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Remarks by  
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Deputy Secretary  
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At the 2020 U.S. Treasury Market Conference

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(via webcast)

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Thank you for the opportunity to address the Treasury Market Conference again this year, a year in which we've faced so many unexpected and challenging developments. If we could meet in person, we would again be at the NY Fed, which would have been especially appropriate this year because the NY Fed, and the rest of the Federal Reserve System, have been invaluable partners during this unique period.

In addition to thanking the Fed, I want to emphasize what an honor it is to serve the country in this moment of national reckoning. The COVID-19 outbreak has been a traumatic experience for so many Americans, and has severely disrupted our economy and our way of life. While I have always regarded public service as a privilege, it has been a particular honor to serve in this time of need, and to contribute, alongside many at this conference, to our collective national response.

My remarks today will cover three areas. First, I will discuss the unprecedented demand for liquidity at the start of the crisis that disrupted the Treasury market. Next, I will move beyond the Treasury market to discuss broader policy responses undertaken by the Administration and the Federal Reserve. Finally, I will pose some questions that I believe are important to study in order to inform future policy.

### **Treasury Market Conditions**

Beginning with the Treasury market itself, March and April saw a sudden, drastic flight to safety in the face of a rapidly changing economic outlook. Treasury yields declined by more than 100 basis points in a matter of days. As is well established,

these events disrupted Treasury market liquidity, sending bid-offer spreads to many multiples of their usual levels, with greater stress in longer maturities and “off-the-run” securities, as Figure 1 shows.

But this period was not an ordinary blip in liquidity conditions, it was a nearly unparalleled disruption that required significant purchases by the Federal Reserve to restore market functioning. What made this event unique? While many observers have focused on dynamics in a particular market segment or a specific trading strategy, the behavior of the Treasury market was really a combination of two broad developments: first, a rush for liquidity and safety by nearly all categories of investors and, second, a significant reduction in liquidity provision by both dealers and principal trading firms (PTF).

On the investor side, as risks from COVID began to build in the last week in February and first week of March, flows exhibited typical “flight-to-safety” behavior, primarily into shorter maturity, on-the-run coupons as Figure 2 shows.

While short-dated coupons often see greater demand during volatile periods, by the second week of March concerns had sufficiently escalated that investors were showing a strong preference for bills, the most liquid and shortest maturity of all Treasury securities. This can be seen in the reversal of net flows into coupons and customer net purchases of bills, which sent bill rates briefly negative, and in the massive growth of government money market fund assets (Figure 3).

The \$13 trillion off-the-run Treasury market (vs. \$250 billion on-the-run market) was subject to the same net selling pressure as on-the-run coupons.

The net selling was broad-based, and was sustained over several days as seen in Figure 4. Asset managers sold longer-dated off-the-run Treasuries to position ahead of outflows. End-investors such as pension funds rebalanced portfolios after initial large price gains in their Treasury holdings and sizable losses in equities. Levered investors unwound futures basis trades, as Figure 5 suggests, in part because of margin increases and unexpected deviations between cash and future markets.

Meanwhile, foreign institutions sold nearly \$300 billion of Treasuries in March. Central banks in particular sought dollar liquidity by selling shorter-dated coupon securities in order to raise cash for currency defense and to help meet the liquidity needs of their domestic financial institutions, as Figure 6 shows.<sup>1</sup>

Simultaneous with this widespread demand for liquidity across many segments of investors, liquidity providers also pulled back. As volatility increased, there was a corresponding decline in interdealer Treasury market depth, as market makers decreased the size of trades they were willing to make because of the additional price uncertainty, as seen in Figure 7.

While increased volatility typically drives some reduction in market depth, this was exacerbated by other factors affecting both traditional dealers and PTFs. On the traditional dealer side, heavy one-sided volumes and balance sheet pressures quickly strained the ability of dealers to intermediate customer flows. For

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<sup>1</sup> Eventually this was addressed when the Federal Reserve provided expanded swap lines, so that foreign governments could source dollar liquidity by posting Treasury securities as repo collateral instead of selling Treasuries.

example, banks faced demands from other business segments, such as customers drawing down credit lines.

Yet, despite these challenges for traditional dealers, their share of trading on electronic inter-dealer platforms actually increased. This was primarily because PTFs reduced their trading activity and liquidity provision even more. As seen on Figure 8, the PTF share of volume fell to well below 50 percent across tenors. PTF trading algorithms often utilize cross-market data from cash and futures markets, and the extreme volatility caused many correlations to break down, while circuit breakers in the futures market also made liquidity provision more challenging.

In summary, there was a perfect storm of overwhelming liquidity seeking flows by a wide range of investors, and reduction in liquidity provision from both traditional dealers and PTFs. While the Federal Reserve eventually had to conduct large purchases to promote stability, it is worth remembering that the Treasury market, unlike some other markets, was still able to facilitate unprecedented trading volumes throughout this incredibly difficult period. In fact, Treasury market volumes reached a record high of \$1.3 trillion in a single day, and were sustained for many weeks, as Figure 9 shows.

We will continue to study this critical period, to better understand the factors affecting liquidity supply and demand and the fundamental strengths of the deepest and most liquid market in the world.

## **Broader Policy Responses**

While the Treasury market is always a focus for the Treasury Department, the COVID-19 crisis has also necessitated much broader policy responses.

In the interest of time, I will focus my remarks on the week of March 16<sup>th</sup>, one of the most dramatic weeks for financial markets since the Great Depression. On Monday, the stock market opened to severe volatility, tripping the market-wide circuit breaker for the third time in several days and halting trading for 15 minutes. The S&P 500 ended the day down 12%, its worst single-day performance since 1987. As equity markets experienced sharp declines, funding markets began to seize up because of the uncertainty in the business environment. The understandable concern was that if Americans stayed home and business revenue fell dramatically, capital providers would be less willing to extend financing, compounding difficulties for business in an already fragile position.

This risk became starkly visible on Monday, March 16 in the commercial paper (CP) market, which was largely “open” only for the highest quality, very short duration paper. That day the total value of commercial paper issued with a duration of 80 or more days fell to \$1.9 billion from \$9.4 billion one week before, and rates on 90-day AA non-financial paper moved up to 1.34% from 0.88% one week before. Therefore, on the morning of Tuesday, March 17, the Federal Reserve announced that it would establish the Commercial Paper Funding Facility (CPFF) to buy 90-day commercial paper from a broad range of companies. This backstop created comfort for businesses that the Federal Reserve would be a buyer of new CP issuance, but it did not resolve liquidity and pricing pressure in the market for already outstanding CP. Money market mutual funds are among the largest holders

of CP, so the liquidity crisis in the outstanding CP market began affecting money market mutual funds. This risked devolving into a downward cycle, where CP market pressure created concerns for money markets, and outflows from money markets would cause more selling of CP, feeding a reinforcing negative loop.

