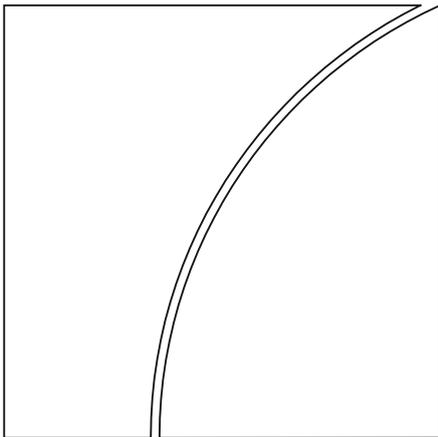


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Client clearing: access
and portability

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BANK FOR INTERNATIONAL SETTLEMENTS



OICU-IOSCO

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Executive summary

Firms that are not direct participants of a central counterparty (CCP) must rely on having their trades **cleared** by an intermediary, a client clearing service provider (CCSP), that is a direct participant of the CCP. Firms that are not able to become, or choose not to become, a direct participant of a CCP are generally known as **clients**, and the term **client clearing** encompasses the activities and the services that enable clients' access to CCPs.¹

This discussion paper focuses on issues concerning client clearing. In particular, it considers issues concerning access to CCPs and effective porting practices. The paper does not provide guidance on the *Principles for financial market infrastructures* (PFMI)² but aims only to increase the common understanding of certain new access models ("direct" and "sponsored" access models) and effective porting practices and identify potential issues for possible follow-up work from the industry.

On 29 November 2021, CPMI-IOSCO published *A discussion paper on client clearing: access and portability*³ for public consultation, including an industry workshop and written responses. Overall, the paper was well received and respondents provided support for the work. Respondents did not identify any issues with regards to the PFMI.

The purpose of this paper is to: (i) develop knowledge and understanding regarding these new access models through which entities that historically have participated indirectly as "clients" can directly access CCP services; (ii) develop knowledge and understanding of current porting processes at CCPs; (iii) examine and analyse possible solutions to facilitate access and portability arrangements; (iv) consider in particular the potential benefits, risks and challenges that these new possible solutions may bring with respect to access (Principle 18 of the PFMI), tiering (Principle 19) and portability (Principle 14); and (v) set out next steps.

This paper's analysis elaborates on information collected through (i) an industry workshop in July 2019; (ii) a survey addressed to CCPs, CCSPs and clients in late 2019; (iii) targeted interviews in the autumn of 2020; and (iv) industry feedback on the consultation.

Section 1 briefly explains the reasons why the work was conducted and the objectives of the work.

Section 2 describes "direct" and "sponsored" access models and the features that distinguish the models from each other and from the traditional client clearing model. These new access models introduce new challenges and a new distribution of risks among different kinds of participants. They require CCPs and participants to consider new risks (eg the risks related to the "sponsor" and "sponsored member" default). Incentives for participation in these new models are considered in conjunction with potential barriers to uptake. Forward-looking perspectives and actions that industry may take to facilitate further use of these models are also included.

Section 3 outlines potentially effective porting practices, focusing in particular on alternative or backup CCSP arrangements and game plans. Payment mechanisms that may facilitate porting are described. In addition, potential factors that may facilitate or constrain portability, depending upon the design, are reviewed. Finally, fundamental principles that underpin successful porting – transparency, efficiency and effectiveness, and testing – are considered.

¹ Principle 14 of the *Principles for financial market infrastructures* (PFMI) refers to the clearing members of a CCP as "participants", while clients of the clearing members are referred to as "participants' customers" in Principle 14 and "indirect participants" in Principle 19. To avoid confusion in this discussion paper and reflect changing relationships, the term "CCSP" is generally used rather than participant and the term "client" is used rather than participants' customer.

² CPSS-IOSCO (2012).

³ Available on the CPMI and IOSCO websites: www.bis.org/cpmi/publ/d200.htm and www.iosco.org/library/pubdocs/pdf/IOSCOPD691.pdf.

Section 4 identifies a number of potential issues on which further industry engagement regarding these new access models and porting could be constructive. It focuses on the potential benefits that could be achieved through actions industry stakeholders could take, jointly and individually, as well as some potential future work for CPMI-IOSCO.

1. Introduction

In 2009, the G20 Leaders made a commitment to ensure that all standardised over-the-counter (OTC) derivatives contracts are cleared through CCPs. Increased use of central clearing generally, and with a particular focus on derivatives since the 2009 G20 commitment, is intended to enhance financial stability by simplifying the network of counterparty exposures between financial institutions and reducing the aggregate size of these exposures through multilateral netting by CCPs.

In the light of clearing mandates introduced in some jurisdictions, CCPs have become increasingly critical components in the financial system. In 2018, the Derivatives Assessment Team (the DAT Report)⁴ confirmed that the provision of client clearing services was concentrated in a relatively small number of bank-affiliated clearing firms.

Clients are not typically direct clearing participants but rather require access to clearing through clearing participants. As a result, access to client clearing is a critical issue for the success of the G20 reforms, especially in jurisdictions where the clearing obligation also applies to clients. Principle 19 of the PFMI states that financial market infrastructures (FMIs), including CCPs, “should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements”. Moreover, Principle 14 of the PFMI states: “a CCP should have rules and procedures that enable the segregation and portability of a participant’s customers and the collateral provided to the CCP with respect to these positions”.

Against this background, CPMI and IOSCO decided to analyse whether and to what extent concentration in client clearing creates issues of concern specifically in relation to client access. In particular, the CPMI-IOSCO Steering Group mandated the Policy Steering Group (PSG) to: (i) develop knowledge and understanding regarding new access models by which entities (that historically have participated indirectly as “clients”) could directly access CCP services; (ii) develop knowledge and understanding of current porting processes in place at CCPs; (iii) examine and analyse possible solutions to facilitate access and portability arrangements; and (iv) consider the potential benefits, risks and challenges that new access models and potential solutions may bring with respect to access.⁵

The PSG gathered information through an industry workshop in July 2019 and a survey addressed to CCPs, CCSPs and clients in late 2019 as well as follow-up work through targeted interviews in the autumn of 2020. The PSG gathered the information that it collected through these steps and also used its working knowledge of current market practices, to develop a discussion paper that the CPMI and IOSCO published in November 2021. During the consultation, the PSG hosted an industry workshop and solicited written feedback from a broad range of interested stakeholders.⁶

⁴ See FSB, *Incentives to centrally clear over-the-counter (OTC) derivatives*, November 2018, www.fsb.org/2018/11/incentives-to-centrally-clear-over-the-counter-otc-derivatives-2/.

⁵ Principle 18 of the PFMI provides that FMIs, including CCPs “should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access”. Key consideration 1 notes that “[CCPs] should allow for fair and open access to its services, including by direct and, where relevant, indirect direct participants and other FMIs, based on reasonable risk-related participation requirements”.

⁶ The PSG received 27 comments to the consultation, and of these (i) six were submitted by buy-side firms or their associations; (ii) 11 by CCPs or their associations⁶; (iii) five by clearing members or their associations; and (iv) five responses were received from other types of stakeholder.

Overall, the consultation was well-received and respondents did not identify any issues with regards to the PFMI or indicate that further guidance on these topics is necessary or would be beneficial. This paper has been informed by the consultation responses.

Section 2 provides an overview of direct and sponsored access models based on the results of the survey and targeted interviews described above; considers challenges, risk considerations, incentives for participation, and potential barriers to uptake. Forward-looking perspectives and potential actions that the industry and CPMI-IOSCO might take are also covered.

Section 3 describes and analyses potentially effective porting practices, payment mechanisms that facilitate porting, and potential factors that may facilitate or constrain portability, depending upon the design. It also draws attention to fundamental principles that underpin porting: transparency, efficiency and effectiveness, and testing.

Section 4 identifies a number of potential issues that could benefit from further industry engagement regarding new access models and porting and highlights some areas for potential future CPMI-IOSCO work. It focuses on areas where industry stakeholders could act, jointly or individually, to reduce barriers and improve participant understanding of roles, responsibilities, and risks. The proposals suggest that the industry consider engaging in future work on the fundamental principles that underpin successful porting, including: transparency, efficiency and effectiveness, and testing.

2. Access

The PSG work drew on the conclusions of the DAT Report, which included several findings regarding client access to clearing services and restrictions on activity.

The most common access issue reported by the DAT was the lower degree of access to central clearing for some categories of clients. Restrictions on client activity were imposed by over 90% of the CCSPs surveyed, with low turnover clients and clients with directional portfolios being most affected by restrictions on their cleared activity. According to the DAT Report, these clients are most likely to have insufficient transaction flow to cover the cost of providing clearing services. Reportedly, clients have been off-boarded because of constraints imposed by the Basel III capital framework.

The DAT also found that the minimum clearing fees increased between 2012 and 2017, with such fees designed to cover onboarding, know-your-client (KYC) and regulatory capital costs. Such fees are a significant factor in the cost of clearing and affect incentives to clear.

The DAT found that the business of client clearing OTC derivatives was in a state of transformation. It noted that the risk management requirements of OTC derivatives client clearing is “substantially more burdensome” as compared with futures client clearing and requires significantly more trading capacity to manage a client default.⁷ Client clearing services are provided even though internal targets for returns on equity are not met, suggesting that firms that are continuing to provide services may be doing so in order to provide full client services, given the reputational impact of exiting OTC derivatives client clearing and the difficulty of reversing a decision to exit. The data show some firms have exited the business, with limited profitability likely to have been a factor.

The DAT concluded that the potential issues relating to client access to central clearing and to client incentives to clear may be exacerbated by the concentration of CCSPs. In the DAT surveys, many clients reported being able to access clearing through only a single CCSP, as backup arrangements were

⁷ Other key differentiating factors for OTC derivatives client clearing noted by the DAT include significantly longer tenors, larger notional size, lower trade count, higher capital requirements, larger margin flows, more sophisticated risk management and operational requirements.

economically unviable or unavailable. Moreover, many clients were concerned they would not be ported successfully in the event of a CCSP default, which would leave them without clearing access. New direct access models, developed for a variety of reasons to solve specific problems for specific products and markets, were reported as a possible solution to access by CCPs. However, the feasibility of relying on these models was unclear and there were issues surrounding portability to be explored.

