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Applying the Central Clearing Mandate: Different Options for Different Markets

by John Kiff, Alessandro Gullo, Cory Hillier, and Panagiotis Papapaschalis

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ABSTRACT: Back in 2009, G-20 leaders have called for all standardized over-the-counter (OTC) derivatives to be cleared through central counterparties (CCPs). By now, 18 of the 24 Financial Stability Board (FSB) member jurisdictions have provided for mandatory central clearing frameworks in place, covering at least 90 percent of all standardized OTC derivatives in their jurisdictions. However, the authorities in several countries remain confronted with the hows and wherefores of mandatory central clearing, also in light of the international dimension of OTC derivatives contracts. This paper examines the policy options available to countries that have yet to fully conform to the clearing mandate, centered on the setup of local CCPs or on the use of foreign CCPs, and elaborates on their feasibility, risks and benefits from an economic, legal and tax viewpoint.

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WORKING PAPERS

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I. Introduction

1. **Central counterparties (CCPs) can improve the safety and efficiency of the financial system.**[1] CCPs acted like firewalls during the global financial crisis in 2008. They prevented the Lehman Brothers default from exerting even more severe consequences on the global financial system by stopping contagion of losses to other institutions in markets cleared by them. CCPs commonly adhere to necessary risk management practices, including revaluing contracts daily and requiring margin posting. If a CM default occurs, CCPs can assist in calming market fears of spreading defaults, by facilitating transfers of failed CM positions and margin to solvent CMs and covering position losses with prefunded financial resources.[2] The multilateral netting enabled by CCPs among their CMs can, in principle, reduce systemic exposure to counterparty risk, which is important from a financial stability perspective, besides decreasing the number of interim cash flows (e.g., fixed and variable payments) that need to be settled, which increases operational efficiencies (Wendt, 2015; ISDA, 2018b).[3]

2. **For this reason, G-20 leaders have called for all standardized over-the-counter (OTC) derivatives to be cleared through CCPs, which is now the case in the majority of G20 countries (G20, 2009)**. 18 of 24 of the Financial Stability Board (FSB) member jurisdictions have in force comprehensive standards, criteria or requirements for determining specific OTC products to centrally clear—an unchanged number since 2018, while in a few jurisdictions a wider range of products is subject to mandatory clearing compared to 2018. Such standards, criteria or requirements apply to at least 90 percent in the relevant jurisdictions that have adhered to mandatory clearing (FSB, 2019). However, this leaves six FSB member jurisdictions without a framework for the central clearing of standardized OTC derivatives.[4] In addition, authorities in several non-FSB member countries are struggling with the hows and wherefores of mandatory central clearing (FSB, 2012, Kotzé and Labuschange, 2014).

3. **Countries where central clearing is not (yet) mandated may be impacted by these reforms through their extraterritorial effects**. Domestic reforms to OTC derivatives markets regulation have a considerable international dimension, as they affect cross-border trades of financial market participants. For example, banks in countries without mandatory clearing requirements are impacted by foreign counterparts that are subject to mandatory clearing requirements under their national legal framework, effectively forcing the first banks to clear at a CCP, either directly or indirectly (as client of a clearing member). Also, other regulatory reforms, such as higher bank capital requirements for non-centrally cleared derivatives are incentivizing central clearing (BIS, 2014).

4. **Authorities in some emerging markets may face additional challenges because of the relatively limited grip they have on derivatives denominated in their local currency**. Derivatives denominated in emerging market and developing economy (EMDE) currencies are more likely to be traded outside the

[1] A CCP is an entity that interposes itself between counterparties to contracts traded in financial markets. In particular, the counterparties "novate" (legally assign) their trades to the CCP so that it becomes the counterparty for both sides and ensures that all payments are made on time.

[2] Broadly speaking there are two types of margin. Variation margin collateralizes the current exposure from changes in the mark-to-market value of the contract. Initial margin collateralizes the potential future exposure that could arise from changes in the mark-to-market value of the contract during the time it takes to close out and replace the position if a counterparty defaults.

[3] Central clearing may not enhance netting, however, if different products are cleared through different CCPs or multiple CCPs clear the same product (Duffie and Zhu, 2011).

[4] Argentina, India, Indonesia, Russia, Saudi Arabia and Turkey (see also Table 1)

home economy than those in advanced economy (AE) currencies, usually in major global financial centers such as New York, London, Hong Kong SAR, and Singapore. Very few EMDEs have onshore markets that come close, in terms of activity, to offshore markets (Upper and Valli, 2016). This limits direct policy tools for EMDEs to influence trading and clearing of derivatives. In fact, at least one EMDE country (Indonesia) has prohibited the trading of its local currency outside its jurisdiction, which effectively limits central clearing to local CCPs (FSB, 2021).

5. **In answering the G-20 call for central clearing, jurisdictions have various policy options to consider, which are outlined in this paper**. The paper elaborates on the feasibility, risks, and benefits of the policy options available to countries in mandating central clearing for certain classes of OTC derivatives, including financial stability, legal and tax implications. These options are available upon implementation of the clearing mandate or thereinafter, and/or the implementation of bank capital requirements for non-centrally cleared derivatives, depending on the development and features of the financial system in a jurisdiction. After an overview of the current state of play, attention will be given to countries where authorities face special challenges in determining which products to centrally clear, and where to clear them, and to the accompanying challenges relating to the underlying legal framework and the tax regime.

6. **The paper will pay specific attention to the repercussions of the cross-border impact of national clearing mandates over the clearing options it discusses**. For example, the conditions of the clearing obligation in one jurisdiction may hinder the feasibility of a local CCP option in another jurisdiction or the volume of its business. Overlapping or diverging central clearing requirements may complicate the option of setting up or maintaining a local CCP if that is considered to be the appropriate option. It thus becomes important to clarify how counterparties would be able to comply with all the clearing obligations incumbent on them and their transactions.

II. Current State of Play and Scope of Analysis

7. **Various jurisdictions have not (yet) put in place a central clearing requirement for OTC derivatives**. An advanced implementation of the clearing mandate (for example, in the United States or the European Union) would presuppose (i) the legislative/regulatory framework, specifying products to be cleared, (ii) a liquid trading market in the contracts to be cleared (iii) an authority supervising[5] the implementation of such framework, and (iv) at least one CCP where central clearing of the specified products can take place. Jurisdictions without a central clearing requirement include a number of G-20 countries (Table 1). The paper examines how some jurisdictions are implementing the reforms (e.g., Australia[6], Brazil and Canada[7]), as well as the central clearing regime being contemplated in other countries.

[5] Supervision will be used in this WP in the broadest sense, including oversight arrangements, where applicable.

[6] *See* ASIC Derivative Transaction Rules (Clearing) 2015, introducing a mandatory central clearing regime in Australia for OTC IRD denominated in AUD, USD, EUR, GBP and JPY, applicable to Australian and foreign financial institutions above a clearing threshold of AUD 500 million of total gross notional outstanding positions.

[7] *See* CSA Notice of National Instrument 94-101, entered into force on April 4 2017, introducing a mandatory central clearing regime in Canada for OTC IRD denominated in USD, EUR, GBP, and CAD, applicable to local counterparties. Foreign counterparties for the liabilities of which a local counterparty is responsible for may comply with equivalent foreign rules.

Table 1: G-20 Jurisdiction Progress Towards Meeting the Clearing Mandate		
Advanced Implementation		**Work in Progress**
Australia	Korea	Argentina /1
Brazil	Mexico	India /2
Canada	Singapore	Indonesia /2
China	South Africa	Russia /2
EU	Switzerland	Saudi Arabia /1
Hong Kong SAR	Turkey	
Japan	USA	

Source: FSB (2021).
Advanced implementation means that legislative framework or other authority is in force and, with respect to over 90% of transactions, standards/criteria for determining when products should be centrally cleared are in force. An appropriate authority regularly assesses transactions against these criteria. Work in progress jurisdictions fall into three categories:

1. Legislative framework or other authority is in force or has been published for consultation or proposed.

2. Legislative framework or other authority is in force and, with respect to at least some transactions, public standards / criteria for determining when products should be centrally cleared / platform traded have been adopted.

8. **Typically, banks are the most active players in the local OTC derivatives market.** They may be using derivatives to hedge their clients' foreign exchange (FX) and interest rate risks, whereas larger banks—typically involved in cross-border trading—would additionally use derivatives to hedge their own risks. Other end users, such as pension funds, insurance companies, asset managers and non-financial corporations use OTC derivatives, predominantly to mitigate the impacts of adverse price and interest rate movements and reduce cash flow volatility. Some markets benefit from the liquidity creating market making role of sell-side firms (for example dealers) that are in the market to earn spreads, rather than taking directional views on the price of the underlying, whether to hedge or speculate.

9. **Banks established in jurisdictions where central clearing has not been mandated are being drawn into central clearing, on account of their cross-border trading**. Domestic banks in emerging economies trade with foreign banks to offset risk exposures assumed from domestic nonbank financial institutions. These foreign banks are usually global systemically important financial institutions (G-SIFIs) subject to supervision in jurisdictions where central clearing has already been mandated (e.g., the EU and U.S.). Hence, the contract may have to be centrally cleared if it falls under the clearing mandate in the foreign bank's jurisdiction. [8] For example, a trade in a mandated derivative under U.S. or EU rules,

[8] See for instance Article 4(1)(a)(iv)-(v) of EMIR, under which all OTC derivatives ESMA subjects to the clearing obligation shall be centrally cleared, if, *inter alia*, one of the parties is established outside the EU that would be subject to the EMIR clearing obligation if it were established in EU; or even, if both parties are established outside the EU, but would be subject to the clearing obligation if they were established in the EU, provided that the contract has a direct, substantial and foreseeable effect within the EU or where such an obligation is necessary or appropriate to prevent the evasion of EMIR. Similarly, Section 2 of the Commodity Exchange Act, as amended by 722(d) of DFA and interpreted by CFTC's Final Exemptive Order Regarding Compliance with Certain Swap Regulations 17 CFR Chapter I, RIN 3038–AE85 subjects to the Commodity Exchange Act activities outside the U.S. having "a direct and significant connection with activities in, or effect on, commerce of the United States" or contravening CFTC rules and regulations to prevent the evasion of the Commodity Exchange Act.

between a New Zealand or Chilean bank and a U.S. or EU counterparty that is subject to the respective clearing mandate, may be required to be cleared through a U.S.—or EU-registered CCP respectively. Furthermore, even if a transaction is not required to be cleared, counterparties from jurisdictions with a clearing mandate may indirectly encourage clearing, in order to facilitate their reporting requirement or to avoid risk mitigation measures for uncleared trades (Mayer Brown, 2014). Even where the clearing mandate is not in effect, the requirement to post margin on non-centrally cleared transactions may provide indirect encouragement to centrally clear (BIS, 2014; CFTC, 2016; European Parliament, 2016).[9]

10. **When cross-border trading does not support the central clearing mandate, the qualifying CCP concept provides incentives for banks to centrally clear**. Under Basel III, OTC derivatives cleared at a "qualifying CCP" (QCCP) entail lower counterparty risk charges to the bank, while trade exposures to non-qualifying CCPs are treated in accordance with the Standardized Approach and default fund contributions to non-qualifying CCPs entail a higher risk weight. [10] Also, international standards requires that margin be posted on non-centrally cleared OTC derivatives contracts, considerably restraining a bank's use of funds (BCBS-IOSCO, 2020).

11. **Similarly to banks, CCPs are affected by legal and regulatory frameworks of countries other than their own domestic jurisdiction**. To become a QCCP for Basel III purposes, a CCP must be licensed as such, supervised and regulated in line with the Principles for Financial Market Infrastructures (PFMIs), and meet certain information sharing standards regarding the risk charge calculations (CPMI-IOSCO, 2012; BCBS, 2014). For CCPs offering cross-border services, foreign supervisors will routinely determine the above conditions by reference to their own PFMI implementation.[11] For example, the European Market Infrastructure Regulation (EMIR) currently requires that non-European Economic Area (EEA) CCPs be recognized by the European Securities and Markets Authority (ESMA) in order for EU institutions to meet their clearing mandate requirements by clearing with the non-EU CCP and for the latter to achieve "qualifying" status. As a prerequisite for recognition, the European Commission (EC) would have to determine the "equivalence" of the legal and supervisory framework applicable to the non-EU CCP to EMIR.

12. Table 2 lists the non-EU/U.S. CCPs that clear FX and interest rate derivatives and their equivalence status in the European Union and United States.

[9] "Margin requirements on non-centrally cleared derivatives, by reflecting the generally higher risk associated with these derivatives, will promote central clearing, making the Group of Twenty's original 2009 reform program more effective. This could, in turn, contribute to the reduction of systemic risk." (BCBS, 2019).

[10] Basel III imposes a 2% weighting on solvency margin if settled at a Qualifying CCP; some jurisdictions are even more lenient (e.g., Colombia, 0%).

[11] Legal aspects around PFMI compliance are discussed more fully in Section III.