In response, after market hours on Tuesday, the Federal Reserve announced that it would establish a second facility, the Primary Dealer Credit Facility (PDCF), opening on Friday March 20. The PDCF sought to provide liquidity to primary dealers, who in turn could smooth market functioning. However, the PDCF alone was insufficient to resolve the disruption to money market mutual funds, partially due to primary dealer balance sheet constraints.

So late in the evening on Wednesday, March 18, the Federal Reserve announced the establishment of a third facility, the Money Market Mutual Fund Liquidity Facility (MMLF), providing a strong incentive for banks to support money markets. Critically, MMLF terms made eligible any transactions executed starting that same day, March 18, until the opening of the facility on March 23, so that the facility would have an effect even before opening. The MMLF achieved its intended goal as market participants again started providing much needed liquidity to money market mutual funds and CP markets.<sup>2</sup>

Reflecting on these events, we went from volatile, though functioning markets the week before to watching a liquidity crisis evolve with remarkable speed before our

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<sup>2</sup> Within a few days, the Federal Reserve announced adjustments to the terms of the CPFF and the MMLF to expand the scope of eligible securities, and in the case of the CPFF, lower the pricing. The Federal Reserve's willingness to adjust the terms of these facilities so quickly demonstrated responsiveness to market feedback.

eyes. Liquidity concerns transferred from one market segment to another – from new CP funding, to existing CP markets, to money markets – and liquidity concerns soon became market functioning concerns. The 2008 crisis had moved from Wall Street to Main Street. This crisis, on the other hand, started with Main Street businesses shutting down as required by the pandemic, and the concern the week of March 16 became that a financial market crisis would also develop, creating further instability for so many Main Street businesses that rely on financing. The situation was especially urgent because financing would be more important than ever for American businesses in the challenging period of reduced activity that lay ahead. The Treasury and Federal Reserve teams, including Secretary Mnuchin and Chairman Powell, were in constant contact to address the situation. While much more work needs to be done to analyze that week and our response, looking back on it six months later does provide two initial lessons.

The first lesson is how important design choices are in establishing 13(3) emergency lending facilities. For instance, one might have imagined that the CPFF, in which the Fed committed to buy new issue CP, would have calmed the secondary CP market, since corporates could have refinanced existing paper by issuing into the Fed facility. Or one might have assumed the PDCF would have solved the related money market concerns by giving Primary Dealers access to cheap financing to profitably purchase money fund assets. But while these two facilities played important roles, it was the MMLF that saw the most volume (\$50 billion in two weeks) and made the biggest difference.

This was because of some important design choices. One was the choice of participants. The Fed could have set up the MMLF, like the CPFF, to interact directly with those who needed liquidity. This would have required the Fed to buy

money market mutual fund assets directly. But instead, the facility channeled support through the banks, and the banks in turn engaged with the markets. This was an important decision because it allowed speed. The Fed was able to use its existing bank relationships to get the facility launched within days. By comparison, had the facility needed to purchase directly from money market mutual funds, it could have taken weeks to get off the ground, like the CFFF did, because of the need to register new counterparties less accustomed to dealing directly with the Fed.

Another key design choice was making the MMLF non-recourse. The PDCF allowed the 24 primary dealers to buy assets from money market mutual funds and use those assets as collateral when borrowing from the Fed. But this borrowing was on a recourse basis. Making the MMLF non-recourse (combined with exempting MMLF assets from risk-based and leveraged capital ratios) significantly reduced the risks for banks. This created sufficient incentives for banks to robustly participate, restoring market functioning.

From choice of counterparties to recourse decisions, design nuances made a big picture difference.

In addition to the importance of facility design, a second lesson from that week concerns the tools available to policymakers in a crisis. After 2008, the Dodd-Frank Act reshaped financial regulation, creating new tools (such as Orderly Liquidation Authority and the Financial Stability Oversight Council). But Dodd-Frank also curtailed or eliminated other tools, in part to ensure political accountability. In particular, Dodd-Frank eliminated the FDIC's authority to issue blanket guarantees of bank debt, ended Treasury's authority to guarantee money

market mutual funds, and required that the Federal Reserve obtain Treasury's approval for emergency lending programs under section 13(3) of the Federal Reserve Act.

These changes meant political leaders had to act this year. In the CARES Act, Congress temporarily lifted the restrictions on FDIC guarantees of bank debt and on Treasury guarantees of money market mutual funds, though these powers have not been invoked. Similarly, Treasury and the Federal Reserve have worked closely together on the emergency lending facilities to provide crucial support to the economy. To be sure, a future crisis may require different policy tools, and strong collaboration between Treasury and the Federal Reserve is not guaranteed. But it is reassuring to know that faced with the first significant shock since the Dodd-Frank reforms, policy makers were able to act swiftly and forcefully to produce a bipartisan and successful result.

## **Looking Forward**

I would like to devote the remainder of my time to three forward-looking next steps and broader questions.

First, the Treasury market TRACE data<sup>3</sup>, which we announced the release of at last year's conference, was a critically important resource in helping us understand Treasury market developments during the crisis. Since last year's conference, we have continued to work with official sector partners and FINRA to consider ways

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<sup>3</sup> The Trade Reporting and Compliance Engine (TRACE) data is provided to the official sector by the Financial Industry Regulatory Authority (FINRA).

to analyze and enhance the data and have identified areas where further upgrades would significantly improve our assessment of market conditions. For example, identification of trading strategies beyond basis trades, further granularity on trading venues and methods of execution, and greater precision of timestamp reporting would ensure the data is an accurate representation of participant activity. We look forward to working with our official sector partners and to sharing our insights at future conferences.

Second, turning towards broader financial markets, another critical topic for future consideration is the role of market intermediaries during times of stress. Periods of high volatility and uncertainty often increase demand for liquidity. However, such conditions may also reduce the supply of liquidity, as financial intermediaries focus on their own liquidity position. Banks and broker-dealers entered the crisis in very strong financial position, partially as a result of reforms after 2008. Yet while this strength was vital to preventing the crisis from being magnified, it was not enough on its own to ensure proper market functioning. During March and April, there were substantial disruptions to market functioning, including some reports of dealers ceasing to make markets at times. In the end, intervention by Treasury and the Federal Reserve became necessary.

This episode raises important questions for policymakers. Did regulatory constraints or internally-driven risk management decisions limit dealers? Should we explore ways to enhance the resilience of liquidity provision in periods of stress? Under what circumstances should we expect the Federal Reserve to need to step in as the lender of last resort? If a sudden global pandemic requires intervention to support markets, is that necessarily a systemic problem, or is it a logical response to an unlikely event?