Ultimately, the DAT suggested further research in this area to provide additional insight. Through its work on client clearing, CPMI-IOSCO has been able to analyse the impact on the client clearing market of the development of new types of access, namely the direct and sponsored access models.

A CCP should permit “fair and open access” to its clearing services based on reasonable risk-related participation requirements.⁸ Although CCPs suggested that the emergence and development of direct and sponsored access models might solve the issues around constrained client access that the DAT identified, this work demonstrates that issues arising from the concentration of CCSPs remain. First, there are also concerns regarding concentration of sponsors. In addition, new types of access provide the opportunity to ease CCP access only for a specific segment of large, sophisticated buy-side entities. The costs associated with the model generally outweigh the potential benefits for smaller and less sophisticated entities. This work also confirmed that the business case for direct and sponsored access models varies across asset classes, with the market being more mature for repo than for derivatives. The level of maturity of markets also differs across jurisdictions (eg with more traction gained to date in North America than in Europe).

Although more than a decade has passed since the financial crisis, clearing mandates are continuing to bring new entities into clearing as their application widens. As more entities are brought into the clearing landscape, new business cases for providing client clearing might arise under both direct, sponsored and traditional access models. The changing landscape may drive the development of additional new models and the refinement and/or expansion of those currently available. However, industry stakeholders presented a number of proposals for both the industry and regulators in order to facilitate the uptake of new access models and reduce costs.⁹

2.1 Direct and sponsored access models in brief

Historically, client access to CCPs has been indirect and intermediated by CCSPs. Under the “traditional model” of client clearing, the CCSPs are the members of the CCP. Clients access CCP services indirectly through their CCSP. In this role, the CCSP pays the initial and variation margin to the CCP, on behalf of its clients, and contributes to the default fund.

“Direct” and “sponsored” access models or “new access models” provide additional mechanisms for clients to access clearing without a CCSP’s fully-fledged intermediation. Currently, these models fall into two subcategories. First, there are “direct access models” (also sometimes called “special direct models”, as opposed to “regular direct models”) in which the client becomes a clearing member without the need for any assistance or sponsorship by a CCSP. In all known cases, and as discussed further below, the CCP exempts the direct member (who was traditionally considered a client) from the requirement to pay a default fund contribution. This exemption constitutes the difference between such special “direct access models” and traditional, full clearing membership. Second, there are “sponsored access models” (also sometimes called “hybrid models”)¹⁰: in which the client gains more direct access to the CCP, by performing one or more clearing member functions, but still needs the assistance of another clearing

⁸ See Principle 18 of the PFMI.

⁹ Several of these proposals target regulatory areas, such as banking capital standards, which are outside the scope of CPMI-IOSCO.

¹⁰ Some CCPs describe their models as “direct”, even though these models fall within the definition of “sponsored” or “hybrid” models in this report.

member (generally called “sponsor” or “clearing agent”). As discussed further below, in all known cases, the sponsor is at a minimum responsible for paying the default fund contribution related to the positions of its “sponsored member”. The distribution of other clearing member responsibilities varies, as does the impact on the sponsor’s exposures from its sponsored member.

A CCP should permit fair and open access to clearing services with reasonable risk-related participation requirements.¹¹ A CCP may consider solutions, commensurate with risk, to facilitate access for market participants that may have limited access routes.¹² Direct and sponsored access models were designed to address the perceived shortcomings of traditional client clearing. According to the survey analysis and industry outreach, CCPs developed the newer models mainly to provide solutions for the following types of market participants:

1. Buy-side entities (typically pension funds, regulated funds and insurance companies) which find the current costs of client clearing excessive and attribute them, at least partly, to passed-through regulatory/capital costs from CCSPs. These buy-side entities are also unable to become traditional clearing participants themselves, typically due prohibitions on contributing to loss mutualisation mechanisms.
2. CCSPs, which may consider client clearing to be an insufficiently profitable business, given the significant balance sheet costs, and seek other, more capital-efficient ways to intermediate clearing demand.

To address these issues, direct and sponsored access models essentially transfer some, but not all, of the responsibilities of “traditional” client clearing service providers (ie banks, investment firms and other established clearing brokers) to the buy-side, turning the latter into a new category of direct or sponsored clearing participant with its own specific set of rights and obligations.

2.2 Challenges and possible risk implications of direct and sponsored access models

2.2.1 Common feature: shifting responsibility for default or clearing fund contribution

As noted in Section 2.1, all direct and sponsored access models share one key feature: they shift the responsibility for contributing to the CCP’s default or clearing fund.

In sponsored access models, this obligation is fulfilled by a “sponsor”, which pays the default fund contribution to cover the portion of the stressed exposure over the initial margin created by the transactions of the sponsored participant to the CCP. Moreover, in some emerging “sponsored guaranteed” models, the sponsor goes one step beyond by fully guaranteeing the exposures of the sponsored member in case of the latter’s default, thereby shielding the default waterfall resources provided by non-defaulting members and protecting the CCP from losses, at the expense of additional exposure taken by the sponsor due to the unlimited guarantee it provides. In other words, while the sponsored member still provides initial margin during business-as-usual (BAU), if the sponsored member defaults, the sponsor is expected to bear losses on the paid default contribution, and then bear all residual losses. In such cases, CPMI-IOSCO’s understanding is that, as a consequence the sponsor has greater control over the sponsored member’s positions, as compared with a sponsored model without a guarantee. This adds an additional layer of complexity to the sponsor’s operational and risk management

By contrast, in “direct” access models, the CCP waives the default fund contribution requirement. Some CCPs collect a multiplied margin requirement that is equivalent to either full collateralisation, or to a figure that amounts to both initial margin and the default fund contributions of traditional direct clearing members. At other CCPs, neither the new, direct members nor any of the CCSPs contribute funds to offset

¹¹ See Principle 18

¹² See explanatory note 3.18.2 of the PFMI.

the default fund contribution. In this arrangement it is the perceived low credit risk of the new, direct participants (eg public pension funds) that serves as the basis for the waiver.

2.2.2 New types of member require new incentives

2.2.2.1 *Diversity of the risk profile*

Direct and sponsored access models bring new types of entity into the clearing membership of CCPs. Such models could address the concentration issues that arise with respect to client clearing and may also encourage more direct participation in the CCP.¹³

Further, these access models may diversify the risk profile of the direct clearing participant base by introducing new types of direct participant (eg regulated funds, hedge funds, pension funds and insurance companies). Such participants are subject to constraints which differ from those that apply to other direct clearing participants, including legal (eg responsibilities for managing a regulated fund), liquidity (eg pension fund limits on cash holdings) and solvency (eg sectoral regulation) restrictions. A CCP will need to identify, monitor and manage the associated risks.¹⁴ In addition, these “new” participants do not participate in the same way, if at all, in risk-reducing mechanisms at the CCP-level, since a common feature is shifting responsibility for the default or clearing fund to the sponsor or exempting the new, direct participants from contributing entirely or in a traditional fashion. It is therefore important that a CCP assesses the implications of any non-traditional models that it uses or considers using, in order to mitigate the potential for unintended consequences. A CCP should determine whether there are effects that, for example, could hamper the CCP’s ability to manage a default.

While there is consensus on the capacity of new types of member to diversify a CCP’s risk profile, the extent to which this could reduce the overall risks within the clearing system is less clear. On the one hand, allowing clients to access CCPs directly could reduce the concentration of client clearing particularly at large CCSPs, by making these clients direct members rather than sponsored members of the CCSPs. This could potentially reduce the systemic risk arising from the CCSPs being “critical nodes” of the clearing ecosystem. In this regard, a noteworthy feature of these models is the incentive for account individualisation, which in turn provides risk individualisation.

2.2.2.2 *Transparency and delineation of the roles and responsibilities*

As with the traditional client clearing model, the roles and responsibilities of sponsors and sponsored members should be transparently and clearly delineated.¹⁵ Sponsors must also be able to identify, measure, monitor, and manage their exposure to the sponsored member, which requires them to be able to monitor a sponsored member’s creditworthiness as well as liquidity and operational risk management. A sponsor often remains liable for a sponsored member’s performance, while continuing to conduct traditional client clearing in parallel. Thus, there is the potential for a sponsor’s risk exposure arising from the sponsored member to impact the sponsor’s other client clearing business, if not managed appropriately.

Where direct members are exempt from the loss mutualisation pool, and do not contribute to it, the CCP’s and other participants’ risk can increase if such exposures are not otherwise managed and mitigated,

¹³ Explanatory note 3.19.11 of the PFMI provides that “Direct participation in an FMI usually provides a number of benefits, some of which may not be available to indirect participants ...”[w]here an indirect participant accounts for a large proportion of the transactions processed by an FMI, it may be appropriate to encourage direct participation.” A CCP may consider developing tailor-made access models that reflect the activity’s risk profile.

¹⁴ Principle 3, Key consideration 1.

¹⁵ See Principle 2, “[a]n FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and objectives of relevant stakeholders.”]

for example through sufficient other individual prefunded resources. Overall, a balance has to be struck, especially with regard to smaller and potentially less profitable clients: while confining them to traditional client clearing may worsen the identified profitability issues for clearing member banks on this line of activity, these end users may not always be up to the high demands of a direct or sponsored model.

2.2.2.3 Risk management frameworks

There is consensus among respondents that direct and sponsored access models do not require revolutionary changes to CCPs' risk management frameworks. In general, the expectation is that a CCP's overall risk appetite will remain unchanged, but that the CCP should implement additional measures that are appropriate to manage the new, uncovered risks. Sponsored members are subject to the same credit and liquidity requirements, or at least to adapted requirements that are at least as stringent as those applied to regular members. Default fund contributions and default management processes remain the sponsor's responsibility. In adopting such safeguards, CCPs seek to prevent contagion and increases in risk exposures. CCPs also strive to incentivise adequate monitoring of sponsored members' activity.

