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The Revenge of the Plumbing

CONTRIBUTOR

Zoltan Pozsar
212 538 3779
zoltan.pozsar@credit-suisse.com

In this edition of Global Money Notes, we highlight why front-end technicals argue for more aggressive rate cuts later this year.

Due to the earlier-than-expected resolution of the debt ceiling, the Treasury will issue over $800 billion in net new debt and increase its cash balances at the Fed by $200 billion by the end of the year. Supply this big will lead to acute funding stresses – a "fiscal dominance" of money markets – in our view.

Front-end technicals look horrid, and supply couldn't come at a worse time: the curve remains deeply inverted relative to actual funding costs that matter; dealer inventories are at a record; and banks that fund dealer inventories are at their intraday liquidity limits. Supply won't be well received given the inversion; dealers only have $300 billion in balance sheet left before leverage ratios bind; and $200 billion in extra cash at Treasury will hit banks' intraday liquidity profile.

The Fed appears to sense these mounting pressures – in our view, the Fed's concern of the coming fiscal dominance is why it ended taper two months early.

But cutting taper short by about $60 billion is a drop compared to $800 billion – a nice gesture, but not a solution. Solutions like asset purchases ("mini-QEs") or a standing repo facility are unlikely to be ready any time soon as they take time to design, test and communicate – and fiscal dominance starts "tomorrow".

If these solutions aren't ready soon, money markets will suffer acute indigestion: o/n rates will print outside the Fed's target band and Libor-OIS will widen – fiscal dominance will effectively deliver a rate hike, offsetting the July 31st cut.

Absent a technical bazooka, stresses will leave one option left: more rate cuts. Cuts that are aggressive enough to re-steepen the Treasury curve such that dealer inventories can clear and inventories don't drive funding market stresses.

We recognize that the Fed doesn't bend to the circumstances of dealers and carry traders, but we'd also note that we never had this much Treasury supply during a curve inversion on top of record inventories with leverage constraints!

Furthermore, launching mini-QEs or a standing repo facility is not a good idea during an inversion, unless the Fed wants to absorb most of the coming supply. In our view, more aggressive cuts are an easier "sell" politically and optically than outright asset purchases in an environment of record Treasury issuance.

Part I – Inventories: Bloated and Concentrated

Primary dealers' inventories of Treasuries have been on a relentless rise since 2018, going from $75 billion to near $300 billion by the second quarter of 2019 (see Figure 1).

The consensus attributes this increase in inventories to a record net supply of Treasuries, but that fails to explain why a doubling of supply would cause a quadrupling of inventories.

The picture is more complex. Demand has also been falling for at least four reasons:

(1) the Fed shrinking its portfolio holdings of Treasuries, colloquially known as taper, which started on October 13th, 2017 (the vertical red dashed line);

(2) the echo-taper, or corporate treasurers shrinking their offshore Treasury holdings which started on January 1st, 2018 (the first vertical orange line);

(3) the inversion of the Treasury curve relative to foreign investors' hedging costs, which started on October 1st, 2018 (the second vertical orange line);

(4) the inversion of the Treasury curve in the classic sense – the 3s/10s inversion – which started on April 1st, 2018 (the third vertical orange line).

These events mark the sequential "fading" of one marginal buyer after another:

(1) taper sapped demand by $400 billion to date; taper has been slow initially, sapping demand by $100 billion by the summer of 2018 and has sped up since;

(2) the echo-taper sapped demand by circa $50 billion; unlike taper, the echo-taper was front-loaded, with most of its hit to demand over by the summer of 2018;[1]

(3) the "foreign" inversion sapped demand by at least $200 billion, as proxied by foreign FX hedged buyers' recent purchases relative to their pre-inversion trend;[2]

(4) the "classic" inversion sapped demand for Treasuries by at least $150 billion, as proxied by recent inflows into institutional-class government money funds.

These changes in demand were huge – around $800 billion – and that "only" $200 billion of Treasuries ended up in inventory and $600 could rotate to new buyers is quite a feat.[3]

Bloated inventories make for a unique case study not only because of their record size, but also because this is the first accumulation of the Basel III era where inventories count toward banks' leverage ratios (SLR), and because the accumulation is very concentrated.

Of the twenty-four primary dealers that contribute to the survey that tracks inventories, three account for all of the increase. The three dealers are: J.P. Morgan Securities LLC, Bank of America Securities, Inc. and Citigroup Global Markets, Inc., whose inventories, as proxied by their trading assets as shown in their quarterly earnings supplements have risen by $115 billion, $50 billion and $40 billion, respectively over the period examined.

