

Central bank liquidity bridges for cross-border payments¹

Key takeaways

- *The G20 cross-border payments programme has identified funding costs as contributing to the high cost of cross-border payments. This partly reflects the cost of banks' fragmented holdings of liquidity and collateral in different currencies across multiple jurisdictions.*
- *Central bank liquidity bridges (CBLBs) can help reduce these costs by allowing payment system participants to post collateral at a foreign central bank to be able to draw on intraday liquidity from their home central bank.*
- *CBLBs entail setup and running costs, and the risks need to be managed through adequate risk control measures (eg haircuts to address foreign exchange risk). By adopting a parsimonious design and leveraging existing systems and arrangements, the associated costs and complexities can be reduced.*
- *The case for establishing a CBLB depends on the context. The current environment of excess liquidity in many jurisdictions probably weakens that case, everything else equal. But this situation may not last forever.*

Costs of globally fragmented liquidity and collateral

International banks and other payment service providers (PSPs) incur the cost of holding liquidity and collateral in different currencies across multiple jurisdictions to facilitate intraday payments in large-value payment systems (LVPS). Intraday liquidity needs to meet these payment obligations may be large and highly variable due to mismatches in the timing of payment inflows and outflows through the business day. If their local collateral assets are insufficient for them to draw upon central bank intraday liquidity facilities, PSPs may need to overfund their liquidity positions to meet payment obligations and mitigate uncertainties about payment timing. This increases their funding costs. Moreover, if PSPs anticipate a shortfall in one currency, they may need to conduct a foreign exchange (FX) transaction (typically a swap) to fund the shortfall with a liquidity surplus in another currency, which also incurs costs. These costs may discourage international banks from expanding their services to more (potentially underserved) markets.

Central bank liquidity bridges as a potentially useful liquidity management tool

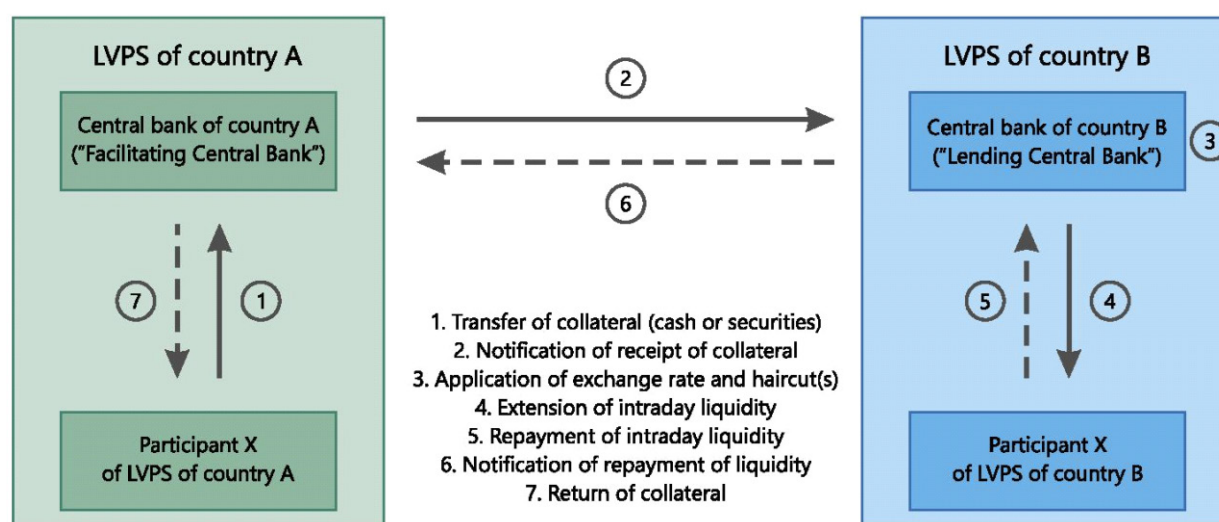
Central bank liquidity bridges (CBLBs) can help international banks to more efficiently manage their global liquidity requirements. A CBLB is a short-term intraday liquidity arrangement set up between two or more central banks. Collateral held by payment system participants may be posted to one central bank (the "facilitating central bank") to enable the provision of intraday liquidity by another central bank (the "lending central bank") to a related entity in the jurisdiction of the lending central bank. CBLB participants

¹ This article reflects the contributions of a workstream convened by the BIS Committee on Payments and Market Infrastructures (CPMI) under the G20 cross-border payments programme and chaired by Ulrich Bindseil of the European Central Bank. The article is a preview of a forthcoming CPMI report providing a framework for central banks considering establishing CBLBs. The views expressed are those of the article contributors and may not necessarily reflect the views of the CPMI or its members.

may use this liquidity to meet their intraday payment obligations in both normal and stressed liquidity conditions (unlike, for example, central bank swap lines, which are generally used on a contingency basis). Thus, CBLBs may help to lower their participants' funding costs for intraday liquidity by reducing the need to overfund liquidity to meet their payment obligations with the aim of mitigating uncertainties about payment timing.