In direct models, CCPs generally implement mechanisms to limit a direct member's activity, which serves to prevent risk transmission to the rest of the member base. At one CCP, while the holder of a licence to use its direct access model is exempted from initial margin and default fund contributions, it is subject to novation criteria that ensure that the direct member is never a net cash borrower when all payment obligations are aggregated. Another CCP applies the multiplier discussed in 2.2.1 above to generate a direct members' margin requirement, because there is no default fund contribution. Thus the CCP increases the margin it collects by an amount equivalent to the default fund contributions of other clearing participants, maintaining the requisite pre-funded resources. Additionally, some CCPs implement specific features to incentivise a sponsor to monitor closely the activity of its sponsored participants. For example, one CCP requires a sponsor ("agent member") to provide two additional resources: an "agent buffer" and an "agent resource contribution". The agent resource contribution is equal to the default fund contributions that would otherwise be required of its two largest sponsored participants in addition to paying the default fund contribution on behalf of the sponsored participant.¹⁶ There is consensus among respondents that these additional buffers, where available, will increase the alignment of interests between sponsors and sponsored members. In addition, in the above-mentioned "sponsored guaranteed" model that is in development, an additional safeguard that the CCP identifies is the sponsor's actual control of the sponsored member's positions.

From a procedural and regulatory perspective, CCPs need to adjust their rules, policies, and procedures accordingly as they expand clearing membership to new categories of direct participants. Such new types of participants may be regulated differently to traditional CCSPs, with respect to both substance and intensity. CCPs may also need to adjust their financial stability considerations, since under the direct and sponsored access models, a significant number of non-bank financial intermediation sector participants could be affected directly, rather than indirectly.

2.2.3 Potential default of a sponsor and/or sponsored member/direct member

2.2.3.1 Sponsor default

As sponsored access models grow and attract additional participation, risks arising from sponsor concentration might also increase if the number of CCSPs acting as sponsors remains limited. As sponsors constitute a subset of CCSPs, the same access issues can emerge in sponsored models with regard to CCSPs in traditional client clearing models. CCPs will need to build on their existing risk management

¹⁶ This example applies to another CCP's sponsored model (LCH SA), which was being developed for regulatory approval at the time of the survey.

framework for client clearing and to monitor and manage the risks associated with the concentration of sponsored members per sponsor.¹⁷

The frameworks that CCPs have developed to manage the consequences of the default of a sponsor for the sponsored participants vary substantially in their details. Some CCPs require sponsored participants to designate a “backup” sponsor participant ex ante. This backup is often only temporary, however, as the backup sponsor’s scope of responsibilities is generally smaller than that of its predecessor. For instance, the backup will only fulfil a “paying agent” role (ie facilitating the payment of initial and variation margin) and will not be liable for any cash calls related to the sponsored participants’ existing positions. CCPs explain that commercial arrangements between sponsors and their sponsored participants typically take several months to put in place, especially the know-your-customer (KYC) aspects, which can be particularly time-consuming to assess; and that pricing the potential liability of the backup is too complicated for the purpose of shaping an acceptable commercial contract for both parties in the necessary time frame.

If a sponsor defaults, its sponsored participants enter a period where they need to quickly establish a contractual relationship with a new sponsor. The maximum permitted duration of this period varies between CCPs from as short as one day to as long as 10 days and may be combined with a subsequent liquidation period which can be extended to 30 days. During this period, the buy-side entities surveyed generally expected that they would be able to continue paying margins to the CCP, provided they have the necessary operational arrangements. CCP rules are generally in accordance with this understanding. The possibility for a “sponsorless” member to continue paying its margins, to avoid being offboarded while waiting for its positions to be ported, is for some a key advantage of such models, and one which allows them to reduce risk. However, survey responses indicated that sponsors are not completely clear that their interpretation of these CCP rules is correct. Regular testing could increase sponsor confidence in these default rules and increase preparedness.¹⁸

In the sponsor’s default period, it is also expected that any waterfall contribution related to the sponsored participants’ positions, such as a cash call, could be covered by existing pre-funded resources, including buffers provided by the defaulted sponsor. However, if these resources prove insufficient, the sponsored participant(s) would probably be declared in technical default, even while remaining in sound financial condition. To address this potential chain reaction, some CCPs impose rules that further restrict sponsored participants’ activities while they are sponsorless, for example permitting only risk-reducing transactions. Another CCP retains discretion over whether to take active steps to liquidate the sponsored members’ positions or let them lapse.

In the repo markets, where direct and sponsored access models have been most widely adopted, there is a backstop in the event of a sponsor default. Sponsored participants can trade in the non-centrally cleared market, despite sponsor default, because repos are not subject to a clearing obligation. However, by definition, this backstop is not available for derivatives subject to mandatory clearing, without regulatory intervention.

2.2.3.2 *Sponsored/direct member default*

When a sponsored member defaults, the CCP’s default loss allocation arrangements, ie the default waterfall applies. Under the CCP rules, the sponsor is required to absorb losses through the default fund

¹⁷ For example, paragraph 3.19.9 of the PFMI states that “an FMI should also consider establishing concentration limits on exposures to indirect participants, where appropriate”. A CCP may need to consider potential (concentration) effects in the case of the default of a sponsor that was sponsoring a number of sponsored participants.

¹⁸ See Section 2.2.3.3.

contribution paid on behalf of the sponsored member. Additional buffers, applicable in some models, provide further loss absorbing resources that can be used prior to accessing mutualised resources¹⁹.

In addition, when the sponsor provides a guarantee of the sponsored member's obligations to the CCP, some stakeholders identify a sponsor's ability to enforce closeout rights following the default of the sponsored member as key to netting exposures in accordance with the cleared transaction provisions of the capital adequacy rules. On this view, the inability to net exposures would almost certainly lead to liquidation rather than porting. Thus, by promoting porting rather than liquidation, these stakeholders assert that the sponsor guarantee reduces sponsor exposure and mitigates the potential for contagion effects.

In emerging "sponsored guaranteed" models, the guarantee ensures that the sponsor is fully responsible for covering losses associated with its sponsored member's default. Such arrangements thereby reduce the potential recourse to mutualised funds more than sponsored models would without a guarantee. Transparency and clarity with regards to the roles and responsibilities of sponsors engaging in such emerging models remains critical, so that sponsors can manage the risks associated with providing the full guarantee, particularly where the sponsor provides guarantees for multiple entities.

As for direct models, while the probability of the direct member's default is very low, because the member is a public entity or backed by public support, it remains possible that direct members could default. Direct models account for this possibility through multiplied margin requirements, which are set to cover the stressed losses of direct members. If the direct member's margin proves insufficient, the remaining losses would be mutualised among the non-defaulting members and the CCP. Given the lack of the default fund contribution from direct members, the CCP's margin requirement calibration is particularly important, as the CCP manages the consequences of a direct member default.

2.2.3.3 *Common considerations*

Operational challenges may increase as the diversity and complexity of direct and sponsored access models grow requiring careful management. In particular, future challenges for these emerging models may revolve around transparency, deepening mutual understanding of the implications of a default among participants.

One aspect CCPs need to consider is the potential impact of the specific nature of the sponsorship contract and how it might differ from the contracts used in the traditional client clearing model. As with traditional client clearing relationships, the CCP is a third party to the contract between the sponsor and sponsored member. Nevertheless, the CCP must have legal certainty regarding the manner in which the sponsorship contract assigns roles and obligations in the event of default so that the CCP can ensure the effectiveness of its default management rules.²⁰ This is particularly important when considering the case of a simultaneous default of the sponsor and the sponsored member. A CCP should also "be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules."²¹

One way to further such understanding and increase CCP preparedness is to broaden participation in and disclosure of the testing of the models' default procedures. Key consideration 4 of Principle 13 of the PFMI states that a CCP "should involve its participants and other stakeholders in the testing and review of the [CCP]'s default procedures". Since CCPs appear to have discretion with regard to the default procedures for sponsored models, "periodic testing and review" is "important to help the [CCP] and its participants understand fully the procedures and to identify any lack of clarity in, or discretion allowed by,

¹⁹ In one model, the buffer paid by the sponsor is equal to the amount of the stressed losses over margin of the two largest sponsored members.

²⁰ See Principle 1 and Key Consideration 3 thereunder and Principle 13 and Key Consideration 1..

²¹ Principle 13, Key Consideration 2.

the rules and procedures. [...] This is particularly important where [...] the default procedures have never been tested by an actual default".²²

Some CCPs confirm having run default management and portability exercises before implementing new direct/sponsored access models. However, only a subset of other types of market participants confirm taking part in such exercises. Given the discrepancy, CCPs may consider whether their participants understand and would be able to meet their potential obligations in a sponsor default considering the CCP's current disclosures of testing procedures and outcomes. Moreover, in addition to performing periodic testing and review, a CCP could increase its preparedness by performing exercises that test scenarios including (i) sponsor default, (ii) sponsored member default, and (iii) simultaneous sponsor and sponsored member default. Running such tests prior to access models going live and on a continuous basis thereafter, with realistic hypotheses regarding the size and composition of sponsored portfolios, could be an important step for the CCP to ensure that its rules and procedures are practical and effective for managing the risk, both generally and particularly as arising from these models. Such testing may also provide a CCP with a vehicle for clarifying whether additional safeguards are necessary.

2.3 Uptake of new access models

2.3.1 Current varied uptake of new access models

2.3.1.1 *Attractiveness considerations pertaining to client size*

The current uptake of new access models remains limited. Many industry stakeholders assert that while the design of new access models addresses the technical, credit and liquidity requirements applicable to all clients, the needs of small and medium-sized clients are not well captured. Still, these design choices may directly impact uptake, since small and medium-sized clients report facing the most difficulties in finding CCSPs and constitute the majority of market participants seeking clearing services.

