

The Fed's enhanced swap lines and new interventions in the Treasury market

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NIESR Discussion Paper No. 513

Date: 30 March 2020

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Registered charity no. 306083

This paper was first published in March 2020

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Abstract

In March 2020, the Federal Reserve enhanced its existing swap lines with foreign central banks, and introduced additional temporary swap lines with other central banks, in order to support the smooth functioning of U.S. dollar funding markets during the coronavirus epidemic. The Federal Reserve also announced purchases of US Treasuries and agency mortgage bonds in order to support the smooth functioning of the Treasury and mortgage-backed securities market. We analyse the motivations for and the effects of these measures.

Keywords: Central bank swap lines, government bonds.

JEL Classifications: E52, E58.

Acknowledgements

We are very grateful to Jagjit Chadha, Philip Turner and Christian Upper for comments on earlier drafts. The views expressed are those of the authors and should not be taken to reflect those of the National Institute of Economic and Social Research.

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Introduction

During March 2020, the Federal Reserve made changes to its existing swap lines with some foreign central banks, and introduced temporary swap lines with additional central banks, in order to support the smooth functioning of U.S. dollar funding markets during the coronavirus epidemic. The Federal Reserve also announced purchases of US Treasuries and agency mortgage bonds in order to support the smooth functioning of the Treasury market.

The surge in dollar credit demand and the Fed swap lines

The coronavirus epidemic has interrupted the cash flows of many companies and led to a surge in demand for dollar credit from banks located in the United States and elsewhere. It has thereby put severe pressure on the global financial system. In order to provide additional credit, banks need to acquire additional dollar deposits, or other dollar funding. As was the case during the global financial crisis (Allen and Moessner, 2010), that additional demand was reflected in an appreciation of the dollar in foreign exchange markets (Figure 1), and in higher dollar Libor-OIS spreads and widening dollar cross-currency basis swap spreads (Figure 2). Libor cannot be regarded as a precise measure of banks' funding costs, but the widening of spreads nonetheless suggests that banks have found it difficult to acquire dollar funding. Moreover, capital flows to 'emerging economies' went into reverse in March 2020 (Figure 3), and those economies' sovereign yield spreads widened in March (Figure 4).

The Federal Reserve announced on Sunday 15 March 2020 that it was willing to lend more cheaply and for longer periods (84 days in addition to the existing 1-week maturity) under its unlimited standing swap lines with several foreign central banks, namely the Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank and the Swiss National Bank (Federal Reserve, 2020a).¹ The interest rate on the dollar swap lines was reduced by 25 basis points p.a., so that the new rate was the U.S. dollar overnight index swap (OIS) rate plus 25 basis points. The new conditions applied from the next scheduled dollar operations by foreign central banks during the week of 16 March. The announcements stated that the "new pricing and maturity offerings will remain in place as long as appropriate to support the smooth functioning of U.S. dollar funding markets", and that these swap lines "serve as an important liquidity backstop to ease strains in global funding markets, thereby helping to mitigate the effects of such strains on the supply of credit to households and businesses, both domestically and abroad".

Additionally, on 19 March, the Federal Reserve introduced temporary swap lines for at least six months with a number of other central banks, for up to \$60 billion each with the Reserve Bank of Australia, Sveriges Riksbank, the Monetary Authority of Singapore, the Central Bank of Brazil, the Bank of Korea and the Bank of Mexico, and up to \$30 billion each with Danmarks Nationalbank, Norges Bank and the Reserve Bank of New Zealand (Federal Reserve, 2020b). The announcements stated that these swap lines "will support the provision of U.S. dollar liquidity".

These are the same foreign central banks as those with which the Federal Reserve established swap lines during global financial crisis of 2008 (Figure 5). That swap network was one of the

¹ The Bank of England subsequently made changes to its US dollar repo operations, including increasing the frequency of one-week maturity operations from weekly to daily, starting on 23 March 2020 (Bank of England, 2020a).

main tools with which the Federal Reserve managed to alleviate the crisis (Allen and Moessner, 2010).

