

# Non-dealer Clearing of Over-the-counter Derivatives

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In 2009, the G20 leaders agreed that all standardised over-the-counter (OTC) derivatives should be cleared through central counterparties (CCPs). Accordingly, an increasing proportion of OTC derivatives are now centrally cleared, particularly where the trading counterparties are large ‘dealer’ firms. However, for many smaller financial institutions and non-financial corporations, there remain material challenges in adopting central clearing. Such firms usually access CCPs indirectly through arrangements with larger dealer firms – so-called ‘client clearing’ arrangements. While non-dealers have long used such arrangements for their exchange-traded activity, increased CCP clearing of OTC derivative products has prompted market participants and policymakers to examine more closely these arrangements. Aspects of the design of client clearing arrangements, such as collateral requirements, operating schedules, and the degree of segregation of positions and collateral, can all have material implications for the costs and risks a firm faces in its OTC derivative trading activity. Some of these aspects could also have broader implications for financial stability.

## Introduction

Much of the underlying demand for OTC derivatives originates from non-dealer financial institutions, such as institutional investors, or non-financial corporations (collectively referred to as ‘non-dealers’ in this article). Often, such firms use OTC derivatives to hedge financial risks arising from their investments or real economic activities. A life insurance provider, for instance, may use OTC interest rate derivatives to better match the interest rate exposure of its assets and liabilities. In some cases, a firm may also use derivatives to gain a ‘synthetic’ exposure to a particular risk without transacting directly in the underlying asset, perhaps as a temporary measure to smooth investment flows. For example, a fund manager that has received an inflow of investment funds may initially use credit derivatives as an efficient and timely means of gaining a desired exposure before gradually

building a position in the underlying securities. Non-dealer activity is generally intermediated by dealers, typically large financial institutions. These firms then execute offsetting transactions with other dealers to maintain a broadly balanced overall position.<sup>1</sup>

To date, both dealers and non-dealers have tended to clear OTC derivatives bilaterally; that is, the financial exposures arising from the transaction have remained between the bilateral counterparties. However, largely in response to regulatory reforms, dealers and some non-dealers are increasingly clearing their OTC derivatives through CCPs. A CCP interposes itself between the original counterparties to a financial transaction and manages the risk that either defaults before settling its obligations. Dealers typically become direct clearing participants of CCPs, while non-dealers usually access CCPs indirectly through ‘client clearing’ arrangements with direct

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<sup>1</sup> Indeed, each transaction between a dealer and a non-dealer may trigger several offsetting interdealer transactions. Accordingly, the majority of outstanding OTC derivative positions are between dealers.

clearing participants (referred to as ‘clearing agents’ in this article).

The design of client clearing arrangements will influence the benefits, direct costs and risks faced by non-dealers and their clearing agents. It may also have financial stability implications. The Australian financial regulators – the Australian Prudential Regulation Authority (APRA), the Australian Securities and Investments Commission (ASIC) and the Reserve Bank of Australia (RBA) – will consider such issues when formulating their recommendation to the Australian Government on whether mandatory requirements to centrally clear interest rate derivatives should extend to non-dealers. Some of these issues are also relevant for the RBA and ASIC when assessing the client clearing services offered by the CCPs they oversee. This article describes the key features of client clearing arrangements, identifying some issues for consideration by policymakers.

## Background

A CCP, by definition, acts as a central counterparty to all trades in a given market. This occurs through a process known as ‘novation’, whereby the contract between the original parties to a trade is replaced by two contracts: one between the buyer and the CCP; and one between the seller and the CCP. To manage the risks it takes on, a CCP maintains a comprehensive, conservative and transparent risk management framework. Rigorous risk-management standards and close regulatory oversight are essential, since an unavoidable result of replacing a bilateral network with a CCP is concentration of counterparty credit risk and operational dependence on the CCP.