Dealer inventories have pushed demand for o/n GC repos to a record high (see Figure 2), and this "hunt" for funding was the primary driver of money market dynamics this year.

Our interpretation of why inventories rose stems from a new way of measuring inversions.

Under Basel III, inversions must be reimagined…

[1] See "Finding Ireland in the U.S. Balance of Payments Data" by Brad Setser on the reverse corporate savings glut.
[2] Foreign buyers purchases halved relative to the pre inversion trend (see Lost in Transmission from February, 2019).
[3] Large U.S. banks' portfolios absorbed about $400 billion of the $600 billion, with the rest absorbed by non-banks.

Part II – Inversions Reimagined

Under Basel III, traditional measures of curve inversion like 3s/10s are meaningless, because no one funds at rates around the three-month Treasury bill yield. Pre-Basel III, these spreads were negligible and bill yields were a reasonable proxy for funding costs.

The hierarchy of money markets was flat.

Post-Basel III, balance sheets are constrained, arbitrage opportunities remain unexploited, and covered interest parity (CIP) – a near-physical law of the pre-Basel III financial order – no longer holds. Money market curves no longer trade at par, but are "spread" apart.

The hierarchy of money markets is now steep…

…and your cost of funding as a carry trader depends on your place in the hierarchy. Spreads over bills routinely as wide as 50 bps and sometimes as wide as 100 bps in turn mean that long before the curve inverts according to the "classic" 3s/10s measure, some carry trader will already have stepped away from buying Treasuries on the margin.

Figure 3 shows that relative to yen and euro-based investors' three-month hedging costs, the curve inverted on October 1st, 2018 and relative to three-month U.S. dollar Libor, the curve inverted on January 1st, 2019. In contrast, the "classic" 3/10s inversion commenced only in May. Thus, long before the start of the "classic" inversion, some foreign investors that fund in the FX swap market and foreign banks that fund at Libor have already reduced their purchases of Treasuries as we have shown here and here.

Why do inversions matter?

Treasury supply is not always absorbed by real-money buyers such as index funds, pension funds or official accounts in real-time. This "time-inconsistency" is usually bridged by carry traders that borrow short and lend long, that is, who borrow to buy the bonds that there is no final demand for from real-money accounts right now. Carry traders include relative value hedge funds that fund using repos, foreign banks that fund at Libor, and foreign real-money accounts that hedge Treasuries back to euros, francs and yen.

Sometimes carry traders aren't just marginal buyers – there are times when they are just as important as real-money buyers, as it's been the case with foreign hedged buyers, who have been trying to avoid negative rates in their home jurisdictions in recent years.

Inversions disrupt these dynamics and turn the workings of the system upside down.

Carry traders buy Treasuries if it makes sense to buy – i.e., if they earn a positive spread after funding costs. Inversions turn positive carry into negative carry and force carry traders to seek out other alternatives – and as they do, primary dealers are left holding the bag.

Primary dealers buy Treasuries because they have to – by law, primary dealers have to provide a bid to the market when there is none and when demand from investors is short.

Carry traders fund around the three-month point because they're in the "carry" business. Primary dealers fund much shorter, often o/n, because they're in the "moving" business.

Thus, a hallmark feature of curve inversions is a pendulum-swing away from pressures at the three-month point to pressures at the ultra front-end of money markets in the o/n repo market and by extension the tomorrow-next (t/n) points in the FX swap market.

Figure 4 shows that the inversion is the most extreme relative to o/n and t/n rates – according to this measure, the current curve inversion is an unusually deep minus 75 bps.

Basel III changed not only how banks fund…

…but also how inversions should be measured!

Part III – Fixing Inversions

Based on our measures, we've been living with inversion for the past six to nine months, which makes the duration of this episode comparable to those of 1989, 2000 and 2006.

When measured relative to three-month funding costs, the depth of the current inversion at minus 50 bps is also comparable to past inversions, and when measured relative to o/n and t/n funding costs at minus 75 bps the current inversion is the deepest on record – not only that, but this is the first time the curve inverted relative to the ultra front-end.

Historically, inversions have been "fixed" by a series of rates cuts by the Fed.

In the first two editions of Global Money Notes this year, we tried to imagine how the Fed could fix the inversion with technical moves like capping the foreign repo facility. We said:

"Why the Fed should seriously consider [capping the facility] if it does not want to cut rates is clear: implicit in our analysis is that whatever force keeps the yield curve flat, from a plumbing perspective, the Fed overdid the hiking cycle by about two or three hikes!"