The enhancement of the swap lines makes it easier for foreign banks to get access to dollar funding from their home central banks, against whatever collateral the home central bank will accept; central banks greatly widened the range of assets acceptable as collateral during the financial crisis of 2008. Moreover, if banks get additional funding from private sources, the Basel 3 Liquidity Coverage Ratio requirement means that they have to acquire additional high-quality liquid assets, unless the funding is secured by level 1 high-quality liquid assets. If they get collateralised funding from central banks, against any kind of collateral, they need acquire no additional high-quality liquid assets (Basel Committee for Banking Supervision, 2013, paragraph 115).

US Treasury market functioning and asset purchases

The Fed's additional swap transactions will have increased the stock of deposits at Federal Reserve banks, and in so doing will have helped to supply the additional high-quality liquid assets that the commercial banks need. In the past, a crisis-related flight to safety might have led to increased demand for US Treasuries, depressing their yields at all maturities, as was the case during the global financial crisis.

This time the effects of the crisis-related flight to safety have been different. US Treasury yields at maturities of 2 years and longer initially increased, leading to a steeper yield curve in the second week of March (Figure 6). The steepening of the yield curve seems to have been partly related to a deterioration in the microstructure of the U.S. government securities market. On 6th February, before the coronavirus epidemic had been a matter of great concern in the United States, Fed vice-Chairman Randal Quarles expressed concern about the functioning of the market and said that financial companies had become uneasy about holding their liquid assets in Treasuries because they might be unable to sell them in large amounts at short notice. Hence they increasingly preferred deposits at Federal Reserve banks (Quarles, 2020). Quarles added that the Fed was looking at ways of making Treasuries more liquid.

The market's growing doubts about the liquidity of Treasury securities² can explain both the steepening of the yield curve and the Fed's announcement on Sunday 15 March that it would purchase at least \$500 billion of Treasury securities and at least \$200 billion of agency mortgage-backed securities, and to reinvest all principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities. These measures were intended to 'support the smooth functioning of markets for Treasury securities and agency mortgage-backed securities that are central to the flow of credit to households and businesses' on 15 March (Federal Reserve, 2020c). In other words, the Fed expressed its willingness to act as market-maker of last resort.

Yields fell immediately after the Fed's announcement, but the fall was not sustained (Figure 6). On Monday 23 March, the Fed issued a new statement, which superseded that of 15 March, and announced a range of facilities comparable to, and in some ways going beyond, those

² Consistent with this, the Bank of England stated on 19 March that "Over recent days, and in common with a number of other advanced economy bond markets, conditions in the UK gilt market have deteriorated as investors have sought shorter-dated instruments that are closer substitutes for highly liquid central bank reserves." (Bank of England, 2020b).

deployed during the crisis of 2008 (Federal Reserve, 2020d). The announcement of 23 March included the removal of the earlier upper limit on purchases of Treasury and agency mortgage-backed securities; those securities would be purchased ‘in the amounts needed to support smooth market functioning and effective transmission of monetary policy to broader financial conditions and the economy’ (Federal Reserve, 2020e).

The absence of a limit on purchases puts the Fed in the position of a price-maker in the Treasury securities market, perhaps for the first time since ‘Operation Twist’ in 1961. If there is excess supply of Treasuries at any maturity, the Fed will have the discretion to decide whether to allow yields to rise or whether to prevent or contain the scale of the rise by buying securities. This is a momentous broadening in the extent of the Fed’s discretion.

Effects of central bank swap lines and large-scale asset purchases

The enhancement of the swap lines brought a swift and ample response. Between 11 and 25 March, the Fed disbursed \$206 billion, and by 27 March, commitments made by foreign central banks implied that the total would be at least \$341 by 31 March (Table 1). In the bond markets, the Fed’s holdings of Treasury and mortgage-backed securities increased by \$455 billion and \$13 billion, respectively, over the same two weeks (Table 2).