Table 2. Non-EU and Non-U.S. OTC Foreign Exchange and Interest Rate Derivatives CCPs			
Location	**CCP Name**	**Contracts**	**Equivalence**
Australia	ASX Clear	FX,IR	EU
Australia	ASX Clear (Futures)	FX,IR	EU,US
Brazil	BM&F BOVESPA ("B3")	FX,IR	EU
Chile	ComDer	FX,IR	
China	Shanghai Clearing House	FX,IR	
Colombia	Cámara de Riesgo Central de Contraparte de Colombia	FX,IR	
Hong Kong SAR	OTC Clearing Hong Kong SAR	FX,IR	EU,US
India	India Clearing Corporation Limited (CCIL)	FX,IR	EU
India	NSE Clearing Limited	FX,IR	EU
India	Metropolitan Clearing Corporation of India Limited	IR	EU
Japan	Japan Securities Clearing Corporation	IR	EU,US
Korea	Korea Exchange	IR	EU,US
Mexico	Asigna	FX,IR	EU
Russia	NBCI National Clearing Centre	FX,IR	
Singapore	SGX Derivatives Clearing Ltd.	FX,IR	EU
South Africa	JSE Clear	FX,IR	EU
Turkey	Istanbul Settlement and Custody Bank Inc.	IR	
United Kingdom	ICE Clear Europe Ltd.	FX,IR	EU,US
United Kingdom	LCH Ltd.	FX,IR	EU,US

Sources: FSB (2021), European Securities and Markets Authority (ESMA), U.S. Commodity Futures Trading Commission.
Notes: FX = foreign exchange, IR = interest rate: EU = European Union, US = United States
The "equivalence" column indicates whether EU or U.S. authorities have deemed the home country's legislative and regulatory framework equivalent to their own. However, note that, in the case of ICE Clear Europe Ltd. and LCH Ltd., there is technically speaking no EU deference, because ESMA has full supervisory powers over them.

13. **Market participants in jurisdictions lacking local CCPs may face challenges in finding clearing opportunities for local currency derivatives, given these international complexities**. Appendix 1 shows the broad range of FX and interest rate derivatives cleared by certain global CCPs. Besides EUR, GBP, JPY, and USD, currently it *may* be possible to clear interest rate derivatives in only 23 other currencies, and FX derivatives in only 2. The challenge is exacerbated by the fact that the local counterparty in question would always have to either meet the foreign CCP's membership requirements or be accepted as a client of an existing CM of that CCP, through which to clear. But if a local currency derivative is too small to be cleared at a global CCP, that could be an indication that these derivatives are not systemically important enough to justify the central clearing mandate - even for the banks' home country.

III. Policy options

14. Authorities face different policy options in determining: i) which OTC derivatives to centrally clear; and ii) where to clear them.

A. Which Products Should be Centrally Cleared?

15. **In order to determine which products should be subject to the clearing mandate, authorities need to know who the participants in their markets are and what they are trading**. For this purpose, the jurisdictions need to implement mandatory OTC derivatives trade reporting, also called for by G-20 leaders at the 2009 Pittsburgh Summit.

16. **Subsequently, authorities should establish a conceptual framework for products the clearing of which is both feasible and desirable.** Gregory (2014) lists five general characteristics necessary and sufficient for effective central clearing:[12]

- Legal (documentation and definitions) and economic terms (valuation calculations, payment structures and dates) should be **standardized** to facilitate trade processing, multilateral netting, and contract replacement if a CM defaults.
- Products should be **non-complex** to avoid adverse selection and valuation subjectivity.[13]
- Products should be **liquid** for accurate valuations and to facilitate contract replacement if a CM defaults. This liquidity should be robust.
- Products should not be subject to **wrong-way risk** (when product and CM default risks are highly correlated).
- Product trading **volumes** should be sufficient to make it economically worthwhile for central clearing services to be offered.

In addition, there should be enough historical price observations for CCP stress testing purposes. This is an issue for products with relatively new underlying asset classes or reference rates. This could be an issue for interest rate-based products transitioning from a LIBOR basis to one of the new risk-free rate (RFR) indices. Also, Sidanius and Wetherilt (2012) suggest adding process standardization, like the use of straight-through processing and electronic confirmation, and automated post-trade processing, as evaluation criteria.[14]

[12] See also ESMA (2010).

[13] On the ability to clear complex contracts, PFMI Principle 4 states that "a CCP that is involved in activities with a more complex risk profile…. should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions."

[14] See also Delort and others (2020) which sets out a practical cost-benefit analysis framework for country authorities to decide whether the introduction of a CCP will benefit their markets, financial institutions, and investors, or whether the costs of a CCP are higher than the benefits.

17. **Achieving product standardization and simplicity sounds easy in theory, but it may be difficult in practice.** Due to different legal framework in different countries, contract standardization may not be simple (for example, different bankruptcy treatment in country under civil law versus country under common law). Also, even if it is possible to achieve, it may have unintended consequences and fracture markets. Moreover, given the typically very concentrated banking sectors in many countries, which might lead to a small number of highly correlated clearing members, wrong-way risk could be problematic for local clearing. On the other hand, for products and markets that meet all of the above criteria, moving trading on to exchanges or other types of centralized platforms may be advisable. The legal and operational mechanics of centrally clearing an exchange traded derivative are simpler (and closer to the mechanics of clearing a securities transaction) than are the mechanics of centrally clearing a contract that has been negotiated bilaterally, away from an exchange/trading platform.

18. **If any of the above conditions do not hold, then bilateral clearing, with robust margin standards, may be the better option** (Box 1). Also, ISDA (2018a) recommends that markets not meeting the above conditions focus on implementation of a clean netting regime. Reliable bilateral netting will enable the development of more liquid derivatives markets that might facilitate central clearing in the future. But even then, it might still well be the case that no local derivatives contracts meet these criteria, but perhaps it does not matter if local firms already clear derivatives in globally systemically important currencies with counterparties that are under a clearing mandate.

Box 1. Margin Requirements on Non-Centrally-Cleared OTC Derivatives

In 2011, G-20 leaders added margin requirements on non-centrally cleared derivatives to the OTC derivatives reform program launched in 2009. Starting in March 2017, all financial firms and systemically important nonfinancial entities (“covered entities”) were required to start exchanging initial and variation margin on all non-centrally cleared derivatives (BCBS-IOSCO, 2020). However, the new requirements do not apply to physically settled FX forwards and swaps.

The phasing in of the new requirements started on September 1, 2016 with all in-scope firms exchanging variation margin since March 1, 2017. Initial margin requirements are being phased in over six-years, based on the average notional amount of all the uncleared OTC derivatives that a group transacts.[1] However, initial margin need not be posted if the calculated amount is less than €50 million, and the requirements only apply to contracts entered into after the start of the specific phase in period.

Preliminary evidence indicates that the uncleared margin rule incentivizes central clearing. For example, U.S. Commodity Futures Trading Commission (CFTC) staff studied the effect of this rule on non-deliverable FX forwards (NDFs) using exempt-from-the-rule FX deliverable forwards and swaps as a control group (Onur and others, 2021). They found that firms that were CCP clearing members chose to clear a higher percentage of their swaps in the NDF market, and that the uncleared margin rule induced some entities to become clearing members.

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[1] For example, during phase one, from September 1, 2016 to August 31, 2017, any covered entity belonging to a group whose aggregate month-end average notional amount (AANA) of uncleared OTC derivatives for March, April, and May of 2016 exceeded €3.0 trillion, became subject to the requirements when transacting with another covered entity that also meets that condition. The second phase went from September 1, 2017 to August 31, 2018 for covered entities with AANAs greater than €2.25 trillion and so on. After September 1, 2022, all covered entities with AANAs greater than €8 billion will be required to post initial margin. For AANA calculation purposes physically settled FX forwards and swaps are included, even though they are exempted from the requirements. (BCBS-IOSCO, 2020)

B. Where Should OTC Derivatives Transactions be Cleared?

19. **Having established which OTC derivatives to centrally clear, authorities have, in principle, various models as to where and how the transactions should be cleared**. They could require market participants to use CCPs established within their jurisdiction (local CCPs), allow the use of CCPs established in other jurisdictions (foreign CCPs), and there could be variations of the two options. Both the model of using local CCPs and foreign CCPs present specific economic as well as legal and regulatory issues. This section identifies four models that authorities may aim for in addressing the G20 mandate, and the subsequent sections elaborate on their conditions and feasibility. However, it should be kept in mind that these four models are stylized and that, in their practical implementation, there may be convergences among them. For example, models that apply central clearing to foreign CCPs (one and two) could become, in effect, similar to local clearing, if the host authority pushes forward to reinforce supervision on the foreign CCP.

20. **Before jumping into the specificities of the different models there are some market infrastructure governance issues to be considered**.[15] The authorities could allow any central clearing initiative that wants to be active in their market to do so, without examining the expediency thereof. Yet even in that case, the authorities must arrange the necessary regulatory guidance or framework to protect the legal and financial robustness of CCPs and ensure minimal supervision or rely on cooperation agreements for CCPs outside the jurisdiction. Alternatively, the authorities could establish either a monopoly (a central and unique CCP selected via a legal basis, a tendering procedure or an accreditation procedure) or an oligopoly (where accreditation of several candidates is possible if the regulatory conditions and requirements are met). The choice may depend on the market situation, taking into account that the business model must be sustainable.

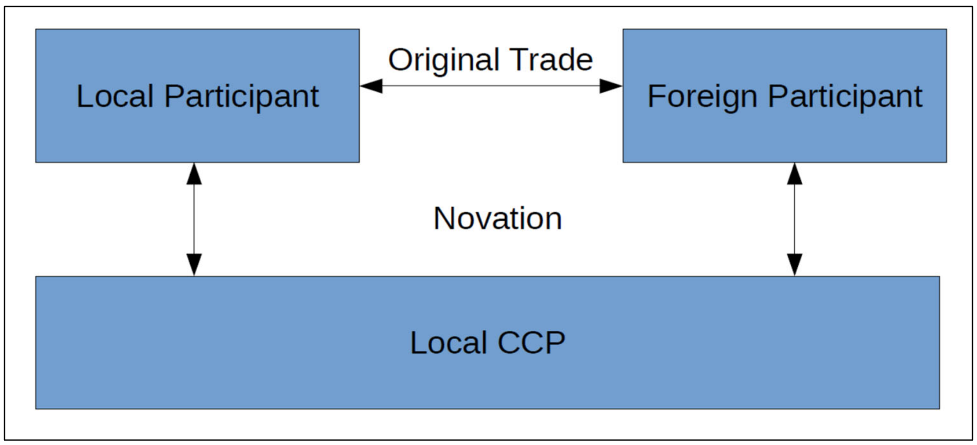
21. **In some cases, the authorities will be confronted with an existing clearing landscape**. For example, one or several of the bigger financial institutions will *de facto* already offer some limited clearing function for the clients or the financial institutions, holding sub accounts for their proper clients and for those products, where a commercial interest exists. This may not prevent the largest financial institutions from establishing and owning a CCP to “institutionalize” and to encourage further market development and extension to other products if they consider it necessary for their economy and to ensure a level playing field.

22. **Minimal regulatory standards of data protection and confidentiality may have to be put in place**. The client and business data at the disposal of the CCP are sensitive, when competitive financial institutions must have recourse on the clearing by the CCP function of competitors. The contractual confidentiality clauses habitual in bilateral contracts may prove insufficient to ensure the data protection and level playing field, and common, harmonized confidentiality undertakings for the CCP and all its participants may be more appropriate.

23. **One option would be to require local CMs and foreign market participants to use the local CCP for specified OTC derivatives contracts**. The requirement would be to clear pre-specified contracts through a CCP located in the country. Depending on the strictness of such CCP’s risk management, foreign market participants could either become CMs in the local CCP, or they could settle transactions through one of the local CMs. The motivation could be that the clearing of certain OTC contracts (e.g., FX derivatives) is so systemically important that direct supervision by the local authorities

[15] Special thanks go to Joseph De Wolf for pointing out the importance of market infrastructure governance issues.

is needed to address financial stability concerns.[16] Also, exclusive reliance on foreign regulators and supervisors (regardless of their capacity) may provide insufficient comfort for central banks to extend liquidity, which may become an acute problem during a crisis. Extension of central bank liquidity is always a discretionary act, requiring considerable comfort as to the soundness of the recipient and its legal, regulatory and supervisory regime. Also, a local CCP provides an opportunity to local market participants to learn how to deal with a large default among themselves, and hone risk management best practices. In addition, as mentioned above, the local authorities may want to restrict the trading and clearing of certain derivatives contracts to a local venue, or they may want to restrict data "leakage" to outside to jurisdiction. However, although these may all be valid reasons to encourage local clearing, there are no jurisdictions that are mandating local clearing as the only option. Section IV below goes deeper into local clearing considerations.



Model 1: Local and Foreign CCPs

24. **Local supervisory authorities may not have the authority to register or otherwise control access to foreign CCPs by "local participants" (the term hereinafter used to refer to certain CMs in examining the options regarding the implementation of the clearing mandate examined in this paper[17]).** In this regard, they could consider recognizing or giving deference to foreign CCPs - and impose conditions on such deference or recognition that allow an adequate oversight of the local participants through arrangements with the home jurisdiction where the foreign CCP is established. This model leaves it to market participants to decide where to clear. For instance, Canadian authorities decided that, although a local CCP would provide for the most straightforward oversight and the best capacity for them to intervene and control risks, a global approach that makes use of large global CCPs has the potential to be more efficient by optimizing multilateral netting benefits and more robust to certain types of shocks, provided that such CCPs are expected to comply with the PFMI and other safeguards.[18] However, they did not preclude the development and use of a local CCP in the future. Australia,

[16] This can however lead to the emergence of an off-shore non-deliverable market that will remove large parts of trading from local oversight. This could also involve a prohibition on trading those contracts offshore, as Indonesia has done with local currency derivatives (FSB, 2021), but authorities should be mindful of the capital flow management implications (IMF, 2018).

