FEDERAL RESERVE BANK OF RICHMOND

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Liquidity Patterns in Corporate Financing

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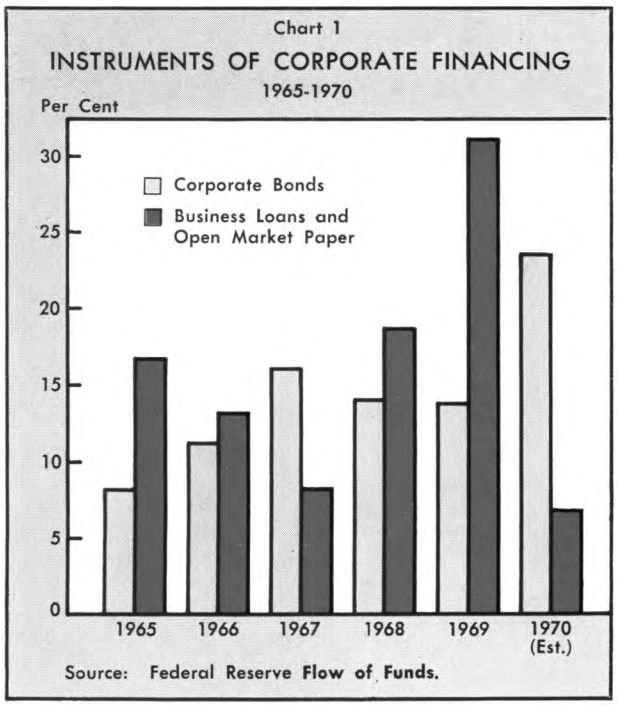
MAY 1971

Liquidity Patterns in Corporate Financing

In the first half of 1967 and again in the last three quarters of 1970 corporations issued unusually large quantities of long-term debt in order to fund unusually large quantities of short-term debt accumulated in earlier periods. The occurrence of this phenomenon in both of these periods was not surprising in view of the similarity of conditions in each period. The total volume of corporate financing and the specific instruments used at any given time depend upon economic activity, interest rates, internal supplies of funds, preferences of the individual corporation, and expectations of future economic activity. Changes in these factors usually result in changes in financing patterns. In particular, changes in monetary and credit policies influence corporate financing. In turn, the influence of corporate financing patterns upon credit markets may result in changes in Federal Reserve policy actions. This article reviews the development of certain corporate financing patterns that have evolved in the past three to four years and the relationship between these patterns and Federal Reserve policy actions.

The Experience in 1967 and 1970 In the spring of 1967 the economy was rebounding from the tight monetary conditions of 1966. The Federal Reserve was aiming for easier conditions in the money and capital markets following its attempts in 1966 to curtail the rapid economic expansion of the previous two years. During the expansionary period 1965-1966, most corporations had relied heavily on external financing. When interest rates rose and the availability of credit declined, as usually happens in periods of economic expansion, corporations resorted more and more to the use of short-term funds. The tendency of short-term rates normally to be lower than long-term rates except near the end of an economic expansion and the commitment of the borrower to a cyclically high cost of funds for a briefer period of time account for the relative increase in short-term borrowing during most of an expansionary period. As interest rates approached their highest levels in several decades in 1966 (Chart 1), corporations increasingly turned to temporary, although expensive, sources of funds such as bank loans and commercial paper (Chart 2). By late 1966, however, the strength of the monetary slowdown reduced total net new corporate debt to its lowest level since early 1964.



The easing of monetary and credit conditions in late 1966 and early 1967 was evident in the falling interest rates and increases in the amount of credit demanded through most of the latter year. The most striking adjustment, however, occurred in the composition of corporate financing. As interest rates in all sectors of the market retreated from their earlier high levels, corporations sought to fund their recently-acquired short-term debt. New bond offerings reached their peak levels of the 1960's.

A number of factors help explain this financing pattern. An axiom of the theory of corporate finance is that permanent increases in the assets of a firm should be financed with either equity funds or long-term liabilities. This axiom stems from a principle of risk analysis known as hedging: in order to minimize the degree of risk associated with any given financial structure the maturities of the assets and liabilities should coincide. If this principle is observed, the stream of payments associated with a given liability structure will be matched by a stream of income from a similar asset structure. For corporations in particular this practice reduces risk by minimizing the probability that they will have to refinance maturing liabilities at unfavorable terms.