Stylised mechanics of a bilateral liquidity bridge

Graph 1



Note: Solid lines represent the opening leg of the liquidity extension while dashed lines represent the return leg.

Source: CPMI.

CBLBs may also lower FX and credit risks for payment system participants who would otherwise need to raise intraday liquidity through FX transactions with commercial counterparties.

Internationally active PSPs can raise liquidity in foreign markets in several ways. First, they can hold foreign currency liquidity at the foreign central bank where they settle payment obligations (if they are direct participants and self-clear in the foreign market). Second, they can hold foreign currency liquidity in nostro accounts at their correspondent banks. Third, they can invest in highly liquid assets that can be easily sold or used as collateral in repo agreements to raise liquidity. The second and third options, however, may pose FX or credit risks to the PSP. Also, all three options may incur an opportunity cost, particularly if the PSP intends to overfund its payment obligations. CBLBs may reduce FX, credit and operational risks for participants insofar as they replace the sourcing of FX liquidity via FX transactions or exposures to commercial counterparties.

In addition to their benefits during normal market conditions, CBLBs may be useful in times of stress and to support financial stability. By stabilising the demand for collateral and reserves, CBLBs may support financial stability by mitigating potential funding stresses and reducing related asset price and currency volatility. Without CBLBs, either higher precautionary liquidity buffers would be required to ensure the fulfilment of payment obligations or assets would need to be sold and temporarily converted into the currency of the liquidity shortfall. Such measures could exacerbate disorderly market conditions.

Potential risks and costs of CBLBs

Establishing a CBLB poses some financial risk to at least one of the participating central banks. These risks require active management through control measures. Central banks could incur losses if

a payment system participant were to default and the proceeds of any collateral liquidated were to fall short of the credit provided,² or if a borrowing LVPS participant were to be in default and could not compensate for any shortfall in collateral liquidation value. However, financial risk for central banks may be low if counterparty eligibility is carefully defined and monitored, FX haircut levels are set conservatively and only cash is accepted as collateral.

Setting up and operating a CBLB also comes with some fixed costs. These costs are likely to relate either to technical implementation or establishing the necessary legal agreements, both between the central banks in question and between the central banks and their respective participants. In practice, these costs would vary depending on the operational design and how far the participating central banks are operationally integrated. These costs can be reduced if a simple setup is chosen (eg accept only cash as collateral) so that the CBLB leverages existing systems and counterparty relationships. Running costs could also be kept low if all processes at the central bank are automated.

Existing implementations and situational factors for considering CBLBs

Market feedback (from 2021) on the two existing CBLBs suggests that participants find them useful even under the current excess liquidity environment. The two current CBLBs are those established by the Bank of England (BoE) and the Netherlands Bank (DNB) in 2007, and between the central banks of Denmark, Sweden and Norway in 2003 (“the Scandinavian Cash Pool”).³ At present, usage volumes are currently smaller than they were during periods of scarcer liquidity before central banks embarked on large-scale asset purchase programmes. However, participants have indicated that they continue to value these CBLBs as they provide an additional funding option. Their low setup and operating costs, as well as their risk-mitigating features, have argued in favour of their continuation.

Central banks may wish to consider situational factors in judging whether a CBLB would be worthwhile. A high volume of payment flows and related liquidity needs between jurisdictions may argue for one. Jurisdictions could also benefit from a CBLB if they face an asymmetry of liquidity or collateral buffers. For example, international banks may possess a concentration of collateral in one jurisdiction but face large intraday payment needs in another. A significant overlap in operating hours and LVPS membership would also argue for a CBLB, as would a significant degree of regional economic and financial integration. Factors that might weaken the case for a CBLB include an environment of excess liquidity and a high degree of FX volatility for the relevant currency pair (and thus the high implied haircuts required to mitigate FX risk).

Design options for CBLBs

The design of a CBLB could vary in the following ways:

A CBLB can be either bilateral or multilateral. A bilateral bridge only involves two central banks (as in the Anglo-Dutch CBLB). If more than two central banks are involved, the CBLB would be multilateral (as in the Scandinavian Cash Pool). In a multilateral arrangement, the collateral pledged with a facilitating central bank may be used to generate liquidity from multiple lending central banks.

In terms of liquidity and collateral flows, a CBLB could be either one-way or reciprocal. In a one-way CBLB, collateral could always be pledged in one currency in one jurisdiction and liquidity always provided in another currency in another jurisdiction. In a reciprocal or two-way relationship, either central

² For example, because of unexpectedly large adverse movements of the exchange rates and/or of the value collateral posted to the facilitating central bank (the latter only if securities are accepted) such that haircuts prove insufficient.