[17] The Guidance on Central Counterparty Resolution and Resolution Planning, adopted by the FSB in July 2017, defines a participant as "a user of the CCP's clearing services, whether directly as a clearing member of the CCP, or indirectly as a client of a clearing member".

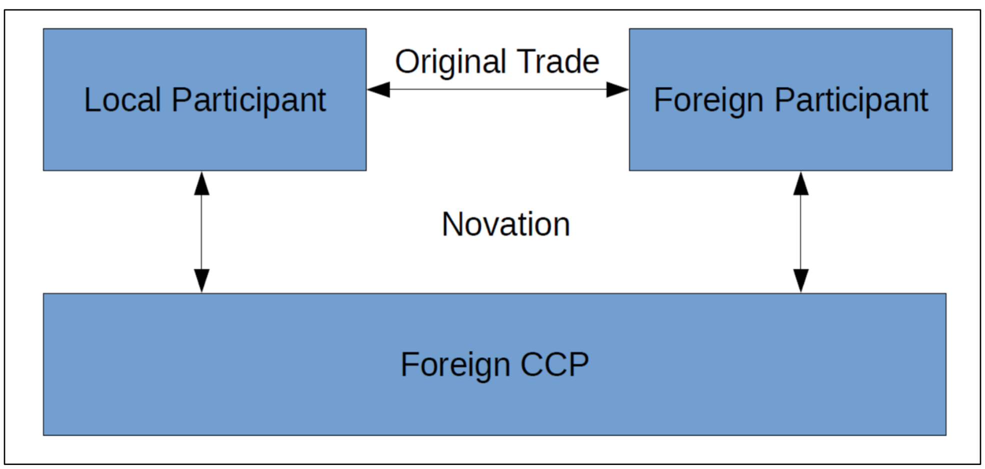
[18] "Authorities will be comfortable relying on foreign domiciled CCPs to clear locally important products only if they can fulfill their oversight responsibilities with respect to these CCPs" (Chande and others, 2012).

Singapore and Hong Kong SAR authorities have taken a similar approach, letting market participants clear on either local or global CCPs.[19]

25. Clearing through the global or local CCPs will have different implications depending on the scale, scope and nature of their participant's business, which offers market participants a choice and promotes competition. In such cases, the local authorities will likely have some form of authorization process regarding the foreign CCP and cooperation arrangements with the foreign authorities, including the signing of memoranda of understanding (MOUs) with the foreign CCP supervisors. The cross-border implications of the arrangements with foreign authorities are further examined in Section V below.

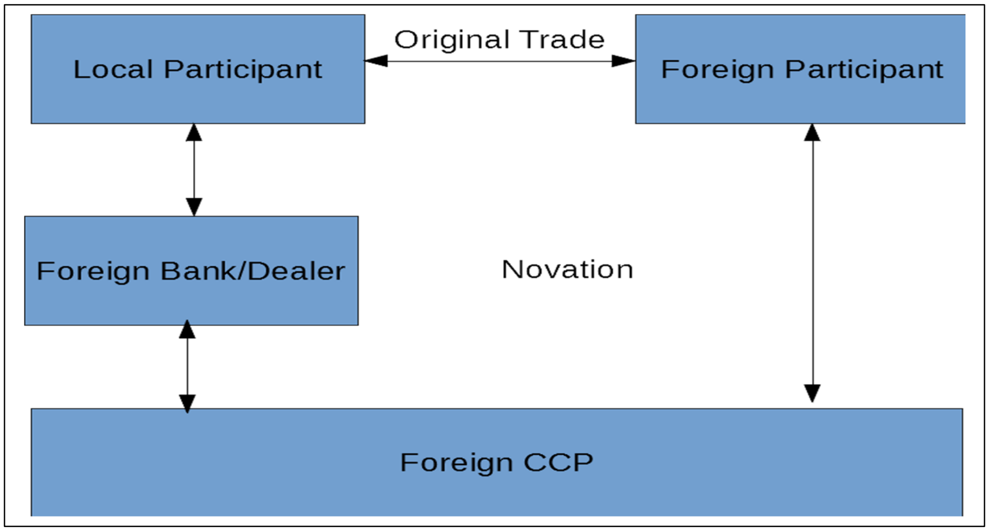
Model 2: Foreign CCP only

26. **Local authorities could require that certain derivatives be centrally cleared, but not through a local CCP**. This could be a situation in which product standardization and trading volumes of derivatives justify requiring central clearing, but the market structure does not support a local CCP (see Subsection A above). Hence the mandated products must be cleared at foreign CCP. Local participants could either become CMs in the foreign CCP, or they could settle transactions through one of the foreign CCP CMs.



27. **Alternatively, local participants could clear OTC derivatives through a foreign CCP, but not directly**. They would use a bank (typically, a foreign institution) that is a CM of the foreign CCP to process the transaction and clear on their behalf.

[19] In Hong Kong SAR the clearing rules require that a transaction subject to mandatory clearing be cleared through a designated CCP (that is, either a local or a foreign CCP authorized by the Securities and Futures Commission to perform their services in Hong Kong SAR). At the same, OTC Clearing Hong Kong SAR Limited (the locally authorized CCP) is recognized as a third country central counterparty under EMIR (and has thus been allowed to offer clearing services to EU financial institutions), and has obtained an order of exemption from registration from the CTFC (and has thus been allowed to provide clearing services for proprietary positions of US persons).



28. **This model may be suitable for smaller local participants that do not have the capability or plan to comply with the membership requirements of the foreign CCP**.[20] The scope for participation as a CM in a CCP is typically governed by access criteria set out in the CCP's rules. These criteria, which aim to protect the CCP's financial integrity, may include minimum capital and operational capacity requirements, as well as requirements that CMs be able to fully participate in default procedures and loss mutualization when a CM defaults (CGFS, 2011). Whether or not specific market players will opt to participate directly in CCPs will depend on their capacity and business models. Large dealers and brokers conducting significant numbers of trades for themselves and clients will probably desire to participate directly in major CCPs around the world. Mid-sized dealers and brokers, as well as smaller dealers and other financial firms, will need to weigh the costs of direct participation against the costs of alternatives in order to keep costs as low as possible for themselves and their clients. Many asset management firms, hedge funds and institutional investors may prefer to clear indirectly in order to avoid the significant minimum capital, back office and infrastructure costs of direct clearing. Also, they may not be able to participate in the default management process, as they cannot invest in the assets they might have to bid for. In addition, the CCP rules may require a particular functional status (e.g., bank or investment dealer). The CCPs' access criteria, in turn, will clearly influence the various costs for firms of direct participation as well as its feasibility.

Model 3: Clear at a local CCP that interoperates with a foreign CCP

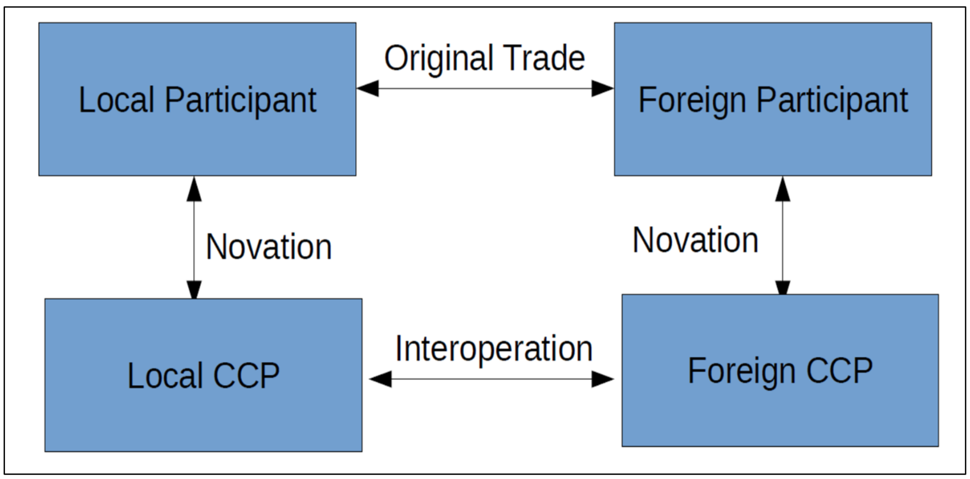
29. **Model 3 presents a model in which a local and foreign CCP interoperate, so that counterparties in trades do not have to be members of the same CCP**.[21] This could be useful in cross-border transactions because it enables the local participant to clear at a local CCP and the foreign participant at a foreign CCP. Under one type of interoperable arrangement, the two CCPs would act as a "general CM" on behalf of their participants, treating each other as CMs, including with respect to margin

[20] For example, under the U.S. rules, CCP members must be registered with the CFTC as Futures Commission Merchants (FCMs). However, non-U.S. firms with only non-U.S. customers do not have to register—if they submit all trades for clearing to an FCM.

[21] Such "CCP-CCP" links are covered under PFMI Principle 20.

requirements. Different possibilities exist for the calculation of exposures, reflecting the unique nature of a CCP being a participant in another CCP (JRA 2008).

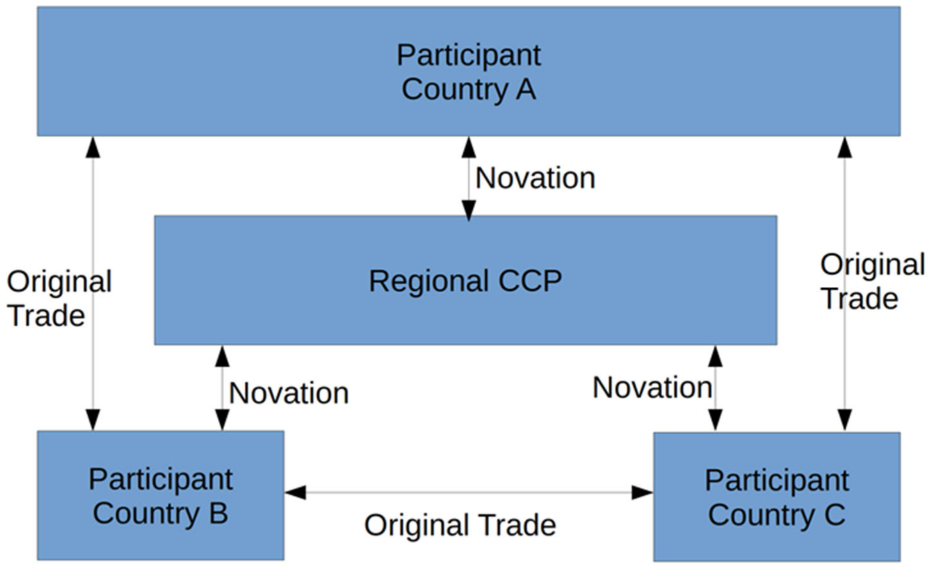
30. **CCP interoperability can provide significant cost savings to market participants, as they do not need to have multiple CCP memberships**. This option comes, however, with legal, operational and credit risks and complexities, including for the CCPs involved, and is therefore hardly used for OTC derivatives trading. Examples of CCP links include the interoperability arrangement for equities settlement involving EuroCCP, LCH Ltd and SIX x-clear AG; the government securities settlement link between LCH SA and CC&G; and the exchange-traded derivatives clearing link between the CME and Singapore Exchange. None of these interoperability arrangements are applicable to OTC derivatives.



Model 4: Regional CCP

31. **This model entails the creation of a regional CCP to serve the needs of that regional market**. This variation might provide significant cost savings to participants through the economies of scale achieved in establishing and maintaining the technical infrastructure of the CCP. In exchange, it presupposes that the markets of all participating jurisdictions have a certain degree of liquidity and volume, as well as comparable market practices. Most importantly, it requires a considerable degree of legal and regulatory convergence in the region, as membership criteria, agreements with settlement venues (such as central securities depositories) and collateral holding rules should be aligned with all relevant legal and regulatory frameworks of the jurisdictions involved by the establishment of the regional CCP. The authorities in the region will likely have some sort of cooperative supervision over the CCP, including the signing of MOUs and supervisory colleges. At least the lead authority in such a supervisory college should avail itself of the necessary resources to carry out effective supervision and to coordinate amongst college members. Currently, apart from some preparatory work,[22] no such regional CCP has been set up. However, integration at the regional level (or a form thereof) could also take place through mergers/acquisitions.

[22] See European Bank for Reconstruction and Development and Oliver Wyman, 2015, discussing the feasibility of a "regional" CCP for Central and Eastern Europe.



IV. The Local CCP Option

32. **This section examines the key considerations in deciding whether to support local clearing in terms of feasibility, challenges and benefits**.

Is local clearing feasible from an economic and a risk management perspective?