However, it remains possible that the limited demand might account for the current limited use of new access models. This may be an instance in which the benefits of direct and sponsored access do not outweigh the costs of clients building out the necessary, complex operational and financial capabilities. It may be that the potential costs and operational challenges associated with direct and sponsored models diminishes the models' attractiveness, particularly to smaller clients, who could benefit the most from additional forms of clearing access.

Smaller clients may benefit from larger clients taking advantage of new access models. To the extent that larger clients' use of the models frees up CCSPs' balance sheet capacity there is the potential for CCSPs to use this capacity to provide traditional client clearing to smaller clients.²³

2.3.1.2 *Sponsor concentration*

The overall scarcity of sponsors mirrors the current concentration of traditional CCSPs. However, the limited number of sponsors could stem from the limited profitability of offering sponsored access. As described above, sponsors often maintain many of the same responsibilities as in the traditional client clearing model. It is unclear whether sponsors have difficulty in recouping the costs of sponsorship from the combination of fees, freed-up balance sheet capacity, and other reductions in capital requirements.

²² See Explanatory Note 3.13.7 to Principle 13. See also CPMI-IOSCO, *Resilience of central counterparties (CCPs): Further guidance on the PFMI – Final report*, July 2017 paragraph 4.2.8: "The CCP should engage regularly with participants to ensure that the participants understand their potential obligations and have taken appropriate steps to ensure that they would be able to meet such obligations."

²³ Analysis of changes in balance sheet capacity to determine whether such capacity has increased since sponsored and direct models were introduced is beyond the scope of this work.

The limited number of sponsors could also be due to limited client demand. Regardless of the cause, CCPs have not reported that they are aware of potential sponsored members struggling to find a sponsor.

There are reports that the concentration among sponsors in the European Union is more significant than in the United States, which could be accounted for by the relative maturity of the US market.

2.3.1.3 Attractiveness considerations pertaining to product classes/markets

The availability and use of new access models varies significantly in different segments of cleared markets. Based upon survey results and industry outreach, the new models seem to be primarily driven by client demand and have gained the most traction in the repo markets. CCPs attribute the success of new access models for fixed income transactions to the balance sheet offsets they afford and the resulting reduction in capital charges when compared with similar activity carried out through traditional client clearing or on a non-centrally cleared basis.

In other markets, particularly in derivatives markets, both the availability of models and their success seem to be quite limited. The banking capital requirements are generally lighter for derivatives than for repos, making traditional client clearing for derivatives less costly for all participants. In addition, recent changes to the banking leverage ratio have further reduced capital charges related to traditional derivatives client clearing. The potential savings are therefore less, making it more difficult to justify the costs associated with new access models. Thus, it remains possible that the uptake of new access models for derivatives will remain limited unless another driver emerges.²⁴

2.3.2 Considerations of different stakeholder groups

2.3.2.1 CCPs

Many industry stakeholders expressed the view that direct and sponsored access models are designed in a manner that restricts benefit to certain types of large, sophisticated clients that have resources to address operational, capital, and liquidity requirements. In fact, the design choices may reflect CCPs' prudent risk management decisions, intended to limit the CCPs' exposure to participant risk.²⁵ CCPs may appropriately seek to limit participation in these models to certain categories of clients that have the requisite resources to manage the associated risks.

In the models analysed, several different types of eligibility criteria based on risk management considerations exist that could present a potential barrier to access in these models and be a driver of limited participation. For example, at one CCP, eligibility criteria for fixed income transaction membership are aimed at public entities that demonstrate sufficient and continuous activity in the jurisdiction's repo market for a minimum of three years. At another CCP, a financial institution, pension fund or investment fund entitled to clear repo transactions and OTC interest rate derivatives must fulfil all general prerequisites for a clearing licence and have sufficiently qualified staff with knowledge of clearing in order to qualify for a licence under the new clearing model. In addition, such participants are subject to certain additional operational and capital requirements. Another CCP offers a clearing membership to credit institutions with a valid banking licence and non-credit institutions with an appropriate licence issued by the central bank for the FX and securities spot markets. Trades cleared via this membership are subject to full pre-funding, thereby reducing risk for the CCP. Still other CCPs constrain the net position of the direct/sponsored member or only grant such accesses to supranational or government-backed entities.

²⁴ However, one cannot definitely conclude that capital changes alone negatively impacted the attractiveness of new access models for derivatives based upon the inputs collected for this report.

²⁵ See Principle 18 and Key Consideration 2 thereunder.

2.3.3.2 CCSPs/sponsors

Similarly, limited uptake from the CCSP/sponsor perspective may reflect CCSPs' risk management considerations. Indeed, these choices may reflect efficiencies as compared with other mechanisms that can provide clients with benefits similar those intended to be gained from sponsored and direct access models. From the CCSP/sponsor perspective, new access models might be more difficult to manage than traditional client clearing from an operational, credit, and liquidity risk perspective. One CCP attributes the limited uptake of its sponsored access model to the efficiency of the current type of individually segregated account provided by CCSPs to their clients through traditional client clearing. This individually segregated margin-flow co-mingled account (ISOC) provides a simple legal structure and yields operational efficiencies for CCSPs. ISOC accounts provide protections from CCSP defaults, which may be similar to those achieved through participation in direct and sponsored access models, but with less operational complexity and more legal certainty. Other limitations might arise from seeking to avoid the legal and risk management implications arising from sponsorship obligations and the provision of guarantees.

2.3.3.3 Clients

For clients, risk management considerations may not be the sole driver of low participation in direct and sponsored access models. There also may be regulatory restrictions that prevent them from participating or make participation unfeasible and/or cost-prohibitive.

Pragmatic and commercial aims may have led to the wide variety and complexity of new access models, including their risk management procedures, but this complexity also has the potential to limit the models' use. Smaller, relatively less sophisticated clients may not always be able to understand fully the responsibilities and the associated risks of participation. Some buy-side entities and CCSPs note that capital commitments and operational costs (eg IT and legal administration), represent cost and risk-based deterrents to the use of these models by small clients, particularly where clients perceive the costs and risks associated with new access models to be higher than those for traditional client clearing. The legal complexities of obtaining and maintaining sponsored access might themselves be a barrier to uptake.

For some clients, the inability to comply with certain sectoral regulations might be the primary restriction on participation. For example, in the United States, state regulators prohibit life insurers from granting liens on assets that are held for life insurance policy beneficiaries. It is unclear, under a direct access model, whether creditors (the sponsor and / or the CCP) are granted claims that are senior to those of the policy holders, which would qualify as a lien. Thus it is unclear whether participation in the models can be reconciled with these regulations.

In the derivatives markets, while new access models seem to address the regulatory constraints of client categories that are barred from contributing to mutualised loss-sharing arrangements, they do not solve other problems that potential participants face. In particular, pension funds note that they face operational and investment constraints on the active management of liquidity needed for meeting cash variation margin and intraday margin calls. This issue remains in spite of new access models.

2.4 Forward-looking perspectives and next steps

2.4.1. Future demand for new access models

Industry stakeholders consider several factors in determining whether to use and offer new access models. Stakeholders must weigh the costs and benefits associated with these new models to determine whether there is a business case for participation. The outcome of such analysis varies for different products and markets, by participant size, and in consideration of applicable regulatory frameworks, including capital charges and sectoral-specific rules.

The heterogeneity of the business, operational and risk profiles of the various industry stakeholders makes it difficult to draw concrete conclusions regarding precise cause and effect relationships regarding these new models. This paper identifies potential drivers of current activity levels, but the inputs for the work did not provide a basis for projecting a clear trajectory for future developments. CCPs are continuing to develop new models, but it remains to be seen what impact on access these models will have in the longer term.

Since these models seem to be offered in response to client demand, it is plausible that, if that demand were to grow, new models will spring up to meet it, not only in the repo markets where the demand is currently felt, but in other markets too. However, the demand from smaller clients may not have as strong commercial influence on the services offered by CCPs as the requirements of larger, more sophisticated clients would. Accordingly, new access models may not be a solution for increasing smaller clients' access, even with increased demand.

However, as clearing mandates expand and bring new types of end-users into the clearing market, there is the potential for growth opportunities for direct and sponsored access models. For instance, pension funds in the EU will be subject to the clearing obligation starting in June 2023, which will diversify the type and sizes of entities seeking access to clearing. In addition, new counterparties seeking to reduce costs incurred from non-centrally cleared trades may choose to centrally clear following the final implementation of the BCBS-IOSCO margin requirements for non-centrally cleared derivatives. Further adjustments to Basel III capital regulations and supervisory regulations could also impact the uptake of new access models.

Thus, as demand for clearing increases generally, demand could potentially increase for new clearing access solutions too, including for market participants with limited access routes. In this context, it is also possible that direct and sponsored access models may provide a "stepping stone" for new types of entities to become full clearing members in the future. Regardless of the mode of growth, in considering the further development of direct and sponsored access models and other potential access solutions, CCPs should continue to permit fair and open access to clearing services with reasonable risk-related requirements.

2.4.2. Potential actions by the industry to facilitate uptake of new access models

CCPs continue to develop and enhance direct and sponsored access models. Three major CCPs are creating a more secure sponsored guarantee model in which the sponsor provides an unlimited guarantee in the event of its sponsored member's default, in exchange for the sponsor's control of the sponsored member's positions. This additional safeguard would allow the onboarding of sponsored members with lower credit standing, while further eroding some differences with traditional client clearing. However, the sponsored guarantee model's success may depend on the capital and leverage treatment of any guarantee provided as a condition of CCSPs offering such a service.

Further standardisation and harmonisation of legal documentation and IT onboarding procedures may also improve the models' attractiveness to clients. Some buy-side participants suggest that models could change in such a way as to remove a sponsor's obligation to participate in the default management process (as in default auctions). Some CCPs envision further involvement from sponsored members in default management, in order to reduce the burden on CCSPs.