Some indicators of foreign dollar funding pressures, namely cross-currency basis swap spreads of the euro against the dollar, eased after the first Fed swap line announcement (Figure 2). Three-month cross-currency basis swap spreads of the euro against the dollar fell close to zero, narrowing by around 80 basis points from their peak earlier in March (Figure 2). The dollar initially continued to appreciate against major currencies, but fell back on 27 March (Figure 1). US Treasury yields at maturities of 2 years and longer fell when the market opened after the first announcement about Fed purchases (Figure 6), but then increased again, as already noted. On the day of the Fed’s second announcement (23 March), removing the earlier upper limit on asset purchases, yields fell by around 10 to 20 basis points for maturities from 2 to 30 years (Figure 6). The U.S. Treasury was able to sell \$139 billion in total of 1-year bills and 2, 5 and 7-year notes at auctions on 24, 25 and 26 March (U.S. Treasury, 2020).

Conclusions

The banking system has not been sufficiently flexible either to meet the surge in demand for credit, or to maintain the liquidity of the market in U.S. government securities. The Federal Reserve has provided prompt support, and other central banks have taken similar measures: for example the Bank of England announced a further £200 billion of quantitative easing (Bank of England, 2020b).

The Federal Reserve made changes to its existing swap lines with some foreign central banks, and introduced temporary swap lines with additional central banks, in order to maintain the flow of credit during the coronavirus epidemic. The changes to the swap lines have been successful in reducing foreign banks’ US dollar funding problems as reflected in lower dollar cross-currency basis swap spreads against the euro. They will have reinforced the dominance of the dollar in the international monetary system.

In the Treasury market, yields are extremely low by historical standards and it is possible that an upward adjustment has begun. The Fed has, for the first time in many years, undertaken to

provide liquidity to the market by acting as market-maker of last resort.³ Its announcements of purchases thus far have contributed to lowering longer-term US Treasury yields. With its unlimited capacity to purchase, it is a price-maker, not a price-taker: it cannot avoid having an objective not only for short term interest rates but for longer maturity rates as well. The objectives of the Fed's security purchase programme have not been precisely specified, and it remains to be seen whether it will provide further guidance. The Bank of England acted as market-maker of last resort in British government securities during a prolonged upward adjustment in yields in the 1950s and 1960s: its market-making activities frequently conflicted with its monetary policy objectives, and the conflict intensified the inflationary pressures which were developing at that time (Allen, 2019). The central bankers of today should be aware of that risk.

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³ The Bank of England, in its announcement, stated that "The purchases announced today will be completed as soon as is operationally possible, consistent with improved market functioning" (Bank of England, 2020b).

