinfeld "The Political Economy of Federalism" in Dennis C Mueller (ed) *Perspectives on Public Choice* (Cambridge University Press, Cambridge, 1997) 73 at 86. See also Joseph E Stiglitz "Testimony before the Congressional Oversight Panel: Regulatory Reform Hearing" (Congressional Oversight Panel, 14 January 2009) <cop.senate.gov>.

50 Carmen Reinhart and Kenneth Rogoff "Regulation should be international" *Financial Times* (online ed, London, 18 November 2008).

51 Hubert Zimmermann "Conclusion" in Eric Helleiner, Stefano Pagliari and Hubert Zimmermann (eds) *Global Finance in Crisis: The Politics of International Regulatory Change* (Routledge, London, 2010) 170 at 173. For example, lax regulation in the United States in respect of products like collateralised debt obligations led to losses in far flung locations, including traditionally conservative German state-owned banks: Editorial "Sub-prime crisis hits German bank" (3 April 2008) BBC News <news.bbc.co.uk>.

The "race to the bottom" that has occurred in the financial sector has never been explicit.<sup>52</sup> After all, while "light touch" regulation may prove attractive to financial institutions, market participants privilege transparency and strong enforcement structures when choosing where to raise capital or purchase securities.<sup>53</sup> Instead, it has worked subtly: regulators have bowed to a belief in the efficacy of unfettered markets,<sup>54</sup> allowing interest group pressure from the financial sector to progressively hollow out the regulatory architecture, even in circumstances where this had negative systemic consequences.<sup>55</sup> Predictably, the result has been the overproduction of public "bads" like systemic risk, as well as insufficient investment in maintaining the health of financial systems and markets.<sup>56</sup> Prior to the crash, this destructive equilibrium served to heighten systemic risk, primarily as a consequence of failed regulatory cooperation in respect of the following areas, each of which will be discussed further below:

---

52 As always, one cannot consider the incentives of regulators to be binary; they are informed by complex regulatory dynamics: see for example Sam Peltzman "An Evaluation of Consumer Protection Legislation: The 1962 Drug Amendments" (1973) 81 J Pol Econ 1049. In the context of the current crisis, see for example Jonathon R Macey "The Distorting Incentives Facing the U.S. Securities and Exchange Commission" (2010) 33 Harv J L & Pub Pol'y 639.

53 See for example Raul La Porta, Florencio Lopez-de-Silanes and Andrei Shleifer "What Works in Securities Laws?" (2006) 61 J Finance 1.

54 In respect of the Financial Services Authority, John Lanchester notes that:

... the body set up to supervise the business consisted largely of insiders (in this case, from the financial services industry) and civil servants, with representatives of the public absent. The institution carried the watermark of its origins, as institutions tend to do: it wasn't proactive in its view of the industry and didn't see itself as looking at the operation of the business from the outside.

See John Lanchester *I.O.U.: Why Everyone Owes Everyone and Noone Can Pay* (Simon & Schuster, New York, 2010) at 181.

55 In the United States, for example, Simon Johnson believes the confluence of political influence and ideology has led to "a river of deregulatory policies that is, in hindsight, astonishing." These policies include: an insistence on the free movement of capital across borders; the repeal of the Banking Act of 1933 12 USC § 227 (Glass-Steagall); a ban on the regulation of credit-default swaps; significant increases in the amount of leverage that investment banks are allowed to take on; an incredibly permissive attitude towards regulatory oversight by the Securities and Exchange Commission (SEC); allowance for banks to measure their own riskiness; and "an intentional failure to update regulations so as to keep up with the tremendous pace of financial innovation": see Simon Johnson "The Quiet Coup" *The Atlantic* (online ed, Boston, May 2009).

56 A notable example of the drift towards systemically risky regulation was the SEC's April 2004 decision to relax the amount of capital that the five largest United States banks (Merrill Lynch, JP Morgan Chase, Lehman Brothers, Goldman Sachs and Bear Stearns) were required to hold to insulate themselves against potential investment losses. This change allowed them to significantly increase their leverage, increasing their potential to incur systemically significant losses: see Stephen Labaton "Agency's '04 Rule Let Banks Pile Up New Debt" *New York Times* (online ed, New York, 2 October 2008).

- Oversight of large, complex financial institutions (LCFIs);
- Provision of information, both to regulators and the market; and,
- Crisis management systems.

### 1 Oversight of LCFIs

The IMF defines the term LCFI to encapsulate all "cross-functional and cross-border financial institutions engaged in banking, insurance and securities activities with the potential to threaten financial stability owing to their size in more than one jurisdiction."<sup>57</sup> While size is not always a determinant of systemic risk, LCFIs are almost by definition systemically risky, owing to their vast counterparty exposures and their importance in global payment systems.

Prior to the financial crisis, there existed limited international agreement regarding the appropriate application to and enforcement of regulatory standards against these behemoths, despite their growing importance to the financial sector.<sup>58</sup> Instead, LCFI regulation was divided between national regulators, primarily on legal, rather than functional, grounds.<sup>59</sup> Dividing oversight in such a manner encouraged excessive risk taking by LCFIs and hampered systemic risk regulation, for several reasons:

- First, the piece-meal nature of oversight meant that that no one owned the problem of LCFI driven systemic risk. National regulators possessed neither sufficient information nor sufficient authority to oversee LCFIs holistically.<sup>60</sup> As a consequence, many institutions,

---

57 International Monetary Fund *Large and Complex Financial Institutions: Challenges and Policy Responses – Lessons from Sweden* (March 2003) at 3.

58 See for example Richard J Herring and Jacopo Carmassi "The Structure of Cross-Sector Financial Supervision" (2008) 17 *Finan Markets, Inst Instruments* 51.

59 The growth of super-firms and the originate-to-distribute model increasingly saw the emergence of systemically important firms (such as AIG) outside the oversight of banking regulation.

60 The United States Government Accountability Office has noted that:

... primary bank and functional regulators' oversee risk management at the level of the legal entity within a holding company while large entities manage risk on an enterprisewide basis or by business lines that cut across legal entities. As a result, these regulators may have only a limited view of institutions' risk management or their responsibilities and activities may overlap with those of holding company regulators.

See United States Government Accountability Office *Financial Regulation: Review of Regulators' Oversight of Risk Management Systems at a Limited Number of Large, Complex Financial Institutions* (19 March 2009) at 1.

particularly those participating in the shadow banking system, were able to take on crippling quantities of systemic risk relatively unhindered by regulatory interference.<sup>61</sup>

- Secondly, the division of LCFI regulation amongst national regulators tended to encourage the use of complex and opaque corporate structures, largely for reasons of tax avoidance or regulatory arbitrage.<sup>62</sup> These structures often serve to obscure the true financial position of LCFIs, making it difficult for both regulators and LCFI managers to fully understand all the risks they are taking, or the degree to which their positions are correlated to other financial firms.
- Finally, an absence of agreed minimum regulatory standards (particularly in respect of new or developing products or markets) allowed LCFIs to leverage their global reach by engaging in regulatory arbitrage, either by shifting risk to more opaque and less regulated locations or achieving favourable regulatory concessions as a result of political pressure.<sup>63</sup>

---

61 In large part, this was a consequence of a permissive attitude that led regulators to ignore the growing importance of non-bank financial institutions. Paul Krugman has argued that:

As the shadow banking system expanded to rival or even surpass conventional banking in importance, politicians and government officials should have realized that they were re-creating the kind of financial vulnerability that made the Great Depression possible – and they should have responded by extending regulations and the financial safety net to cover these new institutions. Influential figures should have proclaimed a simple rule: anything that does what a bank does, anything that has to be rescued in crises the way banks are, should be regulated like a bank

See Paul Krugman *The Return of Depression Economics and the Crisis of 2008* (W W Norton & Co, New York, 2009) at 163. In the absence of such a rule, considerable systemic risk pooled in firms like AIG: see Bob Ivry and Jody Shenn "How Lou Lucido Helped AIG Lose \$35 Billion with CDOs Made by Goldman Sachs" *Bloomberg* (online ed, 31 March 2010).

62 Corporate complexity has been exacerbated by the conflicting demands of national regulators:

Functional and national regulators frequently employ corporate separateness as a means of regulating, supervising and monitoring the part of a financial conglomerate that falls in their bailiwick. While this may enhance local regulatory oversight an unintended consequence may be that international financial conglomerates may have significantly more complex corporate structures than domestic firms of similar size.

