

## [The Global Network of Liquidity Lines](#)

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A central bank cross-border liquidity line is an agreement between two central banks to provide a collateralised loan of currency from one to the other. They have been around for a long time, but have risen in prominence over the last twenty years. Following both the great financial crisis and the pandemic, central banks expanded the number of lines and relied on them to restore financial stability. By 2023, the funds committed to the liquidity lines were well above the lending capacity of the International Monetary Fund (IMF).

This paper provides a comprehensive dataset of central bank cross-border liquidity lines at the agreement level: by date and duration (2000-23), by source currency (USD, EUR, RMB, others), by framework (bilateral or multilateral), by structure (pooled, reciprocal, or unidirectional), by counterparties (central banks), and by some terms (type of collateral and cap on amount). This dataset was collated from public sources, and is freely available for other researchers to use.

There are several interesting patterns in the data:

- First, there was as much growth in the network in 2010--15 as there was during the great financial crisis. Bilateral lines signed during this period mostly by the ECB and the PBoC overtook the big-5 multilateral network set up by the Fed during the crisis that most research has focused on.
- Second, the network globalised during the 2007--09 great financial crisis, and reached a peak during the 2020 pandemic. The sub-networks for the USD and the RMB are partly segmented from each other, with the ECB (and the BoJ to a smaller extent) providing a bridge in between them.
- Third, we established a new result concerning the liquidity lines: because they form a network, it is possible for banks to indirectly have access to a currency that its central bank does not have direct access to. As a result, banks in countries accounting for approximately 80% of the world GDP have access to USD, in spite of the small number of liquidity lines involving the Fed. Moreover, and perhaps surprising, the coverage of the USD is similar to that of the EUR and the RMB, but they differ in the degree of their connections, with the USD having more indirect connections.

- Fourth, with indirect connections, other central banks intermediate access to a currency that is not their own. We found that the PBoC plays a relevant role in the USD network. If geopolitical tensions or other events excluded the PBoC from the network, the reach of the USD network would fall by 25% of world GDP, and the average degree of its connections would rise by 0.5. Across currencies, the PBoC is the more central in their networks, but recently the ECB is equally important in providing a shortest path to currencies in the network.
- Fifth, we proved that these indirect connections create (soft) ceilings on the size of CIP deviations. As the degree of a connection increases, the ceiling tends to rise with it. Collecting new data for CIP deviations in 42 countries, we found a strong correlation between the degree of the connection between two currencies in the network and the size of CIP deviations.
- Sixth, we found that signing a liquidity line is often preceded by a strong decline in USD reserves. In this sense, a run on reserves temporarily causes signing a liquidity line and, arguably, the line is seen as a substitute for exhausted reserves.
- Seventh, the indirect connections in the network create variation in the access to the resources of the liquidity line that is plausibly exogenous with respect to what was happening to a country's FX reserves. This provided an identification strategy that we used to find that an increase in the degree of integration in the network of liquidity lines is followed over the next 12 months by an increase in the FX reserves of the country. In this sense, lines and reserves are complements.