33. A main condition for local clearing is that the size of the domestic market needs to be sufficiently large to allow for a sound business case, with sufficient prospects to run a profitable enterprise.[23] The literature on financial market infrastructure (FMI) optimal size and scope is scarce. Domanski and others (2016) opine that "economies of scale create incentives for concentration and vertical integration in central clearing… [and] the scope for netting increases with the range of cleared instruments and markets, and high fixed costs also favor larger CCPs." An empirical study by Li and Marinc (2018) confirmed substantial FMI economies of scale positively associated with size, horizontal and vertical integration. They also found that FMI providers that focus on a narrow range of asset classes are more efficient. However, vertical integration may be subject to competition issues and affect market development, for example, exclusion of broker dealers not associated with the CCP and affiliated exchange. In countries operating multiple exchanges, access to CCPs may become crucial, with vertical integration becoming an issue in terms of access to CCP services. The CCP itself must constantly assess the adequacy of the market's size in the context of Principle 15 of the PFMI (General business risk).

[23] It is possible that a CCP could be established in a jurisdiction with a small or even non-existent domestic market for the products being cleared or their underlyings, but these would be rare instances. Although it is a different infrastructure, the Luxembourg Stock Exchange thrives on international listing business with little to no local trading activity; and that international central securities depositories service internationally-traded debt securities without dependency on local business.

Challenges and benefits of local clearing

34. **Even when there is a business case for a local CCP, CM concentration can pose risks to the system.**[24] If trading is highly concentrated among a few dealers, the sudden loss of one or more of them could impact both clearing and trading, including through feedback effects between these activities (CGFS, 2011). Such a concentration of activity could become an important channel of contagion if one or more of these institutions came under significant stress, even if an actual default does not occur. Moreover, there are possible disproportionate effects on smaller markets, depending on the particular dealers affected and the behavior of those that continue to provide clearing and trading services. The highly concentrated and interconnected financial system of smaller countries poses a challenge to a local CCP to be a true firewall in stopping contagion following the default of one of its members. A default of a large local bank will generally place a high burden on the few surviving CMs to help the local CCP in hedging and liquidating the positions of the defaulter and to help maintain the operations of the CCP. The Clearing Corporation of India (CCIL) deals with these potential member concentration challenges by offering non-guaranteed clearing of interest rate swaps. Cash flows are centrally netted but no credit exposure to CCIL created during the process. The members continue to run bilateral counterparty credit exposure for the swap trades during the life of such transactions (Pawaskar and Ghose, 2019).[25]

35. **Specific risks of a local CCP should be effectively mitigated.** It is crucial that any local CCP is safe and complies with international standards and that local authorities have the resources to supervise it. This could be challenging for smaller market jurisdictions that do not have the scale to absorb the mostly fixed costs of setting up appropriate risk management operations. To further enhance resilience, and at the central bank's discretion and subject to its conditions, CCPs would also have access to central bank services, including direct access to the central bank-operated payment system. In addition, the CCP may obtain routine access to intraday liquidity and benefit from collateral services provided by the central bank. All these measures will help reduce the CCP's dependence on commercial banks.

36. **A main benefit related to local clearing would be that it provides CMs with full netting benefits at a local level, which may enhance market efficiency and, by extension, financial stability.** CCPs allow each CM to net multiple offsetting debit and credit positions, resulting in a single net position towards the CCP. Other operational costs, such as the back-office cost of market participants, are reduced as straight-through-processing increases. Moreover, a local CCP may allow for margin offsets between OTC derivatives denominated in local currency and local exchange traded derivatives, and to offer local collateral solutions through the local central securities depository. Finally, the operations of a local CCP may be less hampered by any possible exchange controls, as the local CCPs will be always allowed to accept local currency collateral.[26]

37. **Also, a local CCP may spur derivatives market development in countries where banks are not active in this regard.** A CCP could generate trust between those who want to trade derivatives but do

[24] A close call at Sweden's Nasdaq Clearing AB highlighted the adverse consequences of a concentrated and undiversified membership base in a smaller and less liquid market. On September 10, 2018, Einar Aas, a Norwegian trader, failed to pay a margin call to the CCP on an electricity price futures "convergence" trade that went awry in a big way. An auction was held for Aas's portfolio with four of Nasdaq's other members, the winning bid resulting in a loss of €114 million in excess of the collateral Aas had provided. The shortfall ate through €7 million of Nasdaq's capital and the remaining €7 came from the €166 million fund made up of contributions from the non-defaulting members. For more detail, see Bell and Holden (2018).

[25] See: https://www.ccilindia.com/Derivatives/Pages/NonGuaranteedSettlementandBenefits.aspx.

[26] Another potential benefit of a local CCP could be to build a trust system among OTC derivatives market participants and encourage the development of new local derivatives products.

not know each other. In addition, a local CCP could be the first step towards the introduction of exchange trading, or where they already exist, to more active exchange-traded markets. The 2009 G20 leaders' declaration not only called for all standardized OTC derivatives to be cleared through CCPs where appropriate, but also that they be traded on exchanges or electronic trading platforms. This is because the privately negotiated, bilateral nature of OTC derivatives markets limits the availability of transaction data. In stressed financial circumstances, these characteristics may make OTC derivatives markets less reliable and could lead to increased market and liquidity risks for participants. This opacity also may make valuing transactions more difficult (FSB, 2010).

38. **A local CCP also provides authorities with the capacity to directly supervise it and may partly shield the domestic market against crises originated outside the jurisdiction where the local CCP operates**. Under their national legal and regulatory frameworks, domestic authorities such as central banks and securities regulators have responsibilities regarding the supervision and oversight of CCPs. A CCP located in their jurisdiction allows them to have direct supervision over it in normal and in crisis circumstances. Authorities would be able to understand and address risks related to the CCP that are specific to their local market, and to take a full range of actions available under their own legal framework. At the same time, they would not have to rely on foreign authorities for taking actions that benefit national financial stability. Moreover, such a CCP would have its own, locally prescribed and maintained default fund, limiting the exposure of domestic banks to foreign shocks that may be otherwise transmittable through participation in default funds of foreign CCPs.

39. **In any event, local CCPs should comply with the PFMIs. Importantly, they must have a sound legal basis for all material aspects of their activities and in all relevant jurisdictions, as per Principle 1 of the PFMI**. The PFMI - a set of soft-law standards adopted by the CPMI and IOSCO - call for CPMI-IOSCO membership to apply the standards to the relevant CCPs "*to the fullest extent allowed by the legal framework in their jurisdiction*" The concept of "legal basis" under principle 1 of the PFMI is broad, encompassing both legal/regulatory requirements and contractual undertakings. The legal and regulatory requirements comprise both the administrative law provisions on licensing, ongoing supervision, recognition and resolution of CCPs, and a set of various areas of law essential for their functioning (e.g., provisions on book entry securities, holding structures, valid constitution of collateral, CM recovery, resolution and insolvency, settlement finality, enforceability of netting and closeout netting, private international law). Local CCPs operating in adherence of the clearing mandate would be expected to comprehend (*i.e.,* through legal opinions), and abide by, the legal/regulatory framework applicable to them, to draft and maintain their contractual documentation in compliance with such framework, and to articulate their legal basis to their stakeholders and all competent authorities.

40. **The identification of *"relevant jurisdictions"* where CCPs must have a sound legal basis hinges on the understanding of the material risks involved**. "Relevant" jurisdictions for a CCP are not only those in which the CCP is incorporated, licensed, supervised, located, recognized, or merely offering services, but also any other jurisdictions posing a material risk to it or by their activities. With respect to the relationship between the CCPs and its CMs, as a CCP operates across markets, relevant jurisdictions may be not only those where the settlement venues or the CCP's (direct or indirect) participants are incorporated or located, but also and importantly—where participants' *collateral* is held.

41. **Therefore, a sound legal basis in a plurality of jurisdictions is a prerequisite for any policy option, although its bearing is less pronounced for the models oriented towards a local CCP**. The number of relevant jurisdictions and the intensity of the requirements relating to such jurisdictions vary per option selected, being lower in the local CCP option and higher under the foreign and interoperable CCP options) and can also be curtailed by operation of the law of the CCP's jurisdiction of establishment and

through arrangements between competent authorities.[27] However, if there are multiple relevant jurisdictions, it might be good practice for the CCP to have a retainer with a major law firm, present or represented in all such relevant jurisdictions.

Box 2: Sound Legal Basis for CCPs—Private Law Considerations

Clarity as to the creation and transfer of interests in securities is key to the operation of a CCP. CMs underpin their trades by providing the CCP with (cash or securities) collateral based on the risk they and their trades represent for it. Such collateral must be subject to frequent valuation and margin requirements, constantly reflecting changes in risk and collateral value. It is therefore imperative for collateral to be speedily yet validly created and proven with no or minimum formalities.[1] As a result, the legal basis should be clear on whether interests in securities are validly created and transferred by electronic book entries in an electronic registry, which collateralization techniques can be employed for securities collateral (e.g., pledge of title and/or full transfer of title with an option to repurchase) and what the nature of the final investor's title in securities is.[2] Such clarity should be demonstrated in legal opinions to be relied upon by the CCP, under the laws of all relevant jurisdictions.

CCPs must be able to offer full insulation from insolvency proceedings against their CMs, to minimize market disruption and threats to financial stability. Traditionally, in insolvency proceedings, the receiver or liquidator has a variety of 'clawback powers' at his disposal (i.e., void disposition rules, avoidance of antecedent transactions etc.) Two aspects are worthy of note with regards to CCPs:

[1] E.g., in Australia, the Personal Property Securities Act 2009 (PPSA), 2012, establishes a national system for the registration of security interests in personal property, and requires that a person who holds a security interest under the PPSA register the security interest to ensure that it has priority over competing interests; however, the PPSA explicitly provides that it does not apply to rights and interests under close-out netting, and further states that the Netting Act prevails over the PPSA where there is any inconsistency.

[2] In direct holding systems, the investor has a direct relationship with the Central Securities Depository, where securities are registered in the investor's name and held in investor accounts, granting full legal title; in indirect holding systems, securities are held in omnibus accounts of an intermediary (or layers thereof). Investors have claims against an intermediary – and are thus exposed to such intermediary's risk.

[27] E.g. by imposing foreign clearing entities to hold collateral locally (Australia) or by accepting as margin only domestic cash (Chile).

Box 2: Sound Legal Basis for CCPs—Private Law Considerations—Cont'd

- *First,* CCPs must protect themselves: to achieve this, a CCP should be allowed to immediately realize collateral posted with it by the CM as a result (and in spite) of the CM's insolvency, by valuating it and selling it in a commercially reasonable manner, without the bankruptcy receiver or liquidator being able to exercise any claw-back powers under insolvency law in order invalidate transactions unfavorable for the insolvency estate and claim the assets pledged as collateral for inclusion therein or, differently put, to cherry-pick the insolvent CM's trades it would honor. In case different collateralized trades are pending with the insolvent CM and the CCP (as would likely be the case), the legal framework must also explicitly recognize the enforceability of close-out netting, entailing the acceleration of all obligations and the netting or set-off thereof, so that a single amount is owed by or to the insolvent CM's estate.[3] Furthermore, the legal framework must explicitly derogate from the application of certain provisions of the insolvency law (suspect periods, zero hour rules), at least with reference to identical categories of eligible parties and eligible contracts.[4]

- *Second*, CCPs must protect customers of insolvent CMs. CCPs are expected[5] to enable the identification of and segregation between positions and collateral of insolvent CMs (which they can realize as described above) and positions and collateral of insolvent CMs' customers (which they must endeavor to have transferred to another consenting[6] CM as quickly as feasible). The netting of positions in such different accounts should be prevented, as should the use of assets in one account to cover losses relating to positions recorded in another account.

Rules as to the time when insulation from insolvency ensues must be sufficiently clear. This is generally expressed by the notion of settlement finality. At set times or events, CM instructions to transfer cash or securities in the CCP (as in any FMI) become irrevocable by the CM and binding on third parties. Instructions having obtained such status prior to a CM's insolvency (or, exceptionally, immediately following it, while the CCP operator was unaware and should not have been aware of it) will be processed by the CCP—provided adequate funds or securities are available—even after and in spite of such insolvency. The legal framework either stipulates such times/events or leaves it to the rules of the CCP operator to do so, while recognizing the binding effects of these rules, in any event. In either case, the principle of hierarchy of norms dictates that insulation from insolvency be prescribed at the level of the law, in order to validly derogate from general insolvency law provisions. For the benefit of legal certainty, a sound legal framework on settlement finality could also usefully define insolvency proceedings (distinguishing them from early intervention and recovery measures) and the time of their initiation, and set up a notification regime for the CCP, its participants and its overseer. Clarity as to settlement finality validly derogating from insolvency law should be demonstrated in legal opinions, to be relied upon by the CCP, under the laws of all relevant jurisdictions.

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[3] For an index of netting & close-out netting friendly jurisdictions, *see* www.isda.org

[4] Paech, 2014 at 24 observes that the relevant scope of eligible parties and eligible contracts may differ among jurisdictions, such variation in substantive law also making a considerable difference to the enforceability of close-out netting.

[5] PFMI Principle 14, Segregation and portability.

[6] For the benefit of legal certainty, the legal framework should provide for a procedure to obtain consent of direct participant(s) to which positions and collateral are ported: this is not always the case (e.g., Chile).

V. The Foreign CCP Option

42. **This section examines the key considerations relevant for those policy options hinging on a foreign CCP (Model 1 and 2)**. Considerations relating to deference, however, are relevant also for the CCPs, where local participants enter into trades with foreign financial institutions (e.g., globally active financial institutions operating also in the relevant jurisdiction where the local CCP is established who are not members of the CCP). In this case, the local participant's supervisor may have to defer to the foreign financial institution's supervisor.