A CCP’s risk management framework usually involves three layers of risk controls:<sup>2</sup>

- *Participation requirements and participant monitoring.* A CCP typically sets minimum financial and operational requirements for direct participation, and monitors compliance with these requirements.

- *Margin.* Participants face variation and initial margin requirements. Initial margin protects a CCP from potential future exposures on outstanding positions, while variation margin is exchanged to reflect price movements that have already occurred.
- *Additional default resources.* A CCP holds additional prefunded pooled financial resources to cover exposures in the event that a participant defaults and its initial margin is insufficient to cover realised losses. These resources typically include a mix of a CCP’s own capital and participant contributions to a mutualised default fund.

In September 2009, the G20 countries, which include Australia, committed to ensuring that standardised OTC derivatives were centrally cleared (G20 2009). G20 leaders also committed to imposing higher capital charges where banks retained non-centrally cleared OTC derivative exposures and later also undertook to develop margin requirements for non-centrally cleared OTC derivatives (G20 2011). The promotion of central clearing reflects the view that CCPs can enhance the resilience of the financial system in a number of ways, including by reducing interconnectedness between market participants, enhancing and streamlining counterparty credit risk management, and providing a coordinated means of dealing with participant defaults.

To date, the United States is the most advanced in implementing the G20 commitments by mandating that a wide range of dealer and non-dealer firms centrally clear certain specified OTC derivative products. The Australian authorities, as well as those in a number of other jurisdictions, are considering similar requirements.<sup>3</sup> Even where there are no mandatory requirements to centrally clear OTC derivatives in a particular jurisdiction, the incentive to clear is becoming stronger. Globally, at least between dealer counterparties in the interest rate derivative market, pricing and liquidity are now more favourable if transactions are centrally cleared. Accordingly, more

2 For more information on CCP risk management practices, see ASIC and RBA (2009) and Rehlon and Nixon (2013).

3 The Australian financial regulators recommended in their July 2013 Report on the Australian OTC Derivatives Market that large financial institutions be required to centrally clear OTC interest rate derivatives denominated in the major currencies (APRA, ASIC and RBA 2013).

than half of the notional value outstanding in OTC interest rate derivatives globally is now cleared via CCPs.<sup>4</sup> This trend is also observed in Australia, where two CCPs are now licensed to centrally clear OTC interest rate derivatives for Australian participants: ASX Clear (Futures) and LCH.Clearnet Limited (LCH.C Ltd). Both CCPs initially made their services available to direct participants only. LCH.C Ltd permits client clearing in its international service and now intends to make this service available to its Australian-based participants. ASX Clear (Futures) has also developed a client clearing service, which it plans to launch in April 2014.

### Client Clearing Arrangements

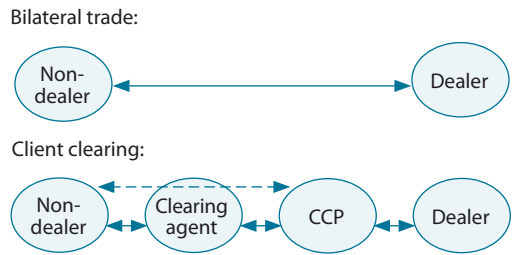
Non-dealers may be unable or unwilling to meet a CCP’s participation requirements or to commit to contributing to its default resources. Under such circumstances, a non-dealer may choose to access a CCP indirectly via a client clearing arrangement, under which a clearing agent centrally clears the non-dealer’s trades on its behalf.

Client clearing allows non-dealers to access many of the benefits of participating directly in a CCP, such as netting, and high counterparty risk management standards. The netting benefits of CCP clearing, however, will depend on the extent to which offsetting trades can be cleared with the same CCP. Given that the motivation for many non-dealers to use OTC derivatives is to hedge an underlying exposure, their OTC derivative positions will often be directional (that is, individual trades will not be offsetting). Accordingly, many non-dealers may derive fewer netting benefits than would a dealer with a largely balanced portfolio.<sup>5</sup>

Under most client clearing arrangements, the client’s primary relationship is with the clearing agent

(Figure 1). The clearing agent is held responsible for its clients’ trades to the CCP, including any associated margin requirements or other financial obligations. The nature of the relationship between the non-dealer and the CCP varies between CCP offerings and jurisdictions.<sup>6</sup> Usually, the client would only have a direct relationship with the CCP if its clearing agent were to default.

