

Marketplace everywhere: the influence of post-crisis financial architecture on finance, risk and law

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A fundamental change is occurring to the structure of financial markets. It is altering the very landscape of financial transactions, fundamentally altering the way liquidity flows through the financial system, changing how institutions fund themselves and influencing commercial decisions of participants. Although regulation is its source, its impact is beyond local and global regulatory change in reach and effect. It is fast becoming an essential part of the post-crisis financial marketplace.

The change is the creation of, expansion of, and dependence on, financial market architecture. Regulatory and commercial imperatives are making it necessary to obtain access to this critical infrastructure, which is proving to be a strange, confusing and particularly foreign exercise to many. The market's increasing use of this architecture is standardising products, segmenting the market and causing a structural change in the market's demand for liquidity. Also, it is changing the risks in the marketplace itself. The use of the infrastructure is intended to manage key risks which arose in the financial crisis. However, it does not eliminate all risks in financial market transactions. Instead, it transforms risks into other risks, of which the risk of failure of the infrastructure is the most critical. Management of these risks requires significant legal change and gives rise to a contest in principle between protection of the infrastructure from the market participants which use it and protection of those market participants from the infrastructure, should either ever fail.

This paper considers the impact of the new financial market infrastructure from three viewpoints: its influence on finance, its influence on risk and its influence on law.

Impact on finance

The discussion of the impact in finance is divided into four parts: the drivers for use of the new architecture and the consequences of standardisation of products, segmentation in markets and liquidity effects.

The drivers for using the new architecture

The global reforms to financial market laws share, as a common theme, the increased use of financial market infrastructure.¹ This includes trade repositories to collect and provide data on derivative transactions, the swap execution facilities to provide a more transparent means of entering into derivatives transactions and clearing houses to act as each participant's central counterparty to the cleared transactions.^{2 3}

This increased use has been driven by a range of regulatory measures. The clearest are direct regulatory obligations to use the infrastructure. In Australia these are the requirements to report derivative transactions and the prospective requirement to clear certain interest rate derivatives.⁴ Similar obligations exist or are proposed in overseas jurisdictions, such as the regional financial centres of Hong Kong and Singapore and in the jurisdictions of the global regulatory "super powers", the United States and Europe. In the case of the United States, there are also obligations to use swap execution facilities (SEF) for the entry into certain derivative transactions.

However, direct regulatory obligations are not the only driver of the increase in use of market infrastructure.

Indirect regulatory obligations also have the effect of compelling market participants to use it too. Usually,

¹ "There is now an international policy consensus that embedding centralised infrastructure – trade repositories, CCPs and trading platforms – in OTC derivatives markets is the most effective mechanism for addressing many of the concerns of regulators and market participants. Regulatory reform efforts in a number of jurisdictions are now underway to implement a transition to this market structure." *Reserve Bank of Australia, Australian Prudential Regulation Authority and Australian Securities & Investment Commission, Report on the Australian OTC Derivatives Market (October 2012).*

² "A recent quantitative impact study run by the Working Group on Margining Requirements of the Basel Committee on Banking Supervision (BCBS) and the International Organisation of Securities Commissions (IOSCO) estimated that the global volume of centrally cleared OTC derivatives could rise from a notional value of USD 142.7 trillion, or around 28% of OTC derivatives traded, to USD 268 trillion after migration to the clearing requirement, or 53% of OTC derivatives traded. All these figures quite forcefully demonstrate the increasing systemic importance of CCPs". *B. CoEuré, Risks in Central counterparties (CCPs), (Washington DC: Mapping and Monitoring the Financial System: Liquidity, Funding, and Plumbing Conference, January 23, 2014).*

³ Further information on the relevance and impact of G20 derivatives reforms can be found in S. Farrell, "Sovereignty Lost: The Impact of an Imperfect Federation of International Financial Market Laws", (2013) 28(12), *Journal of International Banking Law and Regulation* 479.

⁴ Part 7.5A of the Corporations Act and ASIC Derivative Transaction Rules (Reporting) 2013. The Australian Government has proposed that a Ministerial determination be made later in the year in respect of a central clearing mandate relating to interest rate derivatives in AUD, USD, EUR, GBP and JPY between internationally active dealers – "Implementation of Australia's G-20 over-the-counter derivatives commitments" released in July 2014 by the Australian Government.

these are obligations which fall on one party to a derivative transaction only, but result in the other party having to comply as well. This includes changes in the capital requirements of banks, which make transactions which use market infrastructure cheaper for the bank, and also for its counterparty too as a result. Also, the effect of compelling one side of a bilateral transaction to utilise financial market infrastructure by direct regulation is often to compel the other side to use it also. This is because the compliance of one party depends on the compliance of the other. Clearing is an example - once one party is obliged to clear a particular transaction then the other will be too.

Standardisation of products and relationships

Standardisation is a key precondition to the use of financial market infrastructure. Standardised data fields are required for trade repositories, standardised contracts are needed for clearing houses and standardised protocols are needed for execution facilities. One consequence of this is that derivative products themselves become standardised, in order to facilitate the use of the financial market infrastructure which is required by regulation. The product standardisation becomes more focussed as the product becomes subject to more infrastructure. For example, subjecting derivative products to both trade execution and clearing can result in what is referred to as “futurisation”, meaning that by entering into a derivative through an execution facility and clearing it through a clearing house, the derivative is effectively treated in the same way as a futures contract which is traded on an exchange.

Standardisation has side-effects for end-users of derivatives in that it removes some of the potential benefits of using derivatives. From a risk management perspective, end-users use derivatives in order to manage the risks and returns to which their business subjects them. Those risks and returns arise from, and are specific to, their business. Accordingly, the tools required to manage those risks often need to be tailored to the business to obtain the best risk management outcome. This was part of the reason for the growth of the over-the-counter derivatives market – users could “order” what they needed “over the counter” rather than being constrained by what was on offer on-exchange. Standardisation diminishes this benefit and results in a choice being made by end-users in either accepting an imperfect hedge in a standardised contract (which may not deliver hedge accounting treatment as well as leaving gaps in risk management) or not hedging at all.

Standardisation has a further aspect, beyond standardisation of products. Financial market architecture also causes relationships between participants to standardise. An example of this can be seen in the relationship

between banks and their clients with respect to derivative transactions. Customarily, for a bank to tailor a specific hedge contract for its client required an element of understanding of the client's business by the bank. This was also needed in order for the bank to assess the credit risk which it was taking on the client during the life of that contract. Financial market architecture reduces the importance of these. The available contracts are defined by the scope of what is available on the infrastructure, so there isn't the same need to assess the client's business to tailor the product to it. Also, the need to consider credit risk is reduced too, as the margining requirements (referred to later in this paper) radically reduce the horizon over which credit risk is being taken – in some cases from years, to just a day. This can have a significant effect on the business of banks with their financial markets clients. A key element of "banking" a client is the assessment and acceptance of credit risks which relate to that client and its business. By reducing the relevance of these, financial market architecture substantially changes the risks for the bank, the return to it of providing its services and, as a result, the very business of banking these clients. The effect of this can be seen in the segmentation of markets and clients which is occurring.

