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## Introduction

The market for US Treasury securities has been the keystone of American finance for more than a century. It is where, in war and peace, the federal government finances deficits and refinances maturing debt; it has been the principle arena of Federal Reserve policy operations.

The fiscal demands of World War I propelled the Treasury market from a late-nineteenth-century backwater to a twentieth-century behemoth, in the process providing the foundation for the reorientation of the Federal Reserve System from a passive lender of last resort to an active manager of bank reserves and money market conditions. Robert Roosa, an economist at the New York Reserve Bank from 1946 to 1961 and Under Secretary of the Treasury for Monetary Affairs from 1961 to 1965, emphasized the “shift-over from a purely defensive to what might be called a dynamic conception of Federal Reserve responsibility.”<sup>1</sup>

World War II brought comparably far-reaching changes. Government consumption of goods and services increased from 10 percent of real GNP in 1939 to 21 percent in 1944. Federal indebtedness grew from \$41 billion at the end of 1939 to \$276 billion at the end of 1945. The ratio of federal debt to nominal GNP rose from 0.45 to 1.30.

Monetary policy during the war was limited to enforcing ceilings on Treasury yields, which were justified as necessary to facilitate war loan drives and limit interest expenses. The Fed held thirteen-week bill yields at  $\frac{3}{8}$  percent, a one-year certificate of indebtedness<sup>2</sup> yields at  $\frac{7}{8}$  percent,

<sup>1</sup> Roosa (1956, pp. 8–9). Roosa states that the shift was “evident all through the [nineteen] twenties . . .”

<sup>2</sup> A certificate of indebtedness was a coupon-bearing security payable in not more than one year.

and long-term bond yields at or below 2½ percent by purchasing Treasury debt for its own account whenever private demand flagged.

Following the cessation of hostilities, soldiers and sailors returned to civilian life (by 1950, the armed forces accounted for 2.6 percent of the labor force, down from 17.3 percent in 1944) and government expenditures receded (government consumption of goods and services fell back to 9 percent of real GNP in 1950). Some progress was made with respect to the national debt, but much remained to be done. By the end of 1950, the Treasury had paid down federal indebtedness to \$254 billion and the debt-to-GNP ratio had receded to 0.89. Seeking to refocus monetary policy on managing bank reserves, the Fed, acting with Treasury acquiescence, removed the ceiling on bill yields and raised the ceiling on certificate yields. However, the ceiling on long-term bond yields remained unchanged in the face of strenuous Treasury resistance to further change.

Following several months of intense interagency conflict, Treasury and Federal Reserve officials reached an accommodation in March 1951. The Treasury-Federal Reserve Accord removed the remaining interest rate ceilings but committed the System to ensuring the success of Treasury offerings priced at market levels.

This book traces the subsequent evolution of open market operations, Treasury debt management, and the secondary market for US Treasury securities, focusing on how officials fashioned the instruments, facilities, and procedures needed to advance their policy objectives in light of their newfound freedoms and responsibilities.

## OPEN MARKET OPERATIONS AFTER THE ACCORD

For its part, the Fed demonstrated a strong and persistent interest in bolstering and accessing liquidity. A more liquid Treasury market would support less costly and (when required) larger open market operations.

### **Bills Preferably**

In 1953, the Federal Open Market Committee (FOMC) adopted a set of operating principles that it believed would foster a more liquid market. Seeking to promote competition among dealers and other market participants, the Fed announced that it would neither target interest rates nor directly support Treasury offerings. The related doctrine of “bills preferably” emphasized purchases and sales of Treasury bills, deemphasized

operations in short-term coupon-bearing debt and rejected operations in longer-term debt.

### Repurchase Agreements

The Fed supplemented outright operations in bills with repurchase agreements, in which it bought Treasury securities from a dealer and simultaneously agreed to sell the same securities back to the same dealer at a higher price on a later date. System repos were used during World War I and in the 1920s, fell into disuse in the 1930s, and were revived in 1947.

After the Accord, repos proved useful in short-term “defensive operations” that were aimed at neutralizing transient fluctuations in autonomous reserve factors such as public demand for currency, float, and Treasury balances at Federal Reserve Banks.<sup>3</sup> The bill market was not large enough or liquid enough to absorb the largest operations that the System had occasion to undertake, and officials were leery of confusing market participants with in-and-out purchases and sales unrelated to longer-run policy objectives. Repos were well suited for short-term operations because reserves injected with repos automatically ran off when the repos matured.

At the outset, officials used repurchase agreements sparingly. The FOMC limited repo collateral to short-term Treasury securities held in dealer inventories, conventionally (but not always) fixed the repo rate at the discount rate, and excluded bank dealers from repo operations (because banks had access to the discount window).

When interest rates rose and became more volatile in the mid-1960s and dealers became reluctant to carry more than minimal inventories, the Committee expanded the scope and scale of its repo operations. The Committee

- terminated the maturity limit on repo collateral and introduced back-to-back contracts, with nonbank dealers intermediating between their customers and the Fed, in June 1966;

<sup>3</sup> Roosa (1956, pp. 13–14) originated the term “defensive operations,” as well as its complement, “dynamic operations.” He defined the former as “keeping a given volume of reserves in being and helping with the economical distribution of that given total.” He defined “dynamic operations” as a matter of varying “the quantity of reserves (after allowance for seasonal variations) by such amounts, and through such methods, as to make the banking system, and the money market as well, an active force in the economy – promoting growth, resisting depression, and limiting inflation.”