Thus, many corporations took advantage of the easier credit conditions and lower interest rates in 1967 to reestablish some degree of balance between the maturity compositions of their assets and lia-

bilities. Expectations of continued economic prosperity in the coming years encouraged them to finance with long-term funds.

Although monetary and credit policies were relatively expansive in the first three quarters of 1967 and most of the second half of 1968, demand pressures again were a strong force in the credit markets by the fourth quarter of 1967. As the need for external funds increased at a time of reduced credit availability and rising interest rates, corporations again resorted to extensive short-term borrowing. The tightening of monetary policy in 1969 had a much more immediate impact upon credit markets than on the markets for goods and services. Corporations responded by increasing their short-term debt to record levels in 1969. By the end of 1969, however, the need for new external funds diminished as restrictive stabilization policies began to take hold in the real sector of the economy. The economic slowdown reduced the need for inventory and accounts receivable loans by corporations, which partially contributed to the minimum amount of short-term borrowing in 1970.

The reduced demand for credit coupled with the return to relative monetary ease in 1970 led to a downturn of interest rates at the first of the year. Although this trend was interrupted momentarily by financial difficulties and the threat of a liquidity crisis in March and June, a widespread decline of yields emerged in the second half of the year and evoked corporate financing patterns very similar to those that occurred in 1967.

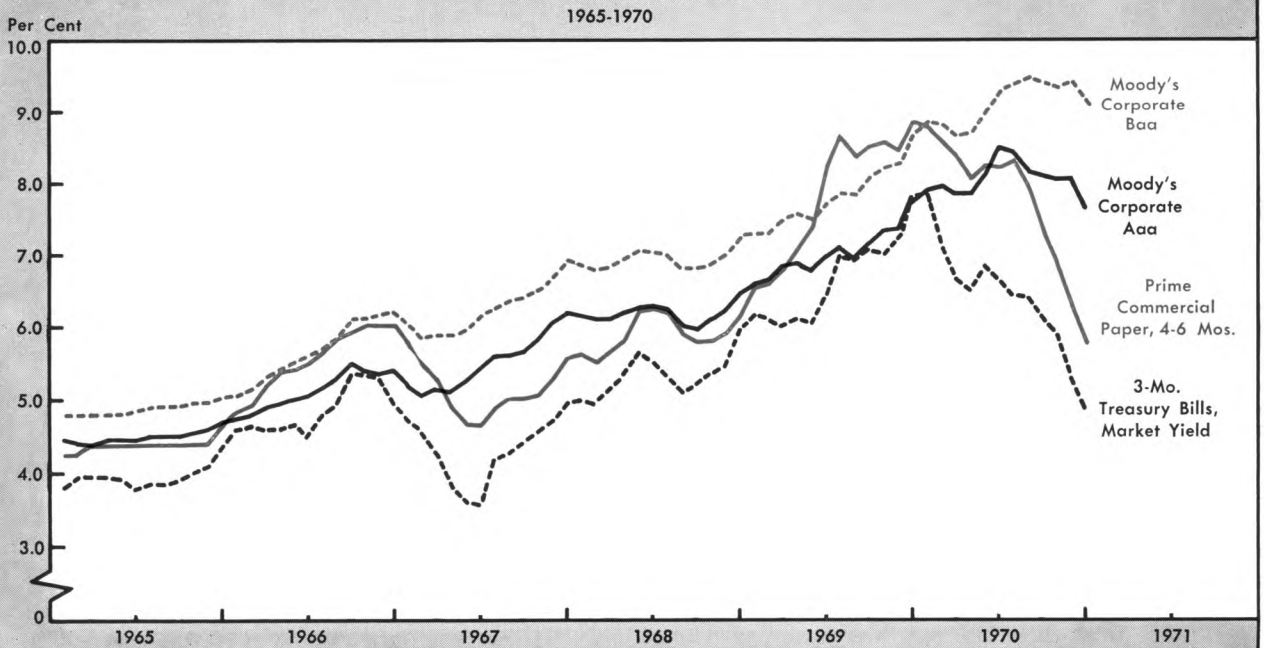
1967 Versus 1970 For several reasons the 1970 experience was a magnified version of the 1967 experience. The build-up to the widespread liquidity demands of 1970 was both more pronounced and prolonged than it was in the pre-1967 period. During the earlier period the economy was still building to capacity levels following the recession of 1960-1961, whereas in the pre-1970 build-up the economy was operating at full steam. The demands on the real resources of the economy were greater both from the private and public sector. Business expectations were more attuned to a period of sustained economic expansion.

