



Centre for Banking & Finance Law
Faculty of Law

The Challenges to Cross-Border Financial Regulation in the Post-Financial Crisis Era

Conference Report

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CBFL-Rep-MD1
August 2016

This report is based on the proceedings of the Annual Conference of the Journal of Financial Regulation held last 24-25 June 2016 in Hong Kong. The theme for the 2016 conference was “Integration and Interconnectedness in Global Finance”.

The views expressed in this report reflect the author’s personal opinions and do not necessarily reflect the policies or views of the conference organizers, presenters, and discussants, and the Centre for Banking & Finance Law.

This report may be cited as: Michelle Dy, *The Challenges to Cross-Border Financial Regulation in the Post-Financial Crisis Era*, Centre for Banking & Finance Law, Faculty of Law, National University of Singapore, August 2016, report number CBFL-Rep-MD1.

URL: http://law.nus.edu.sg/cbfl/pub_reports.htm

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The Centre for Banking & Finance Law (CBFL) at the Faculty of Law, National University of Singapore, focuses broadly on legal and regulatory issues relating to banking and financial services. It aims to produce research and host events of scholarly value to academics as well as of policy relevance to the banking and financial services community. In particular, CBFL seeks to engage local and international bankers, lawyers, regulators and academics in regular exchanges of ideas and knowledge so as to contribute towards the development of law and regulation in this area, as well as to promote a robust and stable financial sector in Singapore, the region and globally.

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“...the parallel globalization process of the world’s financial markets, the technological advances and financial innovations that will continue to come forth rapidly will all serve to maintain intense competitive conditions for depository institutions. And these same conditions will also serve to increase the riskiness of the environment in which institutions must operate.” – Alan Greenspan¹

I. Introduction

The financial world of today looks nothing like it did a century ago when the business of banking and finance was based on “the physical distribution of paper in a localized world.”² The globalization of finance has meant, in general terms, a constant flow of funds across borders, the ever growing presence of foreign financial institutions in other jurisdictions, and individuals and entities owning and holding foreign financial and real assets from various countries around the world.³ In order to keep pace with such developments, the way markets are being regulated is now in need of re-conceptualization. Financial regulation is no longer the sole province of a single territory; coordination and cooperation between independent nation-states has now become the new norm. With this development comes the challenge of establishing a framework for cross-border regulation without impinging upon each other’s sovereignties and national prerogatives. If such impingement is unavoidable, the problem takes on a game theory-like character where the concern is to ensure that the total joint benefits which will be gained from coordination with other states will far exceed the total joint costs which will be incurred.⁴

International standards have arisen over the years as a response to the problem of regulating cross-border transactions. However, the constitutional authority of international standard setters are weak because they are non-binding.⁵ These international standards cannot override domestic law. National securities regulators are only bound by their domestic laws and national policy objectives. Deference or recognition becomes difficult when different countries are at different stages of development.⁶ In a similar vein, the diversity in global capital markets makes it harder to apply peer pressure to international standards. The reluctance to adopt international standards can be traced as far back as the

¹ Alan Greenspan, ‘Challenge of the 90s’ (After-Dinner Remarks at the Joint Inter-Agency Supervision Conference Baltimore Branch of the Federal Reserve Bank of Richmond, 28 March 1990).

² Jon Ogden, ‘Banking 100 years ago versus banking now’ (MX, 28 August 2014) <https://www.mx.com/moneysummit/banking-in-1914-vs-2014-nothing-is-different-but-everything-has-changed> accessed 15 August 2016.

³ T.M. Rybczynski, ‘The Internationalization of Finance and Business’ (1988) 23 Business Economics 14 at 14.

⁴ Chris Brummer, ‘How International Financial Law Works (And How It Doesn’t)’ (2011) 99 Georgetown Law Journal 257 at 269.

⁵ Ashley Alder JP, ‘Keynote Opening Remarks’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

⁶ *ibid.*

national regulators themselves. Outsourcing regulation comes at a personal risk to these individuals since there is no global treaty-based form of governance that will otherwise justify the adoption of market reforms. Thus, the blame ends up on their door.⁷

Financial regulation is not to be seen only as a reactionary response to market developments. It can be responsible for the establishment of new institutions too; institutions which can redefine the business of banking and finance. Examples of these are the initiatives of regional organizations like the European Union (EU) or the Association of Southeast Asian Nations (ASEAN) to establish a framework for the passporting of funds and financial instruments across borders.

Out of these parallel developments in financial regulation, the same dangers arise: increased risk and financial instability. Appropriate measures to address these dangers are in a perpetual state of discovery as the markets continue to evolve. This makes the jobs of regulators more complicated as they have to properly identify the risks to the financial system first before they can proceed with the formulation of measures to address it.

Another complication that is even causing a “crisis” among regulators and the members of the academia is the failure and inadequacy of neoclassical economics and libertarianism to detect and explain the events which led to the 2008 Global Financial Crisis (GFC).⁸ The said event revealed that it can no longer be assumed that markets and market actors always act rationally. In trying to explain this new norm, one Financial Times article stated that “while markets sometimes behave in ways that models might predict, they can also become ‘irrational’, driven by animal spirits that defy maths.”⁹ As a result, there are now calls for a multi-disciplinary approach to the study of international financial regulation. The use of classic orthodox economics and mathematical models to analyze finance and evaluate risk can no longer be considered adequate. Alongside the conventional disciplines, anthropology and sociology (among others) might be necessary to paint a clearer picture of the real state of the market. This also means that financial regulation can no longer hide behind the veneer of technicality; an admission must also be made that politics plays a great role in shaping policies and regulations.

These are the predominant themes which emerged in the Journal of Financial Regulation 2016 Annual Conference entitled “Integration and Interconnectedness in Global Finance,” held last 24-25 June 2016 in Hong Kong. While this document can broadly be seen as a report on the proceedings of the said Conference, the goal of the Centre for Banking and Finance Law (CBFL) is to further process the ideas exchanged during the event and produce a paper which can form the basis of, and lead to, further discussions on the future of regulation in a world of globalized finance.