Richard Herring and Jacopo Carmassi "The Corporate Structure of International Financial Conglomerates: Complexity and Its Implications for Safety and Soundness" in Allen N Berger, Phillip Molyneux and John Wilson (eds) *The Oxford Handbook of Banking* (Oxford University Press, Oxford, 2010) 195 at 216.

63 For an example of the nature of this pressure, witness the possible shift of United States derivatives desks overseas: see Agnes Crane and Rolfe Winkler "Systemic Risk Knows No Borders" *New York Times* (online ed, New York, 2 May 2010).

## 2 Provision of information

In the financial sector, information possesses significant public good characteristics.<sup>64</sup> In respect of macro-prudential oversight, for example, information provides value in two ways:

- First, by allowing a fuller understanding of the manner in which institutions are interconnected, a high degree of transparency may allow regulators to prevent systemic risk build-up ex ante, as well as to more fully understand – and limit – the consequences that distress in a financial institution may impose on the wider financial system;<sup>65</sup> and,
- Secondly, a high degree of informational efficiency in the markets is likely to limit liquidity shocks by providing market participants with a degree of confidence in the validity of publicly available information.<sup>66</sup> When the crisis hit, the general loss of confidence and uncertainty over interlinkages meant there was a considerable intensity in the level in which fears were transmitted.

Despite the systemic benefits associated with transparency, there was comparatively little investment in information provision prior to the crisis.<sup>67</sup> In particular, there existed a noticeable absence of public information management systems like centralised trading platforms and

---

64 John C Coffee Jr "Market Failure and the Economic Case for a Mandatory Disclosure System" (1984) 70 Va L Rev 717 at 722. These characteristics are present in crisis phases as well. For example, Solomon Tadesse estimates the impact of the savings associated with increased transparency and disclosure may be as high as 1.7 per cent per banking crisis: Solomon A Tadesse "The Economic Value of Regulated Disclosure: Evidence from the Banking Sector" (January 2006) Social Science Research Network <www.ssrn.com> at 3.

65 Heidi Mandanis Schooner and Michael W Taylor *Global Bank Regulation* (Elsevier, Boston, 2010) at 42.

66 The European Central Bank notes that:

In the presence of asymmetric information, difficulties in one bank may be perceived as a signal of possible difficulties in others, particularly if one thinks that banks' assets may be opaque and balance sheet data and other publically available information may be uninformative.

See Reint Gropp, Marco Lo Duca and Jukka Vesala *Cross-Border Bank Contagion in Europe* (European Central Bank, Working Paper Series No 662, 2006) at 8.

67 While there was some investment in information, this was conducted at the firm level, and was highly duplicative. John Mulholland notes that:

In the past, firms have invested heavily in cross-referencing across their internal systems. Unfortunately, that's not going to be good enough, because we need transparency on an inter-bank and inter-market relationships level, and you can't solve that at each firm, you have to solve it on a macro level.

Quoted in Clive Davidson "The Data Dilemma" (2009) 22 Risk 71 at 75. As a result, while the financial markets have more information available than ever, much of this information provides limited value: see James Surowiecki "Too Much Information" *The New Yorker* (online ed, New York, 10 July 2006).

information databases, despite the positive systemic impacts associated with these tools.<sup>68</sup> Moreover, at the regulator level, an absence of appropriate cross-border legal arrangements served to constrain the efforts of regulators to share financial information.<sup>69</sup> As a result, when the financial crisis hit, regulators were left on their heels:<sup>70</sup>

When Lehman Brothers Holdings Inc. collapsed ... regulators were ill-prepared to grasp how big banks around the world were so linked that the failure of one could spark a domino effect. And when American International Group Inc. teetered at the same time, few had a grasp of its credit-insurance exposure to Goldman Sachs Group Inc., and then Goldman's exposure to European and U.S. banks.

The absence of such mechanisms can largely be traced back to the competitive regulatory dialectic. In the absence of regulatory cooperation, regulators perceived that greater transparency would have a negative effect on the profitability of their domestic financial sector. There is some truth to these concerns: a degree of opacity can provide benefits to financial institutions, for example, by reducing their cost of credit or providing the illusion of excess returns.<sup>71</sup> However, when viewed systemically, these benefits are necessarily a false economy, as the existence of such opacity tends to promote socially excessive risk taking and impede effective crisis management.<sup>72</sup>

---

68 In respect of databases, Daniel Tarullo believes that:

Financial activities and risk exposures are increasingly globalized. A system without a common detailed taxonomy for securities and counterparties and comparable requirements for reporting across countries would make assembling a meaningful picture of the exposures of global institutions very difficult.

See Daniel K Tarullo "Testimony: International Response to European Debt Problems" (2010) Board of Governors of the Federal Reserve System <[www.federalreserve.gov](http://www.federalreserve.gov)>.

69 International Monetary Fund *Lessons of the Financial Crisis for Future Regulation of Financial Institutions and Markets and for Liquidity Management* (4 February 2009) at 3.

70 Carrick Mollenkamp "How a Street Watchdog Got Its Bite" *The Wall Street Journal* (online ed, New York, 15 September 2010).

71 Michael Lewis believes the opacity present in the United States financial sector fostered a misplaced confidence, meaning investors and analysts were prepared to give them "the benefit of many doubts": Michael Lewis "The Rise and Rise of Analyst Meredith Whitney" (9 April 2008) Bloomberg <[www.bloomberg.com](http://www.bloomberg.com)>.

72 Jean-Claude Trichet, for example, believes that:

... information problems and the incentives that they provide for economic behaviour are [an] important element in the phenomenon of systemic risk, and therefore in the wide transmission of financial instability.

See Jean-Claude Trichet, ECB President "Systemic Risk" (Clare Distinguished Lecture in Economics and Public Policy, University of Cambridge, 10 December 2009).



### 3 *Crisis management systems*

The concept of systemic risk includes the potential costs borne by both the financial sector and the real economy in the event of financial distress.<sup>73</sup> There are two complementary approaches that regulators can take in seeking to limit such risk:

- They can seek to reduce the *incidence* of systemic shocks; and/or,
- They can seek to *limit the costs* associated with a systemic shock once it has occurred.

During the crisis, the absence of viable mechanisms for resuscitating and unwinding distressed cross-border financial institutions would cripple the efforts of regulators to effectively achieve the latter objective. The absence of international regulatory coordination dictated that the problems associated with illiquid cross-border institutions were resolved on a national basis. This served to both hinder the potential for effective crisis response, and to encourage nationalistic behaviour.<sup>74</sup>

Perhaps more importantly, the absence of international ex ante crisis planning required that key decisions were made primarily on an ad hoc basis.<sup>75</sup> The failure of Lehman Brothers, which proved incredibly destructive for both shareholders and creditors, illustrated that existing legal mechanisms for unwinding financial firms were ill-suited to the exigencies of the modern financial markets.<sup>76</sup> As a result, governments largely responded to problems in a reactive and unstructured manner, moving from bailout to bailout. In the United States, for example, Simon Johnson argues that the government response was:<sup>77</sup>

---

73 The Counterparty Risk Management Policy Group II defines a financial shock with systemic consequences as one that results in "major damage to the financial system *and* the real economy": Counterparty Risk Management Policy Group II *Towards Greater Financial Stability: A Private Sector Perspective* (27 July 2005) at 5.

74 During the crisis, the ability of host countries to apply effective oversight to foreign financial institutions proved insufficient: see European Commission, above n 17, at 40. In the absence of cross-border agreement, the crisis sparked considerable international disharmony: see for example Angela Balakrishnan "UK to sue Iceland over any lost bank savings" *The Guardian* (online ed, London, 8 October 2008).

75 See for example Felix Salmon "How the Lehman Bailout Increased Moral Hazard" *Portfolio* (online ed, 24 October 2008).

76 See Jeffrey McCracken "Lehman's Chaotic Bankruptcy Filing Destroyed Billions in Value" *The Wall Street Journal* (online ed, New York, 29 December 2008).

77 Johnson, above n 55. This view was later echoed by the Congressional Oversight Panel, who argued that:

In 2008, Bear Stearns, Fannie Mae, Freddie Mac, AIG, and Citigroup all appear to have been deemed too big – or, more precisely, too deeply embedded in the financial system – to fail. The decisions to rescue these institutions were often made in an ad hoc fashion by regulators with no clear mandate to act nor the proper range of financial tools with which to act.

See Congressional Oversight Panel *Special Report on Regulatory Reform* (US Government Printing Office, February 2009).