**Figure 1: Structure of Client Clearing Relationships**



Note: Dotted line represents the non-dealer’s relationship with the CCP if the clearing agent were to default  
 Source: RBA

The terms of a client clearing arrangement generally reflect details of the relevant CCP’s products on offer, including its risk frameworks and operational arrangements. These can vary significantly across CCPs. For example, even where multiple CCPs accept the same products, their margin methodologies and operating arrangements may differ. The main dimensions across which CCP arrangements may vary are presented in Table 1.

6 Broadly, the legal relationship between the client and CCP follows one of two models. Under the first model, the clearing agent acts solely as agent for the client (the so-called ‘principal-to-agent’ model), with the client also having a contractual relationship with the CCP. The principal-to-agent model is prevalent in the United States, where it has been mandated by regulators. ASX Clear (Futures) will also use an agency-style clearing model to support its new client clearing service. Under the second model, the clearing agent contracts as principal with the CCP in respect of its clients’ trades (the so-called principal-to-principal model) and the client has no direct contractual relationship with the CCP. To centrally clear under the principal-to-principal model, for each client trade, the clearing agent would typically create an identical trade with the CCP. Despite differences in the legal relationships between parties, the models are generally similar economically. However, there may be slight differences. For example, the principal-to-agent model usually involves standardised legal documentation with common terms. In contrast, under the principal-to-principal model, there can be more flexibility in the terms of the arrangement between the client and the clearing agent.

4 The incentive to centrally clear in the absence of a mandate in part reflects the cross-border reach of other jurisdictions’ regulation – in particular that of the United States – and also lower bank capital requirements on centrally cleared OTC derivative exposures relative to bilaterally cleared exposures.

5 Indeed, central clearing could in some circumstances increase exposures. This may be the case if potentially offsetting positions with a bilateral counterparty are ‘unnetted’, with some cleared centrally while others remain bilaterally cleared. See Duffie and Zhu (2011) and Heath, Kelly and Manning (2013).

**Table 1: Key Features of CCP Arrangements for Non-dealers**

Feature	Description
Products cleared	The range and type of products centrally cleared by the CCP.
Account structure	The CCP's account structure determines the level of segregation of positions and collateral that is available to clients (see below).
Margin and collateral	A CCP's choice of margin methodology and parameters affects the level of margin a client must pay. Some CCPs allow direct participants and non-dealer clients to recognise offsets in their positions across product classes or currencies, which reduces margin requirements. <sup>(a)</sup> CCPs may also differ in the types of collateral they accept as margin, which may affect the cost to non-dealers of meeting margin requirements.
Trading counterparties	To centrally clear a transaction, both counterparties must have access to the same CCP. A non-dealer's choice of CCP will therefore depend at least in part on the clearing arrangements of its existing and prospective trading counterparties. <sup>(b)</sup>
Operating arrangements	A CCP's operating hours and procedures, and connectivity requirements.
Legal jurisdiction	The legal jurisdiction of a CCP determines the particular legal regime and regulations that govern its operations.

(a) For example, ASX Clear (Futures) allows direct participants to offset OTC and exchange-traded interest rate derivatives, while LCH.C Ltd allows participants to offset OTC interest rate derivatives denominated in different currencies; ASX Clear (Futures) intends for the offset to apply for non-dealers that use its proposed client clearing service

(b) Central counterparty interoperability can permit trades to be centrally cleared even where they have been executed between participants of different CCPs; however, such arrangements have not yet emerged for OTC derivatives – for more information see Garvin (2012)

Source: RBA

Regulatory requirements are also an important determinant of a CCP's operations and, in turn, the services that are available to non-dealer clients. In particular, new international standards set minimum requirements in respect of a number of the above factors (see 'Box A: Principles for Financial Market Infrastructures'). These have formed the basis for the RBA's and ASIC's assessment of the client clearing service to be offered by ASX Clear (Futures), and will similarly form the basis of their assessment of LCH.C Ltd's service.