Segmentation of markets and clients

The standardisation of products and relationships facilitates another consequence of the use of financial market architecture – segmentation of the market. If the products and relationships are made similar, then it becomes easier to package those products and relationships into categories which suit particular business objectives. By conforming the risk/return outcome of offering the same products to different clients, market architecture can accentuate the commercial effect of regulatory influences.

This can be shown by reference to the regulatory changes in the capital requirements of banks. These changes are imposing significant costs on banks. For example, the increased capital required for uncleared derivative transactions makes them less economic unless prices of these transactions increase. Also, cleared transactions are not as profitable as the premium attracted for the assessment and acceptance of credit risk by banks is more difficult to charge. This is making, and will make, banks more selective of the services which they offer and to whom they are offered. It is leading to a retreat from the model of providing universal banking. Not all of the services, clients or geographies which a bank provides will be profitable under the new capital regime, particularly in the more standardised marketplace created by the market architecture. As a result, banks may withdraw services where it no longer advances their business to do so. Further, where those services related to the use of market architecture, it has become easier to limit the services offered as they become standardised and commoditised. The services may be offered to clients

which provide sufficient volume to make it profitable, or if the client benefits the other businesses of the bank. However, in other circumstances they may not be offered – they have become more like broking services, than banking services, able to be offered or withdrawn at the bank’s discretion. This results in a segmentation in the market – between those who have access to market architecture through their relationships, and those who do not. The commercial effect of increasing capital requirements of banks has been accentuated by the financial market architecture which makes it both less profitable to offer, and easier to decline to offer, particular client services.

This can lead to a strategic business issue for the clients. If they are unable to obtain direct access to financial market architecture (which can be expensive, or impossible for non-banks in some circumstances)⁵ then indirect access (usually through a bank) is the only method available. If this is not offered to a client then the universe of possible risk management transactions which they can enter into may be significantly reduced. These clients may not be able to manage their risks in the way that they wish, or that they could before the use of market architecture was required. The result could be further segmentation of the market, beyond a divide between those who have access to particular financial market infrastructure and those who do not, to a divide between those who can enter into risk management transactions and those who cannot.

A currently developing example of this is in Australian trade reporting. Australia’s derivative trade reporting regime is a “two-sided” regime, meaning that each party to a reportable transaction which is bound by the rules is required to report it.⁶ This is similar to the regime in Europe, but different to the regime in the United States which requires that only one party reports the transaction. Like the European regime, the Australian regime contemplates that a party’s obligation to report may be delegated to another person, which can be the counterparty to the transaction. As the building of the operational capacity to report transactions does require substantial investment, many reporting entities which do not operate a significant derivatives trading business are likely to seek to delegate this responsibility. If the European experience is an indicator of what is to happen in Australia, then this is likely to be delegated by Australian clients to their bank counterparties provided they are also subject to Australia’s reporting regime. Although the arrangements for such delegation are yet to be determined, it seems probable that bank counterparties which have the capability to

⁵ This has been recognised by the Australian Council of Financial Regulators in its consideration of applying a requirement to clear OTC derivative transactions: “... for some non-dealers it is unclear whether either the private or public policy benefits will ever be sufficient to offset the costs. Given this, on the basis of currently available information, the Regulators would expect to give close consideration to a specific exclusion from any mandatory clearing obligation for certain non-dealers.” ASIC (Australian Securities and Investments Commission), APRA and RBA (Reserve Bank of Australia) (2014), ‘Report on the Australian OTC Derivatives Market’, April.

⁶ Explanatory Statement to the ASIC Derivative Transaction Rule (Reporting) 2013, page 8.

report transactions will do so for the clients. However, if those non-bank counterparties are dealing with entities which are not subject to the Australian reporting regime, or which have not built systems to report transactions, then the situation becomes more complex. Reporting is a legal obligation which arises from the entry into the derivative transaction. If a client cannot report, and its counterparty can't, or won't report for it, then this makes the very entry into of the transaction problematic. Reporting can be performed by someone who is not a party to the transaction, but the incentive for such a non-party to report a transaction is not obvious. This means that there could be quite a difference in commercial position between those who have arranged for others to provide access to this market architecture, and those who have not.

These access issues for financial market infrastructure (FMI) which is mandated by regulations have been recognised for some time:

“Fair and open access to an FMI by direct participants, indirect participants, and other FMIs is important because of the critical role many FMIs play in the markets they serve.”⁷

Access is one of the one of the *Principles of Financial Market Infrastructure* published by CPSS-IOSCO and the Bank of International Settlements, which are used as international standards against which financial market infrastructure is measured. However, the issue is not simple. As discussed later in this paper, certain market infrastructure (like clearing houses) use risk management techniques which rely on performance by their members. As membership expands, so does the risk profile of those on whom the clearing house is relying. In other words, direct access to all may not meet the risk management outcomes which use of the infrastructure is intended to provide.⁸ As a result, a balancing has to occur between access and risk management, this balancing results in a reliance on indirect access for many, allowing market and client segmentation to arise.⁹

⁷ CPSS-IOSCO and Bank for International Settlements, *Principles for Financial Market Infrastructures* (April 2012) Paragraph 3.18.7.

⁸ “Expanding direct access to CCPs may reduce the concentration of risk in the largest global dealers. It may also increase competition among direct clearers, with the potential to yield efficiency benefits through greater choice and lower fees for indirect clearers. As direct access is broadened, it is essential that CCPs’ risk management procedures be adapted appropriately to ensure their continued effectiveness. This may entail more complex risk management procedures, possibly putting a greater burden on CCPs’ management in maintaining safe risk control practices”, *The macrofinancial configurations for access to implications of alternative central counterparties in OTC derivatives markets*, CGFS paper no. 46, Committee on the Global Financial System, Bank for International Settlements, November 2011

⁹ “To help address the balance between open access and risk, an FMI should manage its participant-related risks through the use of risk-management controls, risk-sharing arrangements, and other operational arrangements that have the least-restrictive impact on access and competition that circumstances permit.” *CPSS-IOSCO and Bank for International Settlements, Principles for Financial Market Infrastructures* (April 2012) Paragraph 3.18.7.

