Box 6
The effectiveness of ECB currency liquidity lines

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Liquidity arrangements among central banks are well-established instruments in central banks' toolkits. They enable a central bank to receive currency issued by another central bank against collateral. They can be implemented through two basic types of operation: currency swaps and repurchase agreements (repos).[73] The need to activate these facilities emerges during episodes of global financial market stress, such as the global financial crisis or the recent pandemic shock, when global liquidity dries up, in particular in the main international reserve currencies. Against this backdrop, this box reviews preliminary findings on the effectiveness of the Eurosystem's swap and repo line facilities.

Supporting the smooth transmission of monetary policy, the provision of euro liquidity to central banks outside the euro area formed part of the ECB's response to the coronavirus (COVID-19) pandemic in 2020. The ECB has concluded swap and repo agreements with several European central banks for the provision of euro to complement: (1) the existing network of standing, reciprocal swap line facilities with the Federal Reserve System, Bank of Canada, Bank of England, Bank of Japan and the Swiss National Bank; (2) the bilateral, reciprocal swap line with the People's Bank of China; and (3) the standing swap lines with Danmarks National Bank and Sveriges Riksbank, which the ECB has had in place for several years. In 2020 swap lines were concluded with the Bulgarian National Bank

[73] A currency swap between two central banks is a contractual agreement in which the borrowing central bank obtains foreign currency against its own currency, with the promise to reverse the transaction at a pre-specified date, adding the agreed interest cost to the borrowed currency. Repo lines are arrangements in which the lending central bank provides access to its currency to another central bank and accepts assets denominated in that same currency as collateral from the borrowing central bank.

and the Central Bank of Croatia, and repo arrangements with the National Bank of Romania, the Central Bank of Hungary, the Bank of Albania, the National Banks of Serbia and North Macedonia and the Central Bank of the Republic of San Marino. Moreover, the Eurosystem repo facility for central banks (EUREP) was established in June 2020 as a precautionary backstop facility to address the pandemic-related euro liquidity needs of a broader set of countries outside the euro area than those that qualify for a bilateral swap or repo line. Overall, the ECB provides euro liquidity in particular to countries that are strongly oriented towards the euro, whereas swap lines by the Federal Reserve tend to be extended towards US dollar-oriented countries (left panel of **Chart A**).[74] Recent research has found that access to the liquidity arrangements of the Federal Reserve during the pandemic were driven by the close trade ties of the recipient economies with the United States.[75]

Although the use of euro liquidity lines has been limited in terms of the amounts drawn and the number of non-euro area central banks counterparts drawing on the lines, there is tentative evidence which suggests that the announcement of ECB's liquidity lines has been effective in mitigating stress in local euro funding markets. A simple event study suggests that the announcement of a liquidity arrangement during the pandemic reduces the cost of euro funding in foreign exchange markets in countries with which a liquidity line was agreed (right panel of Chart A).[76] The announcement of a liquidity line was followed by an estimated decline in absolute terms in the currency basis of these countries of up to 20 basis points in the following two weeks.[77] While this methodology does not compare the effect of liquidity lines to those on a control group, other studies, including Albrizio et al. (2021), use alternative methodologies, such as difference-in-differences estimation techniques, and also find that liquidity line announcements led to a decline in funding costs.[78]

[74] The swap lines with G-10 countries and the People's Bank of China are excluded from this analysis because they serve a different purpose, namely to address global foreign currency funding shortages, in particular in US dollars, among G10 members and to provide a backstop liquidity facility to address a potential shortage of renminbi for euro area banks in the case of the People's Bank of China.

[75] See Aizenman,J. Ito, H. and Pasricha G. "Central bank swap arrangements in the COVID-19 crisis", *NBER Working Paper*, No 28585, March 2021.

[76] The sample for the event study comprises Bulgaria, Croatia, Denmark, Hungary and Romania. Data on the currency basis was not readily available for Albania, North Macedonia, the Republic of Serbia and San Marino. The estimates control for fixed effects, month effects and global financial stress as measured by the VIX index. The estimates are obtained on daily data over the period 2010-2020.

[77] This is an economically meaningful magnitude insofar as the median basis for the countries concerned was about 60 basis points in March 2020.

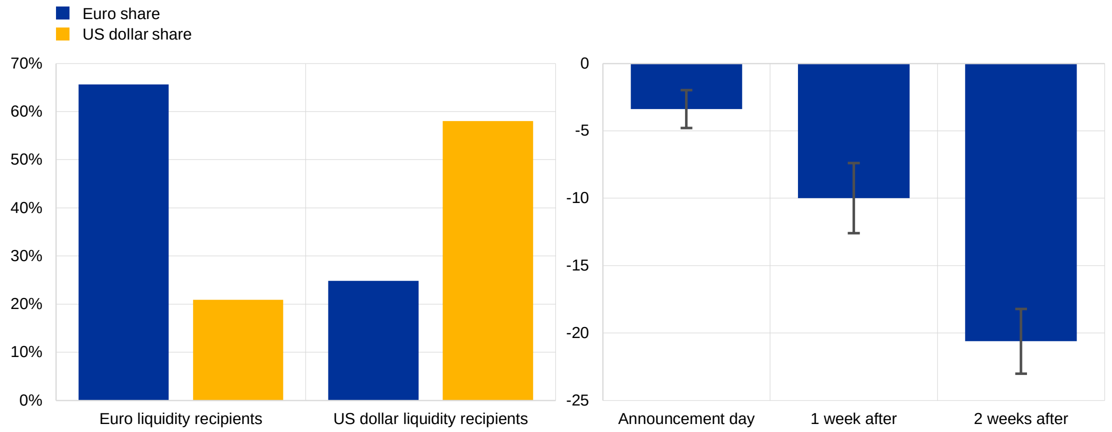
[78] Albrizio, S., Kataryniuk, I. and Molina, L., "ECB liquidity lines", *Working Paper*, Banco de España forthcoming.

Chart A

Geographical distribution of euro and US dollar liquidity lines and impact of ECB liquidity lines

Average share of euro and US dollar-denominated issuance in international bond issuance in countries which received swap or repo lines in euro or US dollars (left panel) and event-study estimates of the change in the currency basis after ECB liquidity line announcements on selected economies (right panel)

(left panel: percentages; right panel: basis points)



Sources: Dealogic and ECB calculations using data from Albrizio, S., Kataryniuk, I. and Molina, L., "ECB liquidity lines", *Working Paper*, Banco de España forthcoming.
Notes: The chart in the left panel shows the euro (blue bars) and US dollar (yellow bars) share in total foreign currency-denominated bond issuance of countries, which have received a euro (left-hand column excluding China) or US dollar (right-hand column) liquidity line, excluding recipient G10 countries (i.e. Canada, the euro area, Japan, Sweden, Switzerland, the United Kingdom and the United States) since 1999. Euro liquidity recipients include Albania, Bulgaria, Croatia, China, Denmark, Hungary, Latvia, North Macedonia, Poland, Romania and Serbia. Latvia and San Marino are excluded owing to data limitations. US dollar liquidity recipients include Australia, Brazil, Denmark, Korea, Mexico, New Zealand, Norway and Singapore. The reference period is the fourth quarter of 2020. The chart in the right panel shows estimates from an event study of the effect of the liquidity lines obtained in 2020 by Bulgaria, Croatia, Denmark, Hungary and Romania on their corresponding currency basis, controlling for fixed effects, month effects and the VIX index. The estimates are obtained on daily data over the period 2010-2020.