Bound by a macro backdrop that didn't justify rate cuts back in January, we expected the curve to re-steepen through the front-end spread complex drifting down relative to OIS.

A central part of this forecast was the expectation that Libor-OIS spreads would compress and that cross-currency bases versus Libor would flip positive, helped by the Fed pushing foreign central banks out of the foreign repo facility and into the bill and FX swap markets.

Libor-OIS did tighten by 25 bps during the first half of 2019 – worth a full rate cut – but further tightening remained elusive as the cross-currency basis didn't go positive. It didn't because the Fed didn't cap the foreign repo facility as we expected it would, and because the funding needs of bloated dealer inventories pushed t/n cross-currency bases wider.

The spread complex did shift lower relative to OIS, but not enough to fix the inversion.

President Trump's mid-May trade war tweet shook up the global macro backdrop and rate cuts got on the table. What the spreads complex shifting around OIS couldn't deliver, cuts to OIS may. The next questions are how many cuts, in what increments and how fast.

As a thought experiment, abstract from President Trump, the trade war and the data – abstract from "macro" in general – and take a look at Figure 5. What Figure 5 shows is that every money market curve – repo, Libor and FX swap implied curves from € and ¥ – trade north of the entire Treasury curve by between 50 bps to 100 bps! This is what curve inversions look like when we plot the entire term structure and not just the spreads.

Figure 5 makes it obvious why the carry trader cannot buy anything and why real-money accounts won't buy Treasuries on the margin and why dealers struggle with inventories – money markets offer rates that are 50 to 100 bps better depending on where you lend.

Figure 5 suggests the rates market needs around 100 bps of cuts! But there is a catch…

…the Fed cares about "macro" – the data and the outlook – and not about the plumbing, the orderly flow of collateral or the "social circumstances" of carry traders and dealers.

That means that in principle the path of short-term rates is determined by the data and is agnostic to the technicals of money markets. Or more precisely, if the Fed does care about front-end technicals, it will address them with operational measures like IOR cuts, launching an o/n repo facility or launching an asset purchase facility – but not rate cuts.

But this time may be different – more cuts may be necessary to fix front-end pressures…

Part IV – Inversions and Collateral Supply

Overnight rates are especially important from the perspective of central banks because one of their mandates is to ensure that overnight rates print within the target range.

Collateral supply is the single most important driver of overnight money markets currently – a topic we explored with surgical detail in our previous edition. The key takeaways were:

(1) Inversion and the associated increase in dealer inventories has been keeping demand for o/n GC funding and o/n GC rates elevated and increasingly "spiky";

(2) Banks are the marginal lenders in the o/n GC market and their ability to lend is a function of how close they are to their intraday liquidity limits;

(3) Collateral supply will continue to increase during the second half of the year and given the inversion, inventories and the pressure on o/n GC rates will get worse.

The resolution of the debt ceiling and Treasury's recent quarterly refunding statement provide the contours of the amount of collateral supply the system will have to digest: during the third and fourth quarters, the Treasury will issue $850 billion in net new debt!

That's double the expected amount. That's a "fiscal dominance" of money markets.

The coming deluge of collateral is going to impact o/n rates through three channels:

(1) Bill supply will push bill yields back into the middle of the target band such that o/n rates trade not at a spread to o/n RRP but at a spread to bills (see Figure 6);

(2) Coupon supply – given the curve inversion – will likely bloat inventories further, which will pull o/n GC rates outside the band and drive spikes (see Figure 7);

(3) The foreign repo pool will worsen the collateral supply, as an uncapped facility paying the o/n GC rate will "suck" funds away from the bill market (see Figure 8).

Treasury will also increase its cash balances from $200 billion currently to $350 billion by the end of September and $410 billion by the end of December, which will worsen banks' intraday liquidity profiles and their ability to lend into the o/n GC market on the margin.

Collateral supply will likely push o/n rates through the top of the Fed's target range, which is a development that the Fed will feel impelled to respond to. Here are its options:

(1) Further cuts to IOR;

(2) Launching an asset purchase facility ("mini-QEs");

(3) Launching a fixed-price, full-allotment o/n repo facility.

Each of these measures would help ease the pressure on o/n rates coming from the inversion and the associated buildup of dealer inventories: IOR cuts push reserve-rich banks to lend more in the o/n GC market and help primary dealers fund their inventories; an asset purchase facility would effectively help dealers push their inventory onto the Fed; and a repo facility would help dealers fund their inventory at rates cheaper than with banks.

But the problem is that the Fed won't be able to launch mini-QEs or an o/n repo facility before bill supply hits. The "fiscal dominance" of money markets starts basically now and the Fed is woefully behind the curve on launching either of these operational measures.