Liquidity consequences

Financial market infrastructure can drive liquidity consequences directly, as it does when it creates distortions in the market. Swap execution facilities are an example. As noted above, these are required for certain types of derivatives entered into in the United States. The United States derivatives market is large and accordingly the imposition of this requirement means that a significant amount of the trading in these contracts now takes place on these facilities. However, it is not a requirement in other jurisdictions and there is a reluctance of many non-US market participants to join these facilities and be subject to their regulation. Also, the regulatory requirements placed on the facilities themselves are significant. Those who operate similar facilities outside of the United States may not want to be subject to those requirements and may avoid accepting US participants as a result. This fragments the market between those transacting in the United States, or with United States persons, and those who are not. The International Swaps and Derivatives Association noted this in its July 2014 report:

“Evidence has emerged that over-the-counter derivatives markets have fragmented along geographical lines since the start of the swap execution facility (SEF) regime in the US on October 2, 2013. That trend has been especially notable for euro interest rate swaps, with European dealers opting to trade with other European parties. This development has accelerated since the start of mandatory SEF trading in the US from February 2014, and the market for euro interest rate swaps is now clearly split between US and non-US counterparties.”¹⁰

This fragmentation causes a reduction in the liquidity in the different marketplaces and these smaller liquidity pools can result in less transparency, high price volatility and a concentration of market participants and risk.

Liquidity consequences also arise because of the requirement for collateral required by clearing houses. As mentioned later in this paper, it is fundamental to the risk management of a clearing house that it receives collateral in the form of initial margin at the commencement of each transaction as well as variation margin during the life of each transaction.¹¹ This margin needs to be provided in a form which is valuable and liquid, so that it can be quickly resorted to in the case of a participant’s default. This is high quality collateral and

¹⁰ “Revisiting Cross-Border Fragmentation of Global OTC Derivatives: Mid-year 2014 Update”, *ISDA Research Note*, July 2014.

¹¹ It should be noted that collateral does not eliminate risk: “The notion that greater reliance on collateral will eliminate credit risk is illusory. Changing patterns in the use of collateral may not eliminate risk, but it will have implications for who will bear risks and on the costs of shifting risks. Changing structures can eliminate risks at the cost of not creating the underlying credit and of not seeing the associated investment undertaken.”: Ronald W. Anderson, and Karin Jøeveer, *The Economics of Collateral – A Study of the London School of Economics*, April 2014

clearing houses are, and will increasingly be, a source of significantly increased demand for it. However, the supply of such collateral is not necessarily going to increase with such demand. Although the effective supply can be increased by collateral management services and netting arrangements, this may not be sufficient to counteract the rise in overall demand in the market. Also, for individual market participants, the state of the supply generally may not translate into a supply which they can access. For example, the trustee of a fund with illiquid assets is unlikely to hold sufficient liquid assets to mark-to-market its derivative exposures daily. Indeed, such a fund may enter into derivatives because it is unable to meet such changes in value on a daily basis. Accordingly, the collateral demands placed on fund by a clearing house may mean that it is not able to enter the derivatives at all (which feeds further into the market segmentation described earlier).

These changing collateral requirements show the potential for changes in finance and the role of banks. The segmentation of the market mean that global banks may no longer perform the role in global liquidity which they were performing before the financial crisis. Financial market infrastructure has the potential to take their place, but it remains bound by jurisdictional regulation and is not yet effective in this role:

“Large global banks with integrated system have had a comparative advantage in accommodating diverse client needs in managing collateral, but they are being increasingly constrained from doing so by regulatory reform. Securities market infrastructures have been mandated by G20 to fill the gap, but at present they are impeded by incomplete market integration.”¹²

The influence which this has on risk is considered next in this paper.

¹² Ronald W. Anderson, and Karin Jõeveer, *The Economics of Collateral – A Study of the London School of Economics*, April 2014

Influence on Risk

The discussion of the influence on risk is divided into 3 parts: the clearing house, the risk of participant failure and the risk of clearing house failure.

The Clearing House

The changes to the risk profile in the market caused by market architecture is demonstrated by a fundamental piece of the expanded market infrastructure, the clearing house (also referred to as a central counterparty).

Clearing houses are not new.¹³ They have existed in many forms for more than a century. During that period, they have been used to clear and settle cheques, other payments, securities transactions and derivatives. Whichever form clearing houses take, they share some functions in managing risks which arise in financial markets. They manage the operational risk by standardising transaction terms (as noted previously in this paper) and centralising transactions' entry and completion. Further, they manage credit and liquidity risk by ensuring performance of the transactions which they clear, insulating market participants from the credit and liquidity impact of the performance default of others.

When clearing derivatives, clearing houses perform these functions by setting uniform terms and becoming each participant's counterparty under the transactions which are cleared. Customarily, this involves a novation of the transaction to be cleared so that the clearing house is 'inserted' between the two initial counterparties. This results in the single uncleared transaction becoming two cleared transactions, each between the clearing house and one of the original counterparties (referred to as "participants" in the clearing house). This results in each participant contracting with the clearing house instead of another participant, managing credit risk which the participants would otherwise be taking on each other.¹⁴

Importantly for the clearing house, the two cleared transactions are matched. This means that the obligations owed by the clearing house to one participant under its cleared transaction are exactly offset by

¹³ *"It is common knowledge that a clearing house is what its name indicates; it is an association composed of a number of banks for convenient and expeditious handling of certain claims and credits against and in favor of members."* Security Commercial & Savings Bank of San Diego v Southern Trust & Commerce Bank (Cal. App., 1925) 241 P. 945 per Judge Marsh at p.949.

¹⁴ More generally, clearing houses manage replacement cost risk, being the cost of replacing original transactions at current market price.

those owed to the clearing house by the other participant under its cleared transaction.¹⁵ This matching is intended to protect the clearing house from market risk arising from the transactions which it clears. It does not matter if prices, rates or indices rise or fall because the clearing house has a perfectly hedged position. The obligations which the clearing house owes to one participant are matched by obligations which are owed to it by another participant.

In this way, a clearing house can be visualised as the 'hub' of a spoked wheel. Participants, represented by the 'rim' of the wheel, replace the transactions which they have with each other by transactions with the clearing house. These cleared transactions can be seen as the 'spokes' of the wheel, each one counter-balanced by another on the other side of the hub. The clearing house's risk management function is achieved as each participant becomes insulated from the risk to other participants; the points on the "rim" are dependent on their connection to the "hub" for their position, instead of any direct connection to the other points on the rim. Of course, the clearing house does not eliminate the risk of loss on a participant's failure. It is a risk which the clearing house must manage, for the benefit of all of the remaining participants. Just like a spoked wheel, if one of the spokes breaks this puts more pressure on the hub to maintain the rest of the wheel in place.