Given the greater degree of real and financial economic pressures in the pre-1970 period, demands for liquidity were understandably far greater than in the earlier period. The demand for long-term funds in the corporate sector in 1970 was also expanded by the considerable need for capital funds by the public utilities and communications companies. Additionally, the poor performance of profits in both 1970 and prior years forced corporations to finance a larger portion of their total needs with external funds. As indicated by Chart 2, corporations had net bond issues of $23.5 billion in 1970,

Chart 2

INTEREST RATE MOVEMENTS

1965-1970



Source: Federal Reserve Bulletins.

up 70% from 1969. The use of short-term credit dwindled to $6.8 billion, down from nearly $32 billion in 1969 and substantially less than the $8.2 billion of 1967.

Corporate Financing and Financial Market Equilibrium These patterns in corporate financing and liquidity adjustment have definite implications for financial analysis and stabilization policy. In addition to the general economic goals of stabilization policy, the Federal Reserve seeks to ease seasonal pressures in the financial markets as well as disturbances that result from unusual developments in specific sectors of the market.

Consider a state of equilibrium in the financial markets in terms of supply, demand, and interest rates. General financial equilibrium would prevail when the supply of and demand for funds are approximately equal within each of the individual sectors of the market so that the market could be cleared by some pattern of stable interest rates. That is, large changes in interest rates from previous equilibrium levels would not be necessary to equilibrate supply and demand. Under such conditions the Federal Reserve needs only to counteract relatively predictable seasonable factors to maintain a state of financial equilibrium without significant rate changes. As various pressures in the real sector develop, such as those occurring in the pre-1967 and pre-1970 periods discussed above, and monetary policy becomes restrictive, financial markets reflect the reduced availability and higher cost of credit. That is, relatively sharp interest rate changes would be required to clear individual financial markets. If the pressure develops on both the demand side and the supply as it did in the 1965-1969 period, then interest rates increase substantially. The rising interest rates prompt corporate borrowers to shift their borrowing toward the short-term end of the market and intensify the upward pressure on short-term rates. Corporations are then faced with increased financial costs, even though such costs are incurred for only a limited period. If the tight money period is prolonged many corporations are forced to refinance their short-term debt under conditions of minimum credit availability and high interest rates. The presence of inflationary pressures in the economy, which usually brings on tight monetary conditions and policies, further raises nominal interest rates to compensate for anticipated price increases. Additionally, profits usually turn down this far along in the cycle thus reducing the credit-worthiness of many firms. By financing permanent additions to their asset structures with excessive short-term debt, many corporations accentuate the pressures of tight money, and a few may create near-crisis situations for themselves. As is well-known, such situations did develop in the late summer of 1966 and the early summer of 1970. The latter situation was climaxed by the Penn Central crisis.

Corporate Financing and Stabilization Policy The Federal Reserve took steps to mitigate the effects of such developments on the financial community and the economy. Following the "credit crunch" in the summer of 1966 it promoted easier financial conditions in the first three quarters of 1967 and the second half of 1968 than many observers felt were warranted in light of the emerging problem of inflation. The Federal Reserve strongly defended its actions on a number of grounds, among them the new surtax and the fear of another credit crunch and its multifarious difficulties.

In the first half of 1970, the Federal Reserve used both general and selective credit controls to ease financial conditions. In addition to its usual means of pumping reserves into the economy via open market operations, the Federal Reserve also suspended the interest rate ceilings on certain time deposits in order to allow banks to acquire sufficient funds to meet the loan demands of borrowers who ordinarily issued commercial paper. The Federal Reserve took certain actions that would not have been necessary had the pattern of corporate financing discussed here not been carried to such extreme levels. Although several individual corporations in addition to the Penn Central experienced liquidity problems, a general financial panic did not ensue. Several recognizable changes in the behavior of both the financial and corporate communities did emerge in the summer of 1970. Lenders became very quality conscious, which resulted in an unusually wide spread between the yields on different quality bonds. Unsecured short-term liabilities of corporations (viz., commercial paper) became difficult to issue. Finally, there was, and continues to be, a massive movement to convert short-term debt acquired in 1968 and 1969 into long-term debt. One of the most evident results of this desire for liquidity has been a sharply upward sloping yield curve. A yield curve illustrates the relationship among the levels of interest rates of different maturities (see box). With borrowers seeking funds primarily in the long-term sector of the market, short-term rates have receded much more rapidly than long-term rates. Until the large institutional investors began to supply funds in the bond markets, long-term yields were quite sticky.