... perhaps best described as "policy by deal": when a major financial institution gets into trouble, the Treasury Department and the Federal Reserve engineer a bailout over the weekend and announce on Monday that everything is fine.

This approach has proven effective to some degree in warding off the worst of the liquidity problems fostered by the crisis.<sup>78</sup> However, it has also arguably served to increase the costs of government intervention and resulted in vastly increased levels of moral hazard.<sup>79</sup>

### ***C Failed Internationalism***

The international level of regulation should have, at least in theory, served as a corrective to the structural problems discussed above. In fact, if anything, it had the opposite effect, perversely serving to heighten systemic risk.<sup>80</sup> Why?

The explanation is relatively simple: paradoxically, regulators at the international level invested very little effort in monitoring the health of the global financial system.<sup>81</sup> The principal bodies that should theoretically have provided oversight were politically impotent prior to the crisis and only

---

78 Timothy Geithner, for example, has argued that: "Policy interventions at the end of [2008] succeeded in achieving the vital, but narrow, objective of preventing a catastrophic systemic meltdown": Timothy Geithner, United States Secretary of the Treasury "Written Testimony Before the Congressional Oversight Panel" (press release, 10 September 2009).

79 Moral hazard can be defined as "the greater tendency of people who are protected from the consequences of risky behavior to engage in such behavior": see Schwarcz, above n 8, at 209. To a large extent, major financial institutions and the creditors who extend them funding currently operate in the belief, likely correct, that their home government will not allow them to fail due to their systemic importance: Heidi N Moore "Lehman Brothers, Moral Hazard, and Who's Next" *The Wall Street Journal* (online ed, New York, 14 September 2008).

80 Joe Nocera "Risk Management" *New York Times* (online ed, New York, 2 January 2009). In part, the catalytic role of international regulation reflected a tendency to place excessive trust in intellectually elegant risk management systems. As Daniel Tarullo notes in the context of banking regulation:

There is an undeniable attraction to a conceptually elegant mode of regulation that calibrates bank capital precisely to the risks associated with whatever credit exposures a bank may assume, whatever instruments it may trade, and whatever operations it may conduct. This attraction can perhaps come dangerously close to being a Siren song for at least some Basel II authors and defenders. One hopes that the subprime crisis has, if nothing else, injected sufficiently dissonant notes to catch the attention of Basel II believers.

See Daniel K Tarullo *Banking on Basel* (Peterson Institute for International Economics, Washington, 2008) at 260 [*Banking on Basel*].

81 The European Commission has stated that "[t]he existing financial reviews are not designed to provide an assessment on macro-prudential risks or vulnerabilities ahead of crises": European Commission, above n 17, at 63.

capable of exercising oversight in respect of failing, desperate economies in the developing world.<sup>82</sup> As a result, the only truly active bastions of international coordination and cooperation over the past several decades have been standard setting bodies like the Basel Committee on Banking Supervision (BCBS).<sup>83</sup> Unfortunately, these organisations have paid almost no heed to the concept of systemic risk, and have instead focused on regulation at the level of the firm. In the view of Timothy Geithner, the current United States Treasury Secretary, this is a flawed approach:<sup>84</sup>

Risk management and oversight now focuses too much on the idiosyncratic risk that affects an individual firm and too little on the systematic issues that could affect market liquidity as a whole. To put it somewhat differently, the conventional risk-management framework today focuses too much on the threat to a firm from its own mistakes and too little on the potential for mistakes to be correlated across firms. It is too confident that a firm can adjust to protect itself from its own mistakes without adding to downward pressure on markets and takes too little account of the risk of a flight to safety – a broad-based, marketwide rush for the exits as the financial system as a whole de-leverages and tries collectively to move into more liquid and lower risk assets of government obligations.

Indeed, not only was this approach flawed, it was positively dangerous. Prior to the crisis, firm-oriented oversight was largely provided by way of highly technical risk measurement methodologies. The illusion of scientific precision associated with such methods served to induce what Geoffrey Miller and Gerald Rosenfeld term "intellectual hazard":<sup>85</sup> a misplaced confidence in the efficacy of risk modelling that prevented both regulators and risk managers from questioning the assumptions underlying the models.<sup>86</sup>

---

82 Kenneth Rogoff describes the area of international coordination as "a complete vacuum": Bob Davis "IMF urges new global financial rules" *Wall Street Journal* (online ed, New York, 9 March 2009).

83 See Arner and Taylor, above n 5, at 489.

84 Timothy F Geithner, Federal Reserve Bank of New York President "Reducing Systemic Risk in a Dynamic Financial System" (speech to the Economic Club of New York, 9 June 2008).

85 See generally Geoffrey P Miller and Gerald Rosenfeld "Intellectual Hazard: How Conceptual Biases in Complex Organisations Contributed to the Crisis of 2008" (2010) 33 *Harv J L & Pub Pol'y* 807. This confidence was misplaced for many reasons, most notably the propensity of the models to be gamed in respect of certain financial instruments or risks.

86 In the context of Basel II, for example, Daniel Tarullo notes that Basel II may in fact:

... eventually produce the worst of both worlds—a highly complicated and impenetrable process (except perhaps for a handful of people in the banks and regulatory agencies) for calculating capital but one that nonetheless fails to achieve high levels of actual risk sensitivity.

See Tarullo *Banking on Basel*, above n 80, at 189. Certainly, firms using models are not necessarily fully cognisant of their limitations. A Bank for International Settlements (BIS) report highlighted the fact that:

### III *CRITIQUING THE GLOBAL RESPONSE*

#### A *An Appetite for Change?*

As a result of the piece-meal approach to macro-prudential oversight in operation prior to the crisis, no one – from national regulators to international standard setters – was truly tasked with overseeing the health of the global financial system. In a very real sense, the financial markets suffered from a "commons problem".<sup>87</sup> This led the risk/reward ratios facing financial institutions to diverge from the true social cost of their activities, and incentivized the production of systemic risk.<sup>88</sup>

The need to rectify this architecture is almost universally acknowledged. Most notably, in April 2009, the leaders of the G20 agreed "to establish the much greater consistency and systematic cooperation between countries, and the framework of internationally agreed high standards, that a global financial system requires."<sup>89</sup> Given the passage of time, we are now far enough through the policy development process that the broad lines of this new global order have begun to emerge. In respect of systemic risk regulation, three distinct strands of structural reform are now underway:<sup>90</sup>

- First, the warrant of existing international institutions has been both expanded and strengthened. In 2010, the IMF received an increase in resources and an expanded remit, followed by an additional USD 430 billion commitment announced on 20 April 2012.<sup>91</sup>

---

Despite recent advances, models currently in use have not adapted to support all the functions and decisions for which they are now used. Firms using these models may not fully understand the risks they face, including tail events.

See Basel Committee on Banking Supervision "Developments in Risk Modelling Aggregation" (press release, 21 October 2010).

<sup>87</sup> It has been argued that "wealth that is free for all is valued by no one because he who is foolhardy enough to wait for its proper time of use will only find that it has been taken by another." See H Scott Gordon "The Economic Theory of a Common-Property Research: The Fishery" (1954) 62 J Polit Economy 124 at 124. In the context of the financial markets, firms found it individually profitable to take more risk than was socially optimal, seeking to privatise profit in an environment in which large losses would likely be socialised: see Matthew Beville "Financial Pollution: Systemic Risk and Market Stability" (2009) 36 Fla St U L Rev 245 at 246.

<sup>88</sup> Viral V Acharya and others "Regulating Systemic Risk" in Acharya and Richardson, above n 17, 283 at 286–287 ["Regulating Systemic Risk"].

<sup>89</sup> G20 "The Global Plan for Recovery and Reform" (2 April 2009) United States Department of the Treasury 2009 <www.treasury.gov> at [14].

<sup>90</sup> There are, of course, additional reforms that will affect systemic risk, albeit indirectly, for example in respect of ratings agencies. However, these are beyond the scope of this article.

<sup>91</sup> International Monetary Fund "Joint Statement by the International Monetary Fund and Financial Committee and the Group of 20 Finance Ministers and Central Bank Governors on IMF Resources" (press release, 20 April 2012).