⁷ *ibid.*

⁸ See Gillian Tett, ‘An Interview with Alan Greenspan’ *Financial Times* (London, 25 October 2013) <<http://www.ft.com/cms/s/2/25ebae9e-3c3a-11e3-b85f-00144feab7de.html>> accessed last 15 August 2016; David Colander, Hans Föllmer, Armin Haas, Michael Goldberg, Katarina Juselius, Alan Kirman, Thomas Lux, and Brigitte Sloth, ‘The Financial Crisis and the Systemic Failure of Academic Economists’ (University of Copenhagen Department of Economics Discussion Paper No. 09-03) <https://www.ifw-members.ifw-kiel.de/publications/the-financial-crisis-and-the-systemic-failure-of-academic-economics/KWP_1489_ColanderetalFinancial%20Crisis.pdf> accessed 15 August 2016.

⁹ *Financial Times*, *ibid.*

In line with this, the objective of this paper is to answer two questions: (1) What is the present state of financial regulation in this integrated and interconnected world? and (2) What does the future hold for the study of financial regulation? Parts II-IV deal with the first question. Specifically, Part II discusses the creation of a regulatory system by the EU and ASEAN which will enable the passporting of funds and the challenges it entails. Part III discusses the challenges regulators face in formulating the appropriate tools to manage cross-border flows. Part IV then focuses on the current and proposed measures utilized to manage risks in an integrated market. The second question is dealt with by Part V in its discussion of the rise of the multi-disciplinary approach as a tool to analyze the present integrated financial markets. Part VI concludes.

II. Conscious Connectivity: Challenges in Creating Integrated Markets

The Westphalian concept of sovereignty extends to all aspects of rulemaking within a state including financial regulation.¹⁰ Financial regulation, which used to be confined to domestic transactions, intentionally or unintentionally serves as an obstacle to cross-border transactions in today's world. To address this, nation-states are now actively pursuing regulatory cooperation with each other in the name of further economic development. Harmonized standards are being adopted which are meant to replace national laws in order to remove the obstacles to cross-border transactions and capital flows. The result of this is what can be called as "conscious connectivity".

According to Zetsche (2016), the cross-border transfer of funds is a welcome improvement from the point of view of investors since it enables them to diversify their portfolio, access innovative products, and opt into global standards.¹¹ However, investor protection concerns remain as the foreign intermediary may not be bound by local rules and customs. Opening borders is also beneficial for small and medium markets since it enables them to expand without incurring substantial set-up costs.¹²

Systemically, allowing the cross-border delivery of financial services has both pros and cons. On one hand, product differentiation is enhanced since such is independent from market size. It can also potentially reduce systemic risk within the local system due to the diversification of funding sources. This also encourages product innovation and stimulates competition. However, competition is a positive development only if the local intermediaries are adequately equipped to enter the fray.¹³

Based on these premises, a persuasive case can be made in favor of the harmonization of rules to enhance access to cross-border transactions. But how does this actually bear out in practice? To answer this question, we turn to the Southeast Asian region

¹⁰ Hwa-Jin Kim, 'A Korean Perspective' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹¹ Dirk Zetsche, 'Building a Global Framework for Investment Funds: A Euro-Asian Comparison' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹² *ibid.*

¹³ *ibid.*

where ten member states have embarked on a project called the ASEAN Economic Community (AEC), the goal of which is “to have a stable, prosperous and highly competitive ASEAN Economic region in which there is a free flow of goods, services, and investments, a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities.”¹⁴ In the capital markets sector, the goal of the AEC is to have a “regionally integrated market where within the region: (1) capital can move freely; (2) issuers are free to raise capital anywhere; and (3) investors can invest anywhere”.¹⁵ In order to have enabling environment where such integration is possible, one of the initiatives proposed was the harmonization of disclosure standards (called the ASEAN Disclosure Standards or ADS) for both equity and debt securities which are intended to apply to any issuer which is planning to make multi-jurisdiction offerings within ASEAN.¹⁶ The ADS is based on two documents from the International Organization of Securities Commissions (IOSCO) namely: the International Disclosure Standards for Cross-Border Offerings and Initial Listings by Foreign Issuers (1998) and the International Disclosure Standards for Cross-Border Offerings and Listings of Debt Securities by Foreign Issuers (2007). It is to be noted, however, that the ADS is not a true passport of automatic mutual recognition.¹⁷ Issuers utilizing the ADS are still expected to comply with the applicable legislative and regulatory standards in each participating jurisdiction. Moreover, the ADS does not cover ongoing disclosure obligations or listing criteria. Instead, a “bottom-up” approach is used through the ASEAN Corporate Governance Standards.¹⁸ Neither were the liability regimes of the signatory countries¹⁹ included in the harmonization.²⁰ Because of these issues, the ADS has not been successful so far. ASEAN markets remain fragmented.

A similar measure in the EU called the Prospective Directive also provides for common disclosure standards applicable to all member states when the securities are offered across the EU.²¹ The said directive, however, only applies to securities traded on a regulated market and not to offers made to qualified investors or private placements.²² In a comparative study conducted by Wan (2014) between the EU Prospectus Directive and the ADS, it was found that there is a general lack of interest in passporting initial public offerings (IPOs) in both regions.²³ Wan conceded that if one purely looks at the numbers, he/she will find that there is a huge number of prospectuses being passported. However, the actual number of securities being offered across the EU are actually lower. According to a Committee of European Securities Regulators (CESR) study cited by Wan, some issuers

¹⁴ ASEAN Vision 2020 (1997) < http://www.asean.org/?static_post=asean-vision-2020> accessed 15 August 2016.