Finally, going forward policymakers should also reflect on the outflows from certain types of money market mutual funds. There are three categories of money market mutual funds: government, prime, and tax exempt. All offer daily liquidity and investors view them as cash-like instruments, but prime and tax-exempt funds often invest in assets that do not have cash-like liquidity. In normal times, money funds can easily manage the flow of redemptions by keeping some assets in liquid investments. However, large-scale redemptions, perhaps sparked by concerns in other markets like commercial paper, can cause investors to perceive a “first-mover advantage” and race to redeem before a fund’s liquidity resources are overwhelmed. This can quickly spread instability from troubled funds to the rest of the money fund industry and the broader financial system.

To be sure, developments since the 2008 financial crisis reflect important progress. When the Reserve Primary Fund “broke the buck” in 2008, a stampede of prime fund investors sought to withdraw funds quickly while their funds still priced at \$1, starting a run that only abated when Treasury established a money fund guarantee program. The SEC’s 2010 and 2014 reforms made critical progress on several fronts, including floating NAVs of institutional prime and tax-exempt funds (out to four decimal place) and requiring all money market mutual funds to hold at least 30% of their assets in instruments that are liquid within a week. When a fund drops below the 30% threshold, its board may decide whether to gate or impose fees on redemptions.

However, the events of this past March show that those reforms may not be enough. For example, one might ask whether we have exchanged one psychological bright line for another. While the 2008 episode centered on

“breaking the buck”, in 2020 market participants worried that a fund dipping below the 30% weekly liquid assets threshold could similarly accelerate fund redemptions.

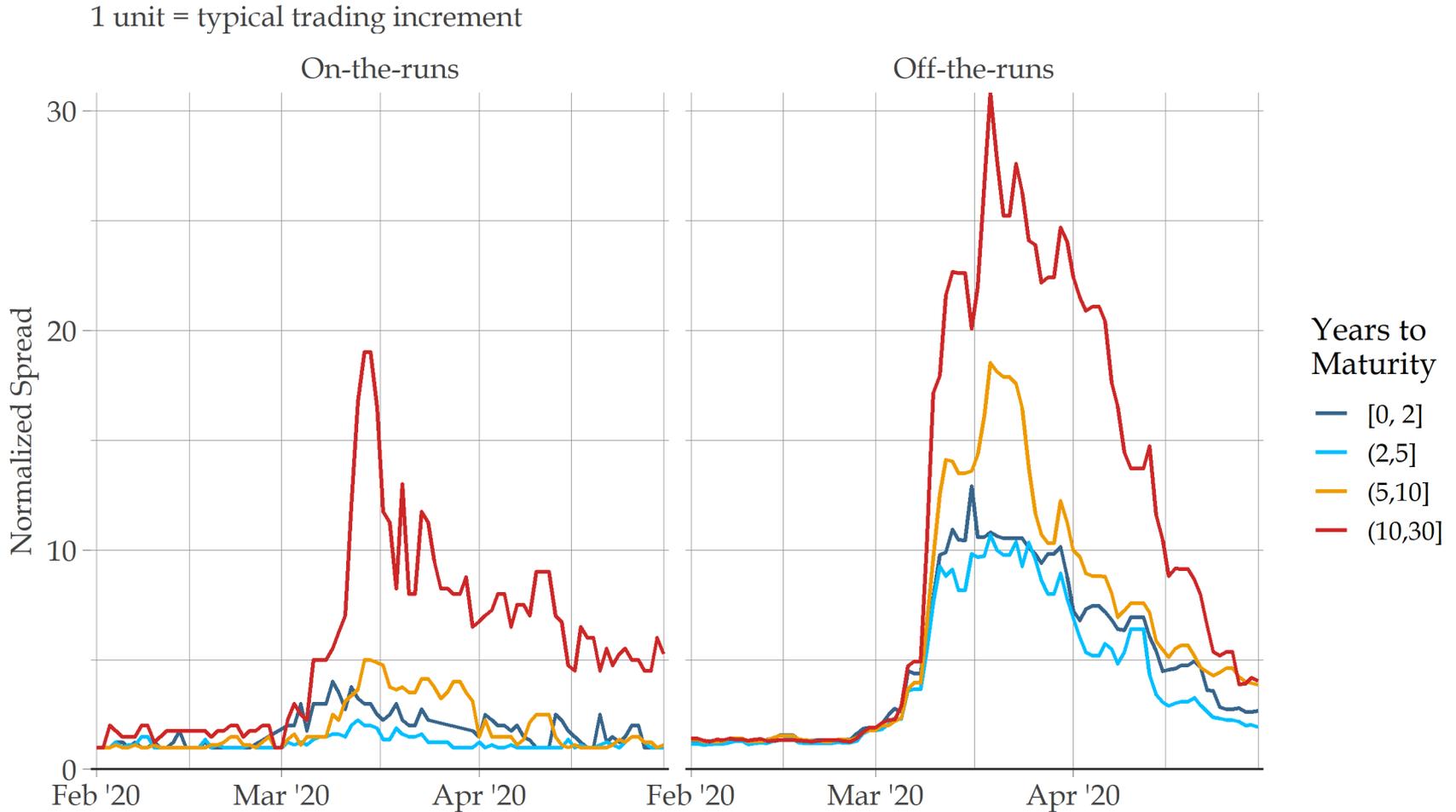
Whether the bright line is stable NAV or a 30% liquidity test, we need to remember that bright lines have the potential to cause investors to redeem before the line is crossed, creating run dynamics. While policymakers were able to avert a run, it is worth asking whether there are ways to enhance the liquidity resources available to funds without using a bright line test or whether there are ways to draw a line without creating a first-mover advantage.

To conclude, let me once again say how proud I am of the work of the cross-government economic team, including members of both parties on Capitol Hill, for acting decisively in response to the extreme disruption of COVID-19. While all countries have faced economic challenges from the pandemic, the U.S. was in a unique position because of the size and importance of our financial markets to the global economy. We remain extremely focused on creating the conditions to allow for a full economic recovery. As has been true since the nation’s founding, much has been done, but much remains to do. I am confident the American spirit of inquiry and action will see us through to a bright future.