While the terms of a client clearing arrangement are shaped by the relevant CCP's product offerings, and its risk management and operational arrangements, a number of aspects will also be the subject of negotiation between non-dealers and their clearing agents. Common economically significant terms that must be negotiated include:

- *Position limits.* A clearing agent may place a limit on the size, concentration or market risk exposure of the positions it is willing to accept on behalf of clients – either collectively, or individually. Since the clearing agent assumes financial risk vis-à-vis

its clients, it may manage this risk not only through margin (see below), but also by applying exposure limits.

- *Margin and collateral.* A clearing agent will typically pass on to clients at least the margin requirement imposed by the CCP. Client clearing arrangements may vary, however, in terms of whether the clearing agent collects more than the CCP's margin requirement, the range of eligible collateral, operational arrangements, time lines for delivery of margin and any restrictions on the re-use of clients' margin by the clearing agent.
- *Trade termination and 'change' clauses.* The client clearing agreement will set out the circumstances in which the clearing agent may impose additional requirements on a client, place restrictions on its activity or even terminate the client's trades.

As in any negotiation, the bargaining power of the parties is important in determining the outcome. Larger non-dealers, especially those that have a broader relationship with a clearing agent, may be able to negotiate more favourable terms.

## Box A

## Principles for Financial Market Infrastructures

In April 2012, international standard setters (the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO)) released the *Principles for Financial Market Infrastructures* (Principles; CPSS-IOSCO 2012). Consistent with the increasing use of CCPs and other financial market infrastructures, the Principles update, harmonise and strengthen the pre-existing standards for CCPs (and other financial market infrastructures). The RBA and ASIC have fully implemented the Principles for CCPs in Australia.<sup>1</sup>

The Principles set minimum requirements in respect of the design and operation of CCPs' services. They cover areas such as the general organisation of the CCP (e.g. governance and legal arrangements), credit and liquidity risk management (including minimum standards with respect to collateral and margin), default management, access, efficiency and transparency.

Within these categories, several requirements are directly relevant to the design of client clearing arrangements. These are:

- Principle 14: *Segregation and portability*. A CCP should have rules and procedures that enable a participant's customers' positions and collateral to be held in segregated accounts at the CCP and allow transfer of these positions and collateral to an alternative participant if the original participant were to default. This requirement is discussed further in 'Account segregation and portability'.
- Principle 19: *Tiered participation arrangements*. A CCP is required to identify, monitor and manage the material risks to the CCP arising from indirect access to the CCP.

The Principles also require CCPs to have objective, risk-based and publicly disclosed criteria for participation, which permit fair and open access. This requirement is discussed further in 'Concentration and Access'.

<sup>1</sup> For CCPs in Australia, the Principles related to financial stability have been implemented by the RBA, while all other Principles have been implemented by ASIC. For more information on the implementation of the Principles in Australia, see RBA and ASIC (2013).

## Issues for Consideration

The benefits of central clearing are well known and understood by regulators and market participants. While client clearing arrangements provide an efficient means for non-dealers to access these benefits, they naturally entail some direct costs and risks. These will differ according to the particular characteristics of the non-dealer.

Establishing a client clearing arrangement is itself a costly process, which can take a number of months. It typically involves the negotiation of commercial terms, due diligence, the drafting of legal documentation, and the establishment and testing of operational arrangements. On an ongoing basis, a non-dealer must pay clearing fees to its clearing agent and also meet any variation and initial margin requirements arising from its trades. Large non-dealers – particularly those with ready access to liquid assets that may be used to meet margin requirements – are more likely to be able to absorb the high fixed cost of establishing client clearing arrangements, and to accommodate ongoing fees and margin costs.