The Financial Stability Board, successor to the Financial Stability Forum, has been tasked with the broad role of identifying and accounting for macro-prudential risks, and could, in theory at least, serve as a global systemic risk watchdog. As part of this role, the Financial Stability Board will be expected to foster universally agreed and applied regulatory standards, in particular ensuring that effective oversight extends "to all systemically important financial institutions, instruments and markets."<sup>92</sup>

- Secondly, in a number of key markets, reforms are underway to introduce a body specifically charged with the role of monitoring systemic risk.<sup>93</sup> In the United States, for example, the Financial Stability Oversight Council has been formed, a body tasked with "identifying threats to the financial stability of the United States; promoting market discipline; and responding to emerging risks to the stability of the United States financial system."<sup>94</sup> For the most part, these new bodies have limited resources and a limited mandate. Micro-prudential oversight will remain with existing regulators, and the role of Financial Stability Oversight Council, for example, will be that of a systemic troubleshooter, operating principally by making recommendations at the macro-prudential level to relevant regulatory bodies.<sup>95</sup>
- Thirdly, in recognition of the role played by capital adequacy regulation in facilitating excessive risk taking prior to the crisis,<sup>96</sup> the Basel Committee on Banking Supervision is set to introduce significant modifications to the Basel Accords, in the form of Basel III.<sup>97</sup> Basel III introduces more stringent capital requirements and includes measures to reduce the likelihood of liquidity crises.<sup>98</sup>

---

92 G20, above n 89, at [15].

93 In the United States, the key piece of legislation that will affect systemic risk regulation is the Wall Street Reform and Consumer Protection Act 12 USC § 5301 (Dodd–Frank Act). The United Kingdom has passed the Financial Services and Markets Act 2000 (UK); while in the European Union, a proposal to establish a European Systemic Risk Board is still making its way through the legislative process.

94 United States Department of the Treasury "Financial Stability Oversight Council Will Hold First Meeting on October 1" (press release, 23 September 2010).

95 Rebecca Christie "Geithner Says Financial Oversight Council to Offer 'Road Map'" (3 August 2010) Bloomberg <www.bloomberg.com>.

96 See generally Basel Committee on Banking Supervision *The Basel Committee's response to the financial crisis: report to the G20* (Bank for International Settlements, Basel, 2010).

97 Basel Committee on Banking Supervision "Group of Governors and Heads of Supervision announces higher global minimum capital standards" (press release, 12 September 2010). For an outline of Basel III, see Basel Committee on Banking Supervision *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems* (Bank for International Settlements, Basel, 2011).

98 Editorial "The long road to financial stability" *Financial Times* (online ed, London, 13 September 2010).

At first glance, these reforms appear to represent a sea change in financial regulation, directly addressing a number of the structural defects that have been highlighted in this article.<sup>99</sup> In respect of the United States, for example, Timothy Geithner has argued that:<sup>100</sup>

The reforms we passed will fundamentally reshape the entire financial system. They will require financial firms to change the way they do business, to change the way they treat customers, to change the way they manage risk, and to change the way they reward their executives.

However, when one digs deeper, it is clear that many of the proposed reforms will have only a superficial impact on the regulatory landscape.<sup>101</sup> In particular, these reforms fail to address the underlying externalities present within the financial architecture and, therefore, represent a missed opportunity for lasting, sustainable reform.<sup>102</sup> There are two reasons for this failure, each of which will be addressed further below:

- Reforms to the financial architecture have failed to break the Westphalian paradigm underpinning international financial regulation; and,
- Proposed methods of oversight do not seek to place an explicit "price" on systemic risk.

## ***B The Westphalian Paradigm***

In the darkest days of the financial crisis, Gordon Brown issued a clarion call for greater international cooperation in the financial sector. Brown noted that:<sup>103</sup>

---

99 See for example Editorial "A decent start" *The Economist* (online ed, United Kingdom, 1 July 2010).

100 Ian Katz and Rebecca Christie "Geithner's Oversight Council Seeks to Identify Firms Posing Systemic Risk" (2010) Bloomberg <www.bloomberg.com>.

101 In the United States, for instance, the underlying structure is largely unchanged in the aftermath of the Dodd–Frank reforms. Roberta Karmel notes that in:

Bowling to perceived political realities, the Treasury's program does very little to address the balkanized regulatory system, where financial firms can choose their regulators and compromise the agencies charged with their supervision. Meanwhile, the regulators do not have the funds, the staff, or the technology to keep pace with what is happening in the markets, and they are hobbled rather than emboldened by their Congressional oversight committees

See Roberta Karmel "The Controversy over Systemic Risk Regulation" (2010) 35 *Brook J Int'l L* 823 at 842.

102 This argument has been put forward by a number of commentators. See generally Simon Johnson and James Kwak *13 Bankers* (Random House, New York, 2010) and Joseph E Stiglitz *Freefall* (WW Norton & Co, New York, 2010).

103 "Brown calls for new 'Bretton Woods' meeting" (13 October 2008) Reuters <uk.reuters.com>.

Sometimes it does take a crisis for people to agree that what is obvious and should have been done years ago can no longer be postponed. But we must now create the right new financial architecture for the global age.

However, despite such hopeful beginnings, it has become increasingly clear that the Westphalian paradigm remains intact, with nation-states still unprepared to relinquish sovereignty in respect of financial regulation. At the multilateral level, the IMF has gained new warrants and received an influx of new funding, which are both positive steps. Unfortunately, these reforms are not truly substantive: the institution remains democratically deficient and devoid of any genuine hard law authority over the most important participants in the financial sector.<sup>104</sup>

As a result, the IMF remains powerless to compel substantive reform where it is most needed, and is therefore likely to remain a marginalised institution, influential only in respect of failing states.<sup>105</sup> The Financial Stability Board is similarly crippled by an absence of real influence, and while the body will no doubt prove a useful forum for discourse, it cannot actually facilitate the construction of cross-border rescue packages. Douglas Arner and Michael Taylor believe:<sup>106</sup>

[W]hat is lacking from the system is the ability to put its members under binding obligations that will lead to a greater willingness to burden share the costs of cross-border bank failures.

Given such a limited devolution of legal authority to international institutions, the vast majority of post-crisis discussion about cooperation appears to be somewhat hollow. Recent disputes over exchange rates and austerity measures, for example, have demonstrated the degree to which many countries continue to view their financial sector as a tool for international diplomacy and revenue competition.<sup>107</sup> As a result, while nations have reached widespread agreement that further cooperation is needed in certain areas of the financial sector, little headway has been made regarding the specific mechanisms required to achieve these goals. National regulators have been forced to pursue in isolation plans for reform that require cooperation to be successful, neutering their effectiveness in addressing the international elements of systemic risk.

---

<sup>104</sup> Paul Martin notes that major developed economies are "largely immune to being named and shamed": quoted in Alan Beattie and Chris Giles "IMF meeting dashes hopes for co-operation" *Financial Times* (online ed, London, 10 October 2010).

<sup>105</sup> For example, the recent bailout of Greece: see Bob Davis "IMF Approves Greek Bailout, Urges Against Debt Default" *The Wall Street Journal* (online ed, New York, 15 May 2010).

<sup>106</sup> Arner and Taylor, above n 5, at 512.

<sup>107</sup> For an example, see the opposition of the United Kingdom to the delegation of regulatory oversight to European Union bodies: Maryam Omid "UK opposed to transfer of regulatory power to EU" *Financial News* (online ed, London, 2 September 2010).

For example, in the United States, one of the key cornerstones of financial reform is the so-called "Volcker Rule".<sup>108</sup> This rule prevents banks – or financial institutions that own banks – from engaging in proprietary trading on their own account, and aims "to stop Wall Street from gambling in capital markets with subsidized deposits."<sup>109</sup> The plan has an attractive simplicity: by forcing banks to separate more opaque and risky activities from their more vanilla retail and commercial banking arms, structurally separating financial institutions should in theory reduce the collateral damage and moral hazard associated with financial crises. However, in the absence of international cooperation, such structural reforms are unlikely to prove effective. Rather than reducing risk taking, the rule will simply serve to make financial institutions in the United States less competitive and drive proprietary trading activities elsewhere, either to Europe or to less-regulated entities in the shadow banking sector.<sup>110</sup>

The failure of regulators to reach international agreement regarding a procedure for unwinding distressed financial institutions is another interesting example. In order for a distressed cross-border institution to be resolved effectively, a mechanism would need to be constructed that would allow the constituent corporate elements to be taken apart in a manner that would minimise potential systemic impacts.<sup>111</sup> However, no international agreement has been forthcoming, and Arner and Taylor believe that that *saute qui peut* strategies will continue to dominate moving forward.<sup>112</sup> The absence of cooperation is likely to prove fatal: in the United States, for example, the Federal Deposit Insurance Corporation has proposed a domestic resolution regime that few commentators believe will prove viable.<sup>113</sup>

### ***C Pricing Systemic Risk***

In order to ensure that the level of systemic risk present in the international financial system is socially optimal, financial institutions must be required to account for any systemic costs associated with their operations.<sup>114</sup> However, while a number of commentators have mooted some form of

---

108 Dodd–Frank Wall Street Reform and Consumer Protection Act, §619. The Volcker Rule prohibits "banking entities" from either engaging in proprietary trading or acquiring, owning or sponsoring a hedge fund or private equity fund.