Risk of participant failure

If a participant in a clearing house fails to perform its obligations to the clearing house then the matching of the clearing house's obligations also fails. The clearing house will need to continue to perform its obligations under the transactions which matched those of the failed participant, despite the inability of the failed participant to meet its side of those transactions. This exposes the clearing house to market movements (market risk) against which it previously was hedged.

To protect against this, clearing houses use default risk mitigation techniques.¹⁶ These include:

- *variation margin* - requiring each participant to provide the clearing house with regular payments reflecting the change in value of the participant's cleared positions. These regular payments are referred to as "variation margin". Due to the matched nature of the cleared transactions, the amount

¹⁵ Due to the standardised terms, some other pairs of cleared contracts with other participants are also likely to have the same terms.

¹⁶ An additional means of mitigating the risks arising on default is for the clearing house to apply its own capital to meet the losses incurred.

of variation margin received by the clearing house from one participant should be offset by the amount of variation margin paid by the clearing house to another participant;

- *initial margin* - requiring each participant to provide the clearing house with an up-front payment in respect of each transaction which is cleared, to provide some protection to the clearing house from failure of the clearing participant with respect to the cleared transaction in the future (for example, a failure to meet variation margin obligations). These up-front payments are referred to as “initial margin”. Initial margin is collected by the clearing house from both participants to a cleared transaction as the clearing house cannot foretell at the time of which a transaction is entered into if a participant would owe amounts to the clearing house if the participant were to fail in the future (as it depends on market conditions at that future time). For this reason, initial margin is kept (and invested)¹⁷ by the clearing house and is not passed onto the participants, although it is returned when the transactions have completed;
- *termination, netting and porting* - enabling the clearing house to terminate transactions of a defaulting participant, enter new transactions with other participants to replace them and calculate a net termination cost payable by the defaulting participant with respect to them, which can be applied against that defaulting participant's initial margin. This may not be required if the transactions were entered into in respect of the defaulting participant's clients. In this circumstance, the transactions may be transferred, or 'ported', to another participant instead; and
- *contributions from participants* – requiring each participant to provide contributions to the capital structure of the clearing house, which can be used to meet losses which exceed the margin and contribution provided by the defaulting participant. These contributions may be funded or promissory, i.e. able to be called on when needed. This application of non-defaulting participants' contributions “mutualises” the risk of a participant failure and is regulated by the rules of the clearing house.

These risk management techniques change the nature of the obligations of market participants, producing the commercial consequences described earlier in this paper. Even with these risk management techniques in place, it remains possible that their exercise does not eliminate all of the losses incurred by a clearing house due to a participant's failure. If losses remain after the exercise of these risk management rights then

¹⁷ The potential for losses on these investments is another risk to which clearing houses are subject.

it is probable that the clearing house would not have sufficient assets to meet its losses and its own failure would become likely, unless there is government or regulator intervention. In this way, the failure of a participant or participants of a clearing house can lead to the failure of the clearing house itself.¹⁸

Risk of clearing house failure

Although it is difficult to comprehend all of the detail of the issues associated with clearing house failure, it is not difficult to contemplate their magnitude. Every participant is relying on the performance of the clearing house. A clearing house failure would deprive each of those participants of a critical counterparty. To extend the wheel analogy, if the hub is not sufficiently strong to support its spokes then the entire rim and wheel can collapse. As described by Paul Tucker, then Deputy Governor of the Bank of England: “it is an understatement that it would be a disaster if a clearing house failed”.¹⁹ However, it has occurred in the past and it may do so again in the future.²⁰ The importance of this issue cannot be overstated. Clearing house survival is a fundamental cornerstone of the success and value of the global OTC derivative reforms implemented in response to the financial crisis. As the Bank of International Settlements has noted: “More generally, to achieve the benefits of the regulatory reforms, the probability of CCP defaults must be maintained at essentially zero”.²¹

A key element of the distress of clearing house failure is the potential systemic risk created by the application of ordinary insolvency laws to a defaulted clearing house. This systemic risk arises because of the interconnectedness of the clearing house with all of the other market participants. Instead of those insolvency laws resulting in an orderly reallocation of assets, it is more likely that a prolonged period of confusion and illiquidity would result, with significant systemic consequences.²²

¹⁸ Of course, participant default is not the only possible cause of clearing house failure. However, it is a fundamental cause as managing participant credit risk is a key function of a clearing house.

¹⁹ P. Tucker, *Clearing houses as system risk managers*, (London: Depository Trust & Clearing Corporation (DTCC)-Centre for the Study of Financial Innovation (CSFI) Post Trade Fellowship Launch, June 1, 2011).

²⁰ Clearing houses have failed in France, Malaysia and in Hong Kong in the last 30 years : M. Gibson, “Recovery and Resolution of Central Counterparties” *Reserve Bank of Australia Bulletin*, December Quarter 2013.

²¹ *Macroeconomic Assessment Group on Derivatives*, Bank of International Settlements, “Macroeconomic impact assessment of OTC derivatives regulatory reforms” (August 2013) at [5.1].

²² As noted by CPSS-IOSCO : “Systemically important FMIs play an essential role in the global financial system and the disorderly failure of such FMIs could lead to severe systemic disruptions if it caused markets to cease to operate effectively. Ensuring that FMIs can continue to provide critical services as expected, even in times of extreme stress, is therefore central to financial stability. Maintaining critical services should allow FMIs to serve as a source of strength and continuity for the financial markets they serve.” *Consultative Report: Recovery of financial market infrastructures* (August 2013) at 2.1.2. This was also noted by the relevant Hong Kong authorities the January 2014 Consultation Paper “An effective resolution regime for financial institutions in Hong Kong”, in paragraph 135: “Following the entry of any FMI into a liquidation process, the members of the failed FMI would likely find access to

There are two components to the planning for clearing house failure: recovery and resolution. *Recovery* is the ability of the clearing house to remedy the situation itself using mechanisms contained in its rules. *Resolution* is the intervention of the clearing house regulators to ensure its survival. However, these two components are not completely separate:

“‘Recovery’ concerns the ability of an FMI to recover from a threat to its viability and financial strength so that it can continue to provide its critical services without requiring the use of resolution powers by authorities. Recovery therefore takes place in the shadow of resolution.”²³

Recovery: insulation of clearing houses from insolvency

International standards such as those published by CPSS-IOSCO require that clearing houses have a recovery plan which includes tools to address losses associated with the failure of a participant, whilst ensuring the clearing houses' survival.²⁴ An important tool to consider in a recovery plan is a requirement for the surviving participants to contribute further capital to the clearing house to preserve its solvency and liquidity (and to protect it against subsequent defaults). However, unless such requirements are unlimited, they cannot guard against all possibility of clearing house failure.²⁵ Also, bank capital regulation is likely to prevent most participants from agreeing to an unlimited obligation to “top up” a failing clearing house.²⁶

Additional tools are needed.