¹⁵ The Implementation Plan (2009) < <http://www.theacmf.org/ACMF/report/ImplementationPlan.pdf>> accessed 31 August 2016.

¹⁶ Please refer to Primer on the ASEAN Disclosure Standards <http://www.theacmf.org/ACMF/webcontent.php?content_id=00015> accessed 15 August 2016.

¹⁷ Wai Yee Wan, ‘Cross-Border Public Offering of Securities in Fostering an Integrated Securities Market: The Experiences of Singapore, Malaysia, and Thailand’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹⁸ *ibid.*

¹⁹ Namely: Singapore, Thailand, and Malaysia as at the time of writing this paper.

²⁰ Wan (n 17).

²¹ See Directive 2003/71/EC – Prospectus to be published when securities are issued <<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3A124033c>> accessed 15 August 2016.

²² Wan (n 17).

²³ *ibid.*

passport their prospectus as a contingency.²⁴ The situation is worse in ASEAN because even the prospectuses have not been passported yet. This was attributed to a number of things such as: (1) the availability of exemptions to make cross-border offerings which negates the need for the common prospectus; (2) the practice of companies to list in only the most liquid market; and (3) the persistence of barriers to retail investing such as high transaction costs and difficulty in accessing information about foreign issuers.²⁵

Based on these findings, it cannot be assumed that harmonization *per se* will encourage the market to embark on more cross-border transactions. Home biases, which cannot be removed by laws and regulations, can still serve as a barrier against the passporting mechanisms set up by governments.²⁶ The lack of an automatic mutual recognition also indicates the lack of trust that the home regulator will have the same assessment quality as that of the host state.²⁷ A mutual recognition regime is also incompatible with the interest of the host state to retain its regulatory power in all instances.²⁸

These issues will not be resolved overnight but regulators can start with building trust among each other first. They could also establish a system of harmonized interpretation and enforcement of the key rules. A “top-down” approach in the delivery of administrative sanctions can also be utilized.

III. Market-driven connectivity: Issues faced by Regulators

Despite its growing popularity, the process of coordinating with other nation-states to enable cross-border transactions is still more of an exception than a rule.²⁹ However, the difficulties present in establishing regulatory linkages (as discussed in the previous section) do not prevent cross-border transactions from occurring entirely.³⁰ As long as there is a robust demand or commercial necessity for it, such transactions will occur despite the absence of a uniform governing law. According to the theory of decentralized lawmaking, in the absence of promulgated laws, norms are formed over time through parties’ repeated interactions.³¹ These so-called “private norms” are then replicated until it is finally accepted as a custom which can be considered as the modern *lex mercatoria* (law merchant).³² Thus,

²⁴ *ibid.*

²⁵ *ibid.*

²⁶ *ibid.*

²⁷ Zetzsche (n 11).

²⁸ *ibid.*

²⁹ Developments are instead occurring outside official state channels through the creation of new private legal orders collectively called as the new *Lex Mercatoria*. For further discussion on this, see Alec Stone Sweet, ‘The New Lex Mercatoria and Transnational Governance’ (2006) 13 *Journal of European Public Policy* 627.

³⁰ However, it bears noting there has been a decline of cross-border flows after the 2008 Global Financial Crisis. See Elliott James, Kate McLoughlin, and Ewan Rankin, ‘Cross-border Capital Flows Since the Global Financial Crisis’ (2014) Reserve Bank of Australia Quarterly Bulletin <<http://www.rba.gov.au/publications/bulletin/2014/jun/pdf/bu-0614-8.pdf>> accessed 15 August 2016.

³¹ Robert D. Cooter, ‘Decentralized Law for a Complex Economy’ (1993) 23 *Southwestern University Law Review* 443 at 445.

³² Tamar Frankel, ‘Cross-border securitization: without law but not lawless’ (1998) 8 *Duke Journal of Comparative & International Law* 255 at 257.

while *lex mercatoria* facilitates cross-border commercial transactions, it remains a private arrangement between the parties and not a formal legislation of any particularly jurisdiction. This is where a lacuna in regulation exists.

A. The Eurodollar Market

An example of this is the Eurodollar market. To put it simply, Eurodollars represent liabilities, denominated in United States (US) dollars, issued by banks which are located outside the US.³³ The usual form of liabilities includes actual deposits, money markets, derivatives and structured finance products. The last two in the list are considered more exotic. The Eurodollar market has expanded dramatically over the last several decades: the total figure is now \$20 trillion.³⁴

Why do we have Eurodollar markets? According to Dan Awrey,³⁵ the existence of such markets is due to the combination of two things: the nature of money creation and the regulatory license provided to the banks. Banks issue Eurodollar liabilities because it is sometimes cheaper to actively take a foreign exchange liability. It is also possible that such banks have a certain currency profile and issuing Eurodollar liabilities ensure that such profile is hedged. It may also be driven by regulatory arbitrage considerations, where there are differences between reserve requirements for US dollar and other currencies.³⁶

The Eurodollar market posits two intertwined problems: first is the private money creation by banks and its potential impact on financial stability.³⁷ An added complexity to this problem is other entities, aside from banks, engage in this type of money creation. The second problem is the resulting loss of monetary and regulatory sovereignty since the creation of the Eurodollars fall outside the regulatory reach of the jurisdiction that issues the relevant currency.³⁸ Because the banks issuing the Eurodollar liabilities are not located within the US, the Federal Reserve does not have access to its usual levers of supervision and regulation.

Another consequence of this is the banks issuing Eurodollar liabilities do not have direct access to the lender of last resort (LOLR) facilities. Insuring by holding foreign reserves is rarely availed upon because it is expensive. Because of these, there is a gap in the global safety net.³⁹

One of the more prominent Eurodollar crisis in recent history occurred in 2008 where banks suffered a US dollar-foreign exchange liquidity crisis. The seizing up of the dollar funding markets led to a fire sale of US dollar-denominated assets. The impact of this

³³ Milton Friedman, 'The Euro-Dollar Market: Some First Principles' (1971) at 3 <<https://www.chicagobooth.edu/~media/44CEE6C8A25B4FF2A48925163DAA2F85.pdf>> accessed 15 August 2016.