109 Editorial "Garrotes and sticks" *The Economist* (online ed, London, 28 January 2010).

110 See for example Justin Baer "Proprietary traders weigh up new options" *Financial Times* (online ed, London, 24 October 2010).

111 Eva Hupkes and Diego Devos "Cross Border Bank Resolution: A Reform Agenda" in Mario Giovanoli and Diego Devos (eds) *International and Monetary and Financial Law* (Oxford University Press, New York, 2010) 359 at 375.

112 Arner and Taylor, above n 5, at 497.

113 See Tom Braithwaite "Doubts on US bank resolution plan" *Financial Times* (online ed, London, 11 October 2010).

114 See Acharya and others "Regulating Systemic Risk", above n 88.



charge along these lines,<sup>115</sup> such reform appears to be a political non-starter, largely as a result of competitive considerations.<sup>116</sup> In the post-crisis period, for example, many governments have allowed LCFIs to enjoy an un-priced implicit government guarantee, in fear that requiring them to make allowance for their true capital costs would drive them elsewhere. In a recent working paper, the IMF estimated that LCFIs received a structural subsidy of 60 basis points before the crisis, rising to 80 basis points by the end of 2009.<sup>117</sup>

In the absence of an explicit price on systemically risky behaviour, current reform proposals rely principally on two approaches, both of which failed prior to the crisis, and will likely fail again: indirectly limiting, through Basel III, the extent to which financial institutions are able to take on risk; and, regulator discretion.

### 1 *Indirect limits*

Basel III significantly raises the required level of common equity that banks must hold, from two per cent to 4.5 per cent. Beyond this increase, the updated framework also requires banks to hold a capital conservation buffer of 2.5 per cent.<sup>118</sup> This is a substantial reform and would appear to limit the potential for liquidity shocks to occur, by greatly bolstering the capital cushion held by banks.

Unfortunately, while this sounds like an overwhelmingly positive step, the devil lies in the details. Earlier manifestations of the Basel Accords worked on similar principles, and were stripped of their effectiveness by arbitrage. John Gapper notes, for example, that Bank of America held more than twice the minimum capital ratio required by the Basel Accords and was supposedly "in rude health" when required to raise USD 34 billion as part of the Supervisory Capital Assessment Program.<sup>119</sup> During the crisis, raw leverage ratios were more correlated with bank survival than regulatory capital under the Basel framework.<sup>120</sup>

---

<sup>115</sup> Bob Davis "IMF to Nations: Tax Finance Firms" *The Wall Street Journal* (online ed, New York, 21 April 2010).

<sup>116</sup> In the United Kingdom, the idea of a "bank tax" has been floated. However, such a scheme would not be risk targeted, and would instead serve purely as a revenue gathering exercise: see Editorial "There will be blood" *The Economist* (online ed, London, 25 March 2010).

<sup>117</sup> Kenichi Ueda and Beatrice Weder di Mauro *Quantifying Structural Subsidy Values for Systemically Important Financial Institutions* (IMF Working Paper WP/12/128, May 2012).

<sup>118</sup> Basel Committee on Banking Supervision "Group of Governors and Heads of Supervision announces higher global minimum capital standards" (press release, 12 September 2010).

<sup>119</sup> See John Gapper "How banks learnt to play the system" *Financial Times* (online ed, London, 6 May 2009).

<sup>120</sup> Andrew Haldane, Bank of England Executive Director for Financial Stability "The Dog and the Frisbee" (Speech at the Federal Reserve Bank of Kansas City's 366th Economic Policy Symposium: The Changing Policy Landscape, 31 August 2012) ["The Dog and the Frisbee"].

As a result, Basel III is likely to prove a highly coarse method of reducing systemic risk.<sup>121</sup> The common equity requirements to be imposed on banks are not as high as first mooted and, given their long lead-in times, are unlikely to substantively change bank behaviour.<sup>122</sup> Moreover, due to the potential for regulatory "gaming" and the firm-focused nature of Basel's risk weightings, the potential remains that Basel III will continue to perversely encourage systemically risky conduct.<sup>123</sup>

## 2 Regulatory discretion

The post-crisis architecture places tremendous responsibility on the discretion and ability of regulators in bodies like the Financial Stability Board and the Financial Stability Oversight Council. Not only must regulators be able to identify systemic risk, a difficult task in itself, but they must also be prepared to act forthrightly to address such risk, even in politically unpalatable situations. Unfortunately, while the onset of the crisis clearly illustrated the degree to which the financial sector is subject to regulatory capture,<sup>124</sup> little emphasis has been placed on either increasing the level of talent available to regulators or decreasing the level of influence wielded by the financial services community.<sup>125</sup>

---

121 See Vanessa Le Leslé and Sofiya Avramova *Revisiting Risk Weighted Assets* (IMF Working Paper WP/12/90, March 2012). See also Governor Daniel K Tarullo "Regulating Systemically Important Financial Firms" (Speech at the Peter G Peterson Institute for International Economics, 3 June 2011).

122 As the Basel Committee on Banking Supervision has noted, these requirements will not become fully effective until 1 January 2019: see Basel Committee on Banking Supervision *Globally Systemically Important Banks: Assessment Methodology and the Additional Loss Absorbency Requirement* (Bank of International Settlements, July 2011) at 21.

123 In respect of the crisis, Gapper, above n 119, notes that:

One of the puzzles of the financial crisis is why banks were caught with huge amounts of securitised mortgage debt when the point of securitisation – turning assets into securities – is to be able to sell loans. Viewed through the Basel lens, however, the hoarding of securities made sense. By transforming 50 per cent risk-weighted mortgage loans into triple A securities, and with the help of rating agencies, banks reduced the amount of capital that they needed to hold against these assets. A bit of insurance wizardry took the regulatory arbitrage further. Banks could cut their capital charge to near zero by laying off the credit risk of mortgage securities to AIG through credit default swaps. Hey presto, billions of dollars of assets absorbing virtually no capital!

124 See generally Barry M Mitnick *The Political Economy of Regulation* (Columbia University Press, New York, 1980).

125 There has long existed a tremendous degree of fluidity between those working as regulators, and those working in the industry itself. As a result, many regulators possess an incentive not to ruffle too many feathers: see Michael Lewis and David Einhorn "The End of the Financial World as We Know It" *New York Times* (online ed, New York, 3 January 2009). Moreover, the differential in pay existing between the two sectors has served to limit the talent available to regulatory bodies. In respect of Lehman Brothers, for example, Richard Herring notes that:

As a result, it is likely that the effectiveness of any regulation on the books will be progressively chiseled away going forward.<sup>126</sup> In fact, in the banking sector, this trend is already observable, as many national regulators have refused to directly address the problem of "zombie banks": banks that are withholding capital due to balance sheet concerns. Many of these banks are technically insolvent and pose considerable systemic risk.<sup>127</sup>

The failure to directly address the issue of regulatory capture is particularly problematic in light of the sheer scale of reform delegated to national regulators. For instance, the Dodd–Frank Act requires an additional 400 pieces of detailed rule-making by a variety of United States regulatory entities.<sup>128</sup> However, a recent Davis Polk report highlighted the fact that over 60 per cent of the deadlines under Dodd–Frank have been missed.<sup>129</sup> Indeed, Martin Hellwig makes clear that neither supervisors nor banks really want the degree of regulatory oversight required in a complex and ever-changing financial world. He argues that:<sup>130</sup>

---

We had hundreds of examiners looking at the same toxic debt that was on the books of the other banks and they didn't recognize it. It's hard to imagine that without upgrading the talent and especially pay in the regulatory system that you're going to get a much better result, unless you have some way of making regulators accountable.

See Knowledge@Wharton "A Year After Lehman's Collapse, What Does Wall Street Look Like?" (16 September 2009) <knowledge.wharton.upenn.edu>.

126 This process already appears to be underway in the United States: see Phil Mattingly "Derivatives, 'Volcker' Rules May Be House Republican Targets" (20 November 2010) Bloomberg <www.bloomberg.com>.