That leaves IOR cuts, but there are only 10 bps more to go before the IOR and RRP rates converge and if you cut IOR below the o/n RRP rate that's effectively another rate cut…

…so it's easy to see which way these technical adjustments are pointing: more rate cuts to deliver slope to the Treasury curve and thereby help dealers clear their inventories and reduce pressure on the o/n rates complex so that rates print within the Fed's target band.

Conclusions

Taper, the echo-taper and inversions are the cause. Dealer inventories are the problem. Banks funding dealer inventories is the private solution, but that private solution has a limit:

…intraday liquidity constraints.

Hit those constraints and funds stop flowing in the repo market on the margin and rates print outside the Fed's target band. The public solution for that is the Fed's balance sheet:

…mini-QEs and/or a fixed-price, full allotment o/n repo facility.

Both would add reserves and thereby ease the system's intraday liquidity constraints and help primary dealers ease the funding pressures associated with their bloated inventories.

But mini-QEs and a standing repo facility take time to design, test and communicate, and the early resolution to the debt ceiling and the coming "fiscal dominance" of o/n markets in its wake suggests that the Fed has no time. That leaves more rate cuts as the solution…

…rate cuts that are aggressive enough to re-steepen the curve so that dealer inventories can clear – cuts that are deep enough that would incent real-money investors to lend long, not short and that would enable carry traders to borrow short and lend long again.

How many cuts are needed to keep funding stresses at bay? Three more cuts will do – that's what the plumbing suggests we need for inventories to clear. But there is a catch…

…the Fed cares more about the data than the plumbing, unless of the plumbing acts out and acute pressures on overnight rates spark more rate cuts as a means of intervention.

Under fiscal dominance, o/n markets will come under tremendous pressure, in our view, and the Fed knows that – that's why they stopped taper two months earlier than planned! If mini-QEs and a standing repo facility aren't in the cards later this year, more rate cuts are the only option the Fed will have left to manage pressures on the o/n rates complex.

Macro typically trumps the plumbing, but this time the plumbing may trump macro…

…and may hold the key to how many rate cuts we should expect.

As one astute market participant recently put it, there are two types of macro traders: *"those who follow trends and those who recognize when the Fed gets itself into a corner and has to pay – [by cutting interest rates] – to get out"*. This may be one of those times.

As we noted in our first edition of the year, the Fed got itself in a corner:

"the Fed hiked a little too much and ignored the importance of effective funding rates like FX hedging costs and spreads to OIS and the shift from price insensitive to price sensitive foreign buyers as a key group of marginal buyers that fund the growing U.S. deficits."

Whatever number of hikes were justified by the macro backdrop, those should have been adjusted due to the persistence and occasional flare-up of funding spreads under Basel III – after all, inversions are a product of both excessive hikes and money market spreads.

Now the opposite is true.

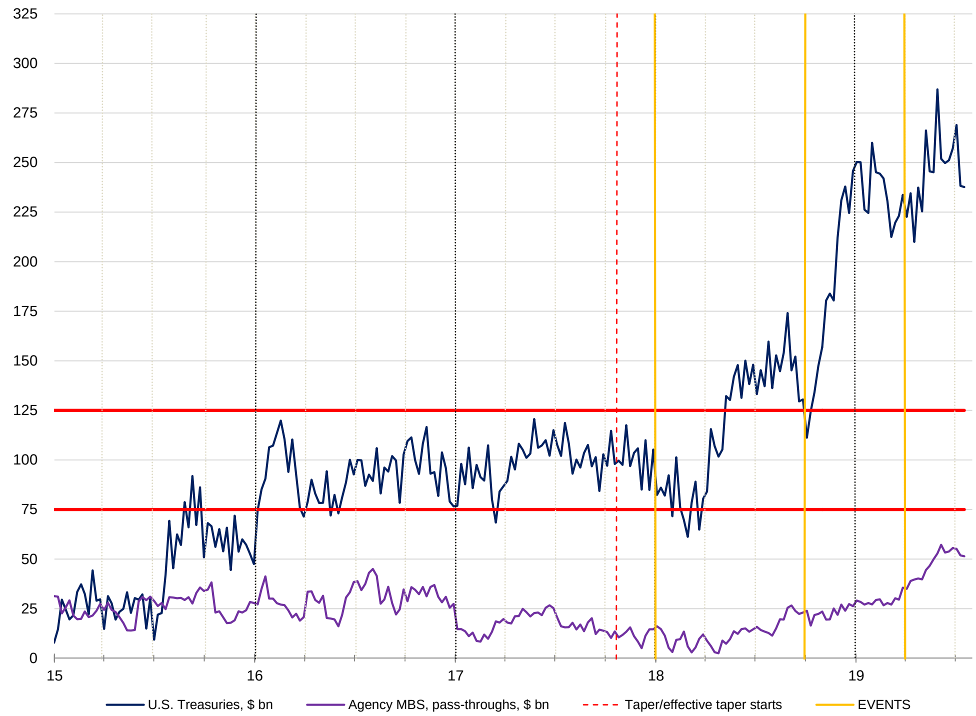
Whatever number of cuts are justified by the macro backdrop, those should be adjusted to take into account the curve inversion, dealer inventories and the pressures they are putting on the o/n rates complex, given a Fed that's operationally way behind the curve.

