ECO FLASH

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Looming money market tensions

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- **In the last three months, the US Federal Reserve has injected more than USD 360 bn of central bank money through repurchase agreement operations (repo) and outright purchases of T-bills.**
- **It will ramp up its intervention further between now and 31 December, to remove the risk of losing control of short-term rates again because of the specific needs of market participants as they approach their financial year-end.**
- **By the year-end, if the volume of demand for repo transactions reaches the total amount offered by the Fed, USD 650 bn of central bank money will have been injected.**
- **However, even that huge amount of support could prove insufficient. That is due in particular to the planned increase in the Treasury's account with the Fed, the leverage constraints of broker-dealers and the G-SIB capital surcharge.**

Huge injections of central bank money

The Fed's outstanding repo operations, USD bn

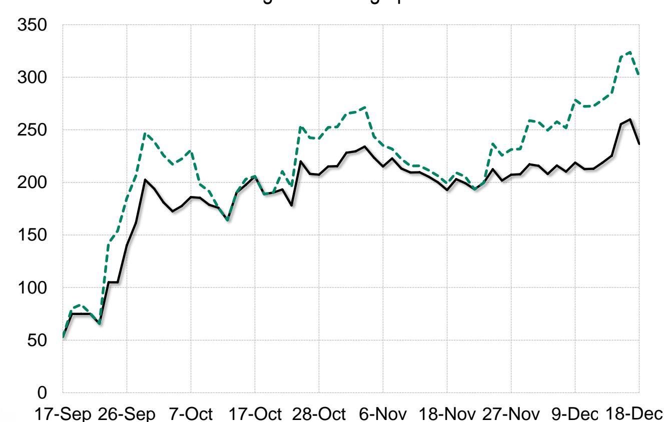

Figure 1 Source: FRBNY, BNP Paribas

Money markets reliant on Fed injections

On 16 and 17 September, the US money markets seized up: excessive demand for cash caused overnight borrowing rates to surge. This was mainly caused by regulatory liquidity requirements which, given insufficient central bank reserves, limited the ability of major banks to absorb the spike in demand[1]. To ease the pressure, the Federal Reserve has since 17 September been injecting central bank money through overnight and term repo[2] operations with primary dealers. Overall, and given the limits set by the Fed, the amount of liquidity injected amounted to USD 237 bn by 18 December, while the demand for cash seen during the nine operations outstanding on that date amounted to USD 300 bn (figure 1). In addition, the Fed has been buying T-bills outright since mid-October, at a rate of USD 60 bn per month.

In the space of three months, from Wednesday 11 September to Wednesday 11 December, the measures taken by the Fed led to USD 328 bn of extra central bank money being injected (USD 213 bn via its repo operations and USD 115 bn via

[1] C. Choulet (2019), *The Fed's new role under Basel 3*, BNP Paribas, EcoFlash, October 2019

[2] A repo transaction – the temporary disposal of securities – can be considered, from an economics viewpoint, as a collateralised loan (cash against securities): from the point of view of the lender of the cash it is a reverse repurchase agreement; from that of the borrower of the cash it is a repurchase agreement. The repurchase agreement incorporates an undertaking to repurchase the security at a given point in time for an agreed price. The interest rate, or repo rate, is a function of the difference between the sale and repurchase prices. The Fed defines the operation as a function of its effect on its counterparty. Thus from the Fed's point of view, a repo is similar to a collateralised loan and recorded as an asset whereas a reverse repo is a liability.

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securities purchases). This amount may have reached USD 367 bn on 18 December.

The Fed has so far succeeded in easing the tension in the money markets. However, the specific needs of market participants as they approach their financial year-end could ramp up the pressure again (see below). As a result, the Fed announced on Thursday 12 December that it would increase its support. Overall, if the volume of demand for repo transactions reaches the amount offered by the Fed, USD 283 bn of additional central bank money could be injected by year-end, taking the total amount of support to USD 650 bn[3]. Huge though these numbers may seem, they may not be enough.

A third of the liquidity injected will end up in Treasury's account with the Fed

First, even if the demand for repo transactions reaches the total amount offered, bank reserves held with the Fed will not increase by USD 650 bn by year-end, because part of the liquidity injections will continue to finance the increase in the Treasury General Account (TGA, figure 2).

Between 11 September and 11 December, banks' current accounts with the Fed only swelled by USD 213 bn[4]: this was because USD 28 bn of bank deposits were converted into notes and coins and, most importantly, because the Treasury's general account increased by USD 121 bn[5]. Similarly, between now and year-end, given the ongoing increase in notes and coins in circulation (USD 7 bn) and the likely increase in the TGA (USD 106 bn[6]), bank reserves are only expected to rise by USD 209 bn[7], taking them to around USD 1,880 bn, the same level as in October 2018.

Finally, during the period in question (11 September 2019 to 1 January 2020), the amount of cash held by banks with the Fed is only likely to rise by USD 420 bn. A third of the Fed's cash injections will therefore have served, indirectly, to increase the TGA.