³⁴ Not all of them are money claims. Dan Awrey, 'The Euromoney Problem' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

³⁵ *ibid.*

³⁶ *ibid.*

³⁷ *ibid.*

³⁸ *ibid.*

³⁹ *ibid.*

foreign exchange liquidity crisis was devastating for non-US banks which relied heavily on the issuance of Eurodollar liabilities since they failed to match these liabilities by holding US dollar assets.⁴⁰ To counteract this liquidity problem, bilateral swap lines in central banks were gradually increased. While this measure helped dampen the impact of the foreign exchange liquidity crisis, it did not solve the underlying euromoney problem. Instead, it posed a moral hazard problem since swap lines represent underpriced US dollar liquidity insurance.⁴¹

Awrey (2016) offers possible solutions. One way is to license money creation.⁴² Another is to coordinate with other states by harmonizing reserve and liquidity requirements. Swap lines can also be placed under more solid legal footing under international law. Extraterritorially prohibiting Eurodollar claims is also an option but this might be hard to do in practice.⁴³

B. Over-the-counter (OTC) Derivatives Market

Another example of a cross-border market where there is a lacuna is the OTC Derivatives Market. Even though it is a global market and is systemically important to the international financial system, it has largely been unregulated.⁴⁴ Banks, the key participants in this market, mostly operate on a branch basis. This has led to disagreements between home and host countries with respect to the proper regulator and the regulation which should prevail. There is also an unresolved question of how to regulate the Central Counterparties (CCPs) and Trade Repositories (TRs). Because of these issues, any attempts at regulating this market will involve some extraterritoriality issues.

Since this is a cross-border market, there will be at least two jurisdictions which will impose their own rules and requirements over the transaction. This increases the transaction's costs. In a worst case scenario, it is possible that the rules and requirements imposed by two different jurisdictions are incompatible. This prevents the perfection of the transaction in the first place.⁴⁵ Moreover, the lack of regulatory coordination might also have an adverse impact on counterparties who are not even directly subject to regulation.⁴⁶ This also engenders regulatory uncertainty and cause one party to have a greater compliance burden than the other.⁴⁷

To address these issues, Noyes (2016) recommends the adoption of a roadmap or international standards which shall ensure the uniformity of regulation across jurisdictions. It would also be helpful if a cooperation mechanism was established to make sure that the reforms needed will be adopted and implemented domestically. The same mechanism can

⁴⁰ *ibid.*

⁴¹ *ibid.*

⁴² *ibid.*

⁴³ *ibid.*

⁴⁴ Keith Noyes, 'Toward Regulatory Harmonization: Mandatory Margining for Non-cleared Swaps' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

⁴⁵ *ibid.*

⁴⁶ *ibid.*

⁴⁷ *ibid.*

assist the states in ensuring that the rules are properly enforced and ease themselves into the idea that it is all right to rely on each other's supervision.⁴⁸

C. Decline of European Investment Banks

The rise of cross-border transactions does not only mean the creation of new markets; sometimes it is also a harbinger of the end of an era. An example of this would be the gradual disappearance of European global investment banks in Europe due to the growing dominance of their US counterparts. According to a study conducted by Schoenmaker and Goodhart (2016), empirical evidence would suggest that domestic banks are dominant in their region except Europe where investment banks are declining.⁴⁹ For the adherents of the *laissez faire* economics, this should not be a cause for concern since businesses come and go all the time. However, the policy issues that are borne out of this phenomena cannot be ignored.

First of them is the unwanted political and regulatory intervention from the US in the form of laws such as the Sarbanes-Oxley Act and the Foreign Account Tax Compliance Act (FATCA).⁵⁰ Another source of concern is the continuing consolidation of investment banks in the European continent. This threatens to reduce the competition to only a few investment banks.⁵¹ Lastly, as European banks become more national, only the US investment banks are left operating throughout the continent. Some have raised concerns over the knowledge that these US banks will acquire over the local firms. Some are also worried about the loyalties of these firms during times of crisis.⁵²

Despite these issues, Goodhart and Schoenmaker do not recommend any interventions to stem this decline. Instead, they posit that the downsizing of European banks should run its course.⁵³ Regulatory concerns can be addressed through the European supervisory structure which can oversee the operations of such US banks in Europe. With respect to issues about loyalty and knowledge about the local firms, they can insist on the inclusion of at least one European bank in every syndicate which can cater to them during the bad times.⁵⁴ Most importantly, given the present fragmented state of the European banking market, it is difficult for a pan-European bank to reemerge. This therefore behooves the completion of the Banking Union project with adequate risk sharing mechanisms as soon as possible to allow the emergence of a regional or even a global player.⁵⁵

IV. Disruptive Technologies: Challenges to Regulation

⁴⁸ *ibid.*

⁴⁹ Charles Goodhart and Dirk Schoenmaker, 'Global Investment Banks are all Becoming American: What are the policy issues?' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

⁵⁰ *ibid.*

⁵¹ *ibid.*

⁵² *ibid.*

⁵³ *ibid.*

⁵⁴ *ibid.*

⁵⁵ *ibid.*

A. FinTech

Advances in computing and technology are also presenting challenges to the way the business of banking is being done. The traditional paper-based banking of the past has to come to grips “with the digital distribution of data of a networked world.”⁵⁶ Technology companies are now entering into all forms of financial services. For example, Alibaba is now operating the fourth largest money market fund in the world⁵⁷ and is engaged in a variety of forms of lending. According to a 2016 US Office of the Comptroller of the Currency (OCC) report, the number of Financial Technology (FinTech)⁵⁸ companies in the US and in the United Kingdom (UK) is currently greater than 4,000. Also, investment in FinTech companies since 2010 is presently valued at more than \$24 billion globally.⁵⁹

The competition that traditional financial institutions are facing from these technology companies is forcing the former to pour greater effort and attention to developing new technologies. As a matter of fact, they have been the largest spenders on Information Technology (IT) since the 1980s.⁶⁰ However, the 2008 Global Financial Crisis (GFC) had a dramatic impact on these financial institutions and played a pivotal role on the growth of the FinTech sector. The resulting negative public perceptions and distrust of the financial institutions also opened the door to new entrants. Other contributors to this growth include the post-crisis regulatory reforms imposed on banks which caused a contraction of their access to financing due to the requirement to hold additional capital against their loan portfolio.⁶¹ Another is the down-sizing of the banks’ operation teams as a result of cost-savings from the utilization of technology for some of the banking-related processes.