The industry may also explore its own catalysts, including innovative ways to facilitate the covering of margin requirements by third parties. One industry association suggested that smaller clients could align their interests in a "cooperative legal structure" in order to leverage economies of scale and collaborate with each other in the performance of their daily obligations to the CCP.

2.4.3. Industry's recommendations for regulatory changes

Industry stakeholders presented a number of proposals to regulators that could improve access to clearing generally and/or particularly facilitate the uptake of new access models. While several of the proposals are outside the scope of the specific issues considered in this paper, they are described below.

2.4.3.1 *Facilitation of new access models*

CCPs have identified several regulatory adjustments that could facilitate the uptake of new access models. These include the clarification of sectoral-specific regulation for insurance and funds, extension of the clearing obligation to pension funds, and clarifications regarding the application of Basel III requirements.²⁶

2.4.3.2 *Traditional client clearing*

Some market participants (in general, CCSPs) favour a fundamentally different approach to improving access and reducing CCSP concentration risk that does not involve facilitating new access models. Rather, these market participants seek to encourage new CCSP entrants and promote greater levels of activity among existing players, by introducing measures to increase the attractiveness of offering traditional client clearing services. Essentially, this would entail expanding the use of the traditional "agency" clearing model, and reducing that of the "principal" clearing model.²⁷ This in turn would ease the balance sheet constraints that CCSPs face, such as the G-SIB score.

2.4.3.3 *Enhancing client access through regulatory deference and substituted compliance*

Some industry stakeholders observed that the capital and fee costs borne by the foreign CCSPs can be prohibitive where, instead of deferring to the CCSP's home jurisdictions through a form of substituted compliance, jurisdictions impose full registration and supervision requirements on foreign CCSPs that provide client clearing services to local clients. These stakeholders propose that jurisdictions consider increasing regulatory deference and opine that a regulatory change on these lines could increase the availability of client clearing services, enhance market liquidity, and help clients to utilise the risk mitigation benefits of central clearing to hedge their business risks.

3. Porting

Upon a CCSP's default, a CCP must promptly port or liquidate the client accounts; a CCP does not function as a CCSP and is not set up to manage accounts of non-participants or associated risk exposures. While a CCP may tolerate hold a client account for a short time, if no CCSP agrees to take the client account or the client account is under margined, a CCP must liquidate the client positions of the defaulting CCSP. Unfortunately, there are cases in which the forced liquidation of a defaulting CCSP's client positions is the only viable option, such as when a CCP cannot obtain the required client consent. Porting is also unnecessary for very short-dated positions, where the applicable client positions will settle before porting can be completed.

²⁶ In particular, industry stakeholders propose amending banking regulations to clarify that unfunded contributions (eg cash calls) do not contribute to the leverage ratio's exposures. They also suggest revising the Basel preferential risk-weights for client trades in order to incentivise direct clearing.

²⁷ As explained in the DAT Report, in the principal-to-principal model, a centrally cleared client trade is made up of two parts or "legs"; a trade between the client and its clearing member; and a matching trade between the clearing member and the CCP. In the agency model by contrast, there is one trade between the client and the CCP, and the clearing member guarantees the performance of the client to the CCP (see DAT Report p63, footnote 66).

Still, there is a general consensus that forced liquidation is an undesirable outcome for the liquidated accounts and for the market generally. Some accounts contain positions used to hedge the account holder's overall trading or business strategy. Liquidating these offsetting trades, but not the underlying positions or commitments, creates unwanted risk exposures. Forced liquidation of accounts with speculative positions may, temporarily or permanently, remove a market participant who otherwise could have continued to carry market risk at a critical time. In both cases, the liquidation could exacerbate price volatility and stress market participants. Further, forced liquidation may lead some clients to question the value of the clearing model or even avoid clearing in cases where it is not mandatory. Putting in place effective practices to facilitate porting therefore reduces the costs and potential market disruption associated with closing positions, preserves clients' access to central clearing, and reinforces the value of clearing for clients.

3.1 Potentially effective porting practices

Through survey analysis and industry outreach, two factors consistently appeared likely to support successful porting in the event of a default: pre-emptively identifying potential alternative or back-up CCSPs (by either the client or the CCP's analysis), and employing account structures that facilitate fully margined client positions.

An important factor in successfully porting after a default is the ability to prearrange or quickly identify another CCSP or other CCSPs while non-defaulted clients maintain sufficient margin. This is because a longer porting window exposes the CCP to more market risk. CCPs have implemented two approaches in this regard. Some CCPs rely on a client to identify an alternative or backup CCSP.²⁸ A CCP may also maintain its own analysis to identify the CCSPs most likely to accept certain clients of a potential defaulting CCSP (a "game plan"). For both approaches, some jurisdictions have legal frameworks that facilitate porting, subject to finding transferee CCSPs promptly. Thus, the efforts of CCPs to organise transfer arrangements, with participation from CCSPs and clients as needed, can be crucial to the success of porting within an acceptable timeframe and avoiding the consequences associated with liquidating positions in a stressed market.

3.1.1 Alternative or backup CCSPs for clients of defaulted CCSPs

Where a client has identified an alternative or backup CCSP, a CCP's porting process in the event of a default may be streamlined, and the client may have more control over its porting process. Accordingly, many CCPs encourage clients to identify a backup or multiple backup CCSPs. At least one CCP imposes a higher default fund requirement on a CCSP that has clients without a backup CCSP, reflecting the higher burden that would be associated with default management. The increased cost for such a CCSP incentivises it to actively consider how the CCP should address its portfolio of clients in the event of its default.²⁹ One CCP also suggested other ways of incentivising the use of backup CCSPs, such as adjusting margin requirements, using position limits, juniorising default fund contributions, or reducing the variation margin gains haircuts applied to CCSPs that have clients with backup CCSPs.

To the extent that a CCP intends to incentivise clients to make backup CCSP arrangements (whether by the clients directly or indirectly through the clients' CCSPs), the CCP should clearly outline the circumstances in which an alternative or backup CCSP is encouraged or required. The CCP should provide

²⁸ The report uses the term "alternative or backup CCSP" throughout. The term alternative CCSP suggests the two could be switched for any number of reasons. For larger traders with more than one BAU CCSP relationship, one can describe these CCSPs as "alternatives" for each other. The term "backup CCSP" suggests the client turns to this CCSP only when there is a problem with the client's primary CCSP. In survey responses, clients described the use of both alternative and backup arrangements. Generally, the type of arrangement does not affect the analysis set forth in this paper. Where the type of arrangement is a relevant factor, it is specified below.

²⁹ In raising the default fund contribution, which is paid by the CCSP, costs are not directly passed to the CCSP's clients.

a clear explanation as to how a CCSP could qualify as an identified alternative or backup. CCSPs and clients need to have a clear understanding of the implications of clients not having an alternative or backup CCSP, not just as a general matter, but also specifically regarding the application of the CCP's rules, so that the CCSPs and clients can identify, measure and monitor costs and the associated risks.

Typically, the selection of an alternative or backup CCSP indicates the client's consent to have its positions ported to the particular CCSP. Further, a CCSP that has agreed to be an alternative or backup is more likely to accept the client's positions held at a defaulting CCSP. However, an alternative or backup CCSP typically does not guarantee that it will accept any or all of the positions that need to be ported in any particular circumstance.

For larger clients, the costs of establishing an alternative or backup CCSP arrangement can be minimal. Larger clients are more likely to have pre-existing relationships with multiple CCSPs for other business reasons. If a large client's CCSP defaults, the client may reasonably expect its other CCSP(s) to accept the client's positions from the defaulting CCSP, at least on a temporary basis. The pre-existing relationships thereby create de facto alternative or backup CCSP arrangements for the client.

For smaller clients, alternative or backup CCSP relationships may not be feasible. Clients that have only one active CCSP relationship may not be able to offset the costs of maintaining another active CCSP or alternative or backup arrangements to an extent that justifies the benefits. Some clients may assess the risks and costs of liquidation following the default of their CCSP to be manageable and of sufficiently low probability that any increased spending on CCSP arrangements is not warranted during BAU. From the CCSP perspective, the costs of establishing an alternative or backup clearing relationship with a client are no different to those associated with establishing primary client relationships. Alternative or backup relationships can be less profitable than primary client relationships because they do not generate ongoing business revenue from active clearing. Thus, alternative or backup CCSP arrangements may not be feasible for smaller clients, even where a CCP has implemented measures to incentivise the establishment of such relationships. Where a CCP is considering the implementation of rules, policies and procedures to incentivise the establishment of alternative or backup CCSP relationships, it should consider the implications for clients of all sizes.

3.1.2 Game plan

A CCP can formulate a game plan in advance for allocating the clients of a potential defaulter to CCSPs that are likely to be willing and able to accept the clients. At least one CCP currently employs this approach. Developing a comprehensive and realistic game plan requires the CCP to have a thorough understanding of (i) the client base of each potential defaulting CCSP; (ii) the client clearing capacity (eg capital, credit and liquidity) of its CCSPs; (iii) the probable willingness of CCSPs to accept particular clients of other CCSPs following a default; and (iv) regulatory constraints that might prevent CCSPs from accepting the portfolios of particular clients (eg market participation, position limits). To formulate a comprehensive and realistic game plan, a CCP must also consider the specific application of the relevant insolvency framework and client collateral protection regime in the event of a CCSP default. In addition, for a game plan to be as successful as possible, the analysis must be regularly updated, and would typically benefit from frequent communications regarding the plan between the CCP, CCSPs, and clients, as far as the applicable confidentiality requirements permit.

Again, the mere identification of CCSPs in a game plan does not guarantee acceptance of any or all of the client positions following an actual default. While a game plan may be based upon the best assumptions a CCP can make in preparation for a potential default, CCSPs must make risk management determinations following an actual default to ensure that they can manage the risks and legally accept the clients. Moreover, confidentiality protections also restrict the sharing of non-hypothetical client information during planning stages. These limitations notwithstanding, where a CCP can undertake a comprehensive and realistic game plan analysis during BAU, the CCP can improve its preparedness for a potential default and thus improve the probability of successful porting. When a default appears imminent,

the CCSP and CCP will agree that an event of default will be declared and clients would benefit from being ported rather than have their positions liquidated, and that specific client information may be shared with other relevant parties, as necessary and permitted under applicable law, to expedite the porting process.