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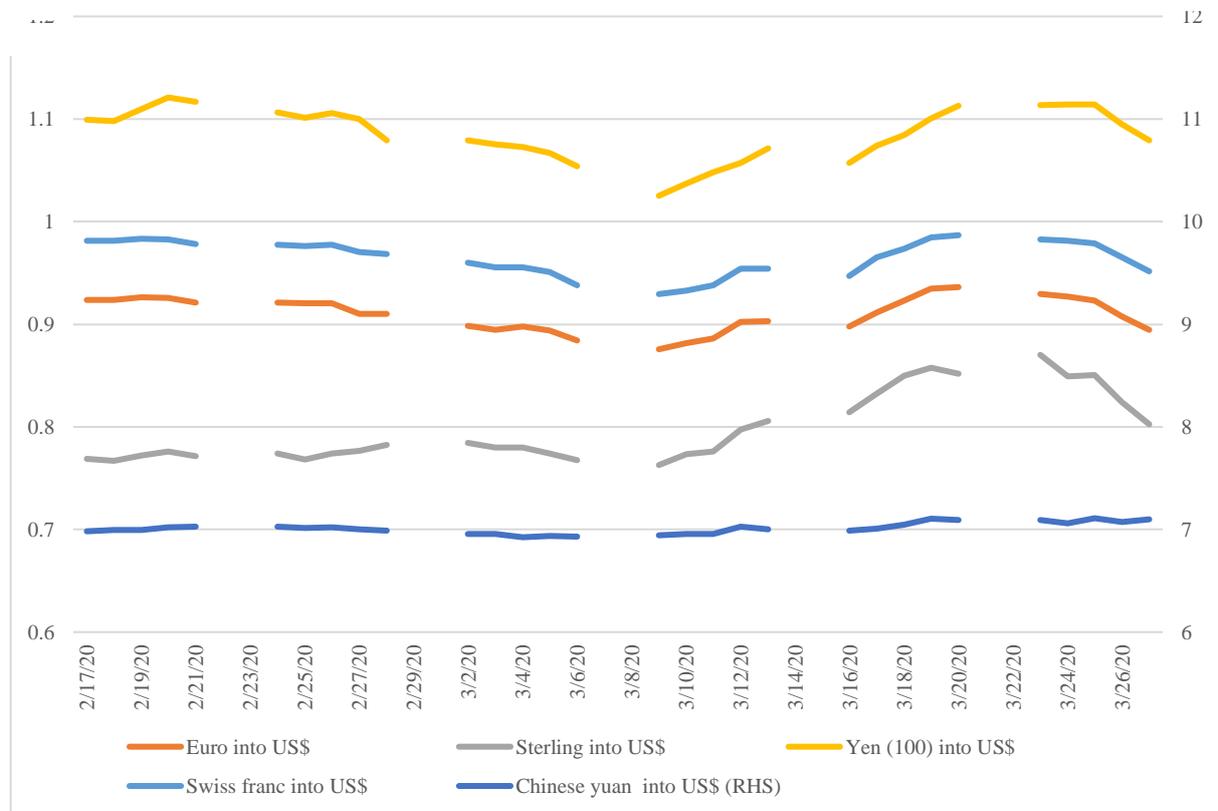
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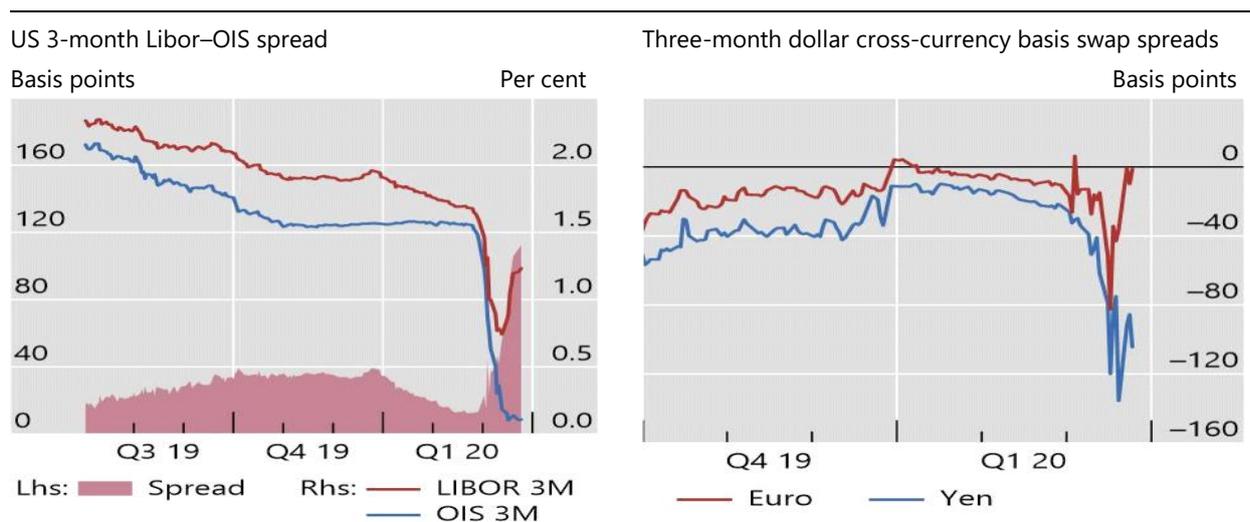
Figures