The GFC also changed the face of financial regulation. Each new regulatory requirement is an imposition on financial institutions to build new infrastructure to comply with those regulations.⁶² The volume of information they receive as the by-product of such post-crisis regulatory changes also presented a challenge for regulators. The receipt of massive amounts of information overwhelmed such persons since they don’t have the

⁵⁶ Ogden (n 2).

⁵⁷ Paul Bischoff, ‘1 year and \$92 billion later, Alibaba’s massive mutual fund starts to stagnate’ *TechinAsia* (Singapore, 3 July 2014) <<https://www.techinasia.com/1-year-92b-alibabas-massive-mutual-fund-starts-stagnate>> accessed 15 August 2016.

⁵⁸ PWC defines FinTech as a “dynamic segment at the intersection of the financial services and technology sectors where technology-focused start-ups and new market entrants innovate the products and services currently provided by the traditional financial services industry.” See PricewaterhouseCoopers, ‘Blurred Lines: How FinTech is shaping Financial Services’ (2016) <<http://www.pwc.com/gx/en/advisory-services/FinTech/PwC%20FinTech%20Global%20Report.pdf>> accessed 15 August 2016.

⁵⁹ Office of the Comptroller of the Currency, ‘Supporting Responsible Innovation in the Federal Banking System: An OCC Perspective’ (2016) <<http://www.occ.treas.gov/publications/publications-by-type/other-publications-reports/pub-responsible-innovation-banking-system-occ-perspective.pdf>> accessed 15 August 2016.

⁶⁰ Douglas Arner, ‘FinTech and RegTech: Opportunities and Challenges’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

⁶¹ *ibid.*

⁶² *ibid.*

appropriate tools to analyze such data. As a result, the use of these information is reduced to an ex-post activity.⁶³

Another development worth mentioning is Regulatory Technology (RegTech). RegTech is defined by the Institute of International Finance as “the use of new technologies to solve regulatory and compliance requirements more effectively and efficiently.”⁶⁴ While the use of technology in regulation is not a new idea⁶⁵ a revamp of it is necessary since using existing regulatory systems to decipher FinTech and the new entrants may not be enough. The disintermediation of financial services challenges the conventional business of banking and has forced the regulators to re-examine questions such as “who are the entities which can or should provide financial services or products?”⁶⁶ and “whether banking license restrictions limit business model freedom or not?”⁶⁷ The latter question is important because such restrictions on banks put them at a disadvantage vis-à-vis start-up companies which have low-cost models and greater flexibility when it comes to the delivery of financial services.⁶⁸

In spite of the benefits that technological advancements bring to the financial market and to society in general, the regulators must remain on the lookout for the emergence of new risks.⁶⁹ After all, these FinTech companies are often companies with limited track records. Failures or frauds perpetrated by these entities might have a devastating effect on the market or on investor confidence.⁷⁰ Moreover, while most of these companies are still in the early-growth stages, the interconnectivity of today’s markets heightens the possibility of them becoming a systemic risk due to exponential growth.⁷¹ New risks can also arise from the innovative business models and delivery mechanisms adopted by these FinTech companies.

The interconnectivity of today’s markets and the operations of these companies also raises the issue of how to properly regulate them since the nature of their operations necessitate an extraterritorial application of law. People residing in different countries can now avail of the services of the same FinTech company. The problem with this is, what if the state where the said FinTech company is established has an incentive to lower its regulatory standards? This necessarily creates an unwanted externality for other states.⁷² As a reaction to this, they might resort to adopting overlapping regulations which would lead to

⁶³ *ibid.*

⁶⁴ Bart van Liebergen, Andrés Portilla, Kristen Silverberg, and Conan French, ‘RegTech in Financial Services: Technology Solutions for Compliance and Reporting’ (*Institute of International Finance*, 22 March 2016) <<https://www.iif.com/publication/research-note/regtech-financial-services-solutions-compliance-and-reporting>> accessed 15 August 2016.

⁶⁵ Arner (n 60).

⁶⁶ *ibid.*

⁶⁷ *ibid.*

⁶⁸ *ibid.*

⁶⁹ *ibid.*

⁷⁰ *ibid.*

⁷¹ *ibid.*

⁷² Matthias Lehmann, ‘Who Should Regulate FinTech?’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

duplication and legal fragmentation.⁷³ The increased costs of operating in this kind of environment might stifle innovation even before the fledgling industry manages to take off.

To tackle this problem, Lehmann (2016) mulled over the possibility of the industry regulating itself. However, regulators might have a hard time accepting this due to the previous experience with the GFC and the natural incentive of the industry to favor their own interests.⁷⁴ There might also be a collective action problem because FinTech companies can be in different fields. Other proposals such as a regulatory sandbox or the tech-neutrality of legislative rules are also not recommended since they do not solve the problem of which law applies and address the need for a competent regulator.⁷⁵ Hence, what is instead endorsed is the creation of a uniform body of rules.⁷⁶ Having global standards will lower transaction and regulatory compliance costs since they will eliminate duplicative requirements. This will also ensure certainty in the rules applicable and serve as protection against idiosyncratic changes.⁷⁷ A race to the bottom between states competing for FinTech companies will also be prevented. As for the regulator which will be tasked to implement these global rules, Lehmann recommends the International Organization for Standardization (ISO) to remove the political component. Supervision might still remain with the individual countries but in order for firms not to have regulatory arbitrage, they should be required to name their supervisor.