The game plan approach has been primarily focused on “bulk”, rather than individual, transfers, whereby the entire set of clients, or a portion thereof, is transferred with the CCSPs unable to “cherry pick”. Some CCSPs are more likely to accept less profitable smaller clients as part of a group that also contains larger more profitable clients. This approach does not rely on any single CCSP, but rather a suite of CCSPs, as appropriate to the characteristics of the client portfolio. The CCP can transfer the clients to a single CCSP among those it has identified or to multiple CCSPs, depending upon the set of clients and the condition at the time of default of the alternative or backup CCSPs. Thus, the game plan approach ultimately maintains the CCP’s flexibility as it is not dependent solely on a client’s alternative or backup CCSP agreeing to accept its positions in the default scenario.

In some situations, the CCP may be able to employ a mixed strategy relying on alternative or backup CCSPs for individual clients with such relationships, while developing a game plan approach focused on the bulk transfer of the other clients. Such a strategy permits a CCP to account for client preferences in addition to benefiting from the more comprehensive game plan approach. A CCP would need to consider whether a mixed strategy could jeopardise the success of porting more broadly, and thus complicate the CCP’s risk management following a CCSP default. These risk management decisions are primary; whatever decisions a CCP makes following a CCSP default – bulk transfer, porting individual clients while liquidating others, or full liquidation – must serve to manage the CCP’s exposures vis-à-vis the defaulted CCSP. It is therefore plausible that a CCP may determine, based on the facts and circumstances of a particular CCSP’s default including the applicable regulatory framework, that a bulk transfer approach provides the best means of reducing the CCP’s exposure and that the CCP cannot reasonably accommodate client preferences, even when a client’s preferred CCSP would have accepted its account.³⁰

Where a CCP can port clients without first obtaining the client’s explicit or implied consent the odds of successful porting improve. A client can port to its desired CCSP later, following the initial post-default port, using BAU procedures. In jurisdictions that require a CCP to first obtain explicit consent to transfer positions and/or collateral for certain or all account types, the utility and effectiveness of any advanced planning arrangement to facilitate bulk transfers may be limited.

3.2 Payment mechanisms that may facilitate porting

Some CCPs employ mechanisms that permit clients to make direct payments and/or maintain excess collateral, which may facilitate porting by easing clients’ ability to ensure their accounts are fully margined.

3.2.1 Direct payments

In the traditional client clearing model, the CCP has no contractual relationship with the client and all clients may not be disclosed to the CCP. Nevertheless, some CCPs permit clients to make direct payments. In order to establish a direct payment mechanism, a CCP must, at a minimum, have contact information for participating clients. Offering the ability to make direct payments could benefit the CCP: a client that makes a direct payment to a CCP is likely to extend the time available to be ported, subject to jurisdictional regulatory constraints.

³⁰ Following the initial transfer, the client may establish a contractual relationship with a new CCSP and port on a BAU basis, rather than continue the relationship with the bulk transferee. When time is not of the essence, and the consequences of liquidating positions are not at issue, clients may have the time to establish such longer-term relationships. This report does not intend to cover such relationships.

The potential success of direct payment mechanisms is likely to increase when established during BAU, prior to the CCSP default.³¹ Indeed, one CCP facilitates direct payments through a client account structure in which non-cash collateral is delivered directly to the CCP as part of its normal operations.

Even where a direct payment route would be used only in the event of a CCSP default, the likelihood of success increases when the mechanism is clearly defined prior to default and the functionality is regularly tested.^{32, 33} Testing could range in complexity from confirming client contact information to performing actual transfers. However, testing requires resources from CCPs and clients. The costs associated with maintaining and testing direct payment mechanisms for clients might not be commensurate with the perceived benefit. Moreover, many clients, particularly smaller clients, might not have the capacity or resources to maintain the requisite operational arrangements for direct payments. A CCP may similarly consider whether permitting clients to make direct payments strengthens the risk management framework when viewed holistically, such that the associated costs would be warranted.

3.2.2 Excess collateral

A CCP may be able to extend the time to port a client account when it can rely on excess collateral attributable to individual clients, subject to jurisdictional restraints. Excess collateral provides a buffer that may be applied to a client's collateral requirements, even where those might change during the course of default management, thereby increasing the likelihood that the account will be fully margined or nearly so.

Using excess collateral in the event of CCSP defaults may have several advantages as compared with using direct payments. Excess collateral may be posted to a CCP by a CCSP as part of the day-to-day intermediation that CCSPs perform for their clients, consistent with the traditional client clearing model. Using excess collateral following a CCSP default therefore does not require a CCP and client to engage in a relationship that is out of the ordinary for the traditional client clearing model. In addition, using excess collateral may be operationally less complex than direct payments as it would not require setting up a direct payment mechanism that is not used during BAU.

There are also drawbacks associated with using excess collateral. First, the number of clients who can use excess collateral is limited to those holding excess collateral in accounts where the excess collateral funds are segregated for individual clients and cannot be used to cover the defaulting CCSP's liabilities. In contrast, the client account type is not subject to any restriction on direct payments. Excess collateral also comes at an additional capital cost for the account holder. Excess collateral that is held at the CCP is capital that cannot be used for other purposes. While direct payment mechanisms require operational investments to maintain, they do not require the same types of capital commitment. Finally, because excess collateral is held on behalf of the client at the client's initiative, the client may, without restriction, withdraw the collateral during a period of stress, thereby reducing its effectiveness for use in porting.

While permitting direct payments and using excess collateral often have contrasting costs and benefits, a CCP could implement both approaches where consistent with applicable law, to increase the probability that client accounts will be fully margined and reduce barriers to porting following a CCSP default.

However, according to survey results and industry outreach, there is a range of factors that impede porting in the event of a CCSP default. While a CCP's preparations during BAU may allow it to overcome

³¹ While it is theoretically possible that the defaulted CCSP could provide assistance to its clients and facilitate payments to the CCP, where the defaulted CCSP is insolvent or facing insolvency, there is almost no likelihood that the CCSP would do so.

³² Based on the CCPs surveyed, direct payment arrangements have not been tested in an actual default.

³³ As with any default management tool, regular testing, at least annually, to review the procedures with participants and other stakeholders would help to improve the practicality and effectiveness of such arrangements, consistent with Key consideration 4 of Principle 13. See also the Explanatory Note 3.13.7 to Principle 13 and Section 4.3.2 below.

some porting challenges, product constraints, balance sheet availability, and the low profitability of providing clearing services to certain clients will hinder many CCSPs from receiving ported clients. In fact, surveyed CCSPs overwhelmingly responded that, due to these constraints, it would be difficult for a CCP to quickly identify CCSPs willing and able to accept clients should one of the largest CCSPs default. Multiple CCSPs would likely be needed since it is unlikely that a single CCSP would be willing or able to absorb all of the defaulted CCSP's clients. Moreover, some factors such as a CCSP's capital and leverage constraints may change unpredictably in a stressed market, undercutting a CCP's ability to make preparations during BAU.

3.3 Factors that may facilitate or constrain portability

Some CCPs offer account structures that make it more likely that the account will be fully margined, and therefore facilitate more efficient porting. Client consent requirements are often, but not always, related to certain types of account structure. Depending upon the structure in which client consent is provided, consent may increase the chances of a successful transfer or severely limit any opportunities to port. In the survey responses and industry outreach, many CCPs identified regulatory impediments, insolvency frameworks, and collateral transfer, as other potential factors that may promote or hinder porting.

3.3.1 Account structures and margining arrangements

Many CCPs offer clients the choice to select from different types of segregated account structures, some of which increase the probability of porting successfully. For example, an account that segregates one client's margin from other clients' margins is likely to be easier to port than commingled accounts, increasing the likelihood of a successful porting.

Similarly, gross margined accounts (but with mutualised risk) may also be relatively easier to port than net margined accounts. In gross margined accounts, individual clients should each have sufficient collateral at the CCP to fully margin their positions. Porting such clients would not require the receiving CCSP to post additional collateral. Typically, in this situation, the margin requirements would not change, despite the transfer.³⁴ Thus, margin requirements would not require additional calculations. Calculating the impact on a CCSP's capital requirements of receiving ported client positions is also simpler for gross margined accounts than for net margined accounts.

In contrast, net margined accounts may be more challenging to port than gross margined accounts. For accounts with net margining, the margin requirements for a particular client may be reduced as such requirements are netted against the other clients' positions. If the client accounts subject to net margining change as the accounts are transferred, either by including additional accounts or by splitting the accounts, the margin offsets could change. Where margin offsets change, there is a risk that the client's margin requirement will increase and the collateral held for such an account may be inadequate at the receiving CCSP(s). In such cases, the transfer would require additional capital from the receiving CCSP to ensure that the positions are fully collateralised.

It is likely that porting positions in net margined accounts will take more time than for those that are gross margined. CCPs and CCSPs would need additional time to calculate and consider the impact of transfers. In jurisdictions that offer net margining for client accounts, the clients in the net margined accounts would probably have to transfer together to a CCSP collectively or lose their margin offsets.

³⁴ In the unlikely scenario that a client's gross margined account needs to be split because no CCSP is willing to receive the full account and the account must be split in such a way that causes the client to lose off-setting margin benefits, then the client's aggregate margin requirement would increase. Also, a ported client account may be subject to additional add-on margin requirements depending on the receiving CCSP's specific risks associated with the client's portfolio, including concentration risks, due to large positions that are hard to liquidate, and to wrong-way risks, due to a correlation between the loss on the position and the CCSP's risk of default.