Benefits and challenges of foreign clearing

43. **A risk-reducing feature of a global CCP is that it will generally have greater capacity and broader more diversified membership to manage the idiosyncratic default of a CM.** For example, there would be more potential and less correlated surviving CMs that can participate in the actions of the CCP aimed at hedging and liquidating the positions of the defaulter. However, this would not be the case if there were a global shock that affected all CMs, or a large non-default loss (FSB, 2020). In fact, if global systemically-important banks (G-SIBs) are prominent in the set of CMs of global CCPs, then the relevant events are unlikely to be idiosyncratic and more often, systemic (although, arguably, also rarer).

44. **The foreign clearing option may be the only way to implement central clearing in some countries.** For example, there could be too few potential CMs to achieve sufficient risk mutualization, or the local authorities may not have the resources to appropriately backstop on a temporary basis, or more generally to supervise, a local CCP.

45. **On the other hand, the foreign clearing option may not be available for local OTC derivatives products**. The major global CCPs may offer only a limited range of certain products in local currencies (Tables 1 and 2).

46. **Clearing through a foreign CCP may be problematic due to margin requirements in foreign currencies.** Implementing collateral requirements required by a foreign CCP in the currencies of the local CM may challenge exchange controls. Deposits of initial and variation margin in global currencies could conflict also with exchange controls if a bank reaches its limit. As global CCPs only accept major currencies as margin, currency conversions on large margin swings could generate macro risks in the domestic markets where local participants operate, assuming that those major currencies are cost effectively available.[28] Also, foreign CCP clearing members may not be keen to offer clearing services to

[28] For example, LCH accepts USD, EUR and GBP cash for initial margin purposes, with a few exceptions for limited amounts of other major currencies (e.g., AUD, CAD, CHF, DKK, JPY, NKK and SKK), plus fixed income securities issued by major currency sovereigns and their agencies, plus some international financial institutions (https://www.lch.com/collateral-management/ltd-collateral-management/ltd-acceptable-collateral). The collateral requirements for the CME Group, and Hong Kong Exchanges and Clearing Limited are similarly restrictive. In general, variation margin must be submitted in the form of cash in the currency of the underlying exposure.

However, to the extent that EMDE banks and non-financial counterparties (NFCs) are using derivatives cleared on foreign CCPs to hedge foreign exchange risk generated elsewhere in the portfolio (e.g., FX borrowing), then the long positions vis-à-vis the CCP would be subject to right-way risk; i.e., they would fall in market value when the local currency appreciates, relaxing the constraint in the local FX market where spot purchases may have to be made to finance posting of VM at the CCP. More generally, to what extent this is a practical issue depends on what positions local banks and NFCs take in the derivatives market.

smaller users and if they do, only at great cost. The same issues could develop for local entities trying to use foreign clearing members to access foreign CCPs.

47. **Moreover, clearing through a global CCP has the potential of exposing the local market to global shocks.** Local participants and their markets may be exposed to the major international financial institutions via the default fund of the global CCP and thus to shocks arising from a default originating in other jurisdictions. Local banks may also be exposed to the unlikely, but not impossible failure of the global CCP that may default in extreme situations, for example following the default of several large CMs. In such extreme scenario, local participants may be confronted with losses through loss-sharing arrangements, i.e., through the default fund or through the use of recovery and resolution tools. However, smaller players from these jurisdictions will not likely be significant parties of the default fund or might be clients instead of clearing members.

48. **As the use of a foreign CCP reduces the capacity to monitor the exposures of local participants, cross-border cooperative arrangements become essential.** Domestic authorities where local participants are established are not the primary regulator and supervisor of the CCP clearing with the local participants. A cooperative oversight arrangement with the home authorities becomes thus essential and will be subject to the terms discussed by the home and host authorities.[29] However, the effectiveness of these arrangements may prove limited in case authorities have, in practice, conflicting interests, which may result in limited powers to obtain timely information, induce change or enforce corrective action. Local participants' authorities may also have limited capacity to intervene during a crisis and mitigate shocks that (potentially) affect domestic financial stability. The multitude of jurisdictions with an interest in the global CCP will increase complexities during crisis events.[30] The local central bank could also arrange back-up liquidity facilities, perhaps through central bank currency swap lines, but this should still entail some level of supervisory cooperation with the central banks issuing the relevant currencies, and granting access to central bank liquidity will always remain a discretionary decision of the central bank of issue.[31]

Different regulatory approaches to cross-border provision of clearing services

49. **Jurisdictions apply a combination of models to effectively manage the cross-border activity of domestic financial market participants and, at the same time, ensure a safe and sound prudential framework of cooperation with third-country jurisdictions**. The application of these models to the provision of cross-border clearing services are also aimed at ensuring clarity on the implementation of the clearing mandate, as CMs will face a multitude of distinct national clearing obligations incumbent on them and/or their transactions, particularly when a foreign clearing option is pursued. Generally, the mechanisms for cross-border regulation of financial services relevant to the provision of cross-border clearing services under the foreign clearing option can be categorized in three

[29] See for example the MOUs between the Australian Authorities (RBA/ASIC) on one hand and the CFTC, FCA/BoE, RBNZ and ESMA on the other hand, or the MOUs between the Canadian Authorities (OSC, AMF, ASC and BCSC) and the FCA/BoE, CFTC, SEC and ESMA on the other hand.

[30] Difficult trade-offs may also arise between the needs to preserve the safety of the CCP and domestic and global financial stability. For example, increased country risk resulting in credit downgrades of domestic banks may trigger margin calls by the CCP, with increased haircuts on collateral, which may negatively impact the liquidity position of the domestic banks and may further increase margin calls and haircuts. Pro-cyclical effects may be more prevalent in case domestic banks use collateral denominated in the local currency.

[31] "A currency swap line is an agreement between two central banks to exchange currencies. This allows a central bank to obtain foreign currency liquidity from the central bank that issues it—usually because they need to provide this to domestic commercial banks." (ECB, 2020).

ways that are described below; national treatment, passporting and deference (Table 3).[32] All are based on the assumption that it is not feasible to have fully identical regulatory regimes applicable to all CCPs and their participants across different jurisdictions.[33]

Table 3: Taxonomy for Cross-Border provision of services			
	National Treatment	**Passporting**	**Deference**
Domestic Supervisory Action	Licensing	(Licensing by home supervisor only)	Equivalence recognition
Cross-border effects of supervisory action	Full	Full	May be partial and conditional
Source of cross-border regulation effects	International agreement, statutory provisions	International agreement	International agreement, statutory provisions, supervisory discretion
Examples currently in force	N/A	EMIR created a passporting regime for intra-EU clearing and a deference regime for recognized non-EU CCPs.	

50. **The national treatment (reflecting Article XVII of GATS) treats all foreign actors or financial products no less favorably than their domestic counterparts**, with the same registration or authorization requirements applicable to the latter category, and regardless of the foreign regulatory regime applicable to the former. Under this model, foreign participants in a global CCP are treated as counterparties of the CCP's home jurisdiction.

51. **In a passporting regime, a single authorization or registration allows for the provision of services within an economic area under the supervision of a single ("home") national authority**. As there is no need to obtain an additional authorization or registration to operate in jurisdictions that are part of the passporting regime, financial products or services can be easily provided within the economic area. This arrangement may be based on an international agreement, including provisions on a common set of rules permitting market access. The trust backing up a passporting regime is usually the result of extensive harmonization of substantive rules across the economic area, and extensive cooperation of national supervisory authorities.[34]

52. **Deference involves the recognition by a jurisdiction of a determination taken by another jurisdiction as equivalent to the first jurisdiction's legal and regulatory requirements.**[35] Contrary to passporting, where a greater degree of harmonization has been achieved, deference typically

[32] See European Commission (2017) and IOSCO (2015 and 2019) for a similar taxonomy. IOSCO (2019) examines the relevance of deference in the context of an analysis of the potential adverse effects of market fragmentation, and the practical steps that can be taken to enhance supervisory and regulatory cooperation. See also FSB reports on Market Fragmentation (June 2019 and update of October 2019), identifying deference as one of the areas for further work to address market fragmentation.

[33] Committee on Capital Markets Regulation and Financial Markets Law Committee, 2015 at III.

[34] Pierre-Hugues Verdier (2011) at p. 96.

[35] G-20 leaders have declared that "jurisdictions and regulators should be able to defer to each other when it is justified by the quality of their respective regulatory and enforcement regimes, based on similar outcomes, in a non-discriminatory way, paying due respect to home country regulation regimes." (G20, 2013).

necessitates an *additional* supervisory action (e.g. recognition, prescription or exemption) allowing an entity (e.g. a global CCP or a foreign participant) to operate or provide services in the deferring jurisdiction. This action is based on an *ad hoc* comparative assessment of the framework of the home country of such entity, concluding that the relevant rules, as well as the practical supervision and enforcement arrangements, adhere to standards functionally equivalent to of the jurisdiction where deference is sought.[36] The supervisor's authority to exercise deference may lie in an international agreement, specific statutory provisions, general rule-making powers or discretionary powers.[37]

53. **In their deference decisions, jurisdictions examine the existence of a number of circumstances with respect to the foreign jurisdiction**, including: (i) the compliance with international standards, such as, in the case of CCPs, the PFMIs (Brazil and South Africa); (ii) the equivalence of regulatory and supervisory regimes, including with respect to the effectiveness of supervisory and enforcement mechanisms exercised (EU, U.S.); (iii) the extent to which legally binding requirements are in force and complied with (Brazil, Canada and South Africa); (iv) the existence and functioning of information sharing and cooperation arrangements such as MoUs or the granting of mutual assistance by the foreign regulator (e.g., Brazil, U.S.); (v) the approval of the relevant cross-border activity by the foreign regulator or good regulatory standing with the latter (U.S.); (vi) the provision of limited services or facilities cross border (Canada); and (vii) the existence of an equivalent recognition system in the jurisdiction of origin (Brazil and EU).

54. **The assessments underlying deference determinations aim to be outcome-based**, focused on the *substantial equivalence* of regulatory and supervisory arrangements rather than on formally identical legal provisions in place in the relevant jurisdictions[38]. In their decision to grant deference, authorities can examine on a case-by-case basis financial stability risks and track record of supervision practices, guided by proportionality considerations and in light of the specific features of the financial system in place in the foreign jurisdiction assessed. Moreover, equivalence findings can cater for different situations by providing in the assessments for varying thresholds applicable to jurisdictions that present lower financial stability risks, or to individual CCPs considered systemically important[39] or posing significant risk to the foreign participants' jurisdiction.

55. **As a result, deference can be full or partial, and may be granted subject to specific conditions.** Even when the authorities in a particular jurisdiction are able to defer to another country's regulatory and supervisory regime, they would typically maintain a degree of their supervisory powers by

[36] The G20 and the FSB refer to the concept of "deference", while ISDA and the US regulatory authorities to "substituted compliance", IOSCO to "recognition" (while deference encompasses the three categories—national treatment, recognition and passporting), the EU to "equivalence" and recently also to "comparable compliance" and the United States to "alternative compliance".

[37] FSB (2019) reported that only 10 FSB jurisdictions (with the EU counting as one jurisdiction for this purpose) have the legal capacity to defer to other jurisdictions with respect to central clearing requirements, and 9 do not, although Russia indicated that it has reforms in progress to establish such legal capacity.

[38] European Commission (2019): "*the equivalence process is primarily a risk management exercise [of] any risks associated with the cross-border activity of market participants, while exploiting the benefits of an open and globally integrated EU financial market*".

[39] This is the case for instance for Tier 2 CCPs under Article 25a of EMIR, as were ESMA to determine that a non-EU CCP as "*systemically important or likely to become systemically important for the financial stability of the Union or of one or more of its Member States*" (Tier 2 CCP), more stringent requirements, i.e., "**comparable compliance**" to certain EMIR provisions are set to apply. See also Box 3.

requiring entities to register or apply for an exemption in their own jurisdiction[40]. Moreover, the authorities may require that the granting of an equivalence finding be subject to certain conditions or criteria being fulfilled in the foreign jurisdiction (e.g., on risk management measures concerning CCPs or on the calculation of margin). Thus, a general equivalence finding would be accompanied by a specific follow-up supervisory action concerning the relevant third-country operator. Such stronger reliance on the regulatory regime of the jurisdiction granting deference may place deference closer to a national treatment regime, which—as noted above—does not take into account foreign regulatory regimes.

56. **Ideally, the observance of the central clearing mandate could be achieved by implementing deference mechanisms in certain key jurisdictions, with spillover effects to other jurisdictions.** Through deference, and insofar as national supervisors are satisfied about the standards imposed by foreign laws and supervisory practices, CCPs and participants could be required to comply only with one set of laws. This would avoid duplicative clearing obligations applicable to participants who operate in different jurisdictions, enhancing legal certainty, cross-border trades and multilateral netting efficiencies. Furthermore, harmonization could be enhanced if jurisdictions (A, B) already considered equivalent to the same jurisdiction (C) adopt a "fast-track" procedure to establish equivalence between them.