The Fed of course will never admit to over-hiking and inverting the curve…

…they'll need a macro fig leaf for cuts: trade wars, the IP cycle, undershooting inflation – take a pick. But beware the acute need for additional cuts from a plumbing perspective, for it may make the Fed more dovish in a macro environment that is not all that bad…

Figure 1: Bloated Inventories

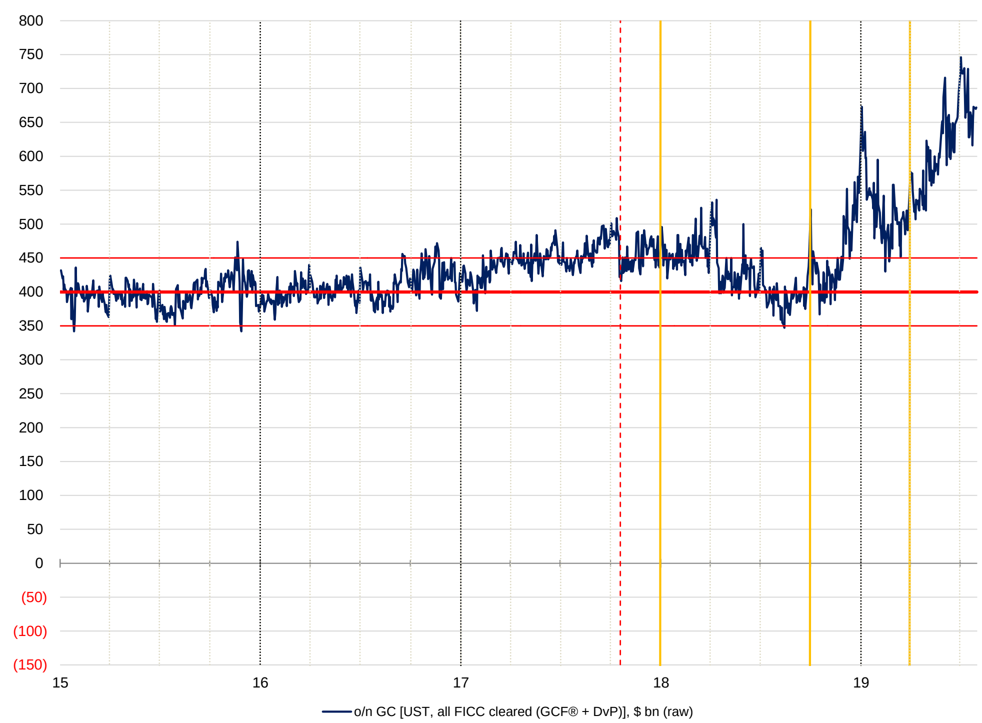
$ billions



Source: Federal Reserve, Credit Suisse

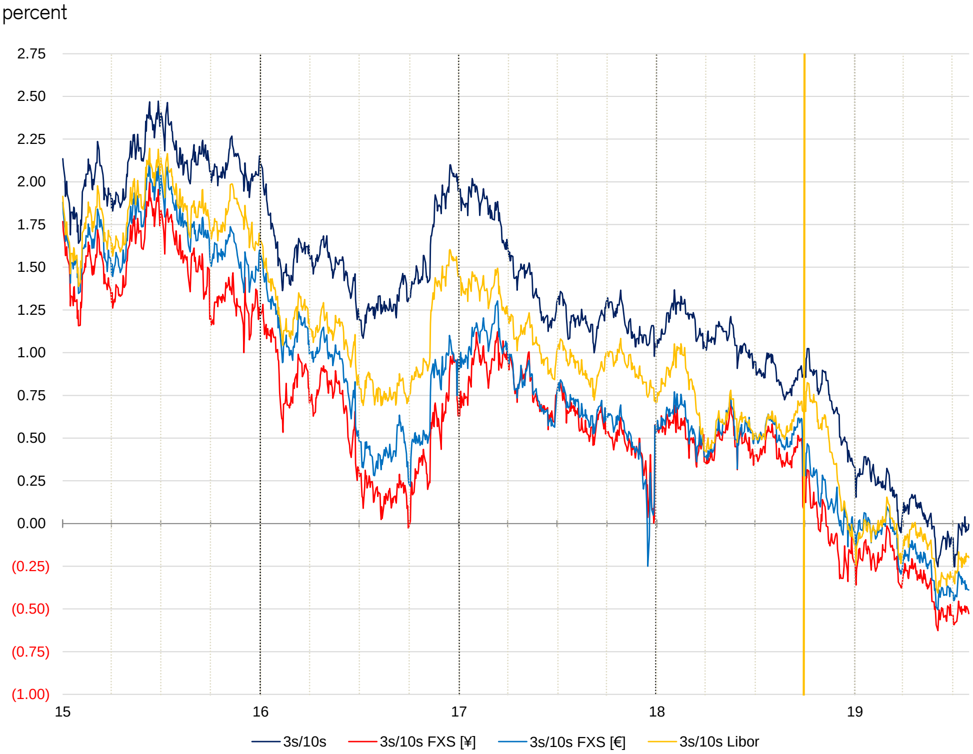
Figure 2: Soaring Funding Needs

$ billions



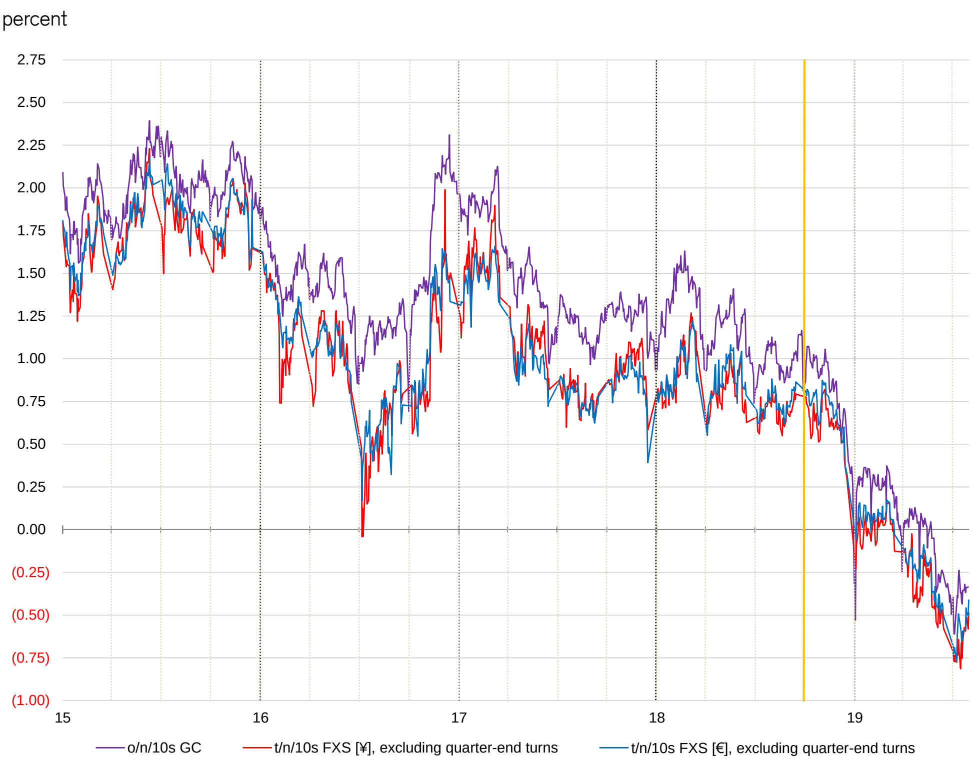
Source: Federal Reserve, Credit Suisse

Figure 3: Inversions Reimagined



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

