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Treasury Market Stress: Lessons from 1958 and Today

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While the stress Treasury markets experienced in March 2020 took many by surprise, it was not unprecedented. In this brief, we examine a similar episode of Treasury market stress that took place in the summer of 1958. Although different events triggered these episodes, we show that they have many similarities in terms of the vulnerabilities they exposed: a high level of outstanding debt, dealers overloaded with Treasury securities, large positions (sometimes with minimal haircuts) funded using leverage in the repo market, a prevalence of carry trades, and sudden increases in margins. Our discussion covers the expansion of market-based financing in the Treasury market over the 1950s, including how it was driven by demands for short-term and highly liquid investment mediums from outside the financial sector. Finally, we review the challenges for reform policymakers faced in the wake of the crisis.

In March 2020, the Treasury market–often considered the safest and most liquid market in the world–experienced extreme stress. Bid-ask spreads rose across a wide range of Treasuries, option implied volatility reached levels higher than in the financial crisis, and regular patterns of returns between Treasury securities and equities broke down.[2] Stress in Treasury markets also spilled into short-term funding markets such as the repo market, where rates rose relative to the Federal Funds target and spreads between market segments widened.[3] Ultimately, the Federal Reserve chose to intervene, purchasing $1.54 trillion of Treasuries between February 26 and May 6, and at points in March, lending over $95 billion overnight through the repo facility before Treasury market functioning normalized.[4]

While the scale of the March 2020 disruptions in Treasury markets was unprecedented, we show in this brief that a similar episode occurred in the Treasury market in 1958, which between June 16, 1958, and August 19, 1958, went through what was considered at the time "one of the most disorganized periods in its history."[5] The stage for this early episode of Treasury market stress was set by high levels of Treasury issuance in long-maturities during a period of monetary ease, which enabled carry trades to be financed in the fast-developing repo market at low rates and sometimes non-existent margins. When a sudden change in market participants' expectations of monetary policy caused the prices of underlying Treasuries to fall and financing terms to tighten, carry traders were forced to unload their holdings of Treasuries, "washing out of 10 percent of market values in... drastic declines, with

the market practically non-existent."[6] The Treasury and Federal Reserve were ultimately forced to carry out nearly $2 billion of interventions to protect the Treasury's ability to continue to fund the government.

Many features of the 1958 episode have parallels in the March 2020 disruptions in the Treasury market, including high levels of outstanding Treasuries, limited capacity of a small set of dealers to handle large volumes of Treasury sales, and an increased reliance on market-based financing and nonbank financial intermediaries who are vulnerable to margin calls and runs on repo financing.[7] These same factors have also been connected to the repo spike in September 2019, when overnight rates jumped from 2% to 10% before receding again after the Federal Reserve introduced a repo facility lending to dealers.[8] Although these events differed in their magnitude and scope, collectively, they have highlighted various underlying structural problems in the Treasury markets. Understanding the source of these problems and the extent to which its proposed reforms have been successful is crucial to strengthening Treasury market resilience in the future.

While some features of the 1958 crisis have been previously covered in Meltzer (1993), Garbade and Keane (2020), and Garbade (2021)[9], their focus was primarily on the relationship between the crisis and the Federal Reserve-Treasury accord. In this article, we review the events of 1958 from a financial stability standpoint, going over the exposures to risk the Treasury market accumulated in the lead-up to 1958 and the actual onset and conclusion of the crisis. Finally, we review these events to highlight the similarities and differences between 1958 and 2020 and draw lessons from the past for policymakers today.

Our primary sources come from historical documents produced by the Federal Reserve, the Department of the Treasury, and the Joint Economic Commission (JEC) in the wake of the crisis. The documents provide incredible detail on the operations of dealers and other participants in the Treasury market around the 1958 crisis. We have digitized many of the tables produced in these documents. In addition, we have constructed a sample of Treasuries prices from New York Times archives to investigate the origins of speculative trades in the Treasury market and complemented these with digitized daily reports on Treasury prices from the Board of Governors.

Section I introduces the background factors relevant to the lead-up to the crisis, including a large overhang of Treasury debt, the evolution of innovations in market-based financing, and expectations of easy money at the time. Section II details the onset of the crisis, including the use of carry trades (purchases of long-term securities using short-term funds) that enabled a sizeable buildup of positions with low or non-existent margins. Section III reviews the crisis and its aftermath. Section IV summarizes policy reforms proposed at the time and discusses the challenges to reforming the Treasury market after the 1958 crisis.

I. Background of the '58 Crisis

We begin by reviewing three features of the state of the Treasury market and the broader economy before the 1958 crisis. First, not unlike today, the Treasury market at the time depended upon a small set of primary dealers to intermediate a large amount of outstanding Treasury debt, and who may become constrained in their market-making capacity during times of stress. Second, the period before 1958 experienced a marked shift in the reliance of Treasury intermediaries on nonbank actors and market-based finance, which enabled sizable speculative positions to be taken on government securities that further accentuated market stress. Finally, rapid changes in economic fundamentals during 1957-1958 created an expectation of easy money, which ultimately contributed to the 1958 crisis.

Treasury Markets

The overhang of government debt accumulated from the Second World War provides an important background for the events of 1958. At its peak, debt exceeded 120% of GDP in 1946 before falling to 57% in 1958. While outstanding debt in 1958 may seem paltry relative to current debt levels, it far surpassed the pre-war average, which had never exceeded 40% of GDP even during the First World War. Moreover, the entirety of the decrease in the debt-to-GDP ratio between 1946 and 1957 came from rapid growth in GDP rather than declines in government borrowing, as evidenced in the sustained increase in outstanding debt to nearly $200 billion over the 1950s. In 1962, Tilford

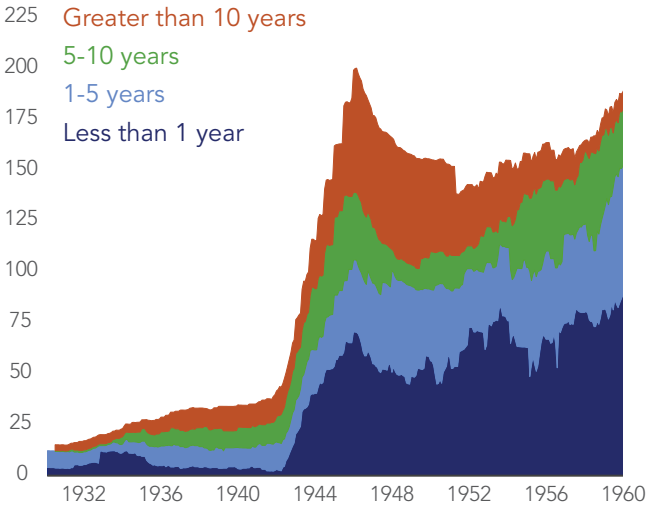
Gaines noted that "management of the huge public debt created by the depression of the 1930s and the Second World War has been a dominant, sometimes the dominant influence in the financial markets since the end of the war."[10]

In addition to the sheer amount of debt overhanging the market, the Treasury began to tilt its issuance towards longer maturities in part to finance stimulus measures related to the 1957 downturn. As a result, between December 1957 and June 1958, outstanding Treasury securities with maturities less than five years fell by $12.1 billion, while Treasury securities with maturities greater than five years rose by $14.6 billion, with most of the increase in long maturities driven by increases in coupon securities with 5-10 years to maturity. As a result, in Gaines' words, "[b]y June 1958, a tremendous supply of United States Government and other longer-term bonds was over-hanging the market."[11]

Much as the increase in debt resulting from the Tax Cuts and Jobs Act of 2018 was handled primarily by 24 primary dealers, the refunding of the debt in 1958 was handled by a group of 17 government securities dealers.