57. **In practice, however, deference remains riddled with challenges.** The issues experienced in equivalence or similar assessments (see Box 3) highlight a number of issues faced by authorities, as the process remains inevitably influenced by broad considerations regarding the access of foreign CCPs to domestic markets or by the existence of multiple national supervisors.[41] A problematic element may also lie in reciprocity provisions, subjecting deference to the requirement that third countries provide for an effective equivalent system with respect to the clearing mandate. While, theoretically, reciprocity could be deployed to enhance uniformity by encouraging convergence to the most comprehensive regime, it has been pointed out that reciprocity provisions could in practice hinder outcomes-based equivalence findings.[42] This is mostly because reciprocity is a formal concept, based on a jurisdiction's financial importance and exposure to systemic risk, rather than on the quality and robustness of its legal and supervisory practice (Coffee, 2014).[43] When a foreign CCP is recognized/registered in a jurisdiction to which it wishes to provide clearing services, we are talking about (partial) equivalence in regulation plus (cooperation in) supervision and market access. Reciprocity relates to market access (without necessarily examining adequacy of regulation/supervision). For example, one could think of passporting as an

[40] For example, under the substituted compliance regime of Hong Kong SAR if a transaction is subject to mandatory clearing both in Hong Kong SAR and under the laws of a comparable jurisdiction, the parties are allowed to opt to clear in accordance with the requirements of Hong Kong SAR or those of the comparable jurisdiction. However, if a transaction is exempted from or not subject to clearing under the laws and regulations of a comparable jurisdiction, substituted compliance would not be available and the transaction will have to be centrally cleared in accordance with Hong Kong SAR requirements.

[41] For a critical analysis of equivalence assessments, see Yadav and Turing (2015): "The E.U. approach is to ensure that the laws of a third country (reflect closely) the requirements imposed on E.U. clearinghouses. The U.S. approach is to overlay local U.S. regulation onto any home country laws and regulation; so much the better if the home country laws have equivalent requirements to the U.S. – that will just make it easier to satisfy U.S. requirements. But the U.S. regulators will actively supervise the foreign entity plying its trade on U.S. soil. The contrasting systems have unfortunate results. Although the E.U. system looks more hands-off, in fact its entry criteria are strict, such that it is hard for a third-country legal system to open the door. "Equivalence" is proving to be a tough standard. By contrast, the U.S. model requires a foreign clearinghouse to top up to U.S. standards and to ignore the home country supervisor. The E.U. model requires U.S. clearinghouses to top up to E.U. standards, but then steps out of the regulatory picture altogether".

[42] See Article 25.6 of EMIR and Mayer Brown (2014).

[43] ISDA (2017) has proposed a risk-based framework for cross-border comparability assessments, based on a set of risk-based principles, with the goal of helping smooth the process for regulatory comparability assessments.

extended, multilateral reciprocity regime. But reciprocity decoupled from a rigorous equivalence regime could result in market access being de facto available only to major CCPs/participants from important jurisdictions, as those would be the only entities considered safe in view of the legal uncertainty.

Box 3. U.S. and EU Approaches to Equivalence

In the United States, the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) exercise supervision over CCPs clearing OTC derivatives and intending to conduct business in the United States.[1] Under Dodd Frank Act, CCPs that have been recognized by the CFTC and SEC are authorized to clear for U.S. persons, even if a non-U.S. counterparty is involved. The CFTC and SEC can exempt a CCP from this registration requirement if it is regulated by a jurisdiction with a comparably robust legal regime. The CTFC and SEC will however retain their supervisory powers over the foreign CCP.[2] Recently, however, the CFTC amended its rules to allow for "simplified registration" and "alternative compliance", if: (i) the foreign CCP's compliance with its home regulatory regime constitutes compliance with the core principles of the Commodities Exchange Act, (ii) the foreign CCP is in good regulatory standing in its home jurisdiction; (iii) the CFTC determines the foreign CCP does not pose substantial risk for the U.S, financial system; and (iv) an information sharing arrangement is in place between the CFTC and the foreign supervisory authority.[3]

In the EU, EMIR requires that the legal system of the non-EU CCP provides for a quality of supervisory standards equivalent to that provided in the EU. An equivalence decision is necessary before 'third country CCPs' can provide clearing services to CMs established in the EU. EMIR requires that CCPs "authorized in that third country comply with legally binding requirements which are equivalent to the requirements laid down in Title IV of EMIR,[4] that those [CCPs] are subject to effective supervision and enforcement in that third country on an ongoing basis and that the legal framework of that third country provides for an effective equivalent system for the recognition of [CCPs] authorized under third-country legal regimes."

[1] The SEC has jurisdiction over "security-based swaps" and the CFTC over all other swaps.

[2] It has been pointed out that the U.S. approach is not a form of recognition (or deference), given that the CTFC will continue to act as the CCP supervisor in the U.S. (Yadav and Turing, 2015).

[3] CFTC Registration With Alternative Compliance for Non-U.S. Derivatives Clearing Organizations 17 CFR Parts 39-40, RIN 3038–AE87.

[4] Title IV of EMIR includes organizational requirements, conduct of business rules, as well as prudential requirements. For a list of CCPs in jurisdictions that have been recognized as equivalent and of those which have applied for equivalence, see https://www.esma.europa.eu/regulation/post-trading/central-counterparties-ccps

Box 3. U.S. and EU Approaches to Equivalence—Cont'd

In the absence of an equivalence finding, the relevant provisions of EMIR and regulatory technical standards will apply to third country CMs. When one counterparty to an OTC derivative trade is established in an equivalent third country, there shall be deemed compliance with the clearing obligation established by EMIR. In the absence of these conditions, EMIR will have extraterritorial effect vis-à-vis non-EU entities that enter into a contract with EU counterparties and would be subject to the clearing obligation if they were established in the EU, provided that the contract has a "direct, substantial and foreseeable effect within the EU" or where such an obligation is necessary or appropriate to prevent the evasion of any provisions of EMIR.

The EU has recently taken an approach similar to the U.S. one, by enabling the assumption of significant supervisory powers over some foreign CCPs.[5] The new Article 25a of EMIR imposes an individual assessment of "comparable compliance" for "Tier 2 CCPs".

Tier 2 CCPs must additionally be subject to capital requirements and interoperability arrangements deemed comparable to those of EMIR. ESMA is entrusted with supervising "ongoing compliance" of Tier 2 CCPs with the conditions of their recognition, in consultation with central banks of issue for matters relating to their competence. The regime is complemented by a delegated regulation by the European Commission specifying the minimum elements to assess for the purpose of comparable compliance and the modalities of such assessment (ESMA, 2019)

Under EMIR, subject to an equivalence finding and upon additional conditions being met, foreign CCPs are recognized by ESMA. A CCP will only be recognized if the European Commission has made an equivalence decision, based on the grounds outlined above, and in addition: (a) the CCP is authorized in the third country and subject to effective supervision and enforcement; (b) there is a cooperation agreement in place between ESMA and the relevant regulator in the third country; (c) there are equivalent rules on anti-money laundering and financing of terrorism in the third country.

[5] See Regulation (EU) 2019/834 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 648/2012 as regards the clearing obligation, the suspension of the clearing obligation, the reporting requirements, the risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty, the registration and supervision of trade repositories and the requirements for trade repositories, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.322.01.0001.01.ENG.

Is indirect foreign clearing (a possible implementation of model 2) feasible from an economic and a risk management perspective?

58. **A specific risk of indirect foreign clearing relates to domestic banks' dependence on large foreign banks to access the foreign CCP, and the increased systemic importance of these intermediating foreign banks**. Smaller dealers may get indirect access to the relevant CCPs through general CMs. However, where the demand for trades is not coming from the mere need to hedge risk undertaken in core business operations, this solution might also increase systemic concerns as some of the major dealers acting as general CMs may concentrate risk and may thus become (even more) systemically important.

Specific benefits and challenges of indirect foreign clearing

59. **Clearing indirectly with a CM of a foreign CCP may come at a high price**. If local institutions opt to clear indirectly, they will face more onerous capital requirements on account of the exposure to the risk of the failure of the in-between CMs.[44] However, this could be mitigated with the appropriate legal opinions and collateral segregation. Market participants in jurisdictions in which close-out netting is not legally enforceable (e.g., Saudi Arabia) may find it difficult or expensive to indirectly clear because the clearing member's supervisor must be satisfied that close-out netting is enforceable under the laws of all the relevant jurisdictions in order for the CM to receive a favorable treatment for capital requirement purposes (see above and BCBS, 2014). But under this circumstance, it will also be difficult to become a direct clearing member.

60. **Competition issues may arise if only a very limited number of banks can offer access to the foreign CCP although global CCPs usually have many members.** The implications of CCPs' access rules could result in higher costs for indirect clearing and also limit the ability of dealers that clear indirectly to compete in other market activities. Furthermore, if the market for clearing services is insufficiently competitive, a dealer whose access is controlled by a CM may see that access constrained at the discretion of its CM.[45] Constraints that are not necessary to protect CCPs' safety and efficiency or are otherwise excessive may harm the efficiency of the market for clearing OTC derivatives.

[44] "Indirect indirect" clearing is another option for access to CCPs in which the market participant is a client of a CM client. This could be cheaper than being a CM client but posted margin may not be so well protected, and there may be increased capital and/or liquidity requirements (Budding and Murphy, 2014).

[45] There may also be legal obligations to control position limits, so the CM may not have complete discretion. For example, although the European Union's Commission Delegated Regulation (EU) 2017/582 applies only to listed derivatives, many clearable contracts are listed.

Box 4. Private Law and Public Law Considerations for Cross-border Clearing Services

Private international law may also pose challenges to the cross-border provision of central clearing services. In a cross-border insolvency context, there must be clarity as to the law applicable to participation in a CCP and to the provision of financial collateral. As CCPs are formal arrangements among their participants, international best practice recommends that the law governing the CCP (*lex contractus*) apply with regards to rights and obligations stemming from such participation. Were this to be put in doubt by the insolvent participant's jurisdiction, the concurring application of its insolvency law (and the ensuing potential non-enforceability of netting, closeout netting and financial collateral) could jeopardize the validity of other participant's subsequent transactions with the CCP (Paech, 2014). As this could in turn endanger the stability of the foreign CCP and its remaining participants, the CCP operator would tend to reject participation from jurisdictions not clearly and explicitly adhering to international best practice.

The influence of public international law on the cross-border provision of central clearing services is twofold.

- First, were transfers to offshore CCPs to be inhibited due to foreign exchange controls of a participant's jurisdiction, it would have to be examined whether the avoidance of restrictions on current payments under Article VIII(2)(a) of the IMF Articles of Agreement could come into play:[1] it is underlined that cross-border timely and in-full transfer of collateral and margin to a CCP is essential for its smooth operation.

- Second, "*settlement and clearing services for financial assets*" (including derivatives), by definition offered by CCPs, are financial services for the purpose of the Annex on Financial Services to the General Agreement on Trade in Services (GATS). This would extend to them all GATS General Obligations and Specific Commitments, with one notable *caveat* (the so-called "prudential carveout"). Discriminatory "*measures for prudential reasons, including for the protection of investors, depositors, policy holders or persons to whom a fiduciary duty is owed by a financial service supplier, or to ensure the integrity and stability of the financial system*" are expressly permitted, as long as they do not circumvent or avoid GATS obligations. The prudential carveout (the application of which entails a proportionality analysis) has recently been the subject of a WTO panel report for the first time, albeit in a banking services context (Anwesen, 2016).

[1]Wei and Zhang (2007) provide a description of exchange control categories in the IMF Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database, which explicitly include controls on transactions of derivatives and outright bans on currency derivative trading.

VI. Interoperability Between Local and Foreign/Regional CCPs (Models 3 and 4)

Is interoperable clearing feasible from an economic and a risk management perspective?

61. **Central clearing with a local CCP interoperating with a foreign CCP could eliminate some concerns of the other models.**[46] Namely, the requirement for a broad and liquid local market would not be topical. Interoperable CCPs will optimize netting for all market participants and as such eliminate some of the concerns of other clearing models realized through foreign banks. Also, interoperable links enable CMs of different CCPs to clear transactions without opening accounts in every CCP. In theory, interoperable links may provide for shocks to be shared and absorbed through substitution of services, for example by transferring positions of clients of CMs to a linked CCP. However, this is theoretical and has never been tried.

62. **However, links among CCPs may create channels for risk propagation, particularly if CCPs can transmit the effects of the failure of a participant among themselves**. Such transmission could occur, for instance, if CCPs contributed to each other's default funds, so that the failure of a participant in one CCP would oblige the linked CCPs to bear the loss through the use of the default fund contributions (CGFS, 2011). Depending on the interoperability arrangements among the linked CCPs, CCPs may be confronted with liquidity problems, as a non-defaulting CCP will not be able to receive payments due from the defaulting CCP. They may also have problems accessing any collateral deposited on behalf of the defaulting CCP although this risk can be mitigated by ring fencing the collateral (Wendt, 2015). Such a link between CCPs may require additional credit and liquidity buffers, reducing efficiency gains for the market (CGFS, 2011).[47] For similar reasons, some CCPs effectively separate their default funds into product-specific silos in an attempt to prevent contagion from one contract class to another.[48]

63. **A regional CCP (Model 4) requires a great degree of convergence and cooperation both in technical and regulatory terms**. Jurisdictions concerned must achieve and maintain an overall broad and liquid market, and convergent legal and regulatory frameworks. While deploying a single regional CCP eliminates cross-CCP transmission of risk for CMs and their clients, it renders the regional CCP itself systemically important for a number of jurisdictions. This would require a collegial model of regulation and supervision, ideally going beyond information and prior consultation requirements upon the lead supervisor. This implies that "passporting" is more fitting to this model than other cross-border regulatory approaches based on "deference/equivalence".