These further tools for clearing house recovery include:

the associated financial services (and perhaps also their funds or other assets) suspended for a considerable period of time. Payment, clearing or settlement activities would be severely disrupted, and some financial markets may be forced to close temporarily. As a series of FIs are members of, and rely on access to, each FMI, and given links that exist between individual FMIs, the potential for contagion would also be relatively high.”

²³ CPSS-IOSCO, “*Consultative Report: Recovery of financial market infrastructures*” (August 2013) at 1.1.1. This linkage has also been noted by others. “Although recovery plans should be comprehensive and robust to very extreme circumstances, authorities internationally are also developing special ‘resolution’ arrangements for CCPs and other financial market infrastructures (FMIs) outside of the general insolvency regime. These arrangements will involve empowering a resolution authority to intervene directly should circumstances prevent a CCP from carrying out its recovery plans satisfactorily. Such intervention would be likely to be most effective and least disruptive if the resolution authority could simply complete the actions contemplated in the CCP’s own recovery plan. Therefore, while recovery planning is primarily the responsibility of the CCP, such plans also need to be consistent with the framework for resolution.” M. Gibson, “*Recovery and Resolution of Central Counterparties*” *Reserve Bank of Australia Bulletin*, December Quarter 2013 at 40.

²⁴ “If an orderly wind-down has failed or is likely to fail, then the FMI may be at risk of entering into bankruptcy or insolvency – regimes that do not have the preservation of financial stability as an objective. An orderly wind-down may also be deemed by authorities to be inappropriate, perhaps because the FMI is the sole provider of critical services and a viable alternative to using that particular FMI does not exist.” CPSS-IOSCO, “*Consultative Report: Recovery of financial market infrastructures*” (August 2013) at 1.1.1.

²⁵ See B. Bernanke, “*Clearing and Settlement during the Crash*”, (1990) 3(1) *The Review of Financial Studies* 133.

²⁶ In addition, it is not guaranteed that the contribution of further funds to an insolvent clearing house would be, at that time, in the best interests of the non-defaulting participants, for example from the perspective of performance directors’ duties.

- *variation margin haircutting* - the clearing house having the ability to reduce the amounts of variation margin which it pays to the surviving participants on their outstanding transactions. One basis for a preference for this approach is that it could produce a similar result to those participants having to prove for those variation margin payments in the insolvency of the clearing house;²⁷
- *selective tear up of contracts* - the clearing house having the ability to terminate those contracts which are no longer matched. An alternative to this is for the clearing house to have the ability to force the allocation of offsetting contracts to the surviving participants. This could be disruptive to the remaining participants, particularly if they are left with an unbalanced risk position as a result (as discussed later in this paper);
- *haircutting of initial margin* - the clearing house having the ability to reduce the amounts of initial margin which have been provided by the surviving participants. This could be problematic as bank capital standards encourage initial margin to be held by clearing houses in a manner which insulates it from the clearing house's bankruptcy²⁸ and also require that initial margin which is usable by a clearing house to mutualise losses among clearing members will be treated as a default fund contribution²⁹; and
- *full tear up of contracts* - this refers to a termination of all outstanding contracts, a valuation being determined and net amounts becoming payable (but not necessarily paid, if they are owing by an insolvent clearing house). This would result in a cessation of the functions of the clearing house.

Although none of these is particularly attractive to any of the surviving participants, each is likely to be considered preferable to a disorderly collapse of the clearing house. However, even such robust protection does not guarantee the survival of the clearing house if the recovery plan is not fully engaged. This is when resolution mechanisms are needed.

²⁷ Variation margin haircutting could affect clients of clearing participants more than clearing participants themselves because they may have more market risk (without a managed portfolio) and find it less easy to reduce exposure to the clearing house.

²⁸ "Where assets or collateral of a clearing member or client are posted with a CCP or a clearing member and are not held in a bankruptcy remote manner, the bank posting such assets or collateral must also recognise credit risk based upon the assets or collateral being exposed to risk of loss based on the creditworthiness of the entity holding such assets or collateral." *Basel Committee on Banking Supervision, "Capital requirements for bank exposures to central counterparties", April 2014 at [200]*.

²⁹ *Basel Committee on Banking Supervision, "Capital requirements for bank exposures to central counterparties", April 2014 at page 3.*

Resolution: backup for recovery failure

In planning for the failure of a clearing house, its regulators also need to consider the response if the clearing house recovery plan is not carried through. This could be because the clearing house does not take the actions authorised by its rules (such as extreme steps like the tearing up of contracts) or because the participants "walk away" from the clearing house and their obligations to it. In those circumstances, the regulators would seek direct rights to intervene in order to avoid the systemic impact of the clearing house's insolvency.

These rights would include being able to enforce compliance with the clearing house's recovery rules.³⁰ However, more intrusive rights may also be needed. Such rights will probably extend to the full range of powers which are given to regulators to manage the default of a systemically-important deposit-taking institution, such as a bank. Such powers include an ability to transfer parts of the business to bridging institutions, to change the governance structure of the institution and to prevent the exercise of certain contractual rights against the institution. The Financial Stability Board (FSB) has suggested inclusion of the rights to the following in the resolution of Financial Market Infrastructure (FMI):

- “(i) enforce any existing and outstanding contractual obligations of the FMI’s participants to meet cash calls or make further contributions to a guarantee or default fund, or any other rules and procedures of the FMI for loss allocation where they have not been already applied exhaustively by the FMI prior to the entry of the FMI into resolution;
- (ii) write down (fully or partially) equity in the FMI;
- (iii) write down or convert to equity (“bail in”) any outstanding debt of the FMI;
- (iv) reduce the value of any variation margin payable by the FMI to participants;
- (v) where consistent with the legal framework and the rules of the FMI, write down initial margin of direct and, where permitted, indirect participants to the extent that, under the legal framework and the rules of the FMI, the margin covers the obligations of participants other than the participant that posted it; and
- (vi) terminate (“tear up”) or close out contracts and settle in cash.”³¹

³⁰ M. Gibson, “Recovery and Resolution of Central Counterparties” *Reserve Bank of Australia Bulletin*, December Quarter 2013 at 40.

³¹ Financial Stability Board, “Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions: Consultative Document”, (August 12, 2013).