Figure 2 presents a list of primary dealers in 2020 and government securities dealers in 1958, split into bank-affiliated and nonbank. As can be seen, there were

Figure 1. Outstanding Treasury Debt by Maturity 1931-1960 ($ billions)



Note: Maturities due in less than one year include bills and certificates of indebtedness and Treasury notes and bonds. For data before 1953, maturity is recorded on the basis of first call date.
Sources: Hall and Sargent (2018)[12], Office of Financial Research

Figure 2. Government Securities Dealers in 1958 and 2020

Primary dealers, 2020

Nonbank	Amherst Pierpont Securities LLC	Jeffries LLC
	Cantor Fitzgerald & Co.	
Bank-affiliated	Bank of Nova Scotia, New York Agency	J. P. Morgan Securities LLC
	BMO Capital Markets Corp	Mizuho Securities USA LLC
	BNP Paribas Securities Corp.	Morgan Stanley & Co. LLC
	Barclays Capital Inc.	NatWest Markets Securities Inc.
	BofA Securities, Inc.	Nomura Securities International, Inc.
	Citigroup Global Markets Inc.	RBC Capital Markets, LLC
	Credit Suisse AG, New York Branch	Societe Generale, New York Branch
	Daiwa Capital Markets America Inc.	TD Securities (USA) LLC
	Deutsche Bank Securities Inc.	UBS Securities LLC
	Goldman Sachs & Co. LLC	Wells Fargo Securities, LLC
	HSBC Securities (USA) Inc.	

Government security dealers, 1958

Nonbank	Bartow, Leeds & Co.	Aubrey G. Lanston & Co.
	Briggs, Schaedle & Co., Inc.	New York Hanseatic Corp.
	C. F. Childs & Co. Inc.	Wm. E. Pollock & Co., Inc.
	C. J. Devince & Co.	Chas. E. Quincey & Co.
	Discount Corp.	D. W. Rich & Co., Inc.
	First Boston Corp.	Salomon Bros. & Hutzler
Bank-affiliated	Bankers Trust Co.	First National Bank of Chicago
	Chemical Bank New York Trust Co.	Morgan Guaranty Trust Co.
	Continental Illinois National Bank & Trust Co.	

Sources: Federal Reserve Bank of New York, Office of Financial Research

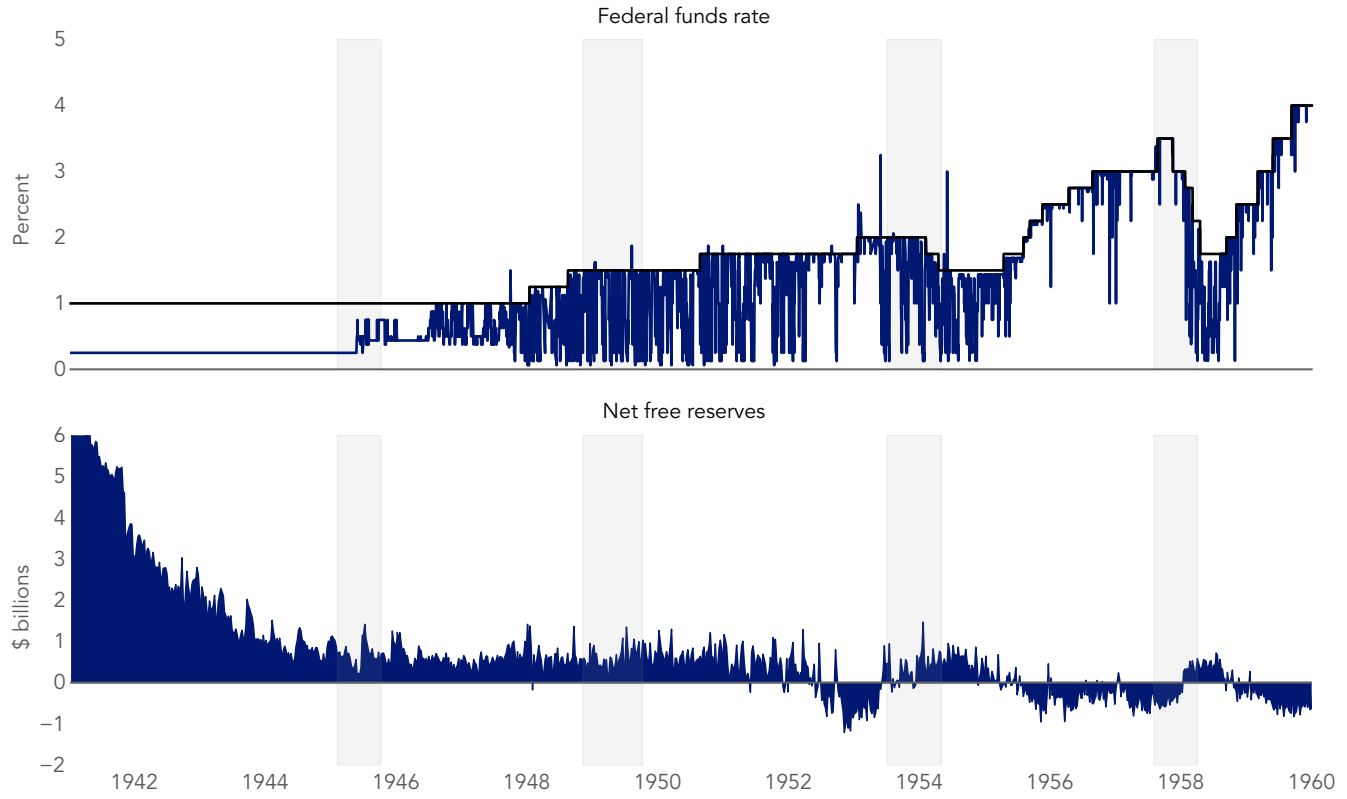
fewer dealers in total but more nonbank dealers in 1958 than in 2020. The source of financing with which dealers carried these securities depends on their organization: bank-affiliated dealers had greater access to sources of funds through their banking arm. In contrast, nonbank dealers were more dependent on market-based finance.