[46] See Turing (2016) section 15.20 *et seq.*: existing interoperability arrangements for equity CCPs were a by-product of the EU's policy of introducing competition among trading venues. It remains to be seen whether multiple swap execution facilities/listed derivatives exchanges can stimulate this in OTC derivatives markets.

[47] ESRB (2019) reports that, as of January 2019, there is no active CCP link for the clearing of OTC derivatives.

[48] For example, CME Clearing has two independent default funds, one for interest rate swaps and one for futures and cleared OTC products other than interest rate swaps (CME Group, 2020).

VII. Key Taxation Considerations When Designing a Framework for CCPs

64. **There are a number of domestic and international tax issues to consider when designing a framework for CCPs.** It is important to consider these tax issues when designing the CCP framework in order to ensure that the tax rules do not create market distortions and inefficiencies that could undermine the clearing process itself. A key issue that often requires immediate attention is the cross-border withholding tax associated with:

- Local/host CCPs dealing with, and making payments to, foreign participants (which could be relevant under Models 1, 3 and 4); and
- Local participants dealing with, and making payments to, foreign CCPs or foreign intermediaries (which could be relevant under Models 1, 2 and 4).

65. **This key tax issue arises because the crediting or payment of daily interest flows** (e.g., on both initial margin and variation margin) between participants and the CCPs would often be subject to non-resident interest withholding tax, particularly when interest is paid cross-border. This section focuses predominately on the situation where collateral for margining purposes is provided in cash.[49] Similar, but also some distinct, issues arise when collateral is received in the form of low risk debt securities (for instance, government debt securities).[50] The non-resident interest withholding tax issue can arise under all Models and this section provides guidance with respect to addressing it, but does not deal comprehensively with the domestic and international tax treatment of the underlying derivative transactions being cleared themselves and other associated financial collateral arrangements (including, those related with the payment of settlement amounts; manufactured payments over coupon payment dates with respect to securities posted as financial collateral; or the rehypothecation or reuse of those posted securities) as the domestic and international tax treatment of those transactions will typically continue to apply for each respective counterparty, even if cleared through a CCP framework. This is distinct from the crediting or payment of interest on margin (e.g., posted with cash) under the CCP framework itself which gives rise to a more immediate and specific cross-border tax issue for the CCP itself that requires careful management and is, therefore, the focus of discussion in this section.

A. Managing the immediate cross-border withholding tax issues

66. **Many jurisdictions (including key global financial centers) have been motivated to think about specific action to mitigate the immediate cross-border withholding tax issues when designing and implementing their framework for CCPs**. For global financial centers with deeper capital markets, existing tax rules might already be sufficient (such is the case in the U.S.). However, for other advanced and emerging markets, specific legal measures (such as a legislated concession) or other action (such as

[49] As previously noted, whether collateral should consist in cash only and/or securities (for instance, government securities) is beyond the analysis of this paper and depends on policy choices.

[50] For instance, a distinct issue is the tax law treatment of manufactured payments that are required to be paid in respect of debt securities held as collateral over coupon or distribution dates, which could also be treated as equivalent to the receipt and payment of interest on those securities. For a more detailed discussion, see Bossu and others (2020), especially Section VIII.

the use of binding clearing rules in the case of Australia) will likely be necessary to manage the cross-border withholding tax issue (and, even for some global financial centers such as the U.K., providing specific legislative certainty for CCP cleared trades has been preferred instead of relying on more general pre-existing tax rules). This central tax issue is to be considered at the same time as each clearing model is being evaluated. The issue arises whenever relevant payments are made by local CCPs or local participants to foreign participants or foreign CCPs, which can occur under all Models. The immediate withholding tax sensitivity is typically confined to cross-border payments of interest relating to collateral/margin (which arises because of the international norm to collect any tax on cross-border payments of interest by way of withholding tax). The following diagrams summarize the cross-border interest withholding tax exposure under Models 1 and 2 - direct clearing (Diagram A), Model 2 - indirect clearing (Diagram B), Model 3 (Diagram C) and Model 4 (Diagram D).

Diagram A (Models 1 and 2 – **direct** clearing)

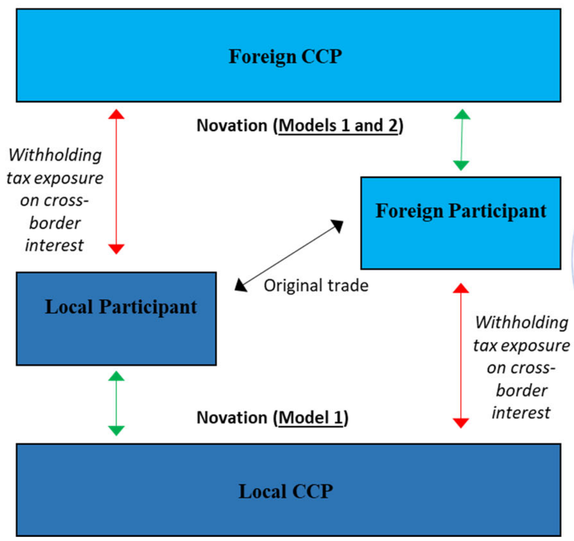


Diagram B (Model 2 – **indirect** clearing)

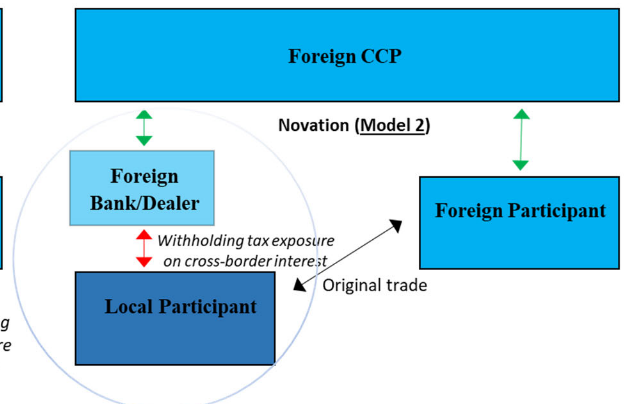


Diagram C (Model 3)

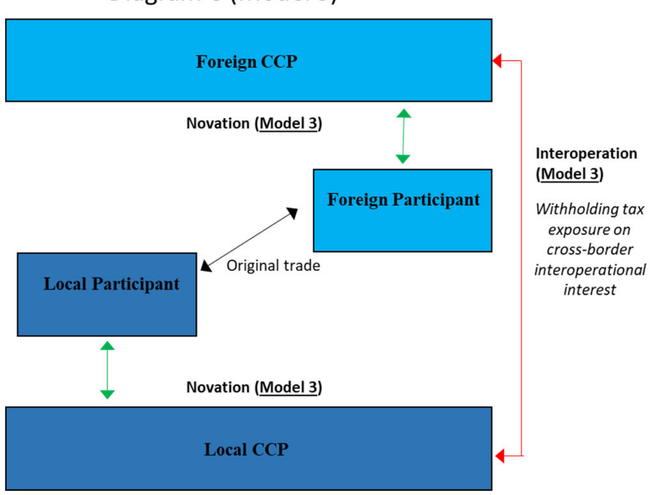
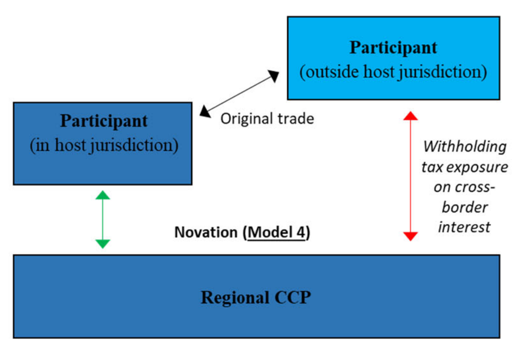


Diagram D (Model 4)



67. **Jurisdictions should also ensure that no other distortive and inefficient taxes will apply to cleared trades under their existing tax law framework.** This includes ensuring the payment of settlement amounts are not impeded by onerous tax obligations (e.g. withholding taxes), and that clearing for foreign participants with no other presence in the clearing country does not give rise to other unintended tax consequences for those participants (e.g. an exposure to taxation in the clearing country on gains arising from the clearing of trades that would not have otherwise existed for foreign participants).[51] Further, the adoption of the clearing mandate will indicate a level of depth in the local capital market that might result in a CCP framework also providing the impetus for more general financial market tax reform to bring the tax law framework to a commensurate level of sophistication (for instance, clarifying the nature of manufactured payments over coupon payment dates with respect to securities the subject of financial collateral arrangements or secondary market transactions such as repos), consistent with international good practices. A more comprehensive discussion of the domestic and international tax law reform options for the appropriate treatment of underlying derivative transactions and associated financial collateral arrangements is beyond the scope of this paper.

Summary of the key withholding tax issue on cross-border payments of interest relating to collateral/margin

68. **A key element of all derivative clearing models is the requirement for cleared derivative positions to be collateralized** (e.g., with margin) and cleared through a CCP (whether local or foreign). This will result in increased daily interest flows (e.g., on posted margin) between participants and the CCPs. Such interest would typically be payable on a cross-border basis on both initial margin and variation margin.

69. **A typical domestic tax law framework will conform to international norms when seeking to tax passive income such as interest paid on a cross-border basis**. In accordance with these international norms, foreign residents are taxed in a local jurisdiction on locally sourced income (commonly referred to as the source principle). A typical source of income rule for passive interest income would be to treat that income as being sourced in the local jurisdiction in circumstances where it is paid by a local resident entity (e.g., local CCP or local participant), which will trigger a tax liability on that locally sourced interest income in the hands of the foreign resident receiving it (e.g., foreign participant or foreign CCP). The resulting tax liability on the interest income for the foreign resident would be collected at source in the local jurisdiction by way of withholding tax. This means that—absent relief or other concession—the local resident entity (e.g., local CCP or local participant) would need to withhold a fixed amount (e.g., 10 percent or other applicable rate, subject to the terms of any applicable tax treaty) from the gross amount of interest relating to the collateral/margin at the time that it is paid to the foreign resident (e.g., foreign participant or foreign CCP). The tax withheld will satisfy that foreign resident's local tax liability on the locally sourced interest income received. In other words, the source principle together with

[51] Certainty of tax treatment for all participants, particularly cross-border tax treatment, will be critical. For example, foreign participants with no other presence in the clearing country will need to be able determine their tax treatment with the certainty and should typically face no greater tax exposure in the clearing country then if the derivative transaction had not been cleared there. Domestic tax law frameworks that embody international tax norms, supported by applicable tax treaties, should be capable of supporting certainty in this regard (e.g., gains on cleared trades should typically be taxed in the country of residence of a foreign participant with no other presence in the clearing country). All cross-border clearing and settlement arrangements (irrespective of the transaction being cleared) should also avoid the potential for complex and non-neutral tax exposures between clearing and settlement options which could otherwise result in: unintended tax liabilities; complex relief procedures (e.g. for withholding taxes); or otherwise distortive and inefficient tax frictions (e.g. cumbersome transaction taxes), while also safeguarding transparency (e.g. ensuring the clearing and settlement platform does not facilitate tax arbitrages that have the potential to undermine the reputation and integrity of the platform).

the withholding tax mechanism commonly operates so that interest withholding tax becomes payable where:

- an amount of interest is paid (which would typically include payments of interest on initial margin, and payments of price alignment interest on variation margin);
- *by* a local resident entity[52] such as a local CCP (or local participant); and
- *to* a foreign resident[53] such as a foreign participant (or foreign CCP).

70. **This can occur under all Models and means that—absent relief or other concession—a local CCP or local participant could be required to withhold tax on interest amounts (comprising interest on initial margin or price alignment interest on variation margin) when paid to a foreign participant or foreign CCP, respectively**. Further complications can arise depending on (i) whether a principal or agency model is adopted; and (ii) whether a double tax treaty applies.

Why the imposition of withholding tax on cross-border interest payments relating to collateral/margin is problematic in a clearing context

71. **It is important that the domestic tax rules do not undermine the efficiency of the clearing model adopted**. The imposition of an obligation to withhold tax on a local CCP (when making cross-border payments of interest relating to collateral/margin to foreign participants) or a local participant (when making equivalent interest payments to foreign CCPs) can lead to market distortions and inefficiencies that could undermine the clearing process itself. This could be the case for the following reasons:

- ***Requiring the local CCP to withhold on account of non-resident interest withholding tax could adversely affect the attractiveness and efficiency of the local clearing process***. This could arise because payments relating to daily margining are typically made with high frequency, and are calculated based on net positions/exposures to counterparties who may be acting either as principal or agent, all of which could make the ability to calculate and apply withholding deductions on interest payments particularly onerous or impracticable for a local CCP, which is not often mitigated by set-off arrangements as withholding tax is typically imposed on gross entitlements rather than net set-off amounts.

- ***In addition, industry practice generally requires interest payments to be made free and clear of any withholding tax and for the paying entity to bear the cost of any such tax withheld.*** This would also mean, for example, that any local withholding tax could be borne by local participants on cleared trades in respect of withholdable payments made to a foreign CCP. The withholding tax impact may also be priced into local transactions which could increase the cost of the cleared trades.