127 As Simon Johnson has noted of the United States:

The challenges the United States faces are familiar territory to the people at the IMF. If you hid the name of the country and just showed them the numbers, there is no doubt what old IMF hands would say: nationalize troubled banks and break them up as necessary.

Johnson believes that:

At the root of the banks' problems are the large losses they have undoubtedly taken on their securities and loan portfolios. But they don't want to recognize the full extent of their losses, because that would likely expose them as insolvent. So they talk down the problem, and ask for handouts that aren't enough to make them healthy (again, they can't reveal the size of the handouts that would be necessary for that), but are enough to keep them upright a little longer. This behavior is corrosive: unhealthy banks either don't lend (hoarding money to shore up reserves) or they make desperate gambles on high-risk loans and investments that could pay off big, but probably won't pay off at all. In either case, the economy suffers further, and as it does, bank assets themselves continue to deteriorate—creating a highly destructive vicious cycle.

See Johnson, above n 55.

128 See Haldane "The Dog and the Frisbee", above n 120.

129 See Davis Polk "Dodd–Frank Progress Report" (2012) <www.davispolk.com/Dodd-Frank-Rulemaking-Progress-Report>.

130 Martin Hellwig "Systemic Risk in the Financial Sector" (2009) 157 De Economist 129 at 202.

An underlying problem is that any system of banking regulation that is less mechanical than the one we currently have requires bank supervisors to take a more managerial role. Graduated responses to a bank's difficulties, taking account of the systemic environment, require an exercise of judgment. Banks do not like to subject themselves to such exercises of judgment from bureaucrats, and bureaucrats do not like to take responsibility for such exercises of judgment. At this point, bank supervisors do not even have the resources, in particular the qualified personnel, which would be needed for such a task.

## **IV AN ALTERNATIVE VISION**

### **A The Need for Independence**

The preceding analysis paints a fairly grim picture for the future of the financial system. Unfortunately, this pessimistic viewpoint is justified: while there have been widespread changes to the regulatory landscape, many of these changes represent little more than a shifting of deckchairs. Moving forward, unless reforms to the financial architecture address the widespread externalities that exist in the global capital markets, regulatory competition "will end up conferring substantial guarantees to the financial sector, giving rise to excessive leverage and risk-taking incentives in spite of substantial regulation in each country."<sup>131</sup> Inevitably, the existence of such incentives will lead to crises that are deeper and more frequent than is socially optimal.<sup>132</sup>

In order to effectively address such externalities, an alternative vision is required for the financial architecture. The financial markets are now truly international in nature. In order to avoid the mistakes of the recent past, the key sites of regulatory power must also be international. Moreover, the key regulatory institutions need to possess an ability to focus on the health of the financial system, and, therefore, require insulation from any political pressure brought to bear on them by self-interested national regulators and legislators.

Structurally, the financial architecture should be oriented around a unified systemic risk regulator,<sup>133</sup> tasked with monitoring and pricing systemic risk.<sup>134</sup> This systemic risk regulator

---

131 Viral Acharya, Paul Wachtel and Ingo Walter "International Alignment of Financial Sector Regulation" in Acharya and Richardson, above n 17, 365 at 370.

132 For a broad discussion, see International Monetary Fund *The Taxation and Regulation of Banks* (August 2011).

133 Empirical research suggests that tasking a single regulator with the role of oversight is the best means of ensuring quality supervision: see generally Marco Arnone and Alessandro Gambini "Architectures of Supervisory Authorities and Banking Supervision" in Donato Masciandaro and Marc Quintyn (eds) *Designing Financial Supervision Institutions* (Edward Elgar, Cheltenham (UK), 2007) 262.

134 Alexander, Dhumale and Eatwell believe:

Reforms should seek to increase liquidity by enhancing heterogeneity, should strengthen the forces underpinning stabilizing convention, should take full account of the possibilities of macroeconomic measures to underpin systemic risk, and should be conceived on an international scale.

(SRR) would provide oversight solely at the macro-level, and would seek to provide "appropriate rules and incentives" to influence the direction of the financial sector.<sup>135</sup> In this role, the SSR would be required to ensure that:

- All financial institutions are forced to make allowance for systemically risky behaviour through the auspices of an international systemic risk tax.<sup>136</sup> In order to limit the potential for regulatory arbitrage and moral hazard, all financial institutions – not just LCFIs – would potentially be subject to this tax.<sup>137</sup> In contrast to a bonus or financial transactions tax,<sup>138</sup> this systemic risk tax would seek to place a price on firm behaviour, reducing externalities rather than merely raising revenue.<sup>139</sup>
- Sufficient investment is made in both the provision of financial information and market management systems like clearinghouses, given their public good properties.
- The potential for regulatory arbitrage and ad hoc decision-making is limited by the ex ante determination of binding minimum standards regarding financial regulation and crisis

---

See Alexander, Dhumale and Eatwell, above n 12, at 268–269.

135 Viñals and others, above n 1, at 6.

136 The specific methodology for assessing the pricing of this tax is beyond the scope of this article. For a general explanation, see Acharya and others "Regulating Systemic Risk", above n 88, at 292–297. See also Enrico C Perotti and Javier Suarez "A Pigovian Approach to Liquidity Regulation" (2010) Social Science Research Network <www.ssrn.com>; Stephen Morris and Hyun Song Shin "Financial Regulation in a System Context" (2008) Brookings Papers on Economic Activity 229; Tobias Adrian and Markus K Brunnermeier "CoVaR" (Federal Reserve Bank of New York, Staff Report no 348, September 2008).

137 This reflects the importance of function as opposed to form. As John Eatwell and Avinash Persaud have noted:

Institutions are not born with original sin or original virtue; it is their behaviour that can have potentially damaging systemic implications. It is the spread of pollution that matters, not the legal entity of the polluter.

See John Eatwell and Avinash Persaud "A practical approach to the regulation of risk" *Financial Times* (online ed, London, 25 August 2008).

138 The one-off bonus tax instituted in the United Kingdom in 2009 raised £2 billion but served as a relatively coarse method for limiting financial sector risk taking: see Jill Treanor "Budget 2010: Bank Bonus Tax Raises £2bn" *The Guardian* (online ed, London, 25 March 2010). The financial transactions tax which has been mooted by a number of European leaders appears likely, on the European Commission's own figures, to reduce overall tax revenues, even though it would raise a revenue stream of £10 billion: see Alex Barker and Joshua Chaffin "Tax Plan Raises Fear for European Business" *Financial Times* (online ed, London, 27 September 2011).

139 For a broader discussion of financial sector taxes, see Douglas A Shackelford, Daniel Shaviro and Joel B Slemrod "Taxation and the Financial Sector" (NYU Law & Economics Working Paper No 10-25, 2010).

management, most notably to avoid pro-cyclicality and allow for effective cross-border resolutions.<sup>140</sup> These standards would include, for example, leverage limits.<sup>141</sup>

In respect of the shape of the SRR itself, our crisis learnings can inform the design of the institution in two respects. First, the SRR would need to possess unimpeachable independence to be effective.<sup>142</sup> The seeds of financial crises have historically been sown during boom periods. During such periods, political considerations tend to incentivise regulators and legislators to ignore the harbingers of impending financial collapse, for example rapid leverage build-ups and sharp asset price inflation.<sup>143</sup> Safeguarding the independence of the SRR is necessary to ensure that such pitfalls are avoided, and that the body is prepared to demand that a national regulator undertake unpopular reforms, for example reform of a problematic LCFI.<sup>144</sup> This independence would need to take two forms:

- First, the SRR must be independent of the influence of the key financial economies, as these areas are the likely sites of future instability. The power and influence exerted by the G7 in

140 See Reinhart and Rogoff "Regulation should be international", above n 50. The aim of pro-cyclical tools:

... would be to lean against the build-up of aggregate risk in the upswing, making firms more resilient and thereby lowering the probability of default across the financial system towards its social optimum.

See Bank of England *The Role of Macprudential Policy: A Discussion Paper* (London, November 2009) at 17. In the lead-up to the crisis, political considerations made it very difficult for regulators, governments and central banks to dampen economic activity.

141 See for example Katia D'Hulster *The Leverage Ratio: A New Binding Limit on Banks* (The World Bank, December 2009).

142 Annette Nazareth argues that:

... independence and accountability are not necessarily mutually exclusive. With properly designed accountability arrangements, independence and accountability can be highly complementary. Proper accountability arrangements reinforce an agency's independence by enhancing its legitimacy and encouraging it to adhere to high standards of governance and performance. In addition, they enhance an agency's integrity and thus reduce the possibility of regulatory capture.