Money Markets and Nonbank Finance

In the lead-up to 1958, the search for funding from nonbank dealers led to innovations in market-based financing that ultimately became a contributing factor in the 1958 crisis. While market-based financing is often thought of as a recent development, the repo market had by 1958 become a major source of financing for dealers and other Treasury market participants. This section discusses how market-based financing, particularly from nonfinancial corporations, came to be so important during this period.

The rise of market-based financing in the Treasury market was partly the result of changes in Federal Reserve policy, which led nonbank dealers to develop new sources of financing. During the war, the Federal Reserve had acted in concert with the Treasury to tightly control Treasury debt prices by issuing large amounts of reserves.[13] In 1951[14], concerned with the potential that further accommodative policy would generate inflation, the Federal Reserve and Treasury reached the Fed-Treasury accord, which reestablished the independence of monetary policy. Following this accord, the Fed began to tighten monetary policy, with free reserves decreasing and the Federal Funds rate increasing to the ceiling set by the discount rate. This led to relatively tight periods of money from 1951-1953 and 1956-1957, as illustrated in **Figure 3** by periods where net free reserves were negative and the Federal Funds rate was near to the upper-bound set by the discount rate.

Figure 3. Federal Funds Rate (above) and Net Free Reserves (below) 1941-1960



Note: Black line in the top figure is the Federal Reserve's discount rate. Prior to 1955, Federal Funds rates come from the Wall Street Journal series constructed by Anbil, Carlson, Hanes and Wheelcock "A New Daily Federal Funds Rate Series and History of the Federal Funds Market, 1928-1954."[39] Shaded areas denote NBER recession dates. Free reserves are calculated as excess reserves less borrowed reserves.

Sources: Anbil et al. (2020), Federal Reserve H.15 Selected Interest Rates, Banking and Monetary Statistics 1941-1970, Office of Financial Research

These periods of tightening led to substantial changes in how government securities dealers financed their operations, particularly during the period from 1955 to 1957. While bank dealers could continue to fund themselves through their banking arms, nonbank dealers found it difficult to secure financing from their traditional sources of financing, the New York banks, at attractive rates that would make it profitable to carry securities. These banks had access to the discount window at the Federal Reserve, which in times of tight money, represented their primary source of funds. Therefore, nonbank dealers could not borrow from these New York Banks at rates lower than that offered by the discount window. The problem reached the point where one nonbank dealer in Senate testimony stated: "We only depend on the New York banks to lend us money if we cannot get it any place else."[15]

Instead, nonbank dealers found ready sources of cash both from commercial banks outside of New York City and from nonfinancial corporations, with the latter being a more dominant source of funds. Of the four nonbank dealers in the Joint Economic Committee report, collateral loans from New York banks, on average, made up 88% of their total funding in 1950; for two of the banks, it made up the entirety of their borrowing. By 1957, however, loans from New York banks on average fell to 24.5% of these same dealers' funding, while repo from other commercial banks and nonfinancial firms made up 43.25%. An additional 11.5% came from collateral loans from commercial banks outside of New York and 14.5% from funding through repo with the Federal Reserve.

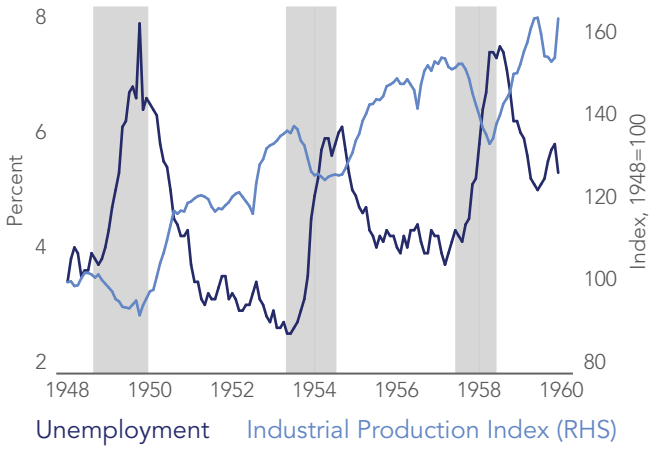
The rise of repo funding from these alternative sources points to the segmented nature of money markets during this period. Commercial banks across the U.S. had increasing deposits to fund due to the post-war expansion but sometimes limited access to money markets in New York. Meanwhile, nonfinancial corporations were on the lookout for an investment medium that could offer attractive returns for their liquid assets since banks at the time were not allowed by federal law to pay interest on deposits. To support the disparate funding sources represented by banks across the country, the money market brokerage business expanded rapidly, offering anonymized access to counterparties willing to lend through repo and collateral loans. The majority of this business was conducted by one New York broker, Garvin, Bantel & Co., who would play a key role in the 1958 crisis due to their emerging centrality in money markets. In 1948, Garvin Bantel handled on average between $100 and $150 million in federal funds transactions a day, but by 1956 handled between $350 and $400 million.

Business Conditions

A final factor in the lead-up to the 1958 crisis was the economic recession beginning in the autumn of 1957. By the first quarter of 1958, GDP fell by 1.54%, while business activity, as measured by outlays on plant and equipment expenditures, contracted sharply by nearly $10 billion – the largest quarterly decrease since World War II. As shown in **Figure 4**, unemployment doubled to 7.6% by July 1958 from a previous low of 3.4% in 1957. Compared to previous downturns, the 1958 recession saw almost a 20% decline in industrial output at its peak relative to the more moderate declines of 12% and 9% for the 1953-54 and 1948-49 recessions.

The onset of the recession led the Federal Reserve to substantially decrease the discount rate from 3.5% in October 1957 to 2.25% in March 1958. Reserves switched from being relatively scarce to relatively plentiful, and money grew easy. Money market rates fell from the upper bound set by the discount window to near zero. Low rates in these markets made carrying Treasuries more attractive not only to dealers, but to other actors such as private individuals. As the market

Figure 4. Unemployment and Industrial Production 1948-1960



Sources: Federal Reserve Economic Data, Office of Financial Research

expected a prolonged recession, several sources speak to a general perception that easy money conditions would continue for some time. It was not until mid-June 1958 that market participants began to see signs of an economic recovery. By then, some investors had already made a sizable number of positions funded using carry trades that would ultimately play an important role in the 1958 crisis.