As in the case of direct participation, client clearing concentrates counterparty credit risk in CCPs. Accordingly, clients remain exposed in the highly unlikely event that a CCP faces financial difficulties.<sup>7</sup> In contrast to direct participation, however, a non-dealer client may also be exposed to its clearing agent – and, in some cases, other clients of its clearing agent. In particular, if a clearing agent were to default and client positions were closed out by the CCP, clients would have to incur the potentially high cost of entering the market to replace their positions (either clearing these via a new clearing agent, which may not be feasible at short notice, or bilaterally). Innovations in CCP account structure aim to mitigate this risk.

<sup>7</sup> One channel by which a client may face a financial exposure is through loss allocation under a CCP's 'recovery plan', which sets out how it would respond in the event of a threat to its ongoing viability. For more information on recovery and resolution in the Australian context, see Gibson (2013). Some non-dealers may also face additional legal risk if the CCP holds collateral in a foreign jurisdiction.

The remainder of this section considers in more detail the costs and risks associated with margin and collateral requirements, and CCP account structures.

## Margin and collateral

While a growing number of non-dealers regularly post variation margin for bilaterally cleared OTC derivatives, it is not yet standard practice, either in Australia or internationally, to exchange initial margin. This will change with new international standards for the margining of bilaterally cleared OTC derivatives, which will be phased in over the coming years (BCBS-IOSCO 2013). In the meantime, adjusting to CCP margin requirements would entail material changes to many non-dealers' business and operational practices.

For these firms, it may be necessary to hold additional liquid funds or secure costly lines of credit to guarantee that regular variation margin calls could be met. Similarly, a non-dealer that was not a natural holder of high-quality liquid assets would need to reallocate a portion of its investments to ensure that it could satisfy a CCP's collateral eligibility criteria for initial margin requirements. Holding such assets may be expensive for some non-dealers, especially in light of a system-wide increase in demand for high-quality collateral due to wider use of CCPs and other financial regulation.<sup>8</sup>

Non-dealers could be assisted in meeting their collateral needs by an expansion in the availability of collateral optimisation services. These services aim to allocate available collateral assets most efficiently by scanning a collateral giver's securities holdings and identifying, within the range of the collateral receiver's eligibility criteria, which assets will be cheapest to deliver. Collateral costs could also be eased if CCPs expanded (within prudent limits and consistent with regulatory standards) the range of collateral types they are willing to accept to meet

<sup>8</sup> In some jurisdictions, such as Australia, these costs may be higher than in some other jurisdictions due to shortages in the supply of high-quality collateral. For more information on the demand and supply conditions of high-quality Australian dollar assets, see Heath and Manning (2012).

initial margin requirements. For example, both CME Clearing and LCH.C Ltd have expanded their lists of eligible collateral in recent years.<sup>9</sup>

Some non-dealers may also make use of new ‘collateral transformation’ services, under which the provider transforms lower quality or less liquid assets into assets that would be eligible to meet a CCP’s margin requirements. However, these services remain in their infancy and could introduce new sources of cost and risk to non-dealers, and potentially to the system more broadly (see ‘Box B: Collateral Transformation’).

A non-dealer’s capacity to meet margin requirements will largely depend on its characteristics. For non-dealers that naturally hold liquid and high-quality assets – such as non-dealer banks – the incremental cost of meeting margin requirements may be manageable. In contrast, for non-dealers that do not routinely hold these assets – such as managed funds that invest solely in equities or infrastructure – the incremental cost could be high.