The impact of regulations on the money markets is underestimated

In addition, beyond liquidity requirements, capital requirements could also be playing a role in disrupting the money markets at the moment that market participants close their annual accounts.

Almost USD 230 bn of reserves drained by the increase in the Treasury General Account

USD bn

— Change in central bank reserves since 11 Sep
– – Injection of reserves through the increase in the Fed's securities portfolio and repo operations
··· Reduction in reserves through the increase in the Fed's other liabilities (cash in circulation, Treasury General Account, reverse repos)

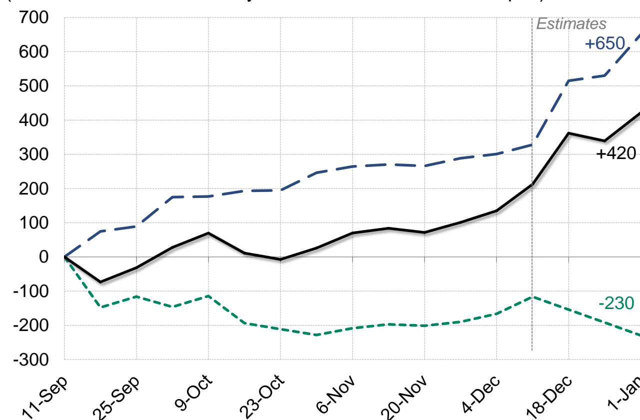

Figure 2 Source: Fed, FRBNY, Treasury, BNP Paribas

Collateral is proving hard to digest

USD bn

— Net position of primary dealers in Treasury securities

Figure 3 Source: FRBNY

Leverage constraints

Investors' lack of appetite for Treasury issues has led to an unprecedented increase in primary dealers' inventories of Treasuries (figure 3). Since mid-September, primary dealers have been able to refinance their net positions through repo operations with the Fed. However, those operations are taking place on the tri-party repo platform, with Bank of New York Mellon playing the role of clearing bank. The use of the tri-party repo market means that positions cannot be netted, unlike operations taking place via the Fixed Income Clearing Corporation (FICC). Ahead of their financial year-end, there is a risk that the liquidity offered by the Fed through its repo operations may not be accessible to the dealers most

[3] Overall, central bank liquidity injections would total USD 650 bn, comprising USD 490 bn via repo operations (USD 150 bn of overnight repos + four 14- or 15-day operations of USD 35 bn each + three 28- or 42-day operations of USD 25 bn each + one 2-day operation of USD 75 bn + one 32-day operation of USD 50 bn) and USD 160 bn via outright purchases of securities.
[4] For USD 328 bn of liquidity injected.
[5] Those two increases have been offset slightly by a reduction of around USD 32 bn in the Fed's reverse repo operations.
[6] In July 2019, the Treasury announced that it would increase its cash balance with the Fed to USD 410 bn by the end of the year. It is currently planning to issue USD 389 bn of debt securities in the first quarter of 2020 and stabilise its cash balance at USD 400 bn at end-March 2020.
[7] For USD 322 bn of liquidity injected and assuming an unchanged amount of outstanding reverse repo operations with foreign central banks.

constrained by their leverage requirements[8]. Neither are the Fed's T-Bill purchases enabling dealers to offload their large inventories of coupon bonds, which make up 85% of their Treasury portfolios[9].

There is a widespread belief among central bank officials that the tension in US money markets is being caused by excessive concentration of "excess" reserves. It is true that the eight systemically important US banks[10] alone account for almost half of reserves held with the Fed. There is a good reason for that: they are very large institutions (accounting for 53% of total assets) and are therefore subject to much stricter liquidity requirements, which increase their needs for central bank money (on an intraday, not overnight, basis)[11]. They also include the only two institutions (at least until the end of 2017 in JP Morgan's case) that play the role of clearing bank in the tri-party repo market.

However, we believe that the pressure on liquidity stems from dwindling reserves, and probably also from their lesser concentration. In the fourth quarter of 2018, the same pressure on money market rates was avoided because the largest commercial bank (JP Morgan National Association) met most of the overnight refinancing demand: its reverse repo positions increased by USD 110 bn while its reserves fell by USD 130 bn (figure 4). Currently, however, certain large banks no longer have excess reserves as regard their liquidity requirements. It is only those large banks (in particular JP Morgan) that are (or were) able to absorb potential shocks, in particular at the financial year-end when, for example, foreign banks stop circulating cash borrowed from money market funds to other participants that cannot access those funds, or when dealers seek to make greater use of repo markets that allow netting. These markets need a lender of last resort. But, the Fed's facilities, given their characteristics in terms of counterparties and types of repo, may not be able to absorb the effect of these year-end adjustments.

The G-SIB surcharge

The effect of these adjustments on the repo and forex swap markets could also be exacerbated by the withdrawal of certain large US banks keen to minimise their G-SIB surcharges[12].