## Appendix

- Figure 1: Average bid-ask spreads for nominal coupons
- Figure 2: Net customer buys of nominal on-the-runs
- Figure 3: Net customer buys of bills and money market fund assets
- Figure 4: Net customer buys of nominal off-the runs, cumulative
- Figure 5: Spike in basis trading activity, especially in off-the-runs
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- Figure 7: Implied volatility and depth on BrokerTec
- Figure 8: PTF share of volumes on electronic interdealer platforms
- Figure 9: Average daily Treasury market volumes, by week

# Figure 1: Average bid-ask spreads for nominal coupons

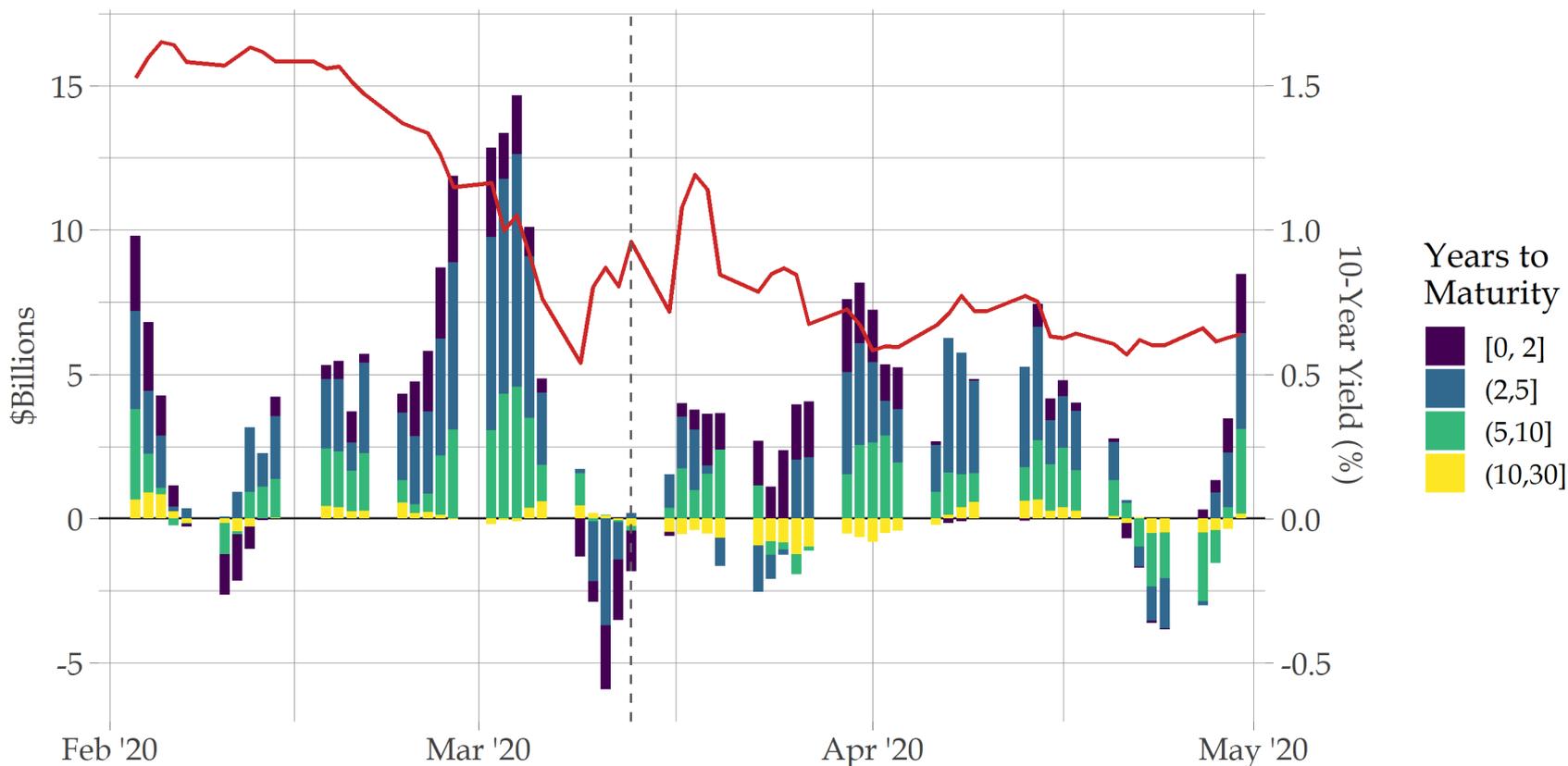


Source: Federal Reserve Bank of New York

## Figure 2: Net customer buys of nominal on-the-runs

1-week moving averages; 10-year yield in red

Fed purchases of off-the-runs increased on March 13 (vertical line)



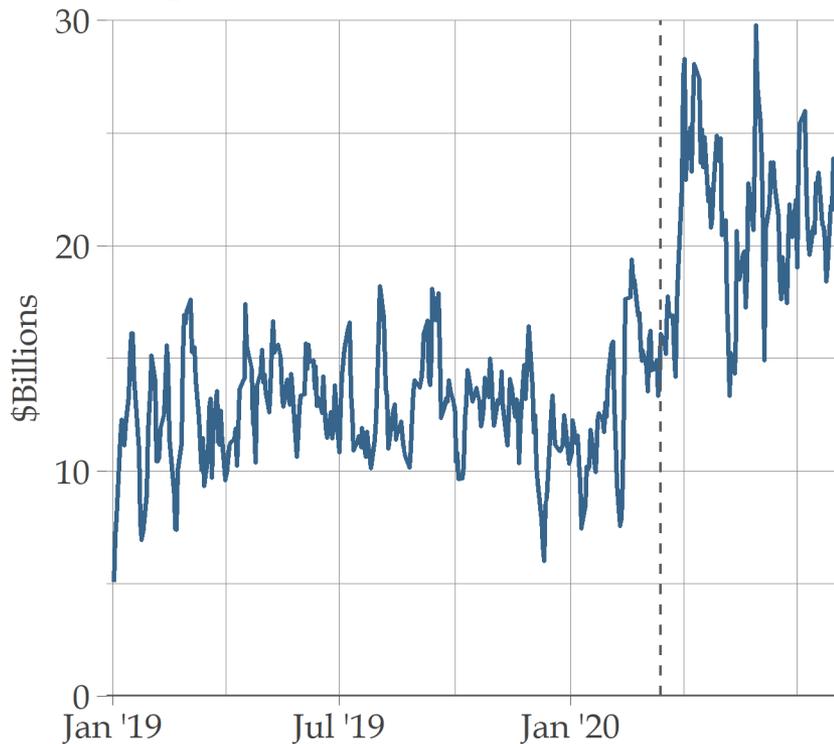
Net customer buys in the dealer-to-customer venue. Excludes affiliate trades.