### Account segregation and portability

CCP account structure is an important determinant of both the risks and costs of client clearing. In particular, account structure can determine whether a non-dealer faces financial risk from its clearing agent and its clearing agent’s other clients. It also has implications for the probability that client positions could be transferred or ‘ported’ between clearing agents in the event of a clearing agent default, as well as for the protections afforded to assets posted as collateral. Account structure may also determine the cost to a clearing agent (and indirectly to its clients) of meeting a CCP’s collateral requirements, as well as the operational complexity of the clearing process. Increasingly, CCPs are offering a wide variety of account segregation options, reflecting

non-dealers’ growing awareness of costs and risks as well as changes in regulatory requirements.

A CCP’s account structures may offer segregation along various dimensions. First, the CCP may segregate its records at two levels: at the open position level and at the collateral level. In addition, for ‘omnibus’ accounts that are used for multiple clients, CCPs’ account structures may also differ in whether positions are netted across clients. Second, the CCP may segregate clients’ positions and collateral from the clearing agent’s proprietary positions, either as a group or individually.

The Principles set minimum requirements for the account structure options offered by a CCP (Principle 14). At a minimum, the Principles require that a CCP segregate client positions and collateral from the clearing agent’s proprietary positions such that client collateral could not be used to meet a shortfall in a clearing agent’s proprietary account in the event of the clearing agent’s default. Within these bounds, presently, CCPs typically offer from among four broad classes of account structure:

- *Net omnibus.* A single net position is calculated for all of the clients of a clearing agent and margin is called on the basis of this net position. This level of segregation offers the maximum netting benefit, since individual clients’ positions may be offsetting. While the clearing agent will typically continue to collect ‘gross’ margin from each client to manage its own exposure to clients, the benefit of net margining from the CCP may be passed on to clients in the form of lower fees. An omnibus account is also operationally simple. While potentially cheaper and more efficient for clients, this structure carries so-called ‘fellow customer risk’ for clients. That is, if both the clearing agent and another client in the account were to default, any collateral in the client account could be used to cover losses arising from the client default. Since the collateral in the account is the net of all clients’ positions, any individual position may be insufficiently margined and therefore losses could be imposed on non-defaulting clients.

<sup>9</sup> In 2011, LCH.C Ltd expanded its list of eligible collateral to include non-sovereign bonds and other government-guaranteed bonds, such as US agency mortgages. LCH.C Ltd already accepts Australian government bonds to meet initial margin requirements, but intends to expand the list of Australian dollar assets it accepts, including Australian dollar cash. In 2012, CME Clearing expanded its list of eligible collateral for its OTC interest rate swap clearing service to include corporate bonds.

## Box B Collateral Transformation

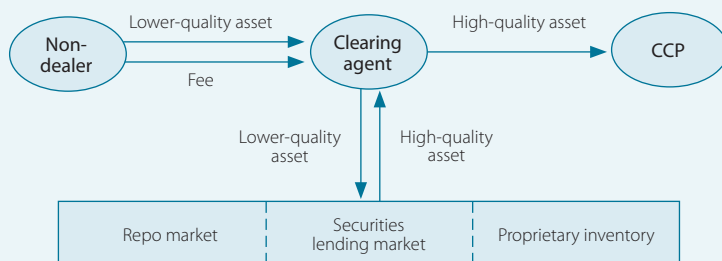
Collateral transformation refers to a transaction whereby a financial institution offers to exchange lower-quality assets for high-quality collateral or cash, for a fee, to meet a customer’s initial or variation margin requirement (Figure B1). Transformation services may be provided by a non-dealer’s clearing agent, but may also be provided by a third party. The service provider typically applies a haircut to the lower-quality asset provided, which will depend on the quality of the asset. The collateral transformation provider may either source the high-quality collateral from its own balance sheet, or act as an intermediary for access to the repurchase agreement (repo) or securities lending markets. Transactions are usually short-term, in part due to the underlying liquidity in the repo and securities lending markets, as well as regulatory constraints that make longer-term repurchase agreements more costly.