See Annette L Nazareth "Reflections on Systemic Risk in Response to Karmel's Paper" (2010) 35 *Brook J Int'l L* 845 at 850.

143 See generally Reinhart and Rogoff *This Time is Different*, above n 18.

144 In designing any model for systemic risk regulation, addressing the issue of enforcement is likely to be complex. However, the key is to recognise that, while the systemic risk regulator's (SRR) powers would be tightly limited in scope, it would possess a broad remit within its sphere of influence. A SRR would only possess the ability to curtail systemically risky conduct, and would not have control over the day-to-day regulation of financial firms. However, a broad mandate to defuse systemic risk would allow, for instance, the forced restructuring of a risky firm despite the objections of a national regulator seeking to protect a "national champion".

particular has crippled the effectiveness of institutions like the IMF, allowing these financial economies free reign to pursue mutually destructive regulatory policies. While the SRR would require funding from countries like the United States, it would also require independence of a similar form to that enjoyed by many central banks.<sup>145</sup>

- Secondly, in order to reduce the potential for regulatory capture and conflicting incentives, the personnel employed by the SRR must be insulated from the financial sector to some degree. Regulators should be limited in their ability to immediately transition back to financial sector employment upon working for the SRR.<sup>146</sup>

Considerable investment would be necessary to attract both the type of financial minds and the necessary infrastructure required for the SRR to provide effective oversight. At present, the most active body in respect of international financial regulation is the G20. However, neither this body nor the Financial Stability Board possesses the institutional capacity to provide day-to-day monitoring, and both are, in the view of the Capital Markets Committee, "disaggregated and low-budget financial regulatory networks."<sup>147</sup> As a result, neither appears likely to detect the complex financial trends that result in systemic risk accretion. A high-powered SRR would address this lacuna.

While systemic risk regulation would be routed through the SRR, the institution would not completely replace the role played by national regulators, who would still oversee their own financial sector at both the macro and micro-prudential levels.<sup>148</sup> Complete international regulatory homogeneity is unattractive, for two reasons. First, introducing international financial regulation at a granular level is likely to be inefficient, given that the effectiveness of regulation "depends heavily on pre-existing legal and governmental infrastructures."<sup>149</sup> Given differing legal systems and cultures, what works for financial regulation in the United Kingdom may prove ineffectual in Japan. Secondly, allowing countries to pursue alternative regulatory approaches (provided the potential for

---

<sup>145</sup> Nicholas Stern "The world needs an unbiased risk assessor" *Financial Times* (online ed, London, 24 March 2009).

<sup>146</sup> Michael Lewis and David Einhorn "How to Repair a Broken Financial World" *New York Times* (online ed, New York, 3 January 2009).

<sup>147</sup> Capital Markets Committee *The Global Financial Crisis: A Plan for Regulatory Reform* (May 2009) at 216.

<sup>148</sup> Jukka Vesala, Director General, Finnish Financial Supervision Authority "How to Bring in Systemic Risk Considerations into Financial Regulation and Supervision?" (Speech at the 28th The European Money and Finance Forum (SUERF) Colloquium on "The Quest for Stability", Utrecht, 3–4 September 2009).

<sup>149</sup> Patrick Honahan and Luc Laeven "Introduction and Overview" in Patrick Honahan and Luc Laeven (eds) *Systemic Financial Crises* (Cambridge University Press, New York, 2005) 3 at 4.

arbitrage is limited) can provide regulators with an improved understanding of the trade-offs implied by different regulatory models.<sup>150</sup>

## ***B Restructuring the Market***

In sketching this new architecture, considerable importance has been placed on the role of the SRR. However, it is important to remain conscious that regulators – even those free from regulatory capture – are always imperfect. Given the amorphous nature of systemic risk, regulators will not always be able to accurately identify problematic behaviours *ex ante*.<sup>151</sup> In 2002, for example, Joseph Stiglitz and Peter Orzag analysed the systemic risk posed by government-sponsored entities (GSEs) like Fannie Mae. They concluded that "the risk to the government from a potential default on GSE debt is effectively zero".<sup>152</sup> The tab for bailing out these entities is now predicted to reach some USD 370 billion.<sup>153</sup>

Moreover, even well designed institutions are not immune to conflicting incentives. Research suggests that regulators – even those under a specific mandate to oversee systemically important institutions – are likely to exercise greater regulatory forbearance in respect of systemically important institutions in distress than non-systemic institutions.<sup>154</sup> This problem is heightened in respect of existing national and international regulatory bodies, as these entities will continue to remain subject to political pressure, even in the event of much needed institutional and cultural reform.<sup>155</sup> In the United States, for example, much has been made of the fact that the Dodd–Frank Act places significant limits on the ability of regulatory institutions to "bailout" struggling financial

---

150 Katharina Pistor "Reforming the Financial System: Beyond Standardization on 'Best Practice' Models" (2 February 2009) VOX <www.voxeu.org>.

151 For example, prior to the crisis, some commentators suggested that systemic risk was almost non-existent in North America, a position that is now indefensible: see generally Alfred Lehar "Measuring Systemic Risk: A Risk Management Approach" (2005) 29 J Banking Finance 2577. The task of regulators is made more difficult by the constant evolution of the financial markets, as well as the need to monitor developments in real-time: see Lorenzo Bini Smaghi, Member of the Executive Board of the European Central Bank "Going Forward – Regulation and Supervision After the Financial Turmoil" (Speech at the 4th International Conference of Financial Regulation and Supervision "After the Big Bang: Reshaping Central Banking, Regulation and Supervision", 19 June 2009). The constant evolution of the financial markets means regulators will often be one-step behind.

152 Editorial "Systemic Risk and Fannie Mae" *Wall Street Journal* (online ed, New York, 1 December 2009).

153 "US bailout cost seen lower at \$89 billion: report" (12 April 2010) Reuters <www.reuters.com>.

154 International Monetary Fund *Global Financial Stability Report: Meeting New Challenges to Stability and Building a Safer System* (April 2010) at 63–64.

155 See Mario Giovanoli "The International Financial Architecture and its Reform After the Global Crisis" in Giovanoli and Devos, above n 111, 3 at 37.



firms.<sup>156</sup> However, such limits are unlikely to prove robust in the face of a generalised liquidity crisis.<sup>157</sup>

As a result, in reforming the financial architecture, the SRR would look "to design regulation so as to prevent institutions from posing systemic risk," constructing regulation around a series of built-in stabilisers which could operate effectively in the highly pressurised and politicised crisis environment.<sup>158</sup> The complexity of the financial sector demands, perhaps counter-intuitively, that these stabilisers are both simple and robust.<sup>159</sup> As Viral Acharya and Matthew Richardson have noted:<sup>160</sup>

The goal is not to have the most advanced financial system, but a financial system that is reasonably advanced but robust. That's no different from what we seek in other areas of human activity. We don't use the most advanced aircraft to move millions of people around the world. We use reasonably advanced aircrafts whose designs have proved to be reliable.

In respect of the systemic risk tax, for example, a hypothetical first-best approach would see the SRR set an optimal Pigouvian tax,<sup>161</sup> with the funds either placed in a consolidated fund or provided by way of a private insurance scheme.<sup>162</sup> However, in practice such a scheme would likely prove unmanageable, given the complexities surrounding both the setting of the tax (in light of the degree of information asymmetry facing the SRR) and the timing and manner in which the

156 Rich Miller "Dodd-Frank Law May Hinder Crisis Response by US Policy Makers" (23 November 2011) Bloomberg <[www.bloomberg.com](http://www.bloomberg.com)>.

157 Jennifer Liberto "Can Washington Handle 'Too Big to Fail'?" CNN Money (10 August 2011) <[money.cnn.com](http://money.cnn.com)>.

158 International Monetary Fund *Meeting New Challenges to Stability and Building a Safer System*, above n 154, at 86.

159 Simplicity is crucial in determining regulatory effectiveness. Andrew Haldane notes that:

Tackling complex banking through complex regulation is to fight fire with fire. This is unlikely to work in theory. Crisis experience suggests it has not worked in practice. A regulatory framework is needed in which the state is neither omniscient Walrasian auctioneer (shouting out hundreds of millions of risk prices) nor deep-pocketed financier (doling out hundreds of billions of taxpayers' money). A regulatory Gosplan will work no better for bankers than it did for tractors.