Source: TRACE; Bloomberg

# Figure 3: Net customer buys of bills and money market fund assets

## Net customer buys of bills

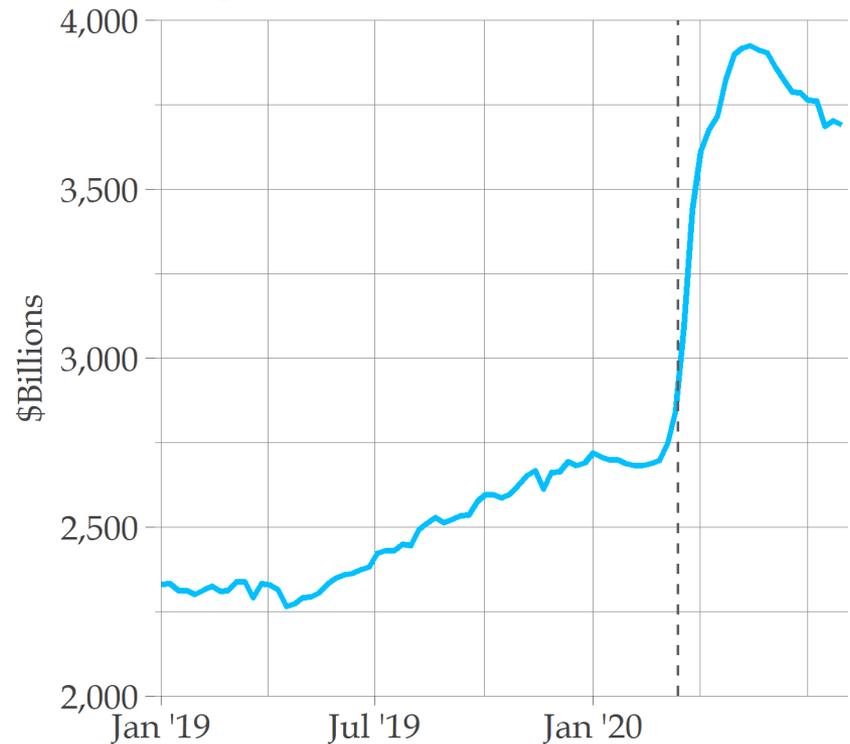
1-week moving average  
Fed purchases increased March 13 (line)



Net customer buys in the dealer-to-customer venue. Excludes affiliate trades.  
Source: TRACE

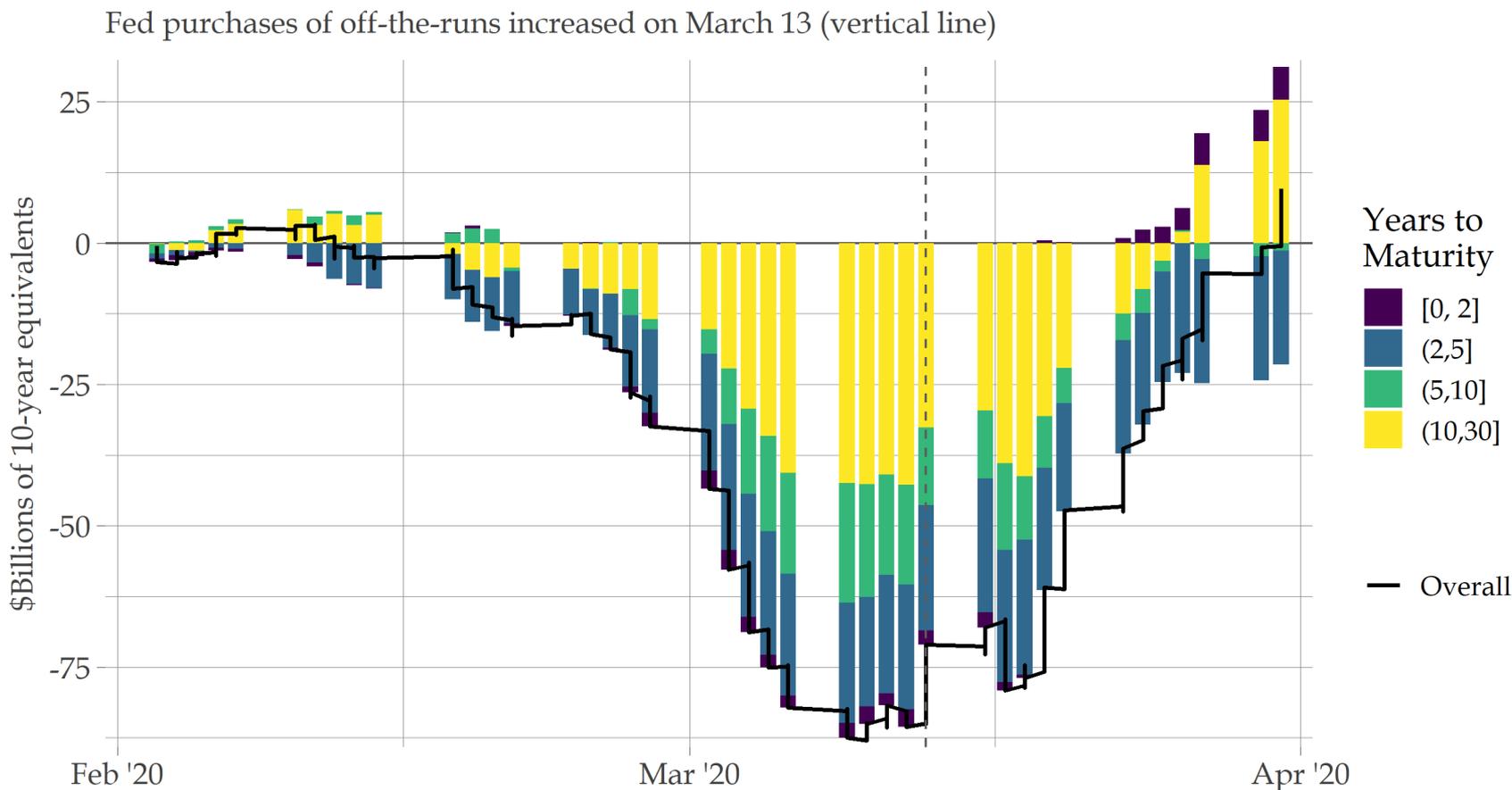
## Money market fund assets

Government-only funds; Weekly  
Fed purchases increased March 13 (line)