- introduced matched sale-purchase agreements (a form of reverse repurchase agreement used to drain reserves from the banking system) in July 1966; and
- accepted federal agency securities as repo collateral beginning in December 1966.

In the first half of the 1970s, the FOMC introduced repo auctions and accepted bank dealers as repo counterparties. The successive adjustments forged repurchase agreements into a powerful tool for managing short-run fluctuations in bank reserves.

### Open Market Operations in Coupon-Bearing Debt

Open market operations in bills and repos sufficed for managing reserves but not for the additional task of keeping the price of gold at \$35 per ounce.

The US commitment to \$35 gold was the foundation of the international financial system set in place in Bretton Woods, New Hampshire, in the summer of 1944. The central understanding of Bretton Woods was that countries other than the United States would fix the *dollar* value of their currencies, while the US maintained the *gold* value of the dollar. The system worked as long as payments between the United States and the rest of the world approximately balanced but faltered when the US balance of payments began to deteriorate in the late 1950s. Some countries, believing the deterioration a temporary phenomenon, parked their accumulating dollar balances in Treasury bills. Others took up the Treasury's standing offer to sell gold at \$35 per ounce.

Operation Twist, initiated in February 1961, aimed at maintaining or raising the level of short-term interest rates (to keep foreign central banks invested in bills rather than demanding gold) while providing ample reserves to the banking system (to hasten recovery from an ongoing recession). In its weakest form, Operation Twist contemplated System purchases of intermediate- and long-term Treasury debt when reserves had to be added to the banking system and sales of short-term securities when reserves had to be drained. A more robust version included purchases of intermediate- and long-term debt against *concurrent* sales of short-term debt when there was no reason to either add or remove reserves. System support for such operations led to the formal abandonment of bills preferably in December 1961.

The abandonment of bills preferably had important consequences for the management of the Open Market Account and for Federal Reserve

oversight of the Treasury market. Throughout the bills preferably period, from 1954 to 1960, Federal Reserve holdings of coupon-bearing debt – a legacy of World War II – hardly varied. The single significant exception was the acquisition of \$1 billion of certificates in connection with the rescue of a failing Treasury offering in 1958. Purchases of coupon-bearing securities on a regular basis beginning in 1961 was a novel activity and officials began to pay more attention to aspects of the government securities market beyond the bill and repo markets. In particular, they became involved with market infrastructure issues – many of which were identified and discussed during the 1966–69 production of the Joint Treasury–Federal Reserve Study of the Government Securities Market – including dealer oversight, dealer finance, settlement fails, securities lending, settlement systems, and book-entry securities.

#### TREASURY DEBT MANAGEMENT AFTER THE ACCORD

The Treasury's main concern, in the wake of the Accord, was refinancing maturing debt and raising new money, reliably and at least cost over time. It was not unconcerned with liquidity – a more liquid market would make government securities more attractive – but concentrated on how to structure and sell its marketable debt.

As they had since 1938, Treasury officials auctioned thirteen-week bills on a regular and predictable basis<sup>4</sup> and relied on large, sporadic fixed-price subscription offerings of coupon-bearing debt to raise new money and to refinance maturing certificates, notes, and bonds. Each offering required identifying a maturity sector of current interest to market participants. The only strategic objective of any note aimed at extending the average maturity of marketable debt by issuing long-term securities whenever possible.

Because the Treasury relied on fixed-price offerings to sell coupon-bearing debt, the Federal Reserve was obliged to keep the market on an “even keel” during marketing periods that stretched from a few days before the announcement of a new issue to as much as a week after settlement. Some interpreted the obligation as a matter of abstaining from unexpected policy initiatives; others interpreted it more broadly as a matter of keeping interest rates steady.

<sup>4</sup> “Regular” meaning offered at a fixed frequency, such as weekly in the case of thirteen-week bills, and “predictable” in terms of amount, because new issues were generally the same size as maturing issues – a little larger if the Treasury needed new money, a little smaller if it was running a surplus.

Even with the Fed's even keeling, it was not unknown for an offering to falter and for Treasury officials to request assistance. Following the near failure of an offering of one-year certificates in the summer of 1958, officials expanded their reliance on regular and predictable issuance by introducing weekly twenty-six-week bill auctions and quarterly one-year bill auctions and by regularizing refundings of coupon-bearing debt to the middle of every calendar quarter. They continued to seek to extend average maturity but adopted the more flexible framework of advance refundings: fixed-price offers to issue longer-term debt in exchange for shorter-term debt that was not close to maturity. Advance refundings allowed the Treasury to offer long-term securities to market participants most likely to be interested in the securities – that is, to holders of intermediate-term debt.

The pace of innovation in Treasury debt management accelerated in the 1970s as indebtedness continued to grow. Officials began auctioning coupon-bearing debt after a second refunding debacle in May 1970. Regular and predictable offerings of two-year notes were introduced in 1972. Following a sharp increase in the deficit in 1975, officials introduced regular and predictable offerings of four- and five-year notes. By the end of the decade the Treasury had identified an issuance program and a method of sale – regular and predictable auction offerings – that meshed with the post-Accord free market in Treasury debt.