In practice, CCPs have successfully ported both gross margined and, in at least one case, net margined accounts following a significant CCSP default. The CCP that transferred net margined accounts described the process as challenging, noting the significant effort required of all involved stakeholders to reconcile the client positions.

3.3.2 Client consent

Consent requirements can hinder a CCP from porting clients successfully. In jurisdictions that require pre-transfer consent and offer net margining for clients, unanimous pre-transfer consent from all of the clients is necessary to move all the clients to a single CCSP, keeping any additional margin required to a minimum. Thus consent may act as a barrier to porting in addition to the risk of losing margin offsets. If one client acts separately from the others in the account, all of the clients could be affected. Depending on the size of an account and whether there are undisclosed clients, a CCP may not be able to obtain the required consents when needed.³⁵ To avoid causing a margin shortfall and the attendant consequential risks, a CCP may not be able to split net margined accounts and port the individual clients who gave consent.

One CCP noted that the costs associated with shifting to gross margined accounts may outweigh the benefit of increased portability.

Despite the challenges, a CCP may consider solutions to improve the likelihood of porting clients successfully, even where explicit consent is required. A CCP may consider creating a protocol to contact clients quickly if their CCSP defaults. Such a communications protocol may have benefits in default management more generally. A CCP may also explore if and when clients may contractually give advance consent consistent with applicable law. One CCP proposed regulatory changes that might reduce barriers to porting that arise from client consent. This CCP's proposal recognises benefits from obtaining advanced consent, but suggests some limitations that could protect clients and allow them to assert their interests. The CCP suggests that a regulatory framework could provide for an abridged or negative consent process which assumes consent, but permits clients to opt out if they explicitly object. Alternatively, regulatory frameworks could permit advance consent to one or more backup CCSPs, although this may not facilitate bulk transfers generally for porting.³⁶ Developing client consent protocols would not necessarily exclude "bulk" port arrangements, but could provide a means by which clients can consider whether they would prefer their positions to be liquidated rather than transferred, immediately after a CCSP default.

3.3.3 Regulatory impediments to successful porting

The vast majority of CCPs and CCSPs indicated in survey responses and industry outreach that KYC and anti-money laundering (AML) requirements are barriers to efficient or successful porting. Yet, porting could be facilitated through temporary waivers permitting reliance on prior approvals in respect of AML/KYC requirements when receiving clients in a default scenario, as seen currently in one jurisdiction.³⁷

Similarly, a number of CCSPs also noted that jurisdictional capital requirements hinder them from receiving large ported portfolios, which is problematic in cases where account structures encourage bulk transfer. These CCSPs stated that temporary relief from capital and leverage ratio requirements would serve to enhance the porting process and increase the willingness/ability of CCSPs to receive ported clients. Temporary relief from other regulatory requirements, such as position limits may also be

³⁵ While CCPs and CCSPs often have some flexibility in how the client accounts are structured, generally a jurisdiction's laws and regulations determine the permitted account structures and margining methods as part of an overall regulatory framework.

³⁶ Similarly, a legal framework that provides for judicial approval of transfers from an insolvent CCSP without requiring the clients to give consent may facilitate porting.

³⁷ The United States provides a temporary waiver for CCSPs from KYC requirements in 17 C.F.R. § 190.07(b)(3) (stating that the CCSP may accept open commodity contracts and property, and open accounts on its records, for customers whose commodity contracts and property are transferred prior to completing customer diligence provided specified conditions are met).

appropriate. CCPs may also consider the impact of transfers on concentration charges and other risk management measures, subject to proper risk assessment.

Some CCPs and their industry association contend that current cross-border recognition requirements also impede porting. In their view, current cross-border recognition regimes limit the number of CCSPs that may be available to receive clients post-default. They assert that revising these regimes to increase regulatory deference for comparable regulatory frameworks across markets could increase the number of CCSPs at CCPs, thus providing domestic and non-domestic clients with more potential alternative CCSPs in a default.

3.3.4 Insolvency framework

In survey responses, a few CCPs noted that a government assigned insolvency officer and court may need to review and approve some client and collateral transfers. Insolvency frameworks and the power assigned to insolvency officers and courts vary by jurisdiction.³⁸ A CCP's porting process must account for its regulatory status, and consider interactions with the insolvency officers and courts. Specifically, a CCP should consider delays due to the review process and possible denial of the transfers under applicable law. Pre-planning by the CCP and relevant authorities for an expedited insolvency court process could support porting, in that the insolvency court's approval of a transfer could facilitate the process by providing assurance to the transferees.

3.3.5 Collateral transfer

In some porting arrangements, collateral and client positions are not moved at the same time, which may result in under-collateralisation at the receiving CCSP. This is often the case when a legally assigned insolvency officer must sign off on the collateral transfer. Most clients indicated a willingness to pay double the margin (at the defaulted CCSP and the receiving CCSP), which is one way to alleviate this problem if the timing issue cannot be solved. As described in more detail in section 3.2.1, a CCP can facilitate porting for under-collateralised account by offering clients the option to make direct payments.

3.4 Fundamental principles that support portability

Several principles underpin successful porting: transparency, efficiency and effectiveness, and testing.

3.4.1 Transparency

In survey responses and industry outreach, CCPs, CCSPs, and clients disagreed on the need for more transparency in the porting process. Both CCPs and CCSPs reported that their processes are adequately transparent via regulatory disclosures.

Clients expressed a different view, stating that they did not have sufficient understanding of the porting process. However, client responses also implied that their expectations regarding transparency may not be well developed.

Transparency, focused on disclosures, may be an area in which CCPs, CCSPs and clients can work collectively to determine clear communication processes prior to and during porting processes. Additionally, clients could benefit from improved education on all the constraints on CCSPs (capital or business focus, operational, legal etc) and account structures that affect successful porting, as well as general steps that clients can take to reduce the chances of their positions being liquidated if their CCSP defaults.

³⁸ For instance in the United States, customer porting upon a CCSP default requires a bankruptcy court's approval.

3.4.2 Efficiency and effectiveness

A CCP should consider the efficiency and effectiveness of its portability processes.³⁹ Since porting a large number of clients quickly can be challenging, CCPs and CCSPs should also seek to implement practices to streamline the porting process, including the client onboarding and risk assessments in the event of a default.⁴⁰ Streamlining may potentially be accomplished through coordination and harmonisation.

3.4.2.1 Coordination

Among industry representatives, there is a broad consensus that coordination, in combination with transparent communication, is of great importance, in both BAU and emergency situations.

Principle 23 generally and Key consideration 4 of Principle 14 speak to the types of disclosure that FMIs should make to their participants and beyond. In support of these broader transparency objectives, a CCP should consider the appropriate degree of communication and coordination before and during the porting process.⁴¹ A CCP may consider implementing one or more potential options to improve the level of communication and coordination in order to increase portability.

Specifically, a CCP may consider establishing ex ante agreements with other CCPs and known clients, in order to provide a mechanism to expeditiously and effectively share the client information that would be necessary for porting after a CCSP default. Such agreements may mitigate the barriers that confidentiality restrictions apply to porting, without weakening the protections provided by confidentiality requirements. Maintaining communication protocols and contact lists may also increase default management preparedness generally, facilitate solutions to extend the porting window, and mitigate barriers to porting that arise from the nature of intermediation in the traditional client clearing model. CCPs maintain and regularly update contact information for their CCSP members. As noted above, a CCP may consider maintaining and regularly updating similar contact information for the known clients of CCSPs. These lists may include both BAU contacts and contacts in the event of the CCSP's default. Some CCSPs noted that they would benefit from a CCP providing CCSPs not only with CCP contact lists but also with escalation trees that clarify who is responsible for particular communications in the event of default.

Many CCPs indicated that their current practice is to disclose a CCSP default to other CCPs, and that they seek to coordinate when porting the defaulting CCSP's clients to a single CCSP to the extent possible. CCPs expressed support for expanding this information-sharing among CCPs in order to reduce barriers to porting and client onboarding. Nevertheless, there are significant regulatory factors to consider, including natural restrictions resulting from legal and confidentiality constraints, different local regulatory requirements, different time zones, lack of MoUs between home authorities of the CCPs and CCSPs, and differences across CCPs (in terms of products/markets cleared, default management procedures and margin period of risk, MPOR, etc). Different insolvency regimes in cross-border cases must also be taken into account. Where CCPs disclose a CCSP default among themselves, prior to the market, commercial confidence is also relevant.

³⁹ Principle 21 addresses efficiency and effectiveness generally, while Principle 14 pertains to segregation and portability arrangements. In particular, the explanatory note 3.14.16 discusses efficiency in the context of the transfer of positions of collateral.

⁴⁰ As porting of a single client from one non-defaulting CCSP to another CCSP is common, porting is not primarily an operational problem (although CCPs acknowledge that porting a large volume of accounts at a time of market stress would be challenging).

⁴¹ Principle 23 addresses transparency while Key consideration 4 of Principle 14 addresses the disclosure of "rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral...[as well as] any constraints, such as legal or operational constraints, that may impair [the CCP's] ability to segregate or port a participant's customers' positions and related collateral".

A concrete example of CCP coordination and cooperation is participation in the Default Risk Management Working Group,⁴² which seeks to coordinate default management processes, including client porting. Additionally, there may be ways in which CCSPs can help to facilitate coordination. The defaulting CCSP may be in a position to help coordinate porting client positions where clients clear at several CCPs. Although it may be constrained by applicable law, the defaulting CCSP does have all the client information and the CCPs cannot share CCSP position information. Non-defaulting CCSPs may also support the porting process, such as by proactively contacting the relevant CCPs and indicating their willingness to take over positions and/or clients, or by responding expeditiously to requests to accept clients.

According to survey responses and industry outreach, some clients ask CCPs to coordinate both the decisions to port and the associated timing for the porting or liquidation of their accounts. Particularly if porting is unsuccessful and positions must be liquidated, the timing of these actions can be coordinated so as to help minimise clients' market risks from possible offsetting exposures across CCPs. Coordination in this context could include expanding the number and information content of porting status updates sent to each defaulting CCSP client regarding its portfolio.