Source: Investment Company Institute

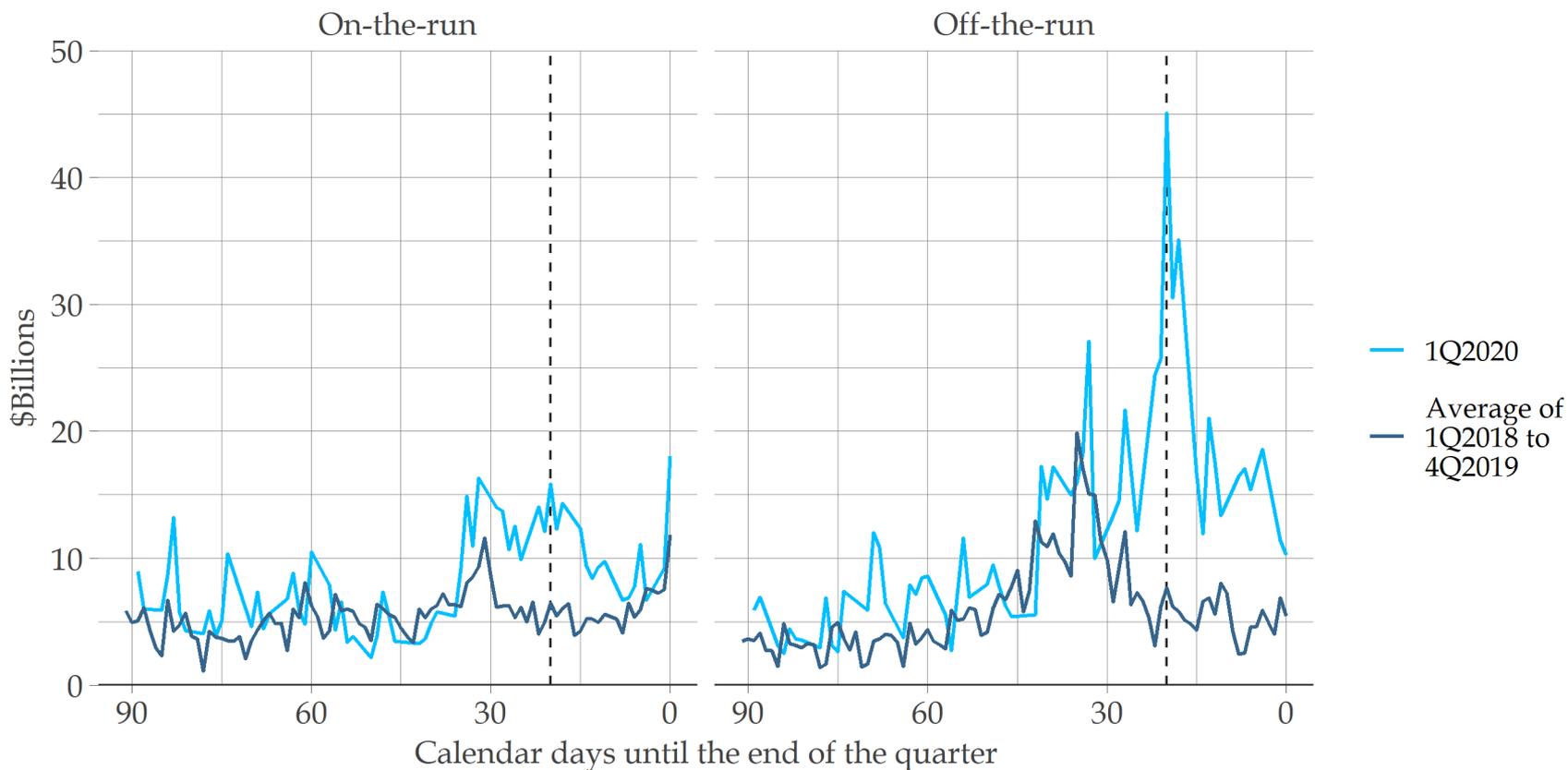
# Figure 4: Net customer buys of nominal off-the-runs, cumulative



Net customer buys in the dealer-to-customer venue. Excludes affiliate trades.  
Source: TRACE

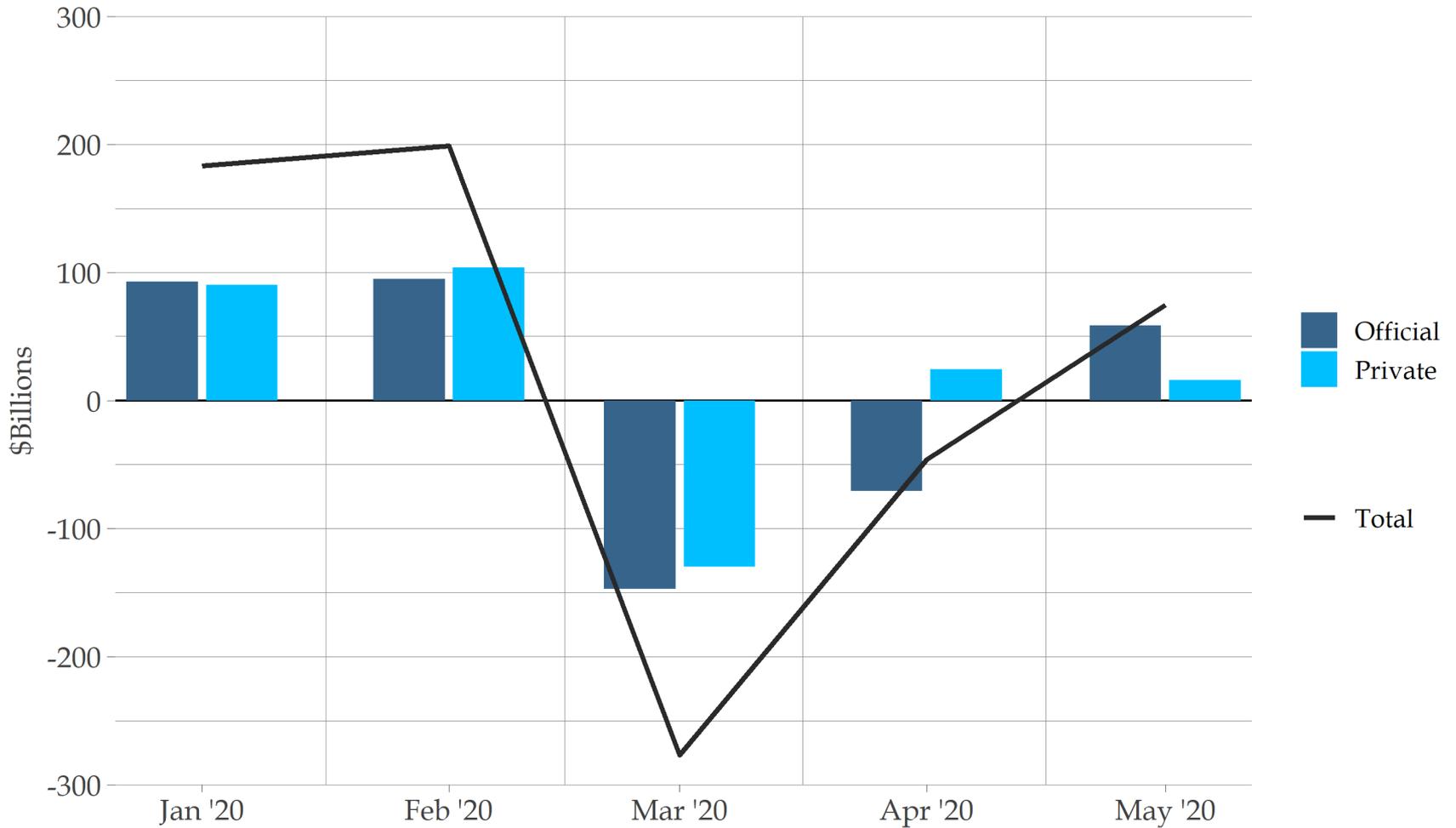
## Figure 5: Spike in basis trading activity, especially in off-the-runs