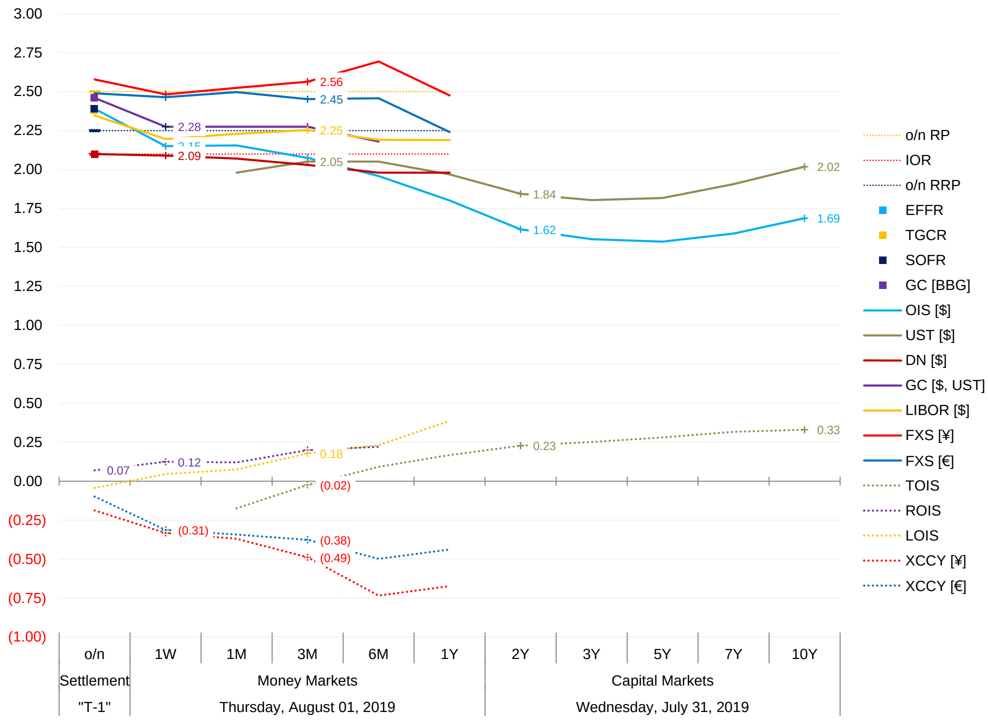
Figure 4: Inversion at the Ultra Front-End



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Figure 5: "Carry Makes the World Go 'Round" – But Not Now…

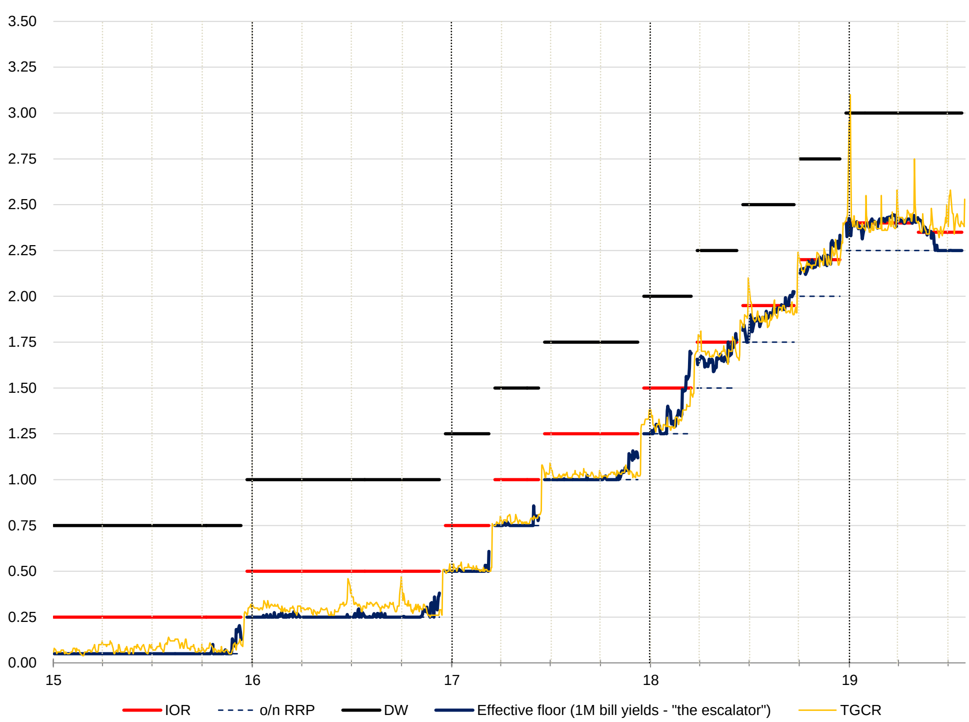
percent



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Figure 6: From a Leaky Floor to an Escalator