While collateral transformation services could help a non-dealer meet a CCP’s margin requirements, they may also introduce new costs and risks for

the non-dealer. Since collateral transformation transactions would generally be of a shorter duration than a non-dealer’s centrally cleared OTC derivatives, the non-dealer would face a maturity mismatch, and the risk that it was unable to roll over a transformation transaction or that the cost to do so had increased substantially. A non-dealer may also need to meet obligations arising from changes to the value of the collateral it has provided. In addition, transformation adds an extra layer of transactions to the margining process, which could increase cost and operational risk.

More broadly, collateral transformation could be a new source of interconnectedness in the market, undermining an important goal of central clearing, which is to simplify the network structure of the OTC derivatives market. By using collateral transformation services, non-dealers may also be more exposed to problems in repo and securities lending markets, and idiosyncratic shocks to these markets.

**Figure B1: The Mechanics of Collateral Transformation**



Source: RBA



- *Gross omnibus.* The CCP calculates positions and margin for each client individually. While gross omnibus accounts may still carry fellow customer risk, this risk would be reduced because with gross margining any individual position would be less likely to be insufficiently margined. While position information is collected for each client, neither positions nor assets posted as collateral in this structure are legally attributed to individual clients. This means that clients are not assured of having the specific assets they post returned to them in the event of a default, even if the value is returned.<sup>10</sup>
- *Legal segregation with operational commingling (LSOC)-style.*<sup>11</sup> This type of account structure shares many of the features of gross omnibus. However, this structure also offers clients protection against fellow customer risk by legally segregating positions and assuring (non-defaulting) clients the value of the collateral they posted.
- *Full individual segregation.* Both positions and individual assets posted as collateral are attributed to individual clients. Each client is protected from the default of its clearing agent and other clients, and assured of the return of the specific collateral that it has posted. Since each line of collateral must be allocated and recorded separately for each client, however, this level of segregation can be operationally intensive and therefore more costly for the clearing agent relative to the above. These costs would likely be passed on to the client in the form of higher fees.

The ease and likelihood with which client positions could be transferred to another clearing agent in the event of the default of a clearing agent, known as portability, is dependent on the level of account

segregation. As explained above, client positions in a net and gross omnibus account are not legally segregated. Therefore, it may be challenging to transfer positions unless all clients were to port their positions to the same alternative clearing agent. Furthermore, if one or more clients were also to default, the surviving clients' positions could be under-margined, which would add further complexity to the transfer. The LSOC-style and full individual segregation structures, by contrast, may facilitate portability by allowing for positions and collateral to be legally separated and transferred.

The timely transfer of positions and collateral would also typically require that a client had arrangements in place with an alternative clearing agent. Given the high fixed cost of establishing a clearing arrangement, this may only be feasible for larger non-dealers that conduct a significant volume of OTC derivative business. Importantly, establishing a back-up arrangement may only guarantee the operational capability to execute a transfer – it may not guarantee that the alternative clearing agent would be willing and able to take on a non-dealer's positions at the time a default occurred. Particularly if the default of a client's primary clearing agent was associated with extreme stress in the financial system, an alternative clearing agent may refuse to accept new positions.

## Concentration and Access

Another relevant matter is the market structure of client clearing service provision. Clearing agents must meet the participation requirements of one or multiple CCPs. In addition, client clearing services generally require significant technological and operational investments, and therefore benefit from economies of scale. As a result, presently, client clearing services tend to be provided by a small group of large international banks domiciled in Europe or the United States (CGFS 2011).

While such concentration offers operational and cost efficiencies, it may exacerbate the risks faced by some non-dealers in their client clearing

<sup>10</sup> This could be a concern for a client with an investment mandate that restricts which assets may be held, or that has purchased the security posted as collateral for a separate specific purpose.