Indeed, FinTech presents unprecedented regulatory challenges that have not been previously encountered by the regulators. However, Judge (2016) reminds us that despite these developments, classic challenges to financial regulation still remain. Concerns with providing adequate protections to the investors and borrowers and ensuring access to adequate credit remain.⁷⁸ Also, as with any attempts to introduce regulatory interventions, regulatory capture remains a concern. Regulators also have to guard themselves against intermediary influence which has a high probability of occurrence since the intermediaries have the most access to innovation.⁷⁹

What has been established so far is there is a need to seriously think about how to regulate FinTech companies. Regulators are then tasked with a crucial task of maintaining a delicate balance between responsive regulation without stifling responsible innovation.

B. Cloud Computing

Another development which presents a significant regulatory challenge is cloud computing. Essentially, cloud computing means “storing and accessing data and programs

⁷³ *ibid.*

⁷⁴ *ibid.*

⁷⁵ *ibid.*

⁷⁶ *ibid.*

⁷⁷ *ibid.*

⁷⁸ Kathryn Judge, ‘The Future of Fintech: The Regulatory Challenge Ahead’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

⁷⁹ *ibid.*

over the internet instead of a computer's hard drive.”⁸⁰ Financial institutions are now beginning to utilize this technology for their business operations because of the huge savings costs it offers. Having a cloud-based system would mean avoiding significant upfront costs on IT infrastructure.⁸¹ Maintenance and other operational costs are also avoided. Additionally, since most systems are based on a “pay-as-you-go” model,⁸² users only need to pay for what they actually use. This payment scheme is a boon for financial institutions since 80-90% of their IT resources, on average, remain unused most of the time.⁸³ The large volume of data in their possession requires the maintenance of a massive storage and data processing facility to cover peaks in demand. However, these resources are underutilized during low periods of demand.⁸⁴ Cloud computing also offers a stronger and faster computing capacity at a fraction of the cost. Despite these benefits, financial institutions have yet to fully migrate their systems into the cloud because of regulatory and security concerns.⁸⁵

The responses of the regulators around the world with respect to how the financial institutions' cloud computing operations ought to be regulated within their jurisdiction varies. In the case of Singapore, for example, the Monetary Authority of Singapore (MAS) has not adopted any specific regulations on cloud computing yet. Instead, the rules on outsourcing is made to apply since a financial institution is considered to have engaged the services of a third-party service provider when it utilizes the cloud.

Insofar as regulating the conduct and operations of financial institutions within Singapore, there is obviously a full coverage since MAS has authority to regulate them. However, the same could not be said with respect to the third party service providers since they are not financial institutions and could be located anywhere in the world. Because such outsourcing rules are domestic in nature, MAS cannot directly impose any requirements on these providers nor can it oversee the performance of the outsourced operations.⁸⁶ In order to remedy this problem, MAS required the covered financial institution⁸⁷ to incorporate clauses into its outsourcing agreement which will allow MAS to exercise the contractual rights of the said financial institution against the service provider.⁸⁸ Such contractual rights include the ability to access and inspect the said service provider, obtain records and documents of transactions and information from the financial institution, and access any report or finding made on the service provider or any of its subcontractors.⁸⁹ Peihani (2016) calls the MAS solution to the said issue a 'novel form of governance through contract'.⁹⁰

⁸⁰ Eric Griffith, 'What is cloud computing?' *PC Magazine* (United Kingdom, 20 April 2015) <<http://sea.pcmag.com/networking-communications-software-products/2919/feature/what-is-cloud-computing>> accessed 15 August 2016.

⁸¹ Maziar Peihani, 'Financial Regulation and Disruptive Technologies: The Case of Cloud Computing in Singapore' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

⁸² *ibid.*

⁸³ *ibid.*

⁸⁴ *ibid.*

⁸⁵ *ibid.*

⁸⁶ *ibid.*

⁸⁷ Covered financial institutions refers to those institutions which outsource to a cloud computing service provider.

⁸⁸ Peihani (n 81).

⁸⁹ *ibid.*

⁹⁰ *ibid.*

The global interconnectedness of today's financial system also adds a complication to the regulation of cloud computing. While Singapore has a Personal Data Protection Act, this does not apply to data intermediaries outside Singapore. Because of this, MAS will have a hard time in pursuing legal action against such entities in case customer information is compromised or improperly used.⁹¹ Another problem is the lack of a transnational agreement which will facilitate the cross-border transfer of data while ensuring their integrity and confidentiality.⁹²

V. Managing the Risks of Cross-Border Flows

As can be seen from the previous sections of the paper, the financial market landscape of the present is posing significant challenges to a regulatory regime that has been stubbornly confined within a country's borders. In the meantime, regulatory walls have not stopped the flows of capital from one market to another. What is worrying now is in the absence of a global supervisory and regulatory framework, new and greater risks are emerging but are left undetected. A perfect example of this is the Eurodollar money problem where the creation of Eurodollar liabilities fall outside the regulatory reach of the jurisdiction that issues the currency.⁹³ Another is the rise of the pan-European US investment banks.⁹⁴ These issues are not created equal as some can be adequately responded to using the existing regulatory tools and mechanisms⁹⁵ while a realistic solution for others has yet to be formulated.⁹⁶

Pivotal events such as the GFC are also challenging the way risks are being viewed and the measures formulated to respond to it. As an aftermath of the crisis, there is now a recognition of the desirability of a risk-based approach and the concentration of supervision to sectors.⁹⁷ We are also witnessing the inclusion of "systemically important financial institutions" (SIFIs) in the financial regulators' financial stability monitoring and resolution regimes. For example, under the US Dodd-Frank Act, authorities are given the power to make a determination whether a non-bank financial institution (NBFI) is capable of posing a threat to the country's financial stability.⁹⁸ In cases where it is, such NBFI will become subjected to Federal Reserve's consolidated supervision and enhanced prudential standards. Moreover, if such NBFI has been further identified as systemically important, it is required to prepare a resolution plan.⁹⁹

⁹¹ *ibid.*

⁹² *ibid.*

⁹³ Awrey (n 34).