In Australia, the application of these sorts of rights to clearing houses was considered by the Australian Government in a consultation paper on enhancing the powers of the Australian Prudential Regulation Authority (APRA).³² In that paper the Australian Government suggested that the full statutory management powers which are available to APRA on the failure of an Australian bank should be extended so that they are available also on the failure of an Australian clearing house, although this has not been implemented.³³

As sensible as this approach seems from a risk management perspective, its implementation is not simple. Complexities arise when it is analysed from a legal perspective. Fundamental legal principles conflict both in the priority of competing systemic principles and in application of jurisdiction. It is from this viewpoint that it becomes necessary to consider the impact of the use of financial market infrastructure on law.

Influence on law

The discussion of the influence on law is divided into three parts: the legal protection for the risk management techniques, the complexity in legal priorities and the complexity in jurisdiction.

Legal protection for risk management

It is fundamental to the survival of the clearing house that its risk management techniques are legally protected so that they are able to have their intended effect without interference from other laws, such as laws relating to insolvency. In Australia, legal protection is provided by the *Payment Systems and Netting Act 1998* (Cth) (**PSN Act**). This protects the operation of critical financial market infrastructure including real time gross settlement systems, multilateral netting arrangements and netting markets (which includes approved clearing houses).³⁴ This protection was most recently expanded in 2013 to protect dealings in property (including by porting and enforcement of security) under the rules of an approved

³² Australian Government Department of Treasury, *Strengthening APRA's Crisis Management Powers Consultation Paper* (September 2012).

³³ The Australian Council of Financial Regulators noted that "the absence of a specialised resolution regime for FMIs represents a gap in the current regulatory framework." *Australian Council of Financial Regulators (January, 2012) "Review of Financial Market Infrastructure Regulation: Letter to the Deputy Prime Minister and Treasurer"* at p.5.

³⁴ It also protects close-out netting under 'close-out netting contracts', such as the master agreements used for uncleared bilateral over-the-counter derivatives.

clearing house, which would include dealings in property as part of a clearing house's risk management techniques.³⁵

In addition, it is critical for their effectiveness that each of the recovery tools employed with a failing clearing house is legally effective. This is particularly the case because, from a legal perspective, each of the further recovery tools could be argued to be contrary to general insolvency law. In each case, the solvent participants' contractual (or property) rights are varied due to the insolvency or potential insolvency of the clearing house. Indeed, were it left to the common law, it could be said that the *pari passu* principle of insolvency laws would gainsay an ordinary contract incorporating the tools described earlier in this paper. Based on that principle, a clearing house's rules should not enable a clearing house to "contract out" of the ordinary bankruptcy laws.³⁶ This issue becomes more evident if one of the surviving participants also becomes insolvent. At this point the default mechanisms could deprive the insolvent participant of its assets. It is also evident when comparing the rights of the surviving participants to those of the clearing house's trade creditors (whose rights would not be subject to variation by recovery tools). For this reason, if the tools of a recovery plan are to have their desired effect then it is important that they are granted protection from the applicable general insolvency laws.³⁷ In Australia this protection could be provided by the PSN Act, as it permits dealing with the property of a party to a cleared contract in accordance with the rules of an approved clearing house 'despite any other law'.³⁸ However, these recovery and resolution regimes have not yet been established in Australia.

Although the source of the protection under Australian law is clear, it does not remove the complexities in its implementation – these arise in the priorities and in jurisdiction.

³⁵ The amendments were made by the *Corporations and Financial Sector Legislation Amendment Act 2013 (Cth)*. The Explanatory Memorandum to the Bill which introduced this Act described the role of the PSN Act as follows:

"The PSN Act contains a range of powerful provisions which may override other laws (such as insolvency laws) or contractual arrangements. In some instances the PSN Act states explicitly that certain provisions have effect despite any other law. The reason for providing this type of powerful authority to the provisions in the PSN Act is that the systems, activities and arrangements it covers are at the heart of the financial system. Ensuring that they have legal validity, including in situations where one of the parties enters insolvency, is considered fundamental to protecting the stability of the financial system."

³⁶ For example, see *British Eagle International Airlines Ltd v Compagnie Nationale Air France* [1957] 1 WLR 758 per Lord Cross at 780.

³⁷ "the set of tools should be timely, reliable and have a strong legal basis. Also, the FMI should also assess the legal enforceability of its plans, taking into account any constraints potentially imposed by domestic or foreign laws or regulations. The range of measures and tools employed by the FMI in its rules and contractual arrangements may vary across jurisdictions because, for example, in some jurisdictions some tools may not be allowable under the applicable legal framework or may be reserved for use by resolution authorities rather than by an FMI in recovery. In every case, however, it is important that a jurisdiction's laws permit for recovery tools that can allocate losses in full." CPSS-IOSCO, *Consultative Report: Recovery of financial market infrastructures* (August 2013) at page 1.

³⁸ *Payment Systems and Netting Act 1998 (Cth)*, section 16(4).

Complexity in priorities

One legal complexity which develops with the implementation of resolution regimes is that resolution regimes' legal framework can conflict with the legal support provided to other systemically important frameworks, such as banks' capital calculations and clearing house recovery tools. Despite the disastrous, seemingly incalculable, consequences of a clearing house failure, banks are required to contemplate it in the capital calculations which they make with respect to their dealings with clearing houses. A bank must address both the amount of capital required to be held by it against its exposures to the clearing house,³⁹ and also whether those exposures can be calculated on a net, rather than gross, basis.

The ability to determine clearing house exposure on a net rather than gross basis is influenced by accounting standards as well as the prudential regulation to which a bank is subject. The Basel III requirements set out by the Basel Committee on Banking Supervision are that a legally enforceable right of set off or netting is required if a net exposure is to be used.⁴⁰ This means that if a bank which is a participant of a clearing house wants to report its exposures to the clearing house on a net basis then it must have a legally enforceable right to settle transactions on a net basis, whether or not the clearing house is insolvent. Further, this needs to be supported by "written and reasoned legal opinions".⁴¹

At this point a contest in principle develops. For such a legal netting right to exist, the clearing house rules must allow a participant to close-out its positions with the clearing house if the clearing house defaults, and for a net value with respect to those positions to be determined. Further, those rules must be protected from the operation of "ordinary" insolvency laws. Fortunately, in countries such as Australia, which have robust netting laws which are applicable to all participants of a cleared contract, including the clearing house itself, this is an achievable outcome.

However, as noted earlier, new resolution regimes for clearing houses may restrict a participant's ability to exercise and enforce its rights against a defaulting clearing house. These regimes may qualify (potentially fatally) the legal rights on which that capital treatment is based and may make it impossible to obtain a

³⁹ These exposures may arise under cleared transactions and under obligations to contribute to the default fund.