See Andrew Haldane, Bank of England Executive Director for Financial Stability "Capital Discipline" (Remarks based on a speech given at the American Economic Association, Denver, Colorado, 9 January 2011).

160 Viral V. Acharya and Matthew Richardson "Repairing a Failed System: An Introduction" in Acharya and Richards, above n 17.

161 A Pigouvian tax would aim to equate the private and social cost of liquidity for financial institutions.

162 Acharya and others "Regulating Systemic Risk", above n 88.

funds were deployed in the event of a crisis. A more practicable approach would see the SRR setting a dollar figure for the amount of capital required in a fire-sale scenario,<sup>163</sup> with financial institutions required to provide such capital in the form of contingent convertible instruments (Co-Cos).<sup>164</sup> This additional capital buffer may be substantial, increasing borrowing costs, but is justifiable given the immense costs that liquidity crises impose on society.<sup>165</sup> While the SRR would determine the quantity of contingent capital, the systemic risk "tax" would be determined by the additional cost associated with this tranche of capital, providing an incentive to reduce risk-taking and interconnection, particularly when the markets are buoyant.

In the event of a pre-determined stress event, some or all of the contingent debt would convert into equity. The use of Co-Cos offers several advantages in contrast to the use of an SRR determined tax:

- By providing capital from creditors ex ante, rather than from the government ex post, the use of Co-Cos provides greater incentives for both shareholders (who risk dilution) and creditors to monitor risk taking.<sup>166</sup>
- The use of Co-cos would reduce the reliance of the financial system on regulatory discretion, as the contractual nature of the instruments would preempt the need for government intervention.

Regulating in the neutral manner set out above would avoid many of the pitfalls associated with direct government intervention, while providing the market with strong incentives to shift away from a model currently dominated by "super-spreaders".<sup>167</sup>

Mervyn King has argued that the depth of the financial crisis was primarily a consequence of the changing nature of the banking system.<sup>168</sup> Banks have grown larger and far more leveraged: prior

---

<sup>163</sup> Such an approach would be similar to the 2009 Supervisory Capital Assessment Program carried out in the United States. For a review of the value associated with the use of dollar figures as opposed to capital ratios see Samuel Hanson, Anil K Kayshap and Jeremy C Stein "A Macroprudential Approach to Financial Regulation" (12 November 2010) Social Science Research Network <www.ssrn.com>. For a discussion of quantifying such losses, see Viral V Acharya and others "Quantifying Systemic Risk: How to Calculate Systemic Risk Surcharges" (2011) Social Science Research Network <www.ssrn.com>.

<sup>164</sup> In broad terms, contingent convertible instruments [Co-cos] are a bond that converts to equity in the event that a pre-determined trigger (such as a bank's capital ratio falling below a certain level) occurs.

<sup>165</sup> Editorial "How much is enough?" *The Economist* (online ed, United Kingdom, 12 May 2011).

<sup>166</sup> See generally John C Coffee Jr "Systemic Risk After Dodd Frank: Contingent Capital and the Need for Regulatory Strategies Beyond Oversight" (2011) 111 Colum L Rev 795.

<sup>167</sup> See generally Andrew Haldane and Robert M May "Systemic Risk in Banking Ecosystems" (2011) 469 Nature 351.

<sup>168</sup> Mervyn King, Bank of England Governor "Banking: From Bagehot to Basel, and Back Again" (The Second Bagehot Lecture, New York, 25 October 2010).

to the crisis, for example, leverage levels in some banks were as high as 50 to 1, with asset holdings in the United Kingdom banking sector comprising 500 per cent of GDP.<sup>169</sup> In growing larger and more leveraged, they have grown disconnected from the real economy, leading King to claim that: "Of all the many ways of organising banking, the worst is the one we have today."<sup>170</sup> However, it is not appropriate to simply take a vision of what the financial sector should look like and work backward, particularly given the dearth of knowledge we possess regarding the optimal structuring of the financial sector.<sup>171</sup> Instead, the use of a systemic tax would allow the market to gradually orientate capital towards more socially efficient outcomes.

## V CONCLUSION: A MAGINOT LINE?

Despite wide-ranging financial reform, the international financial markets remain beset by externalities that implicitly encourage excessively large institutions, excessively risky products and excessively risky positions.<sup>172</sup> In order to address these externalities, a paradigm shift is required in the international financial architecture, oriented around the devolution of substantive hard law power to a newly formed systemic risk regulator. In the view of Nicholas Stern:<sup>173</sup>

Tinkering with existing institutions cannot provide the independence we need. The politically sensitive task of warning about growing systemic risks can be delivered only by a new institution. We can create one at a cost that is very modest in relation to the dangers we face. As we witness the extreme consequences of getting it wrong, now is the time for action.

However, despite initial hopes that such reform would be forthcoming, it appears the financial crisis has failed to sever our attachment to the Westphalian paradigm.<sup>174</sup> As a result, it appears the

<sup>169</sup> King, above n 168.

<sup>170</sup> King, above n 168.

<sup>171</sup> See Daniel K Tarullo, Federal Reserve Bank Governor "Industrial Organization and Systemic Risk: An Agenda for Further Research" (Speech at the Conference on the Regulation of Systemic Risk: An Agenda for Further Research, 15 September 2011). To illustrate, Hector Sants has noted that in the wake of the failure of Long-Term Capital Management, many commentators believed that hedge funds would serve as the likely focal point to the next financial crisis. In fact, the most substantial losses have been sustained in the more heavily regulated sectors of the industry: see Hector Sants, Chief Executive, Financial Services Authority, "The Regulator's View of Hedge Funds and Hedge Fund Standards" (Speech at the Hedge 2008 Conference, 22 October 2008).

<sup>172</sup> James Surowiecki "Monsters Inc" *The New Yorker* (online ed, New York, 11 May 2009).

<sup>173</sup> Stern, above n 145.

<sup>174</sup> We should recognise that this sort of behaviour happens rarely. James Boughton notes that:

Any concerns countries had about threats to national sovereignty posed by the powers given to the World Bank and IMF were effectively neutralized by the twin traumas of depression and war that characterized the interwar period.

See James M Boughton "A New Bretton Woods?" (2009) 46 *Finance Devel* 44 at 45.

window for reform along the lines proposed in this article has gone, if indeed it ever existed. The "old normality" is returning, leaving Martin Wolf to wryly note that:<sup>175</sup>

The co-operation which arrived with such a bang two years ago is going out with a whimper. As the crisis passes, everybody breathes a sigh of relief and goes back to business as usual, including traditional squabbles, both internal and international.

The costs of this missed opportunity are unlikely to be borne immediately, but until nations are prepared to move beyond self-interest, excessive systemic risk will remain latent within the financial system.<sup>176</sup> In particular, the absence of a broad based and neutral approach to regulation is likely to simply drive risk to the deepest recesses of the market, leaving the system superficially safer but in fact more unsound.<sup>177</sup>

---

175 Martin Wolf "A case not so much of agreeing to differ as just differing" *Financial Times* (online ed, London, 7 October 2010).

176 In the view of Carmen Reinhart and Kenneth Rogoff:

The root problem of excessive leverage, and the political dynamics that produce it, are hardly new. In our study of more than 200 years of banking crises we find rapid leverage build-up and sharp asset price inflation are often harbingers of financial crisis that politicians discount or ignore. The G20 leaders were right to argue that containing leverage has to be a focus of any revamp of the global financial system. But they failed to recognise that any practical solution to the problem of domestic political interference will require stronger international agreements and regulation. These agreements are not only to help deal with large multinational banks and protect against cross-border regulatory arbitrage. An international regulator with teeth is needed to protect against national political interests that, left unchecked, will again push the global system to excessive leverage and risk.

See Reinhart and Rogoff "Regulation should be international", above n 50.

177 Hanson, Kayshap and Stein note that:

In particular, while higher capital and liquidity requirements on banks will no doubt help to insulate the banks themselves from the consequences of large shocks, the danger is that, given the intensity of competition in financial services, they will also drive a larger share of intermediation into the shadow-banking realm. For example, perhaps an increasing fraction of corporate and consumer loans will be securitized, and in their securitized form will end up being held by a variety of highly-leveraged investors (say hedge funds) who are not subject to the usual bank-oriented capital regulation. If so, the individual regulated banks may be left safer than they were before, but the overall system of credit creation may not.

See Hanson, Kayshap and Stein, above n 163, at 28.