Conclusions While it would not be warranted to attribute all fluctuations in the financial markets directly to specific patterns in corporate financing, the indirect influence of such patterns is readily evident. Corporations do account for significant proportions of all debt issued in the various sectors of the market. The practice of avoiding the acquisition of long-term debt until the occurrence of more favorable financial conditions and, instead, accumulating excessive short-term debt has undoubtedly accentuated certain interest rate movements. Short-term rates are likely to be higher than would otherwise be the case during tight money periods and lower in the following periods. Additionally, the deviation from the accepted practice of hedging inevitably places the corporate financial structure in a precarious position. Although the financing technique discussed here is probably convenient and perhaps less expensive, it does tend to disturb conditions in both the corporate financial structure and the financial markets. In order to restore stability more substantial measures must be undertaken than would otherwise be the case.

Philip H. Davidson

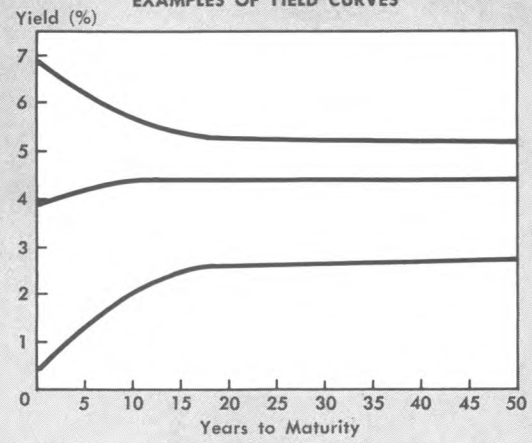
YIELD CURVES

The yield curve is a graphical tool often used to illustrate relationships among interest rates on instruments of varying maturities. In the accompanying diagram, time to maturity is represented on the horizontal axis and yields are represented on the vertical axis. The curve itself is a schedule of market yields on instruments of comparable credit quality but different times to maturity. The yield curve assumes a variety of typical shapes under various economic conditions. Three sample yield curves are represented here.

The curve exhibiting very little slope is most often observed during periods of economic stability. Yields on short-term and long-term instruments are nearly the same, reflecting the expectations of the market that economic conditions, and thus interest rates, will not change perceptibly over time. The slightly higher levels of long-term rates are generally attributed to relative degrees of liquidity and risk of default.

The sharply upward-sloping curve is usually observed during periods of substantial ease when credit is very plentiful. Investors do not expect such a situation to persist because the rate of real growth in the economy will increase in response to easy credit, resulting in ever-increasing demands upon loanable funds. Expecting interest rates to rise, investors begin moving toward the shorter maturity range where capital losses associated with rising interest rates are minimized. The shift from longer to shorter maturities puts upward pressure on long-term rates relative to short-term rates. This process is reflected in the higher long-term rates seen on the yield curve.

EXAMPLES OF YIELD CURVES



The downward-sloping curve is normally observed during tight money periods when the supply of credit is inadequate to satisfy all potential demand at existing rates. Investors expect credit conditions to be easier at some time in the future, because monetary restraint and high interest rates theoretically will curtail investment spending and reduce the demand for lendable funds. As investors begin to expect rates to fall, they will shift to the longer maturity range in anticipation of the substantial capital gains associated with falling rates. This process is reflected in the lower long-term rates seen on the yield curve.

In the short-run other factors may also influence the slope of the yield curve. As discussed above, different pressures may develop in different maturity sectors of the market. The large demand for long-term funds in the second half of 1970 exaggerated the upward slope of the yield curve.

As a tool for financial analysis the slope of the yield curve, then, may be used to observe both expectations of future rate trends and the impact of current sectoral pressures on interest rates.