Figure 1: US dollar exchange rates



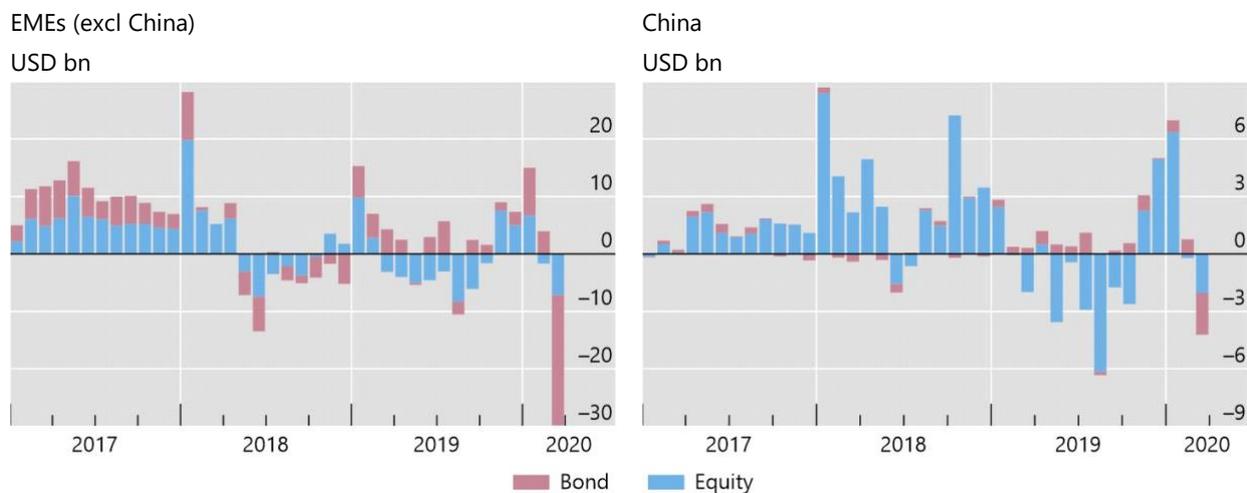
Source: Bank of England, Financial Times.

Figure 2: Dollar funding pressures



Source: Bloomberg.

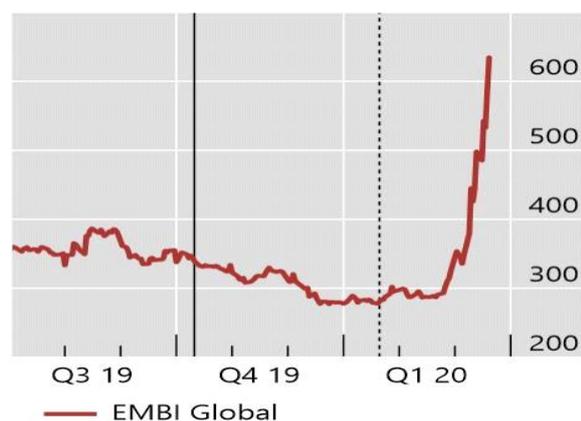
Figure 3: Net flows into emerging market portfolio funds (in billions of US dollars)¹



¹ Monthly sums of weekly data across major economies in each region. Figures for the last month include data available up to Wednesday previous week. Data cover net portfolio flows (adjusted for exchange rate changes) to dedicated funds for individual EMEs and to EME funds with country/regional decomposition.