II. Easy Money and Carry Trades

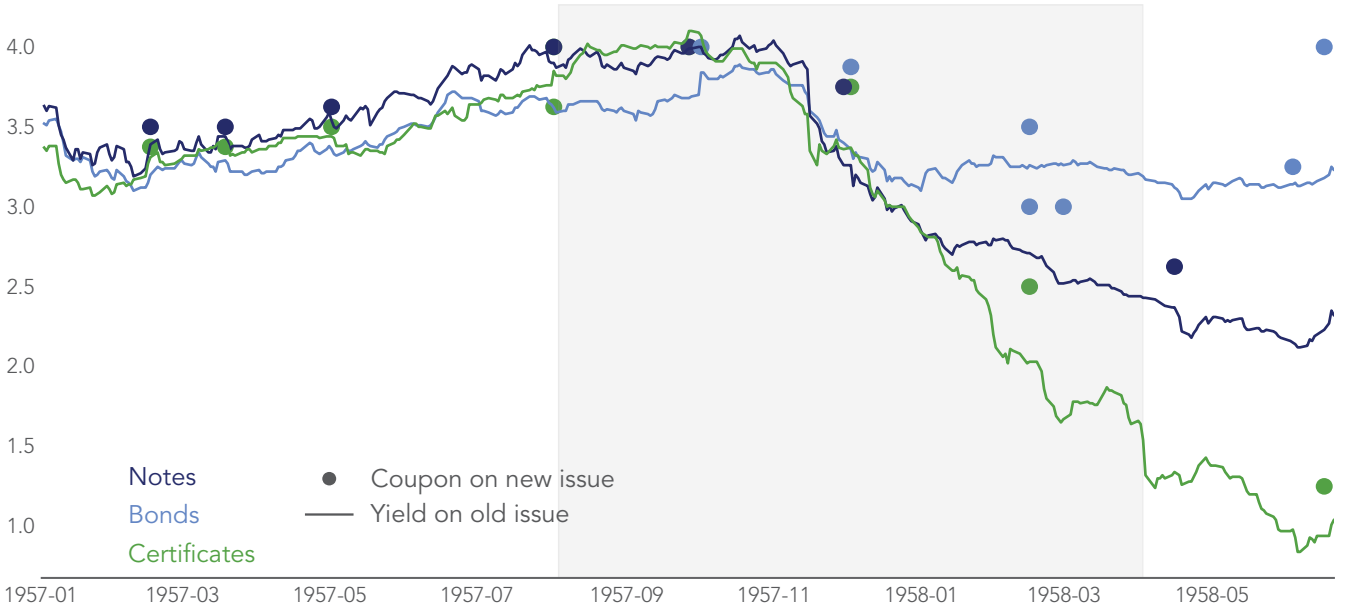
Leading up to the 1958 stress, the combination of easy finance and greater long-term issuance created an incentive for traders to fund purchases of long-term securities with short-term financing. Three factors further exacerbated this use of carry trades.

First, the Treasury's method of issuing new bonds provided an opportunity for this activity. At this point in time, long-term Treasury securities were not auctioned in a fixed amount for a price to be determined as they are today. Instead, primary market prices were fixed at par and the amount issued was allowed to vary. This introduced a potential feedback mechanism from secondary market prices to the primary market: (1) if the coupon set by the Treasury was set too high relative to current market pricing, private investors would be able to earn a return by selling the securities above par in the secondary market, and (2) if coupons were set too low relative to prices, the Treasury would not be able to hit its target for refunding and roll over debt in the amount expected.

As shown in **Figure 5**, during the lead-up to the 1958 crisis, coupons were frequently issued well above secondary market yields, providing a basis for returns to grow substantially especially for longer-term notes and bonds. In this figure, the last bond issuance is the 2 and 5/8 bond of February 1965, issued on June 16, 1958, which was to become a center of "speculative" activity leading into the 1958 crisis. The high coupons on these Treasuries led some contemporary sources to argue that "[t]he Treasury repeatedly designed the terms of its financing... to appeal to speculative interests" with an eye to ensuring that longer-term bond issues were accepted in full.[16]

A second factor compounding the problems of Treasury market issuances was that in addition to offering new securities for cash, the Treasury made new issues available in par-for-par exchanges for maturing issues, sometimes with multiple new issues of different maturities being offered. This had two effects: (1) not only was the amount of new debt issued out of

Figure 5. Coupons on New Issuance and Secondary Market Yields on Seasoned Treasuries 1957-1958 (percent)



Note: Lines denote secondary-market yields on Treasury securities of a type. Dots denote coupons on new issues of that type of Treasury.

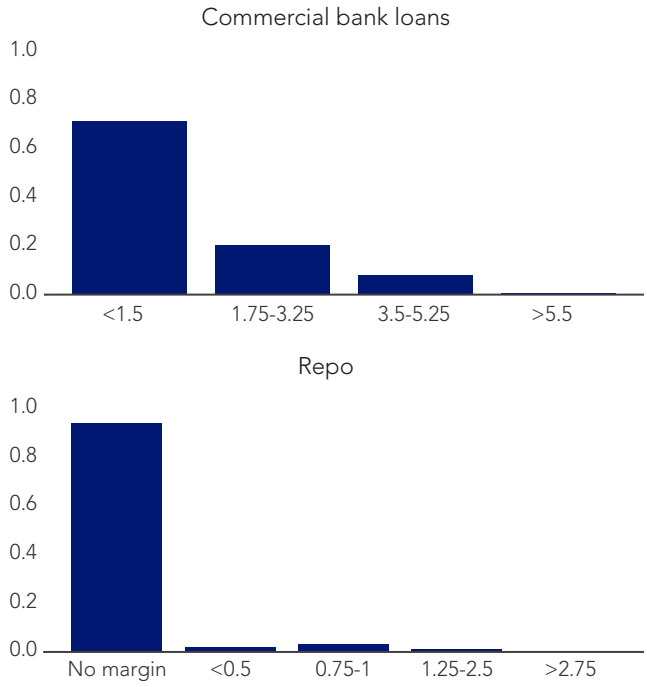
Sources: Federal Reserve G. Treasury Bulletins, G, 14 U.S. Government Security Yields and Prices, Office of Financial Research

the direct control of the Treasury, but the maturity structure of new issues was also subject to demand from investors, and (2) the maturing issues offered for exchange, known as "rights," could present a profitable opportunity for investors looking for opportunities for carry trades funded with easy money. By purchasing the rights using financing from repo or other lending against Treasury collateral, investors could secure the new issue and then, provided the secondary-market price for the coupon set was above par, sell the new security in secondary markets using the proceeds to pay off their loan and pocketing any residual as a profit.

Finally, speculation in the June rights was also encouraged by low margin requirements on repo and collateralized lending. As shown in **Figure 6**, about 12% of collateral loans by commercial banks against Treasuries maturing in 5-10 years were initiated with no initial margin, while 78% of repos against Treasuries maturing in 5-10 years had no initial margin. Similarly, for 32 nonfinancial corporations surveyed in the Treasury-Federal Reserve Study in the wake of the 1958 stress, 20 had made all their repo agreements with no initial margin requirement.