For reference, regulators require banks whose failure could create a global systemic risk (Global Systemically Important Banks or G-SIBs) to carry additional capital. In the US, regulators calculate that additional capital using two methods, and the higher figure is the one adopted. The FSB method is based on the five criteria used to identify G-SIBs: the size of banks, their interconnectedness, the lack of readily available substitutes or financial institution infrastructure for the services they provide, their cross-jurisdictional activities and their complexity. Based on a system of tranches, a capital surcharge is applied to each institution on the basis of its relative score. The second method replaces the lack-of-substitutes criterion by a measure of a bank's dependency on short-term market financing, and favours an absolute

Reserve scarcity?

Reserves held by the four largest US commercial banks with the Fed at 30 September, USD bn

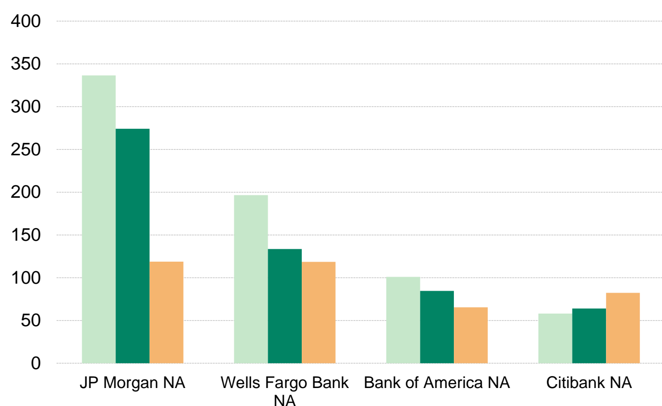

Figure 4 Source: FDIC Call Reports

Balance sheets' adjustment ahead of end-year?

G-SIB scores (method 2), thresholds and corresponding surcharges

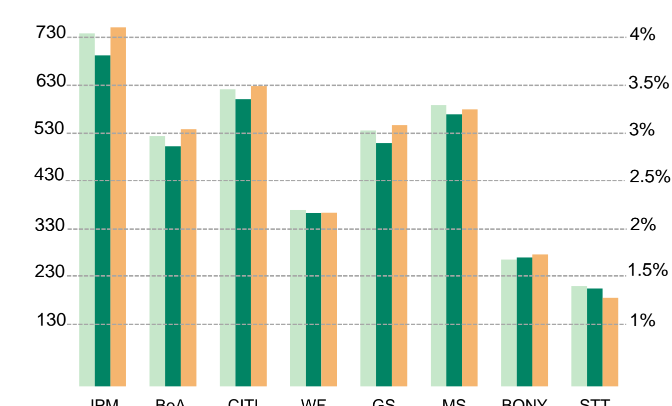

Figure 5 Source: SNL Financial, Fed, BNP Paribas

[8] Their assets must not exceed 15 times their capital. https://www.sec.gov/about/offices/oia/oia_market/key_rules.pdf

[9] This could force the Fed's hands towards purchases of coupons. See Z. Pozsar (2019), *Countdown to QE4 ?,* Global Money Notes #26, Credit Suisse Economics, December 2019

[10] JP Morgan, Bank of America, Wells Fargo, Citigroup, Goldman Sachs, Morgan Stanley, Bank of New York Mellon and State Street

[11] See note 1. It is also worth noting that the number of banks subject to the Basel short-term liquidity (LCR) requirement is very low in the USA (currently 37). See C Choulet (2019), *A more gradualist approach to US banking regulation*, BNP Paribas, EcoFlash, November 2019

[12] G-SIB surcharges calculated on the basis of end-2019 balance sheets will not be announced until November 2020, before coming into force on 1 January 2022. At the moment, the leverage requirements and stressed risk-weighted capital requirements (which do not include the G-SIB surcharge) are tougher than the non-stressed risk-weighted capital requirements. However, with the introduction of the Stress Capital Buffer, which will merge the stressed and non-stressed requirements, the G-SIB surcharge will become much more binding.

measurement of each bank's systemic importance. The second method almost always results in a larger surcharge than the first[13].

Based on the second method and balance sheets of the third quarter of 2019, the G-SIB surcharges for JP Morgan, Bank of America and Goldman Sachs could be increased by 50 basis points at the end of the year (from 3.5% to 4% for JPM, from 2.5% to 3% for BoA and GS, see figure 5)[14]. Past experience shows that banks whose systemic importance scores are close to a cut-off point tend to reduce their complexity, interconnectedness and cross-jurisdictional activity scores in the last quarter of the year in order to minimise their surcharge[15]. An effective way of reducing those scores is by not renewing overnight loans and borrowings in the repo and forex swap markets.

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[13] Based on end-2018 balance-sheet data, the second method results in surcharges that are 50–100 basis points higher depending on the bank (except for State Street, for which the two methods give the same result).
[14] In addition, crossing the 630 threshold would increase Citigroup's surcharge to 3.5%. Higher valuations for their securities portfolios explain part of the increase in G-SIB scores.
[15] F. Covas (2019), *The GSIB surcharge and repo markets*, Bank Policy Institute, November 2019

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