Cash trades with a futures leg (.B) reported to TRACE; Line indicates peak .B volumes on March 11



Futures basis volumes typically increase about a month before the end of each quarter, in line with when investors roll from the current quarterly futures contract to the next quarterly contract. Source: TRACE

# Figure 6: Change in foreign holdings

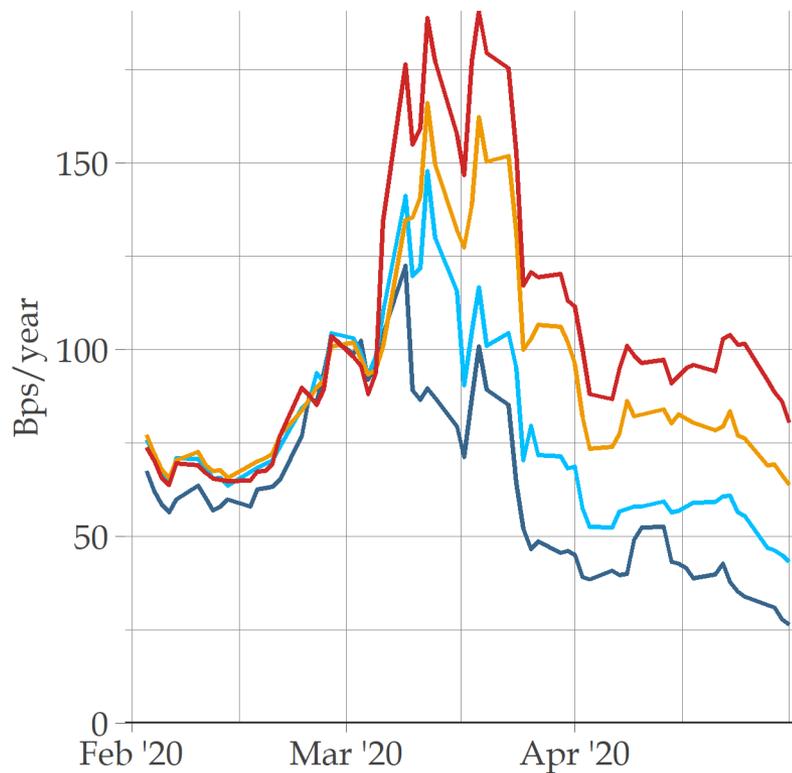


Source: Treasury International Capital

# Figure 7: Implied volatility and depth on BrokerTec

## Implied Volatility

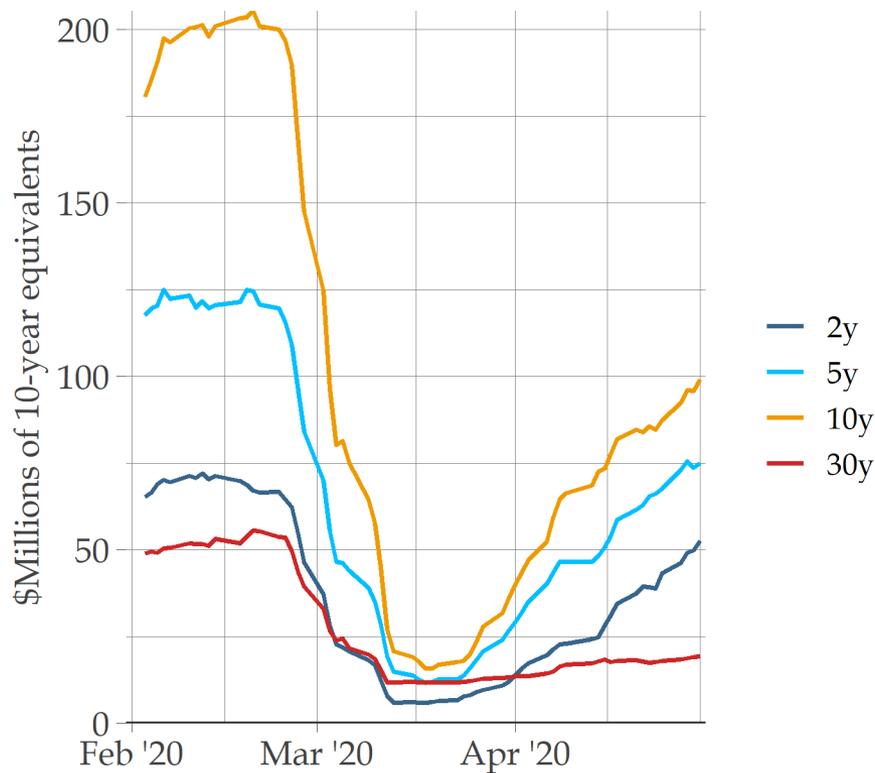