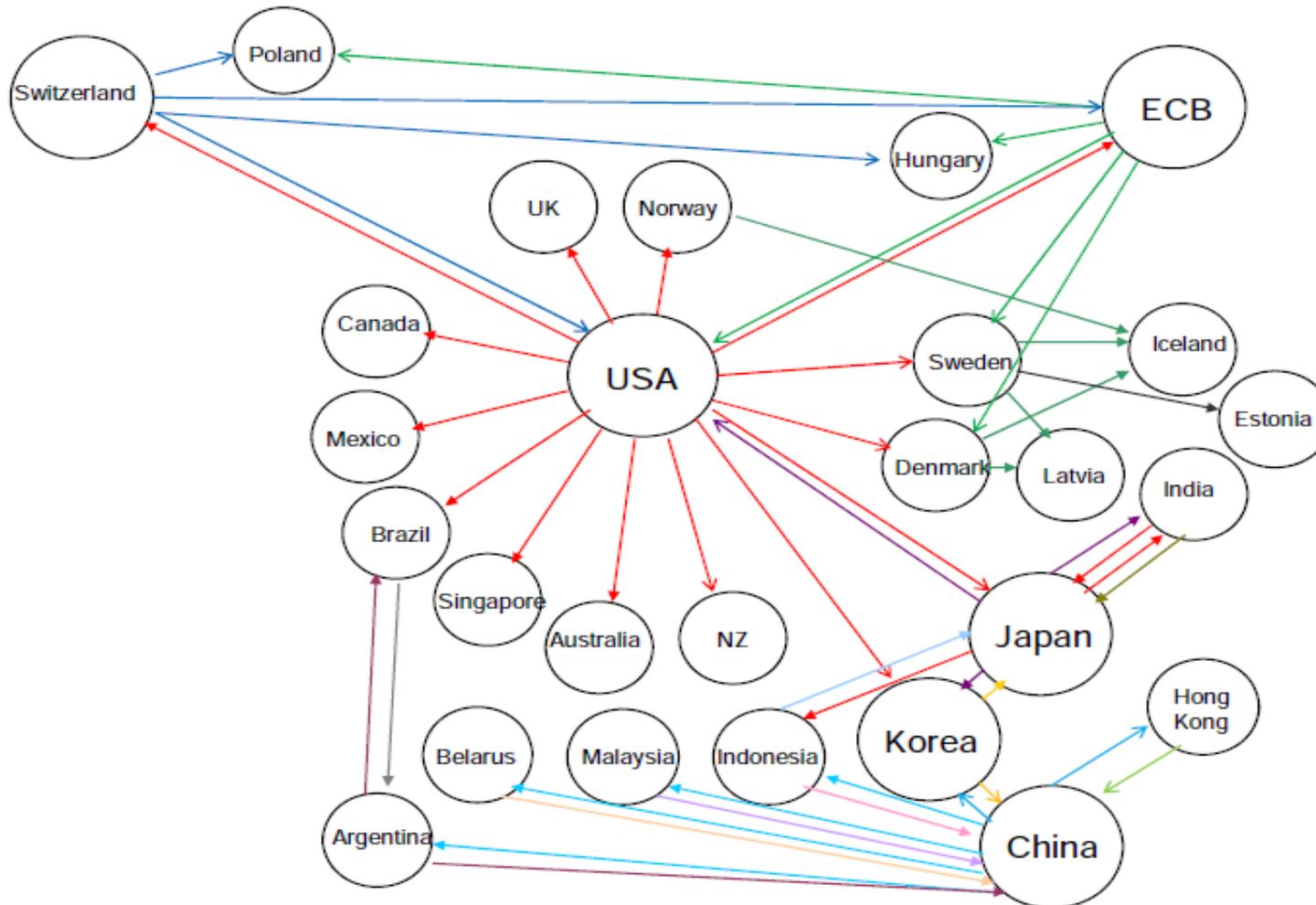
Source: EPFR.