<sup>11</sup> LSOC generally refers to account structures used by CCPs and clearing agents operating within the United States regulatory framework, which affords specific protections to clients. This article uses LSOC-style to encompass account structures that have a similar risk profile to the LSOC account structure.

arrangements. For instance, concentration may make portability more difficult by both limiting the choice of alternative clearing agents and increasing the volume and value of positions to be ported in the event of a clearing agent's default. In addition, the larger and more complex the business model of the clearing agent, the higher the risk that the recovery of clients' collateral could require a lengthy legal negotiation in the event of a default. Such legal risk may be exacerbated when the clearing agent and its client are located in different jurisdictions.

The risk profile of CCPs may also change due to concentration among clearing agents. Many CCPs' largest exposures are already generally to large international banks. If these banks were also to centrally clear the majority of non-dealer transactions, the risk that CCPs faced from these entities could further increase.

Finally, concentration could delay the uptake of client clearing arrangements. In particular, given the resources involved in establishing a client clearing arrangement, a small number of clearing agents may have limited capacity to conclude agreements with many clients simultaneously. Some non-dealers could therefore face delays in the transition to central clearing, especially smaller non-dealers that may be less profitable to the clearing agent.

The Principles aim to address some of these issues. First, they require that a CCP provide fair and open access to its services based on reasonable risk-related participation requirements (Principle 18). While in theory this may facilitate direct membership for a broader group of market participants, most non-dealers are in practice likely to remain unable to meet CCPs' participation requirements, or to find it uneconomical to participate directly.<sup>12</sup> The Principles also require that CCPs manage material risks arising from indirect access, including dependencies between direct and indirect participants (Principle 19). A CCP could, for instance,

reserve the right to require that a clearing agent deposit additional collateral for a particularly large client's position. However, it remains to be seen how effective such regulatory measures will be in mitigating the concentration in client clearing services.

## Conclusion

The benefits of central clearing for market participants and for the financial system are well recognised by regulators. While client clearing provides an efficient means for non-dealers to centrally clear their OTC derivatives, it may also introduce new costs and risks. The Australian financial regulators will consider such costs and risks in their forthcoming assessment of whether to recommend that mandatory requirements to centrally clear interest rate derivatives should extend beyond large internationally active dealers. Consideration of some of these issues has also been relevant to the assessments by the RBA and ASIC of the client clearing service that ASX Clear (Futures) intends to launch. The RBA and ASIC will undertake a similar assessment of LCH.C Ltd's client clearing service.

Until new international standards for margining bilaterally cleared OTC derivatives are implemented, non-dealers will face an incremental cost from meeting CCP margin requirements. The capacity of a non-dealer to accommodate these costs will depend on its particular characteristics, including how it uses derivatives and the assets it holds. For instance, the cost may be higher for a non-dealer that uses derivatives primarily to hedge underlying positions in less liquid markets. And while market innovations may ease some costs and risks, some may introduce new concerns that warrant close scrutiny by regulators. Collateral transformation, for instance, may make it easier for non-dealers to access high-quality collateral; however, it carries new risks and reintroduces interconnectedness.

The new client clearing models that CCPs intend to offer in Australia have been or will be assessed against the relevant regulatory standards. They are

<sup>12</sup> Lane, Dion and Slive (2013) provide a more comprehensive analysis of CCP access and participation requirements in the context of the Principles.

designed to provide appropriate segregation and protect each individual client's collateral, at least in value terms. The RBA recognises, however, that portability of positions could be difficult in times of stress. Larger non-dealers may be better able to meet the fixed cost of maintaining multiple client clearing arrangements to reduce dependence on any one clearing agent and increase the probability that a transfer is successful.

Looking ahead, the benefits, costs and risks of non-dealer clearing will be influenced by how the market structure evolves. An important question is whether non-dealer clearing activity continues to be concentrated among relatively few clearing agents. Concentration could limit access to client clearing services and could amplify the impact of a clearing agent default. Again, larger non-dealers may be able to manage this risk by establishing relationships with multiple clearing agents, but for the system as a whole, this may be a vulnerability. ✕

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