- ***The local CCP or local participants could be placed at a competitive disadvantage as a result of the imposition of the local withholding tax.*** This is because, for the reasons outlined above, other jurisdictions (particularly key global financial centers) either do not impose withholding tax on interest payments or otherwise provide specific concessions or reliefs (e.g., for cleared trades). An asymmetric withholding tax treatment could also dislocate a local market by

[52] Not acting through a foreign permanent establishment (branch).

[53] Not acting through a local branch.

creating a disincentive for foreign market participants to enter and clear trades in that market thereby limiting the ability of local participants to access foreign counterparties and adversely affecting the local liquidity of the domestic derivatives market.

B. Common approaches to managing the key withholding tax issue on cross-border payments of interest relating to collateral/margin

72. **For the reasons outlined above, many jurisdictions ensure that their local CCP, and local participants are relieved of any obligation to withhold tax from interest payments made to a foreign CCP.** Relief is generally provided through a legislated concession, whether specific to cleared trades or with broader application. It is important to note that the interest amounts are unlikely to inappropriately escape taxation (even if exempted in the local source country) as it is also the international norm for the country within which the recipient of the interest is resident (i.e., the foreign jurisdiction) to have the primary right to tax passive interest income. Recent and ongoing international initiatives also exist to combat tax avoidance and evasion with respect to the taxation of such interest income, including: more robust cross-border exchange of information arrangements; the need to maintain substance in the recipient foreign jurisdiction before that passive interest income can become eligible for concessional tax treatment; and proposed minimum taxation to ensure that minimum levels of effective taxation are achieved on cross-border interest income.

73. **Good international practice would suggest that a jurisdiction that is seeking to design and adopt a framework for CCPs should consider adopting a specific legislated concession or relief in their domestic tax law for cleared trades in respect of interest payments that would otherwise be subject to withholding tax at source.** This approach is often preferred on the basis that it achieves greater market certainty and supports the policy intention for counterparties to move towards central clearing. For example, a broad domestic tax law exemption (known as the "portfolio interest exemption") applies in the US which typically applies to cross-border interest payments relating to cleared trades.[54] Further, in the UK, tax is only required to be withheld from cross-border payments of yearly interest made by non-banks (with an exemption/exception for short interest) and—to give certainty of treatment for the CCPs—a specific exemption exists for payments of interest made by a recognized clearing house.[55]

74. **Alternatively, some jurisdictions have been able to manage the withholding tax issue for their local CCP and local participants by relying on the flexibility of their clearing mandate (e.g., under Model 1), without undertaking specific tax law reform (see diagram below).** For example, in Australia (which would generally impose interest withholding tax on cross-border payments of interest, even on cleared trades), the framework has been developed such that:

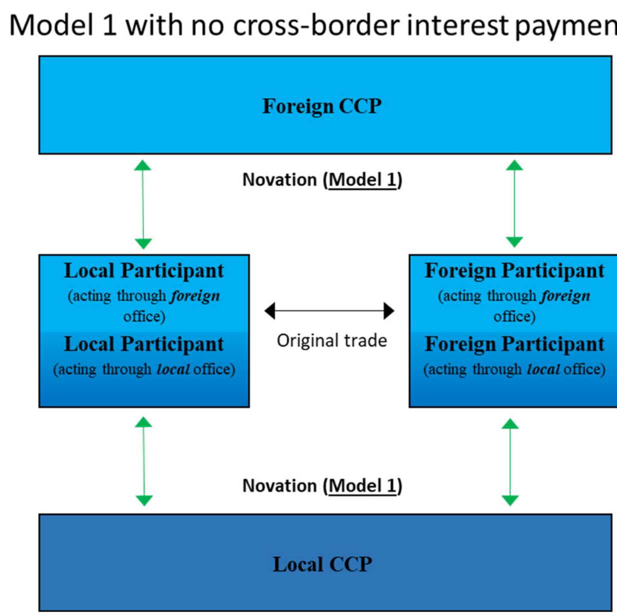
- foreign participants clearing through the local CCP are required to use their local branches (thereby eliminating any non-resident interest withholding tax obligation for the local CCP);[56] and

[54] See §§ 871(h) and 881(c) of the Internal Revenue Code of 1986 for the portfolio debt exemption (portfolio interest exemption). Zero withholding tax rates may also apply to certain interest payments under existing tax treaties that the U.S. has entered into (e.g., under an exemption available to financial institutions).

[55] See Chapter 3 of Part 15 of the Income Tax Act 2007, particularly section 886 (dealing with interest paid by recognized clearing houses). Zero withholding tax rates may also apply to certain interest payments under existing tax treaties that the U.K. has entered into (e.g., under an exemption available to financial institutions).

[56] See paragraph 5.8 of ASX OTC Handbook.

- other relevant foreign participants (e.g., who operate wholly outside Australia) are afforded the flexibility to use foreign CCPs for the clearing of derivative trades with local Australian counterparties (assumed to be operating through their own foreign branches) under Australia's clearing mandate (thereby keeping all aspects of the clearing process for these participants outside the application of Australia's withholding tax rules).



75. **The above flexibility does somewhat mitigate the need for a specific legislated concession or relief in the domestic tax law for cleared trades.** However, at the same time, it does also highlight how the attractiveness of clearing through the local CCP could be made more neutral by adopting a specific legislated concession or relief for interest payments made by local participants (not operating through foreign branches) to foreign CCPs, and for interest payments made by local CCPs to foreign participants. This supports the conclusion that it is generally considered good international practice to provide specific legislated relief for relevant interest payments arising from cleared trades.

VIII. Conclusions

76. **There can be no one size fits-all approach—at best, crafting strategy/options for applying the central clearing mandate is at the crossroads of a series of objective drivers ("where we are now") and each jurisdiction's ambition for the future ("where we want to be").** This paper discusses four different central clearing configurations (see Table 4), for which selection drivers include:

- **The structure of the local financial services industry**. For example, in smaller markets where most derivatives are denominated in global systemically important currencies, a local clearing mandate may not be necessary, if local firms already clear such transactions through institutions that are under a clearing mandate in another G20 jurisdiction. Also, local central clearing may be counterproductive if there are not enough potential clearing members to provide for meaningful risk mutualization.
- **The characteristics and volumes of the products traded by the local financial services industry**. For example, a key constraint in many smaller jurisdictions will be that setting up a CCP with a credible risk management framework has similar fixed costs as for larger, global CCPs, but this cost can only be distributed amongst fewer counterparties and trades. As a result, either the price of clearing, or the risk management framework of the CCP, or both, suffer.
- **Legal considerations**, including the feasibility of deference, mutual recognition and substituted compliance regimes, the enforceability of closeout netting and collateral and more generally the compliance with the PFMIs on legal basis. For example, a jurisdiction would need to successfully engage in equivalence assessments with the authorities of all or some pertinent foreign jurisdictions, and to maintain such equivalence.
- **The supervisory considerations in the local market and the desirability of retaining supervisory control over the clearing mandate**. Retaining control allows the supervisor to have the flexibility to respond to market events. For example, the eventual cessation of the IBORs may have an impact on at least some existing clearing mandates.
- **The law and practice of CCP recovery and resolution**. Not all jurisdictions might have the capacity (legally, operationally and, first and foremost, financially) to manage a clearing house default. Conversely, however, the default of a CCP could have very significant impact on clearing members and their clients established outside its jurisdiction and it is not clear that, despite any will to co-operate, the authorities responsible for the resolution of such CCP in resolution will have foreign clearing members at the forefront of their mind.
- **The domestic and international tax law settings should facilitate the clearing model chosen.** A key impediment to manage upfront is the withholding tax treatment of cross-border payments by local CCPs or local participants to foreign participants or foreign CCPs, specifically with respect to the payment of daily interest flows on both initial margin and variation margin. Many emerging (and even advanced) markets will need to design specific measures (such as a legislated concession) or other action (such as the use of binding clearing rules) to manage the cross-border withholding tax friction that could otherwise arise in relation to cleared trades.

Table 4: Pros and Cons of Different Central Clearing Configurations		
	Pros	**Cons**
Local CCP	Provides CMs with full local-level netting benefits, which may enhance market efficiency and financial stability.	Domestic market may not be big enough to allow for a sound business case.
	May spur derivatives market development.	There may not be enough potential CMs to mutualize risks effectively
	May partly shield the domestic market against crises originating outside the jurisdiction where the local CCP operates.	Requires substantial resources to supervise and ensure that appropriate (e.g., PFMI) risk management standards are met.
Foreign CCP	Will generally have greater capacity and broader more diversified membership to manage an idiosyncratic CM default.	Option may not be available for local OTC derivatives products at major global CCPs.
	Reduces cost of supervision and need for liquidity backstopping by local authorities.	Foreign currency margin requirements could be problematic. Large margin swings could generate macro risks.
	Cross-border cooperative arrangements can ensure that local authorities can monitor exposures of local participants.	Local participant's supervisor may have to defer to foreign supervision and rely on foreign central bank liquidity backup.
Local CCP interoperating with a foreign CCP	Local participants clearing at the local CCP and foreign counterparties at their foreign CCP, eliminates need for multiple CCP memberships.	Comes with significant legal, operational and credit risks and complexities, including for the CCPs involved.
		May create risk propagation channels if CCPs can transmit the effects participant failure among themselves.
Regional CCP	May provide significant technical infrastructure economies of scale.	Requires considerable degree of regional legal and regulatory convergence, and supervisory cooperation.

Appendix

Centrally Clearable Foreign Exchange Contracts at Selected Large Global CCPs (October 2020)							
		Non-Deliverable Forwards (NDF)			Cash-Settled Forwards		
		ForexClear	CME	HKEX	ForexClear	CME	HKEX
Australia	Dollar	vs USD			vs USD	vs USD	
Brazil	Real	vs USD	vs USD				
Britain	Pound	vs USD			vs USD	vs USD	
Canada	Dollar	vs USD?				vs USD & JPY	
Chile	Peso	vs USD	vs USD				
China	Yuan	vs USD	vs USD	vs USD			vs USD
Colombia	Peso	vs USD	vs USD				
Czech	Koruna					vs USD	
Danish	Krone					vs USD	
Europe	Euro	vs USD			vs majors	vs USD	
Hong Kong SAR	Dollar					vs USD	vs USD
Hungary	Forint					vs USD	
India	Rupee	vs USD	vs USD	vs USD			
Indonesia	Rupiah	vs USD	vs USD				
Israel	Shekel					vs USD	
Japan	Yen	vs USD				vs USD	
Korea	Won	vs USD	vs USD	vs USD			
Malaysia	Ringgit	vs USD					
Mexico	Peso					vs USD	
New Zealand	Dollar					vs USD	
Norway	Kroner					vs USD	
Peru	Sol	vs USD	vs USD				
Philippines	Peso	vs USD	vs USD				
Poland	Zloty					vs USD	
Russia	Ruble	vs USD	vs USD				
Singapore	Dollar					vs USD	
South Africa	Rand					vs USD	
Sweden	Krona					vs USD	
Switzerland	Franc	vs USD				vs USD	
Taiwan POC	Dollar	vs USD	vs USD	vs USD			
Thailand	Baht					vs USD	
Turkey	Lira					vs USD	
United States	Dollar				vs JPY & CHF		

Sources: LCH ForexClear, CME Group, and HKEX
Notes: The “vs” indicates the contract base currencies (CHF = Swiss Franc, JPY = Japanese Yen, USD = U.S. dollar, and “majors” include CHF, JPY, USD and the British Pound).

Centrally Clearable Interest Rate Contracts at Selected Large Global CCPs (October 2020)								
		SwapClear		CME		Eurex		HKEX
		IRS	FRA	IRS	FRA	IRS	FRA	IRS
Australia	Dollar	X + OIS		X + OIS	X			
Brazil	Real	ND		ZC				
Britain	Pound	X + OIS	X	X+ZC+OIS	X	X + OIS	X	
Canada	Dollar	X + OIS		X + OIS	X			
Chile	Peso	ND		X + ZC				
China	Yuan	ND		X				X + ND
Colombia	Peso	ND		OIS				
Czech	Koruna	X	X	X	X			
Danish	Krone	X	X	X	X	X	X	
Europe	Euro	X + OIS	X	X+ZC+OIS	X	X + OIS	X	X
Hong Kong SAR	Dollar	X		X				X
Hungary	Forint	X	X	X	X			
India	Rupee	ND		OIS				ND
Israel	Shekel	X	X					
Japan	Yen	X+ OIS	X	X + OIS	X	X + OIS	X	
Korea	Won	ND		X				ND
Mexico	Peso	X		X				
New Zealand	Dollar	X + OIS		X	X			
Norway	Kroner	X	X	X	X	X		
Poland	Zloty	X	X	X	X	X		
Singapore	Dollar	X + OIS		X	X			
South Africa	Rand	X		X	X			
Sweden	Krona	X	X	X	X	X + OIS	X	
Switzerland	Franc	X + OIS	X	X	X	X + OIS	X	
Taiwan POC	Dollar	ND						ND
Thailand	Baht	ND						ND
United States	Dollar	X + OIS	X	X+ZC+OIS	X	X + OIS	X	X

Sources: SwapClear, CME Group, Eurex Clearing and HKEX.
Note: ND = non-deliverable; OIS = overnight index swap; ZC = zero coupon.

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