⁹⁴ Goodhart and Schoenmaker (n 49).

⁹⁵ *ibid.* The discussion by Goodhart and Schoenmaker on how the supervisory mechanisms of the EU can supervise the pan-European US investment banks.

⁹⁶ Awrey, (n 34). The discussion by Dan Awrey on the euromoney problem and how a solution is yet to be found.

⁹⁷ Mirik van Rijn, 'Cross-sectoral Resolution of Financial Institutions in the European Union' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

⁹⁸ *ibid.*

⁹⁹ *ibid.*

Another notable development is the evolving role of central banks as LOLR. Conventionally, monetary policy operations of central banks involve little to zero interference in the management of a bank's liquidity. Measures implemented by central banks ensure price stability above anything else. However, monetary policy post-GFC is moving away from this model. We are now witnessing heavy interference in the liquidity management of banks which is justified by macroeconomics.¹⁰⁰ This includes unlimited but short-term lending complemented by asset purchases.¹⁰¹ As a result of these revisions, requirements for collateralization were lowered and central banks were exposed to risk. Moreover, due to systemic risk considerations, illiquid banks in need of liquidity were also accommodated.

According to Hofmann (2016), these unconventional monetary policies have become the new standard.¹⁰² In the case of the resolution regime in the EU, the Single Resolution Mechanism (SRM) now extends to credit institutions and other entities such as investment firms and financial institutions as long as they are covered by the consolidated supervision of the parent under the Single Supervision Mechanism (SSM). If we compare this with the US regime, it is still not adequate because systemically important institutions such as insurance companies are excluded. Because of this, Rijn (2016) argues that there is still room for the SSM and SRM to be extended to SIFIs as well.¹⁰³ However, this designation must not be arbitrary and should be based on categories previously set by the regulator. It must also be based on the general principles of law.¹⁰⁴ To ensure protection against arbitrary designations, Rijn also recommends opening the designation process to judicial review.¹⁰⁵

When we talk about resolution regimes, it is also necessary to talk about the role of the central banks as LOLR. Based on the collective experiences from the GFC, it is important to ask whether banks with solvency issues should be allowed access to central banks as LOLR for systemic reasons. It bears emphasizing that allowing this will cause the central bank to bear insolvency risk although quite obviously, central banks cannot go insolvent *per se* because it can always print money. Therefore, while it is possible for central banks to operate on negative equity, it is not advisable as it will lead to a severe reputational loss for both the currency and the sovereign.¹⁰⁶

It is thus advisable to exclude banks with solvency issues from accessing liquidity from central banks although this might not be possible. New forms of systemic risk and threats to financial stability necessitate giving individual banks access to liquidity as long as it is only temporary.¹⁰⁷ Such access should be coordinated with the resolution authorities. Care must also be taken to ensure that this exercise does not lead to the recapitalization of such banks.¹⁰⁸

¹⁰⁰ Christian Hofmann, 'Central Bank Lending of Last Resort' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹⁰¹ *ibid.*

¹⁰² *ibid.*

¹⁰³ van Rijn (n 97).

¹⁰⁴ *ibid.*

¹⁰⁵ *ibid.*

¹⁰⁶ Hofmann (n 100).

¹⁰⁷ *ibid.*

¹⁰⁸ *ibid.*

It is also imperative to determine whether the Federal Reserve practice of giving non-depository institutions access to LOLR facilities should become the new norm. Hofmann (2016) argues that this could be done in the EU as long as it can be considered in compliance with the mandate of the European Central Bank (ECB) and the European System of Central Banks (ESCB) to maintain price stability.¹⁰⁹ This is supported by the argument that only the central banks have the ability (and the capacity) to buy temporarily illiquid assets on its books and wait until they can be sold again.¹¹⁰

VI. Reconceptualization of Financial Regulation: Introduction of Other Disciplines

The cross-border financial architecture as the new norm and recent tumultuous events in the global financial scene are not only compelling regulators to adopt new forms of financial regulation to keep up with the changes in the market; it is also driving regulators and academics alike to rethink the concept of financial regulation *per se*.

In the field of global banking supervision, Zaring (2016) talks about the call by some influential people in the financial regulation scene such as Mark Carney and Christine Lagarde to incorporate ethics in banking as a necessary complement to capital standards.¹¹¹ According to Ms. Lagarde, banks are “mired in scandals that violate the most basic ethical norms.”¹¹² Despite this, no regulator has come out yet with a definitive standard of what ethical banking should look like. Another option would be to have a single code of ethics for all the bankers around the world.¹¹³ Zaring calls this “ethical banking as a cosmopolitan enterprise.”¹¹⁴ The problem with this, however, is it presupposes that all bankers are similar so a single code will be enough to regulate them. It is quite obvious to say that this will be hard, if not impossible, since it requires all bankers to share normative beliefs or manage to establish a common set of policy actions and practices.¹¹⁵

Another problem is banking regulation typically consists of hard and specific rules while a code of ethics is composed of mere standards.¹¹⁶ Ethical banking therefore implies a shift away from hard and fast rules to soft standards. According to Zaring, a better alternative would be a combination of such rules and standards.¹¹⁷ This can be likened to the present international financial regulation system where standards such as the “principles of supervision” are utilized to facilitate regulatory cooperation across borders.¹¹⁸ Due to the state of uncertainty surrounding ethical banking, there is still no assurance if

¹⁰⁹ *ibid.*

¹¹⁰ *ibid.*

¹¹¹ David Zaring, ‘How do Regulatory Practices Spread?’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹¹² *ibid.*

¹¹³ The Dutch Bankers’ Oath could serve as model or starting point for this.