1-month expiry swaptions



Source: Bloomberg

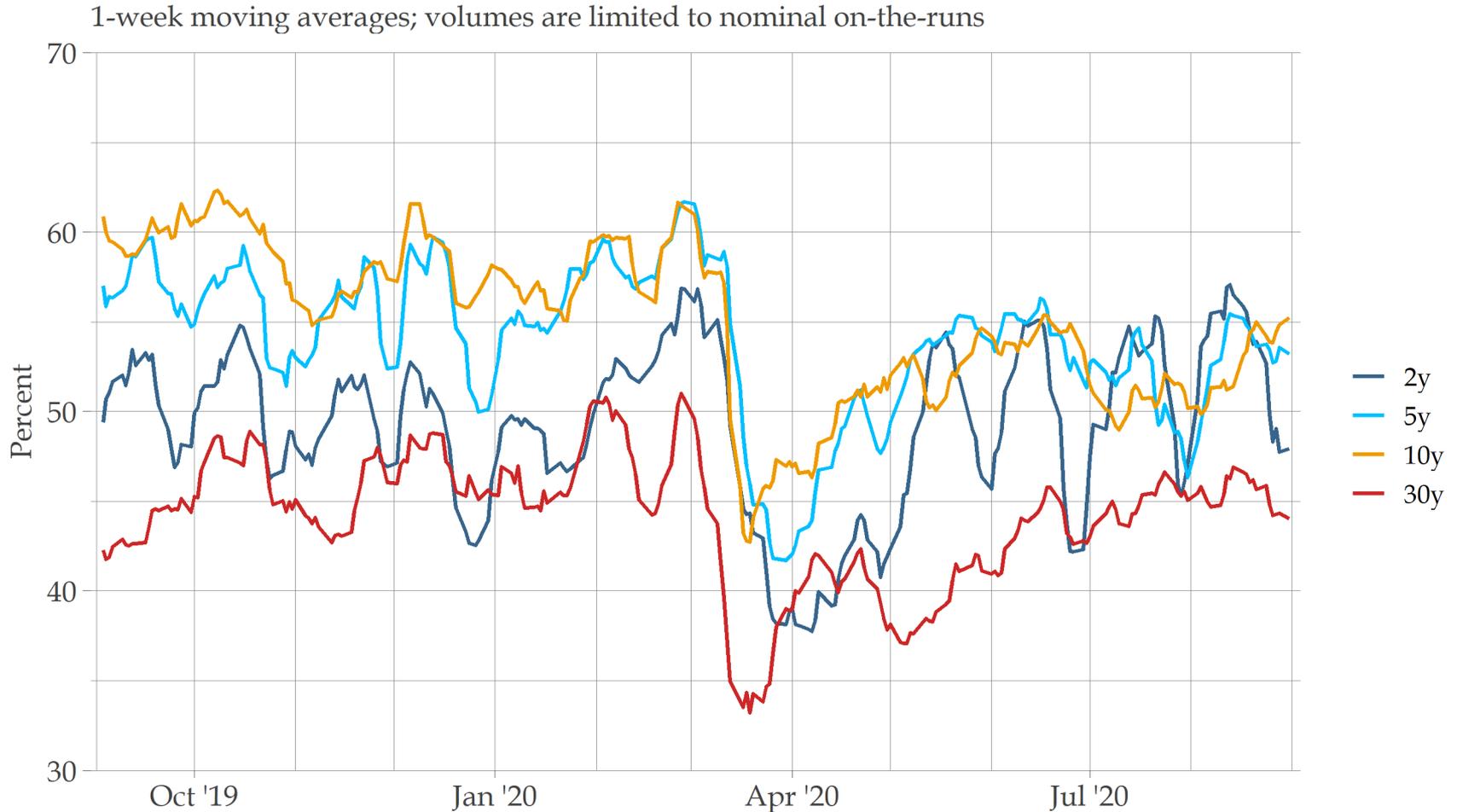
## Depth on BrokerTec

1-week moving averages



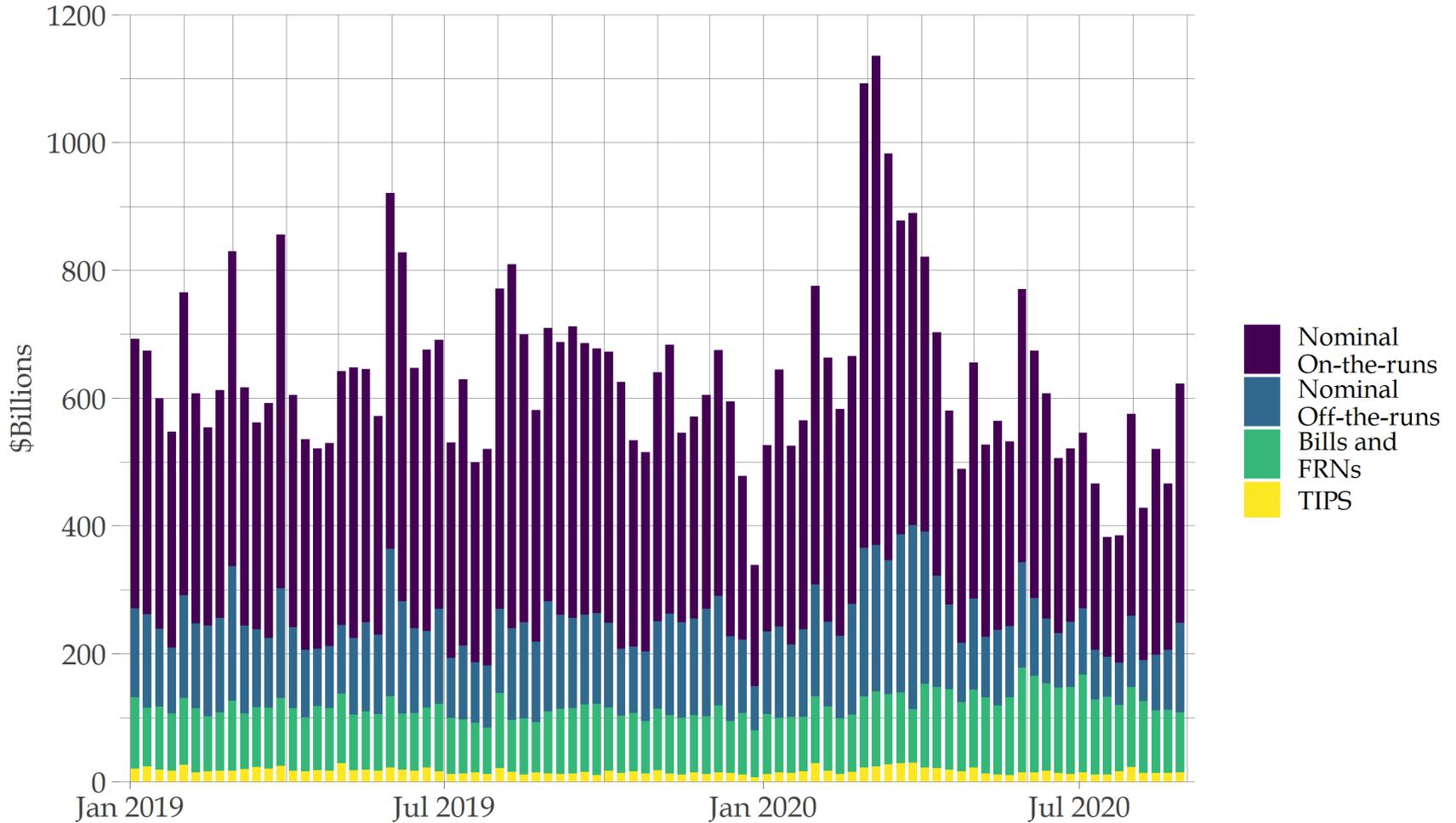
Depth includes the top 3 levels, averaged across bid and offer sides.  
Source: BrokerTec

# Figure 8: PTF share of volumes on electronic interdealer platforms



Source: Treasury; TRACE

# Figure 9: Average daily Treasury market volumes, by week



Source: TRACE