⁴⁰ "Where settlement is legally enforceable on a net basis in an event of default and regardless of whether the counterparty is insolvent or bankrupt, the total replacement cost of all contracts relevant to the trade exposure determination can be calculated as a net replacement cost if the applicable close-out netting sets meet the requirements set out in [other parts of the paper]." *Basel Committee on Banking Supervision, "Capital requirements for bank exposures to central counterparties", April 2014* at [194].

⁴¹ *Basel Committee on Banking Supervision, "Capital requirements for bank exposures to central counterparties", April 2014* at [194].

“written and reasoned” legal opinion on those legally enforceable netting rights which is “clean”. For example, this issue could arise if the resolution regime restricts the right to terminate contracts in the case of clearing house insolvency.⁴² In fact, this restriction is required by some international standards such as those published by the FSB.⁴³ The result is competition between the principles that the right of the bank to close-out against an insolvent clearing house needs to be legally protected, and that the law should protect the clearing house from a bank exercising those rights.

This contest in principle also goes to a more fundamental level, as it is possible that the laws introduced to implement a clearing house resolution regime could interfere with the effectiveness of the laws which support the clearing house’s own recovery regime. For example, a new resolution regime applicable to clearing houses will require new legislation which prevails over existing laws, “subordinating” them, including insolvency law and any law which protects the close-out netting rights of the clearing participants against the clearing house. However, it could be those “subordinated” laws which support the clearing house’s recovery regime, as they allow dealings with property and other rights in accordance with the rules of a clearing house. In other words, a clearing house may be relying on those “subordinated laws” in order to apply “haircuts” to amounts owing to participants or to “tear up” a clearing participant’s contracts. This could be the case in Australia, as the legislation which would support the recovery provisions in clearing house’s rules would be that which also protects netting under those rules (the PSN Act). If those laws were to be subordinated to ensure the effectiveness of resolution regimes, it would be very important that their force in supporting in the recovery process is not weakened as a result. Otherwise, this weakening of the legislative support for a clearing house’s recovery process by the laws implementing a resolution regime could actually result in resolution, as opposed to recovery, becoming more likely.

Competition between these principles is not new. It has arisen previously in relation to resolution regimes applicable to banks. Some laws which were created to allow for a bank’s resolution prevent the use of contractual close-out rights whilst decisions are being taken as to how to deal with a failing bank. This weakens the close-out rights, which are themselves part of the systemic protection of the system as a whole,

⁴² It is important to note the difference between this and a resolution regime which defers the occurrence of insolvency.

⁴³ “... early termination rights should not be exercisable by any participant in an FMI or other counterparties under a financial contract solely by virtue of the entry into resolution of, or the exercise of any resolution power in relation to, an FMI. Such rights should remain exercisable where the FMI (or the authority, administrator, receiver or other person exercising control over the FMI in resolution) fails to meet payment or delivery obligations, including collateral transfers, when due in accordance with its rules, but subject to any application of loss allocation to margin or collateral under the rules of the FMI or through the exercise of statutory loss allocation powers.” *Financial Stability Board, “Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions: Consultative Document”, (August 12, 2013) at [5.1].*

including from the perspective of other banks. At present, there are some policy doubts as to which principle prevails in Australia.⁴⁴ This doubt should not be allowed to develop for clearing houses; the stakes are too high.

Complexity in jurisdiction

The stakes are also too high for a jurisdictional contest upon the failure of a clearing house which has cross-border operations. This contest would be between the different jurisdictions which could determine the resolution of a clearing house: the home jurisdiction of the clearing house, and the home jurisdictions of the participants. Although the former might seem logical, logic may not be a sufficient basis when it is considered that the participants are likely to be systemically important institutions in their home economies as well.

A possible response is to allow each jurisdiction to apply their own resolution regime to the assets and liabilities of the clearing house, so that an orderly cross-border process is facilitated. However, this gives rise to conflicts of its own - particularly if there are differences between countries' resolution regimes.

Another possible response is to allow recognition under a country's insolvency laws for the foreign clearing house's resolution administrator. However, this would remove any ability for a country to influence such an important process. Also, further issues arise if some of the affected jurisdictions do not have special resolution regimes in their legal system.⁴⁵ As the Australian Government has noted:

“Foreign insolvency administrations may be directed to purposes that do not align with the objects of the domestic specialised regime. Foreign administrations may put creditor protection above system

⁴⁴ This issue was intended to be resolved by legislative reform in Australia. The draft *Financial Sector Legislation Amendment (Close-Out Netting Contracts) Bill 2011* (Cth) was released for comment by the Commonwealth Treasury in July 2011. However, the Bill has not yet been introduced to Parliament, and no further official public announcements have been made at this stage.

⁴⁵ The incompleteness of international implementation has been noted in Hong Kong: “A number of other FSB member jurisdictions have either already extended the scope of their regimes to cover some or all FMIs or are in the process of doing so. Amongst the selected jurisdictions, regimes in Singapore and the US extend to a broad set of FMIs, whereas those in Switzerland and the UK currently target particular types (the UK's SRR currently extends only to CCPs, for example). Australia and the EU have recently consulted on how to ensure that FMIs are covered by appropriate resolution arrangements, and the UK has done likewise on extending scope beyond CCPs.” Para [139] of “An effective resolution regime for financial institutions in Hong Kong”, Consultation paper jointly published by the Financial Services and the Treasury Bureau, the Hong Kong Monetary Authority, the Securities and Futures Commission and the Insurance Authority, January 2014.

stability, or may focus on the needs of foreign systems or participants in preference to domestic systems or participants.”⁴⁶

A further alternative is to establish a college of international regulations for international clearing houses. However, it is not clear that the interests of those regulators will always be aligned in cases of clearing house failure.

This issue has not been resolved in Australia. It arose for consideration when the Australian Government considered the extension of the resolution regime for Australian banks (called statutory management) to clearing houses.⁴⁷ Statutory management for Australian banks is currently subject to two jurisdictional limitations. First, it applies only to banks in Australia and it does not apply to foreign banks which are authorised to operate in Australia. Second, Australian banks are excluded from the application of Australia’s cross-border insolvency recognition legislation (the *Cross-Border Insolvency Act 2008*).⁴⁸ In considering whether this exclusion should be extended to FMIs such as clearing houses, the Australian Government noted:⁴⁹

- “there could be circumstances where the resolution of financial market infrastructure may be assisted by giving effect to foreign insolvency administrations, such as where the administration is a home country resolution procedure”; and
- “the extension of cross-border recognition to foreign insolvency administrations may provide sufficient comity for overseas jurisdictions to recognise Australian home country resolution regimes”.