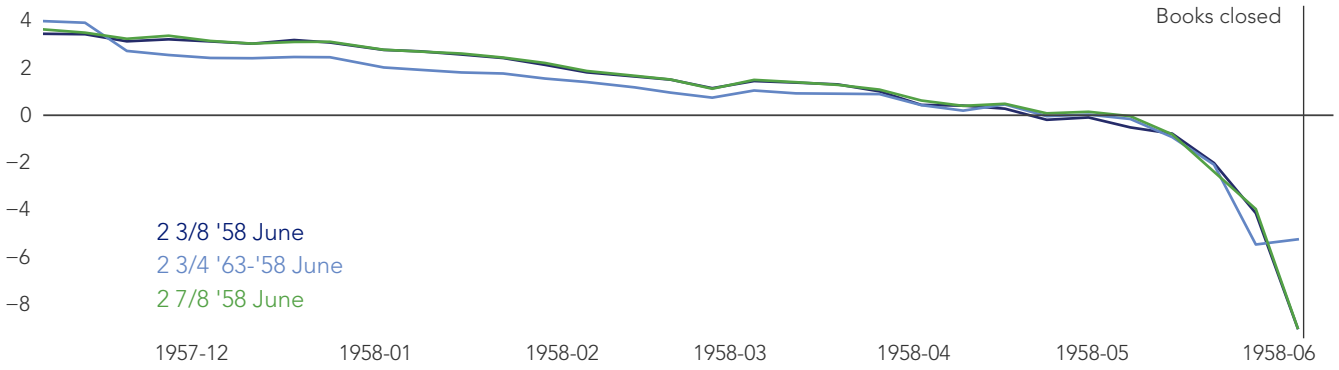
Altogether, large positions built up in June rights, cheap repo financing, and low margin standards were the focal source of the Treasury market stress. By early 1958, the price of these June rights began to rise steadily as interest in the rights trade mounted. As shown in **Figure 7**, by mid-May 1958, yields on the June rights had been pushed down to under -2%. As a result, corporations began to sell these rights to other investors and taking out repo loans due in June as a replacement. A substantial amount of these notes were sold to Garvin, Bantel & Co, who took out repurchase agreements to purchase June rights while simultaneously arranging for delayed delivery sales of the new issues for which the rights could be exchanged. Meanwhile, the firm also did not collect a margin on the delayed delivery, a decision which ultimately resulted in their temporary suspension from the New York Stock Exchange. Smaller dealers and brokers who were not

Figure 6. Distribution of Margins on Repo and Commercial Loans (percent)



Sources: Treasury-Federal Reserve Study of the Government Securities Market (1959), Office of Financial Research

Figure 7. Yields on June Rights (percent)



Note: Yields are annualized and calculated from the midpoint of bid and ask prices for these Treasuries as listed in the New York Times for each date.

Sources: The New York Times Archive, Office of Financial Research

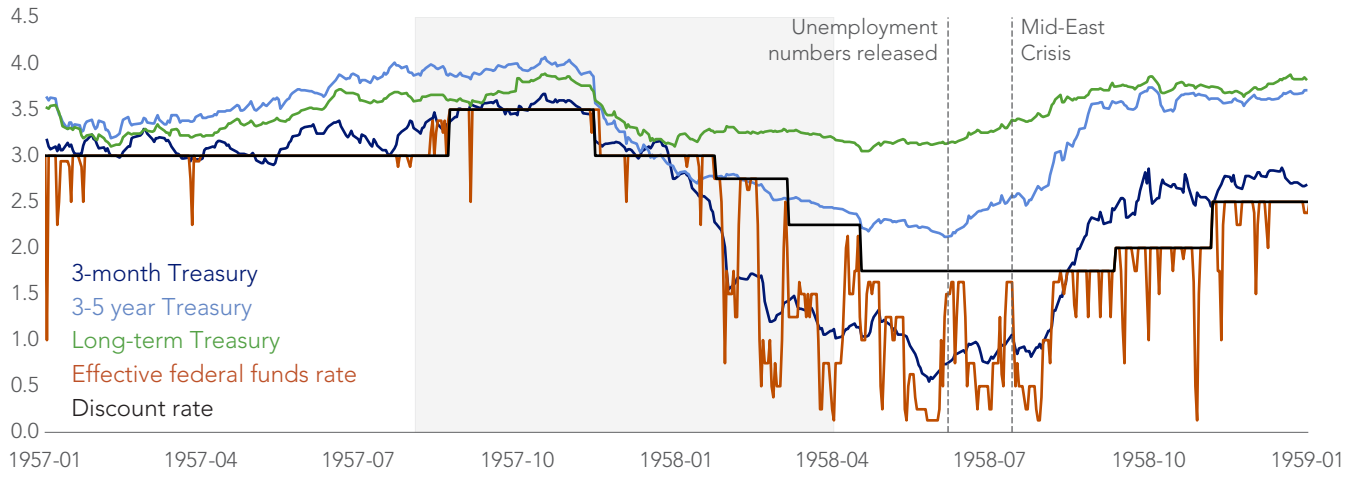
government securities dealers also took similar but less outsized positions in the June rights, contributing to the general buildup of these carry trades.

III. Treasury Market Stress and Government Interventions

The profitability of the rights trade in 1958 hinged on the continued environment of easy finance and high bond prices associated with the 1958 recession. Most importantly, for traders who had purchased the June rights, their trades relied on high prices in the secondary market so that the rights could be exchanged and sold at a profit. But in early June, as the issue date began to approach, news of an economic upturn began to surface. Press articles reporting a sharp drop in unemployment numbers appeared on June 7, followed by numerous headlines about a recovery in measures of private home building activity, industrial production, and business capital outlays in the subsequent week. By the refunding settlement date of June 16, Treasury yields had already begun to push higher, as shown in **Figure 8**. Finally, on June 19, the situation came to a head when the market heard news of a change in the expected Fed policy,[17] and the price of the 2 5/8 bond quickly dropped below par, as shown in **Figure 9**.