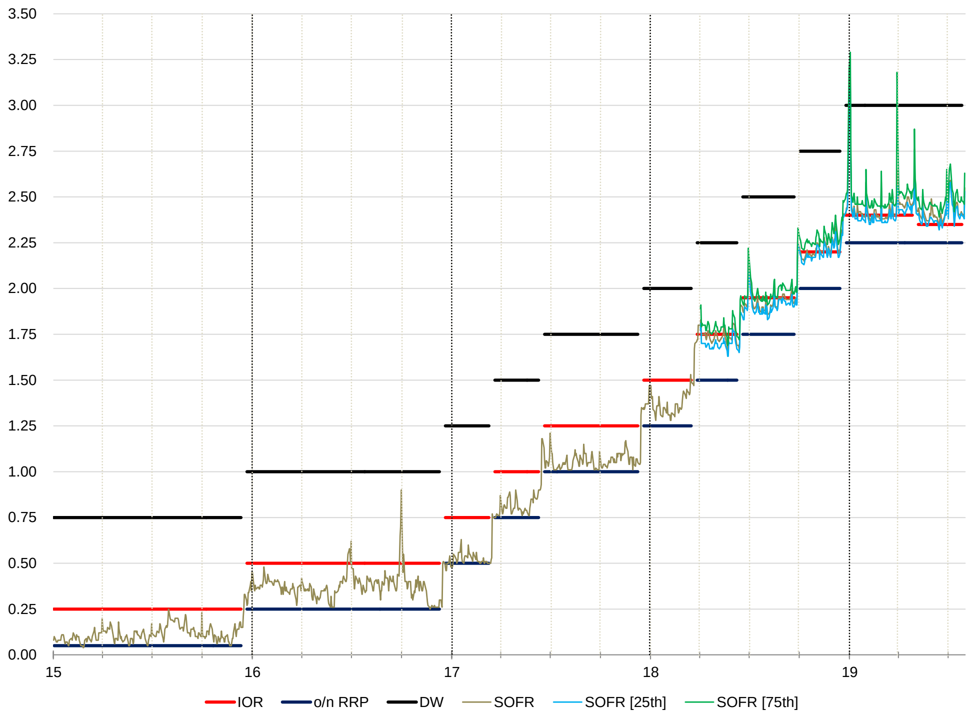
percent



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Figure 7: Piercing the Top of the Band – Where is the Limit?

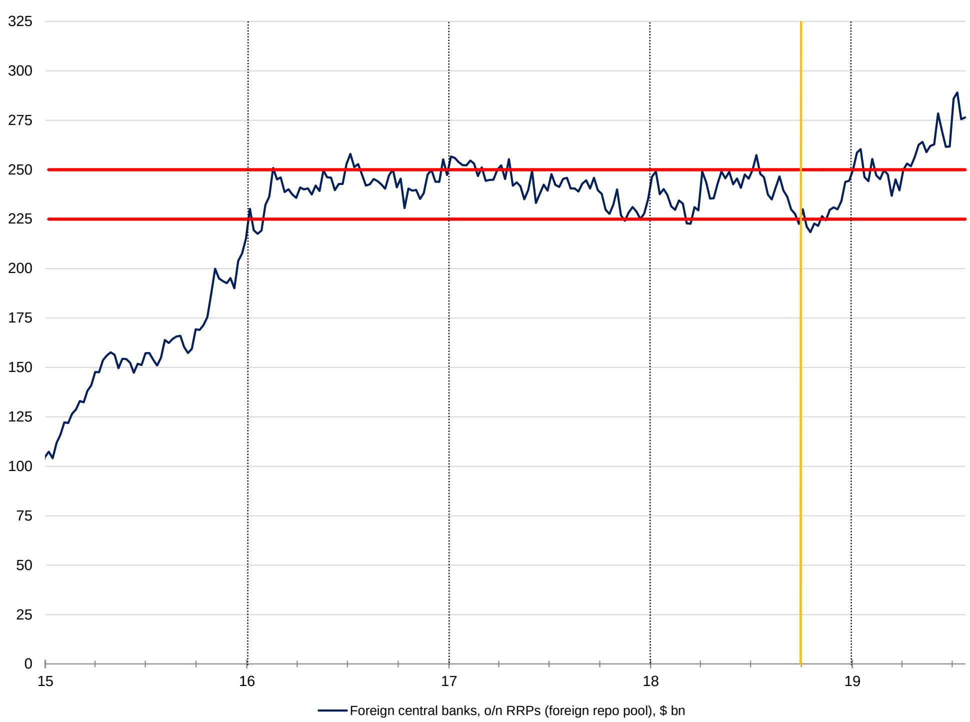
percent



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Figure 8: The Funds that aren't in the Bill Market – But Should Be…

$ billions



Source: Federal Reserve, Credit Suisse

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