3.4.3 Harmonisation

The survey responses revealed that most CCPs did not see the merit of harmonising their porting processes and also highlighted the limitations (see 3.3.2) resulting from legal and confidentiality constraints, different local regulatory requirements and differences across CCPs. For instance, some CCPs asserted that harmonisation of porting procedures could only be done within harmonised regulatory environments and default management procedures, as the porting process is integrated within the default management procedure. In particular, these concerns arise with respect to the MPOR; the length of the MPOR may dictate a need for different porting procedures.

In contrast, clients and CCSPs stated that increasing harmonisation could reduce complexity, cost and the likelihood of delay. They propose harmonising, and as far as possible standardising, certain protocols, data formats, fields and the use of LEIs or other universal client identifiers, and defining common milestones/timeframes for porting across CCPs.

Increased automation is one way to increase the efficiency and effectiveness of porting arrangements. Further improvements in the porting timeframe could be made through standardisation. Similar suggestions for standardisation were raised in the responses to the public consultation on CPMI-IOSCO's *A discussion paper on central counterparty default management auctions*.⁴³ These include standardising the type, format and granularity of key data (including customer account information, such as initial margin, delta ladder, positions, customer name and account mapping), file formats, templates and terminology. Publication of preliminary file packs by CCPs could help guide clearing participants in preparing data loads and performing portfolio analyses. Simplifying communication, through standardisation or other methods, is yet another potential improvement CCPs should consider. One CCP noted that client confirmations and reports are already standardised using the industry standard FIX Markup Language protocol, and that this is beneficial. One CCP recognised that there are benefits in developing user friendly default management systems that are already familiar to participants involved in default management testing exercises; the same CCP provides a default management system that is designed to manage the default of any CCSP, regardless of the portfolio composition, complexity and exposure, and that acts as a centralised location

⁴² The DMRG is a voluntary group of eight CCP organizations, representing a total of 15 CCPs, whose goal is to improve CCP coordination around default management. Members include: CME Group, Eurex Clearing, ICE, DTCC, Minneapolis Grain Exchange Clearing House, the OCC, NASDAQ and the LME.

⁴³ A further interesting operational proposal, although not strictly related to the issue of harmonisation, referred to the supply by CCPs of tools that provide information on margin estimations. These might be useful for porting purposes as well, by allowing clearing participants to estimate the impact of onboarding new clients in terms of margins.

of all default management related information, while also serving to disseminate pertinent client information, such as positions and collateral data.

In the light of the constraints identified on portability, the industry would benefit from all stakeholders continuing to assess whether and how harmonisation and standardisation of porting processes and systems could increase the likelihood of successful porting. It would be appropriate for each stakeholder group to consider whether measures could be implemented jointly or individually to achieve these goals.

3.4.4 Testing

The PFMI state that FMIs, including CCPs, should at least annually test and review default procedures, including any close-out procedures.⁴⁴ More than half of the CCPs surveyed lack experience of porting after a CCSP default. Testing these procedures could not only improve awareness among participants and other stakeholders but also help CCPs to evaluate and increase the efficiency and effectiveness of such porting arrangements.

According to survey results, some CCPs run porting exercises to review and evaluate their legal arrangements for porting, lines of communication with CCSPs and clients, and operational capacity. Some CCPs recommend joint testing exercises between CCPs, CCSPs and clients. Porting exercises as part of joint testing exercises could include CCPs with similar sets of products and material for CCSPs and clients. CCPs responded by saying that such exercises would help CCPs improve their coordination.

Regular and realistic testing for porting processes is also critical because of industry factors. CCSPs' willingness to onboard new clients may change over time due to factors such as the composition of client portfolios, concentration, capital requirements, CCSP firm condition and market conditions. Not all CCPs surveyed regularly ask CCSPs about their capacity to take on clients in the event of a large CCSP default or stressed market conditions. This testing may be used to inform market participants about the CCSPs' available client clearing capacity to absorb the clients of a large CCSP.

However, it is difficult to realistically test porting during an exercise because of the artificiality of market conditions in a test, as well as confidentiality requirements that prevent the CCP from identifying CCSPs willing to take clients ex ante. CCPs also note that the significant time commitment for CCP and CCSP staff should be considered when deciding how often to run tests.

4. Next steps

After considering the survey results and industry outreach and the above discussion, the CPMI-IOSCO has identified a number of potential issues that could benefit from further industry engagement, either jointly or individually.

As a cornerstone of post-financial crisis market reforms, access to client clearing continues to be an issue of priority for CPMI-IOSCO. The strong response received in the public consultation to this paper demonstrates the industry commitment to developing the issues identified and analysed here.

CPMI-IOSCO welcomes and encourages industry efforts to engage in further work to:

1. enhance transparency and disclosure regarding direct and sponsored access model participation; and
2. develop further effective practices to facilitate porting, thereby ensuring that clients have continued access to clearing in the event of a CCSP default.

⁴⁴ Key consideration 4 of Principle 13. See also the Explanatory Note 3.13.7 to Principle 13.

In addition to industry-focused work, CPMI-IOSCO identify an issue for continued PSG monitoring and potential additional policy work that might be considered.

4.1 Industry steps to promote client access

Transparency and disclosure are critical to the participation of CCSPs, clients, sponsored members and direct members in the CCP. As access models continue to evolve, discussion and education regarding the roles, responsibilities, and risks associated with the new models is essential to ensure that all participants, direct and indirect, traditional or not, are prepared to monitor and manage the risks associated with participation in the CCP.

CPMI-IOSCO welcome and encourage industry steps to improve transparency and disclosure regarding direct and sponsored access models. Broadening participation in testing associated specifically with new access models is an effective way to help the CCP and its participants fully understand the applicable procedures and identify any lack of clarity in, or discretion allowed by the new models. Such testing can also increase the CCP and its participants' preparedness for, and foster orderly handling of, a default. As there is no experience with a sponsored default, the transparency and testing is all the more important.

4.2 Industry solutions to enhance porting

This paper identifies a number of potential impediments to porting. Accordingly, CPMI-IOSCO welcome and encourage industry efforts to enhance portability, so that client clearing access can continue to be provided following a default and forced liquidations are avoided. These solutions include:

- analysing regulatory frameworks and CCP rules to identify industry solutions to mitigate potential impediments to portability;
- increasing CCSP and client education regarding roles, responsibilities, and risks associated with porting;
- improving disclosures regarding portability risks associated with different account structures;
- taking BAU steps to improve default communications and coordination; and
- developing rigorous porting exercises.

These measures are described in more detail below.

In a general overview, in order to identify potential solutions to impediments to portability, CCPs may consider analysing the regulatory framework for each jurisdiction in which they operate, as well as CCP rules, policies, and procedures. In doing so, CCPs may identify possible changes to the applicable CCP rules, policies and procedures that could facilitate porting. To specifically address KYC and AML issues, such industry-led solutions could include using smart contracts and regularly preparing frequently-updated KYC/AML data packs.

CCSPs and clients would benefit from CCPs providing additional education regarding the roles, responsibilities and risks associated with porting. In particular, CCPs and/or industry associations may consider developing a guide to alternative or back up CCSP requirements for clients and CCSPs. Such a guide could consider how the proposed mechanisms would incentivise the establishment of alternative or backup CCSP relationships and how these would affect clients of all sizes. In addition, CCPs and/or industry associations might promote a standardised template agreement that could address information-sharing concerns that arise in conjunction with post-default porting. A template agreement could take into account applicable regulatory frameworks and stakeholders' need for information to match clients and CCSPs.

In addition, CCPs and CCSPs may consider improving the clarity of disclosures regarding the portability risks associated with different account structures. Such work would expand the disclosures to clarify risks other than those typically disclosed to clients about fellow customer risk. Clients would probably benefit from additional information regarding the risks that they face in the porting process and in the event that porting is not successful.

Industry stakeholders also may consider what measures could be adopted during BAU to improve communications and coordination in the event of a CCSP default. A CCP may consider what improvements can be achieved regarding coordination between the CCP, its CCSPs, and the CCSPs' clients as well as among CCPs. Such steps may include enhancing and clarifying communication protocols and providing client contact lists to CCPs. It could also extend more broadly to other solutions. Among CCPs, discussions might be helpful on how best to coordinate the liquidation of client positions and address the potential negative consequences of bulk liquidation. As part of this discussion, CCPs may consider the potential effects associated with the notifications of client default, both with regards to timing and the parties notified. Additionally, industry stakeholders might consider taking steps to identify (i) data elements related to porting that can be standardised; (ii) which portions of the porting process that could be automated; and (iii) the types of porting policy and procedures that could be harmonised voluntarily.

CCPs may also consider improving readiness for porting by developing more rigorous porting test exercises that go beyond basic operational testing. Such exercises, including joint-CCP exercises, could evaluate the functionality of any direct payment mechanisms from clients to CCPs, the ability of CCPs to coordinate the testing for the porting of the clients of one or more CCSPs defaulting at multiple CCPs, and the feasibility of porting, considering the many identified barriers and constraints. Tests may particularly consider the impact of stressed market conditions, capital limitations at CCSPs and the compressed time frames for porting.

4.3 Potential future CPMI-IOSCO work

CPMI-IOSCO have considered the evolution of access models over the course of the work described in this paper. CPMI-IOSCO find it is appropriate for the PSG to monitor market developments (including emerging new access models other than the "direct" and "sponsored" access models covered in this paper). The PSG will keep apprised of market developments through relevant supervisors, at least annually. CPMI-IOSCO will consider whether to re-engage in this area in three years, or earlier, if members determine intervention is warranted due to significant reported developments.

In addition, CPMI-IOSCO notes that issues regarding transparency and disclosures arise in conjunction with both access and porting, as well as in other work CPMI-IOSCO has conducted. CPMI-IOSCO may consider whether to engage in broader additional policy work regarding transparency and disclosures.

Annex A: Members of the PSG and the Client Clearing Subgroup

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