Investors trading the rights were simultaneously hit by three shocks that drove the deterioration. First, their bond positions were losing value because of the anticipated recovery. Second, as rights were exchanged for new bonds, their counterparties required higher margins because of the longer duration of the new issue. Contemporary sources suggest that newer traders brought into the market may not have anticipated these margin calls. Finally, margins were increased even

Figure 8. Government Yields and Interest Rates 1957-1958 (percent)



Sources: Banking and Monetary Statistics 1941-1970, Office of Financial Research

Figure 9. Prices of June Rights and Bonds (per $100 notional)

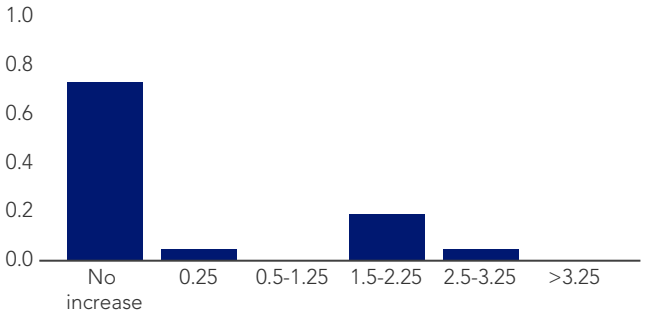
Note: Prices are the midpoint of bid and ask prices for these Treasuries as listed by the New York Times for each date.
Sources: The New York Times Archive, Office of Financial Research

further because of increased volatility in the Treasury market. In combination, more than 20% of repo contracts written on the June rights experienced at least a 1.5% increase in margins as shown in **Figure 10**.

The increase in margins fueled liquidation from rights investors who were unable to meet margin calls, as well as from institutional investors who began selling in order to avoid these liquidations. The Treasury-Fed study suggests the size and pace of these sales triggered a margin spiral, noting that "[a]lthough many had the financial resources to meet the calls… others were unwilling to put up more margin and moved quickly to sell out… Each significant new drop in prices elicited new margin calls which, in turn, prompted further liquidation and led to further decline."[18] As shown in **Figure 11**, the dominant source of liquidation came from NYSE firms and in particular Garvin, Bantel & Co, appears to have been the primary source of these sales. This firm alone reportedly attempted to sell nearly $200 million in bonds on behalf of customers unable to meet margin calls.

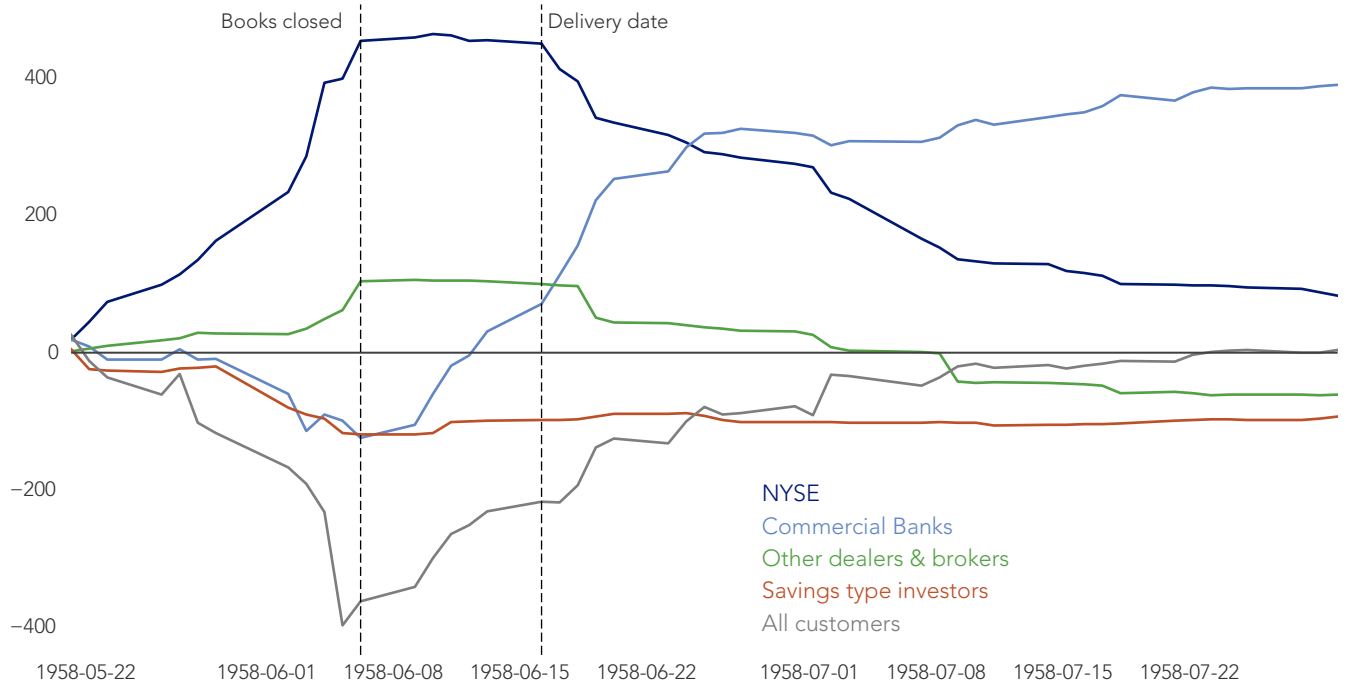
As the situation deteriorated, prices of other securities beyond the 2 5/8 percent bond began to decline, and liquidations of Treasury positions spread to other NYSE firms and holders of Treasuries. Dealers were reportedly unable to find buyers for these securities, with bids virtually evaporating and liquidity breaking down. Corporations had already begun to unwind $807 million of repurchase contracts with dealers by June 16, the date of both the corporate income tax payment and the refunding settlement, forcing dealers to turn to banks to finance the additional securities that were being liquidated. However, banks decreased their

Figure 10. Margin Increases on Repo Originated Against June Rights (percent)



Sources: Treasury-Federal Reserve Study of the Government Securities Market (1959), Office of Financial Research

Figure 11. Cumulative Net Purchases of June Bonds and Rights from Dealers ($ millions)



Note: Levels are cumulative net sales to dealers from May 22, 1958 to each investor type.
Sources: Banking and Monetary Statistics 1941-1970, Office of Financial Research

lending via loans and repurchase agreements by more than $1.25 billion from June 18 to July 30. Ultimately the surge in financing needs by carry traders were not fully met, and investors were forced to sell, further contributing to price declines.

On June 25, the Treasury stepped in and purchased a total of $590 million of the new 2 5/8 percent bonds and small amounts of other issues over the course of three weeks to stabilize the market. However, the effects of the Treasury intervention were modest. After brief periods of rallies, selling pressures continued as the market was shaken by both (1) news of a coup in Iraq on July 14 that set off another bout of sharp price declines, and (2) the continued unwind of rights trades. Indeed, although earlier news indicated that roughly $7.3 billion of the refunding had gone into the 2 5/8 bonds, which had far exceeded market estimates of $4 billion, continued price declines led other market participants to believe the size of the rights trade must be significantly higher.[19]

At this point, the prospects of the upcoming August refunding of $21 billion in Treasuries began to present a concern for both the Treasury and the Federal Reserve. The combination of the pullback in repo financing, dealers' and banks' swollen balance sheets, and a general lack of investor interest in buying amidst rapid price declines posed a serious concern for secondary market prices. The reliance of the Treasury on fixed price offerings meant that should secondary market prices not recover, the ability to refund in August would be in jeopardy.