Figure 4: Sovereign spreads in emerging economies (in basis points)



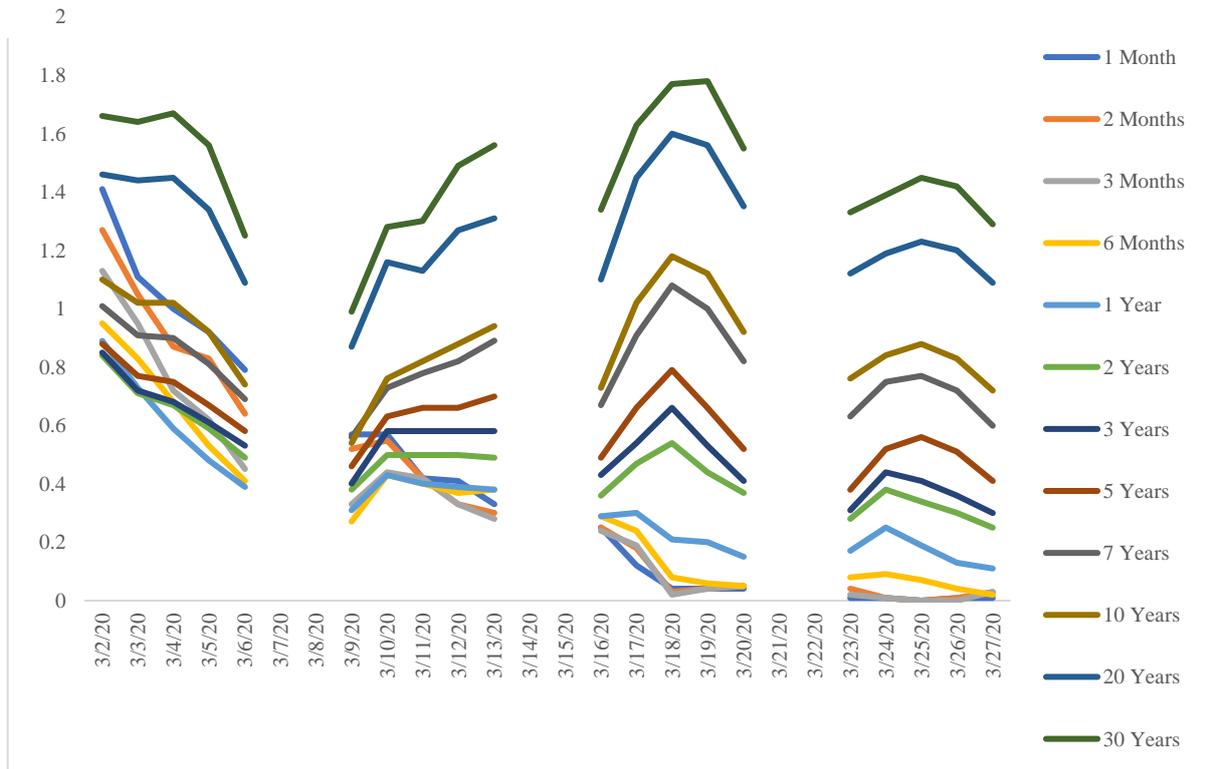
Note: J.P. Morgan Emerging Market Bond Index (EMBI) Global (includes USD-denominated Brady bonds, loans, and Eurobonds with an outstanding face value of at least \$500 million).
Source: JPMorgan Chase.

Figure 5: Central bank swap line network during the global financial crisis of 2008-09



Source: Allen and Moessner (2010).

Figure 6: US Treasury yields (constant maturities, in percent)



Source: US Treasury website, <https://www.treasury.gov/resource-center/data-chart-center/interest-rates/pages/textview.aspx?data=yield>.

Tables

Table 1

Drawings on Fed swap lines (\$ billion)

Amounts outstanding at	25 th March 2020	31 st March 2020 ^a
European Central Bank	116	130
Bank of England	19	27
Bank of Japan	67	174
Swiss National Bank	4	4
Others	0	6 at least
Total	206	341 at least

Notes: ^a Estimates. Sources: Websites of ECB, BOE, BOJ and SNB; total from Federal Reserve table H4.1, authors' estimates.

Table 2

Fed operations, March 2020 (\$ billion)

Change in week ending:	18 March	25 March
Central bank swaps	0	+206
Holdings of Treasury securities	+118	+338
Holdings of mortgage-backed securities	-5	+18

Source: Federal Reserve Table H4.1.