¹¹⁴ Zaring (n 111).

¹¹⁵ *ibid.*

¹¹⁶ *ibid.*

¹¹⁷ *ibid.*

¹¹⁸ *ibid.*

such calls will actually bear fruit. At the very least, such calls represent a recognition that financial regulation needs interstitial compliance norms aside from hard rules.¹¹⁹

On an even larger scale, Riles (2016) identifies a reformist turn in the literature since 2008.¹²⁰ The “traditional” view of financial regulation as apolitical, purely technical, and based on mathematical models is now slowly being eroded by a clamor for a paradigm shift to include other disciplines such as political science, anthropology, and ethics, among others. This reflects a growing skepticism of the rational markets hypothesis and sentiment that financial regulation should no longer be viewed as a technical activity.

Current developments also indicate an increasing lack of trust in experts and expertise. Recent studies on the banking sector have illustrated that in some instances, a technocratic explanation is unsatisfactory to explain certain regulatory outcomes. In a study conducted by Jones and Zeitz (2016) to find out how low income countries are responding to Basel standards, it was found that there were relatively high levels of adoption, even among low income countries.¹²¹ Another study conducted by Zeitz (2016) on the question of whether a wider range of lenders gives African sovereign borrowers a larger bargaining power cannot be answered without making use of principles found in international relations and international political economy.¹²²

It must be remembered that the state is linked to the market. After all, the production of money was a political project from the start.¹²³ The distributive effects of monetary policy also suggest that financial regulation is a form of politics and central banks are political actors. This reconceptualization is being manifested in the growing demands for central banking to reflect the sentiments of the public instead of it hiding beneath the shadow of independence. The regional integration models of the EU and ASEAN also illustrates that law is not everything. Their heavy reliance on political processes to move the integration project along illustrates this.¹²⁴

Despite these developments, it might not be possible to accommodate the reformist ideas into the existing paradigm unless a broader definition of politics is conceived and the relationship between banking and populist politics is explored.¹²⁵ Riles therefore urges academics to give up their technical problem-solving mentality and accept that finance politics is geopolitics.¹²⁶

¹¹⁹ *ibid.*

¹²⁰ Annelise Riles, ‘New Approaches to International Financial Regulation’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹²¹ Emily Jones and Alexandra Zeitz, ‘The Limits of Globalizing Basel: Why Regulators Around the World are Responding Differently to Basel Banking Standards’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹²² Alexandra Zeitz, ‘The Financial Statecraft of Debtors: A Diversified Financing Landscape and the Bargaining Power of African Sovereign Borrowers’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹²³ Riles (n 120).

¹²⁴ Georg Ringe, ‘Discussant’s Remarks in Session 3: Cross-Border Capital Market Integration’ (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹²⁵ Riles (n 120).

¹²⁶ *ibid.*

VII. Conclusion

This paper provides a brief overview of the present state of financial regulation and the challenges it faces in an integrated and interconnected world. Such challenges are vast and complex because in order for supervision and regulation to be effective in today's financial architecture, it is no longer enough to confine them within a single jurisdiction; cross-border financial flows necessitate cross-border regulatory cooperation. The perceived inadequacies of the previous measures and the belief that they were contributors to the recent financial crisis are also compelling this reconceptualization of financial regulation.

While the previous sections mostly covered the technical issues arising from a globally interconnected market, it should not be forgotten that international financial regulation still operates mostly through soft law arrangements.¹²⁷ Examples of these include the Basel Committee on Banking Supervision (BCBS), the Financial Action Task Force (FATF), and IOSCO. Loke (2016) posits that we should not underestimate soft law because the interconnectedness of the financial market itself lends to soft law's efficacy. Soft law arrangements might also be the only way to first build interoperability and trust between sovereign nations. This perfectly resonates with Shipton's view that cross-border regulatory cooperation problems might involve something as simple as the lack of trust.¹²⁸ In order to have a truly robust international supervisory network, regulators/supervisors in different jurisdictions ought to be able to talk and exchange information with each other freely. This is simply not happening as of the moment.

Also, while this paper is primarily focused on cross-border challenges, this does not imply that domestic financial regulation is free from problems or issues. In his presentation, Shipton (2016) urges us to also recognize the divergence occurring within a country's borders¹²⁹ between prudential regulators and securities regulators (almost amounting to a rivalry). This divergence is contributing to the underdevelopment of the regulatory architecture and has led to a variance in the application of regulatory approaches, tools, and standards. For example, the two regulators look at supervision from different lenses: Prudential regulators, on one hand, look at how potential misconduct can affect the stability of the firm while market regulators, on the other hand, look at the effect of misconduct on the broader market and the investors.¹³⁰ The undesirable outcome of this divergence is the creation of regulatory gaps. Problems also arise from the schizophrenic mandate of regulators to develop the market while safeguarding financial stability and market integrity at the same time.

Another thing to worry about is how the connectivity of markets will exacerbate the law of unintended consequences: no matter how much we think about how to make the financial system more stable, the second-order effects of those are given less attention.¹³¹

¹²⁷ Alexander Loke, 'Till the Next Crisis?' Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹²⁸ James Shipton, 'Challenges Facing Regulators and Utilizing Appropriate Regulatory Tools' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

¹²⁹ Ibid.

¹³⁰ Alder (n 5).

¹³¹ Paul Lejot, 'Discussant's Remarks in Session 2: Cross-Border Liquidity' (Annual Journal of Financial Regulation Conference, Hong Kong, 24-25 June 2016).

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