Concern over the August auction appears to have been what ultimately brought Federal Reserve into the market on July 17 and 18, with the Fed purchasing roughly $1 billion of the new 1 5/8 percent certificate on a "when-issued" basis, $110 million of the "rights," and $65 million of other Treasury securities. This marked the first time the Fed departed from its relatively recent "bills only" policy and became a buyer of long-term issues. Although initial conversations among Federal Open Market Committee (FOMC) members revealed some disagreements about the extent to which the market had become disorderly that would justify the Fed's intervention, it was soon agreed that "…earlier market declines and speculative selling had weakened confidence in the future of the market to the point where the Treasury's refunding could have been almost impossible had the System not stepped in."[20] Prices immediately steadied, and despite temporary swings in movements through mid-August, it was generally clear to the market that the Fed's intervention successfully reduced the size of credit-financed holdings and prevented further liquidation.

IV. Lessons for Policy

In many ways, the 1958 crisis parallels events in the Treasury market in late 2019 and early 2020. While over 60 years have passed between these two periods, we can use these snapshots in combination to understand areas of commonalities in terms of the dealer structure of the Treasury market, reliance on market-based finance, importance of margin requirements, role of carry trades, implications of debt management, and the need for data transparency. In this section, we review these commonalities and discuss policies proposed at the time to reform the Treasury market.

In particular, two studies provide insights into these proposals: (1) the Treasury-Federal Reserve study and (2) the Joint Economic Commission (JEC) Study on Government Securities Dealers. These studies interviewed market participants following the crisis and gathered a wealth of data on segments of the dealer market, repo market, and other holders of Treasuries or repo lenders like New York Stock Exchange brokers, nonfinancial firms, and international holders of Treasuries. By discussing policy recommendations at the time, we hope to broaden the current discussion of reforms for making the Treasury market more robust.

Dealer Structure

As previously emphasized, the Treasury market was intermediated by a small set of dealers both in 1958 and today. While much of the policy discussion today has focused on the need to improve the resiliency of dealer operation in the Treasury market, policymakers in 1958 were generally positive about the functioning of the dealer system. For example, the Treasury-Fed study reported that although market participants "recognized that the absorptive capacity of the market is sometimes weak—particularly in times of crisis like the summer of 1958—few consultants attributed responsibility for these market defects to dealers."[21]

This generally sanguine attitude in part may represent the fact that regulations on dealers were less stringent in 1958 than in 2020, as government securities dealers were exempt from much of the regulation that other large participants in the Treasury market faced at the time.

On the other hand, it may also represent a different perspective on the role of dealers. The Treasury-Fed study noted that "[c]onsultees also agreed... that in a free market a dealer must look to his own self-interest or go out of business," and that "[t]he dollar volume of potential offerings in the Government market is much too large for dealers as a group to attempt to absorb into their portfolios."[22] In other words, while today, concerns have been raised that "the Treasury market appears to have outgrown the capacity of dealers… to intermediate the market,"[23] market participants in 1958 do not seem to have expected dealers to be responsible for such intermediation during flights to liquidity. The expectations that dealers perform this role may be due in part to the increased official recognition of primary dealers and their closer relationship to the Federal Reserve since 1958, as primary dealers now form a principal partner for the Federal Reserve in a variety of the operations it conducts.

Market-based Financing

While the Treasury-Fed and JEC studies were generally positive about government securities dealers, they were far more suspicious about the system of market-based finance that was prominent in the lead-up to 1958. In particular, the reports singled out "the willingness of some nonfinancial corporations and banks to make loans or repurchase agreements with money brokers who were in effect merely agents for unknown borrowers."[24] But as we have shown, the emergence of nonfinancial corporations as important sources of repo funding was not incidental, but instead tied to a rise in debt levels and regulatory changes in the financial system. At the time, many banks were sidelined in their roles in financing and holding Treasuries in part through regulation, leading to a prevalence of funding activities coming from nonbanks. Today, market-based financing also plays a key role in dealer operations. However, many of the flows from nonbanks to dealers are now intermediated by money market funds instead of being directly invested by corporations into the repo market.

In the wake of the 1958 stress, one focus of policy reforms was to address the underlying issues that forced a reliance on market-based finance. Another was to provide an alternate source of financing during times of stress. For example, in testimony from the New York Hanseatic Corp, the firm noted the link between lack of interest on deposits and nonfinancial firms' repo investment. Accordingly, it proposed that "[i]t might behoove Congress to reexamine the Banking Act of 1933, which eliminated interest on demand deposits."[25] Meanwhile, the Treasury-Fed study reported that "the majority of dealers stated that the market would function better if money market banks supplied credit more cheaply and more readily and if more money market banks participated in dealer financing."[26]

A more direct solution was also proposed: to expand the availability of financing from the Fed. For instance, the Treasury-Fed study noted suggestions from several participants that "dealers be allowed to make repurchase agreements with the New York Reserve Bank at their initiative up to fixed amounts."[27] While this proposal was not adopted at the time, in part due to concerns from the FOMC about adjusting the Federal Reserve's existing repo authority to support dealer underwriting activities, it precisely mirrors the recent introduction of a standing repo facility by the Federal Reserve.

Margin Requirements

Margins are an essential component of market-based finance that allow transactions to take place between diverse participants. Following the 1958 events, margining practices in repo were argued to have played a key role in exacerbating downward price pressures. As the Treasury-Fed study noted, "[i]t seems evident that financing on small margins was one of the complex factors that resulted in the rapid decline in Government securities prices during the summer of 1958."[28] This was seen as an appropriate subject for regulation to ensure that margin standards at banks were uniformly applied and reduce competition among banks and from other lenders that may have caused a weakening of the credit standards. One of the immediate policy actions taken in the aftermath of 1958 were fines applied to Garvin, Bantel & Co for their lax margin standards.

The Treasury-Fed study also considered a regulation to establish a minimum margin on Treasuries. However, it was recognized that these margin requirements potentially would have had adverse consequences in terms of liquidity and Treasury borrowing costs. At the very least, contemporary commentators suggested that government securities dealers be exempted from such regulations since these dealers would not be able to continue carrying large positions and intermediate the same scale of transactions effectively if they were subject to the same minimum margins. More generally, the Treasury-Fed study noted that setting margins too high could discourage price discovery and liquidity in the market.