However, the paper did not state a conclusion, making the suggestion only that the decision as to whether to recognise foreign administrations could be made by the relevant Australian regulators.⁵⁰ Resolving this

⁴⁶ Australian Government Department of Treasury, *Strengthening APRA’s Crisis Management Powers Consultation Paper (September 2012)* at 97.

⁴⁷ Australian Government Department of Treasury, *Strengthening APRA’s Crisis Management Powers Consultation Paper (September 2012)* at 97.

⁴⁸ The *Cross-Border Insolvency Act 2008* is an adoption of the Model Law on Cross-Border Insolvency, adopted by United Nations Committee on International Trade Law on Cross-Border Insolvency, as endorsed by the General Assembly in December 1997. The Explanatory Memorandum of the Bill which introduced the *Cross-Border Insolvency Act* provided this reasoning: “Other jurisdictions have indicated that they are considering extending the Model Law to cover deposit-taking institutions and insurance companies. Extension of the Model Law to these classes of entity may also be raised for consideration in Australia at a later date. Excluding these entities from the operation of the Model Law by way of regulations provides flexibility to apply the Model Law to these entities should a decision be taken to that effect.”

⁴⁹ Australian Government Department of Treasury, *Strengthening APRA’s Crisis Management Powers Consultation Paper (September 2012)* at 98.

⁵⁰ A similar caution has been expressed recently in Hong Kong in the consultation paper referred to in footnote 46. As noted in the FAQs published with that paper: “On these grounds, the consultation paper suggests that it may be

needs more than local responses; it needs international coordination and there has been considerable consideration of these matters at an international level.⁵¹ However, on one of the most critical issues, being resolution of cross-border issues, little concrete progress has been made. Indeed, this lack of progress was referred to by the FSB in the September 2013 report to the G20:

“Implementation of the Key Attributes in the non-bank financial sectors has lagged behind the progress made in relation to banks. In light of the move towards mandatory central clearing of OTC derivatives, all jurisdictions with systemically important CCPs must have in place powers to resolve them. The FSB, in conjunction with standard-setting bodies, is developing guidance on how the Key Attributes should be interpreted and implemented with respect to the resolution of FMIs, the resolution of insurers and the protection of client assets in resolution. The guidance should be incorporated into the Key Attributes as Annexes and will be finalised by end-2013.”⁵²

This is in contrast to progress in relation to implementing resolution regimes for banks⁵³ and the end of 2015 has been set as the international deadline for completion.⁵⁴

appropriate to allow for use of the resolution regime in relation to the Hong Kong operations of a cross-border FMI to recognise and give effect to resolution by a home resolution authority, conditional on an assessment that the outcomes delivered are consistent with the objectives set for resolution in Hong Kong and do not disadvantage local creditors. Where these conditions are not met, the resolution authority in Hong Kong would retain the flexibility to use the powers available under the local regime to carry out resolution of local entities independently.”

⁵¹ The key reports on international coordination in this area include:

- The CPSS-IOSCO Principles for Financial Market Infrastructures (**PFMIs**), which are designed to ensure that FMIs promote stability and efficiency in the financial system and are well placed to withstand financial shocks.
- The Financial Stability Board’s Key Attributes of Effective Resolution Regimes for Financial Institutions (Key Attributes) which sets out the legal and institutional arrangements a jurisdiction should put in place to deal with a systemically important financial institution (**SIFI**) or global SIFI. This includes providers of key financial market infrastructure. The PFMIs include a presumption that all control counterparties are systemically important, at least in the jurisdiction in which they are located.

These two papers have recently been supplemented by their respective publishers, each in August last year. The FSB published its consultative document on the Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions. The proposed guidance is designed to assist jurisdictions and regulators in implementing the Key Attributes with respect to resolution regimes for FMIs, as well as for insurers and firms holding client assets. Also, CPSS-IOSCO published its consultative report on the Recovery of financial market infrastructures (Consultative Report). The Consultative Report provides guidance on how FMIs can observe the requirements in the PFMIs that they have effective recovery plans. Aspects of the Consultative Report relating to FMI resolution have also been included in the FSB consultation document, Assessment Methodologies for Identifying Non-Bank Non-Insurer Globally Systemically Important Financial Institutions.

⁵² *Financial Stability Board, “Progress and Next Steps Towards Ending “Too-Big-To-Fail” (TBTF): Report of the Financial Stability Board to the G-20”, (September 2, 2013), at p.11.*

⁵³ The FSB noted: “Recent reforms in several jurisdictions, including Australia, Germany, France, Japan, Netherlands, Spain, Switzerland, the United Kingdom and the United States demonstrate that substantive progress is being made in the implementation of the Key Attributes across FSB jurisdictions”. *Financial Stability Board, “Progress and Next Steps Towards Ending “Too-Big-To-Fail” (TBTF): Report of the Financial Stability Board to the G-20”, (September 2, 2013), at p.3.*

⁵⁴ *Financial Stability Board, “Progress and Next Steps Towards Ending “Too-Big-To-Fail” (TBTF): Report of the Financial Stability Board to the G-20”, (September 2, 2013).*

Influence of market architecture on finance, risk and law

The international financial markets have progressed on their regulatory reform journey. There are now trade repositories, swap execution facilities and clearing houses active in the global derivatives market. This financial market infrastructure has standardised products and relationships, segmented the market and restructured liquidity.

Further, it has contributed to the management of risk associated with derivative transactions. However, the increased use of financial market infrastructure has not eliminated risk. Indeed, in some cases, it has concentrated risk, such as in the case of clearing house failure. This risk must be managed, like others which arise in the financial markets. Regimes are needed for clearing houses to recover from their own financial distress and, if these fail, regimes are needed for regulators to intervene to resolve that distress in order to preserve systemic stability.

These regimes need protection from ordinary insolvency laws. However, this protection can conflict with each other, and with other laws which protect other systemically important principles, such as netting.

Further, the cross-border operation of clearing houses means that these matters are complicated by conflict of laws between jurisdictions.

Together these factors are changing fundamental principles of finance. As noted by the London School of Economics:

“Historically, banks have benefitted from a variety of advantages in assessing and managing credit risks, and their active role in the taking and managing of collateral is a manifestation of this.

However, regulatory reform and financial innovation may change this going forward. The search for new methods of achieving economical collateral transformation is giving opportunities to market infrastructures and others to provide much needed support for credit creation. In the process, the patterns of risk bearing will be changed, and understanding this represents a challenge both to regulators but also to investors.”⁵⁵

It represents a challenge to finance lawyers too.

⁵⁵ Ronald W. Anderson, and Karin Jøeveer, *The Economics of Collateral – A Study of the London School of Economics*, April 2014.