³ A key motivation for the establishment of the SCP was to support the timed payment needs of Scandinavian banks related to the membership of Scandinavian currencies in CLS.

bank could serve as the facilitating central bank or the lending central bank and participants could post collateral in either jurisdiction in order to generate liquidity in the other.

The role of the facilitating central bank can tend towards passive or active. In a more passive role, a central bank could facilitate for the lending central bank by simply providing the custodial or cash accounts in the lending central bank's name. The collateral is directly transferred by the participant into these accounts, transferring the collateral's title or ownership from the participant to the lending central bank. In a more active role, the central bank could facilitate for the lending central bank by maintaining custody and management of the collateral transferred by the participant into an account under the facilitating central bank's control.

Eligible collateral may include cash or securities, although cash appears to be the simplest type of collateral for operational reasons. Depending on which central bank bears the collateral risk, acceptance of securities as collateral requires expertise in the local market and introduces additional complications related to securities valuation and haircutting. When the facilitating central bank bears the collateral risk, it will define the eligible collateral and the respective haircut. In principle, however, it could accept all collateral it normally deems acceptable for its domestic operations (eg collateral posted for normal intraday liquidity operations outside the CBLB). When the collateral risk is borne by the lending central bank and the lending central bank defines collateral eligibility for itself, it may opt for stricter eligibility criteria. This is due to the lending central bank being less familiar with local markets, laws and asset types than is the facilitating central bank. Moreover, the setup costs to obtain the necessary expertise may be high. Therefore, in practice, the arrangements that are likely to be more efficient and viable are those which limit the collateral set to cash and which, via sufficient haircuts, keep the additional financial risk to a minimum. This is the approach taken by the two existing CBLBs.

Eligible participants in a CBLB would typically be direct participants in the LVPS of the jurisdiction where the liquidity is sought. The LVPS participant in the lending central bank's jurisdiction is typically related to the LVPS participant in the facilitating central bank's jurisdiction pledging the collateral (eg a branch or subsidiary). Currently existing CBLBs are not available to indirect members of the LVPS.

While CBLBs are intended to be intraday liquidity facilities, differences in time zones and LVPS operating hours may impact the effective duration of the collateral pledge. Different time zones do not imply that the provision of liquidity itself should extend beyond intraday.

A range of pricing options could be considered for CBLBs, including consistency with a central bank's policies with respect to the pricing of similar facilities. A central bank may wish to align its CBLB pricing with that for providing collateralised intraday liquidity via domestic facilities (ie outside a CBLB). Alternatively, a central bank providing uncollateralised intraday liquidity may seek to differentiate pricing for drawdowns through a collateralised CBLB. As a general matter, if CBLBs are considered to be ordinary tools in the participant's day-to-day liquidity management, central banks may prefer that the pricing is neither penal nor different from the charge applied by the lending central bank for intraday liquidity. Penal pricing could introduce a stigmatising effect that discourages use of the facility.

Current CBLBs are intended for routine "business as usual" intraday payment activity. While central banks have established contingency-only cross-border collateral arrangements in recent decades to facilitate liquidity provisions in emergency scenarios, these arrangements would not be expected to significantly affect the day-to-day cost and speed of cross-border payments. That said, within the boundaries of routine usage, central banks may decide to restrict the use of CBLBs to certain kinds of routine payment activity such as large timed payments related to participation in market infrastructures.

The facility could be capped or uncapped depending on needs (and limited only by the amount of collateral) and the aim of curbing aggregate exposure. Caps can also be applied on an individual counterparty basis. Depending on where the collateral risk resides, these caps may be imposed by either the lending central bank or the facilitating central bank.

Conclusion

Well-designed CBLBs could be an effective way of reducing the funding costs incurred by internationally active PSPs. CBLBs could help improve the efficiency and effectiveness of the global liquidity pool of banking groups operating in several currencies, reducing the need for internationally active PSPs to hold liquidity buffers in multiple currencies. The reduced funding costs and settlement and credit risks resulting from CBLBs could lower the costs of cross-border payment services both *directly* and also *indirectly* through greater competition, by lowering the barriers to entry for banking groups providing cross-border payment services in multiple jurisdictions.

As CBLBs may face setup and running costs, the case for establishing one is likely to depend on the circumstances of individual jurisdictions. The current environment of excess liquidity in many jurisdictions probably weakens the case for CBLBs, everything else equal. However, excess liquidity does not prevail everywhere and it may not last forever. The central banks of jurisdictions that could benefit from CBLBs may therefore find it worthwhile to consider their advantages regardless of current liquidity conditions.