Today, the Federal Reserve Bank of New York reports margins on tri-party repo, which show that margins in this segment of the repo market remained fairly flat at 2% across participants before and during March 2020. However, margins in other segments of the market like uncleared bilateral may be significantly lower, with the Group of Thirty (G30) report observing "competitive pressures [in recent years] driving haircuts down (sometimes to zero)."[29] One key benefit the G30 report cites for greater central clearing in repo markets is a standardization of these margin requirements. Just as in the discussions after 1958, changes in margin requirements must be weighed against their effect on market liquidity.

Carry Trades

In the aftermath of the crisis, policymakers generally viewed the use of carry trade in rights as a focal source of instability, with the Treasury-Fed study noting that "[i]t seems to have been generally understood that 'speculative' activity in the form of the rights trade was at the center of the 1958 crisis."[30] As we have shown, the large positions built up in June rights that were funded using repo on low margins were motivated by the issuance process for Treasuries at the time, particularly by the reliance on fixed-priced issuances with the option to exchange maturing Treasuries.

Since 1976, the Treasury has auctioned off all maturities of Treasuries for cash, so there has been no direct comparison to the rights trade. Nevertheless, in the context of Treasury market stress in 2020, there are important analogies between the trade in rights and the Treasury cash-futures basis trade among hedge funds, as covered in Schrimpf, Shin, and Sushko (2020), Barth and Kahn (2021) and Kruttli, Monin, Petrasek, and Watugala (2021).[31] Like the trade in rights, the cash-futures basis trade involves carrying Treasuries for a limited period, and its profits depend on the appreciation of the Treasuries carried. Also, like the trade in rights, the cash-futures basis trade involved relatively cheap repo financing ultimately from nonfinancial corporations (though in this case intermediated by money market funds) at sometimes very low margins. However, there are also differences between these two trades. In particular, the Treasury cash-futures basis trade is a covered carry trade: the price at the expiration of the trade is guaranteed, making the basis trade near-riskless arbitrage, in contrast to the trade in rights where the secondary market price is variable. This makes the basis trade more comparable to the positions born by Garvin Bantel, where commitments guaranteed the secondary market price from customers through the when-issued market.

Nevertheless, the commonalities in carrying higher-yielding long-term Treasuries funded through collateralized borrowing remain. In both cases, the trades involved were exposed to increases in margin and sudden pullbacks in financing from the repo market. Though the significance of the cash-futures basis trade in the March 2020 Treasury market stress is a subject of debate, the rights trade has generally been the primary source of stress in 1958. However, commentators in 1958 also saw that these carry trades have certain benefits, especially in providing liquidity and price support to Treasury markets. The Treasury-Fed study noted that "speculation in fixed-interest securities may be useful to overall stabilization policy, by channeling short-term bank credit temporarily into long-term investment media in times of recession."[32] The support that near-arbitrage trades provide to the broader Treasury market remains an important area of research.

Debt Management and Monetary Policy

Debt management, in particular, was a concern of the discussion directly following the 1958 episode, with the Treasury-Fed study noting that "[t]he opinion was almost universally held among those consulted that

Federal fiscal policy was an overriding influence in the market for Government securities in 1958."[33] The debt accumulated from the Second World War required frequent and large issuances in order to refund. The effect of these new issuances was compounded by the choice to use fixed-price mechanisms and exchanges for maturing securities. Moreover, longer-maturity issuance going into 1958 was partly motivated by a desire to use the maturity structure of debt to control inflation, as an understanding of the division of responsibilities between the Treasury and Federal Reserve was still developing in the wake of the Treasury-Federal Reserve Accord.

Another criticism of both debt management and monetary policy expressed by some participants interviewed in the Treasury-Fed study was that: "Federal Reserve open market purchases and Treasury debt management operations had reduced the supply of short-term Government securities available to the public, thus contributing importantly to the decline in short-term rates."[34] According to this view, the cheap funding conditions that led to carry trades were a direct consequence of a lack of alternative short-term investments. In the case of 1958, one reason financing rights became an attractive alternative for nonfinancial corporations was the lack of a tax anticipation bill with a June 1958 maturity (tax anticipation bills being short-term Treasury debts somewhat comparable to modern cash management bills).

Since 1958, Treasury debt management practices have evolved dramatically. Fixed-price auctions and exchanges of maturing securities for new Treasuries have disappeared. The Treasury developed a goal of regular and predictable auctions during the 1970s, which effectively reduced the uncertainty created by Treasury auctions and their effects on liquidity.[35] Moreover, the emergence of an independent Federal Reserve has carved out an understanding of debt management goals as separate from the control of inflation. Nonetheless, there remains similar ties between the supply of short-term securities like Treasury bills and the demand for repo by institutions like money market funds that continue to have implications on short-term rates today.[36]

Market Transparency

Before the 1958 crisis, very little information was available to regulators or the public on dealers' balance sheets, Treasury market positioning, or repo financing. One of the key recommendations of the Treasury-Fed report was improved data collection on the Treasury market. In particular, the report stated that the "clearest needs are for historical records, describing in some way the amounts held, by issues or classes of issues, by all of the principal groups of participants in the Government securities market, as well as the volume of market activity, and the financing of dealers (amount, and if possible, interest rates)."[37] Data on dealer financing was particularly in demand, with several participants noting that repurchase agreements needed to be reported more systematically.

While much more data is available today to regulators and market participants, key gaps remain, particularly for data on holdings of government securities and the financing of these holdings through repo. While the OFR's data collection of centrally cleared repo and the Federal Reserve's collection of tri-party data provide a good deal of visibility into inter-dealer trades and dealer borrowing, much of dealers' lending and borrowing from institutions like hedge funds occurs in the uncleared bilateral market where regulators have limited data. The OFR is laying the groundwork to address this critical data need through a collection on uncleared bilateral repo.[38] Similarly, while TRACE data provides a high-frequency window into transaction volumes for dealers in the Treasury cash market, it does not cover who those transactions are with, meaning that the source of flows are frequently opaque even to regulators with access to the data. Given the lack of data availability, it can be difficult to put together a detailed picture of traders' exposure to the Treasury market even on a quarterly or monthly basis. Increased transparency remains an important area for potential reform in the Treasury market.

Conclusion

This brief has highlighted that many of the vulnerabilities present in recent episodes of Treasury market illiquidity have parallels in a similar episode of stress in 1958. While above we have drawn out several lessons for policymakers today, perhaps it is important to

highlight that much of the drivers of illiquidity in 2020 may not have been due to innovations in the financial sector, as was the case in 1958, but rather due to the interaction of a variety of policy choices and features of market infrastructure that leave the market open to sudden disturbances. One key difference remains: in the 64 years since 1958, the Treasury market has grown dramatically and has become even more central to the global financial system. In the coming years, this market is only likely to grow larger. It is essential that policymakers and market participants work to ensure that the Treasury market is robust to the demands we will be placing on it in the next 64 years.

Endnotes

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