

Interest Rates, 1914-1965

Introduction

INTEREST RATES play a strategic role in the economy. They represent a cost to the borrower and, as such, may influence decisions to invest or to spend on goods or services. They represent a return to the saver and may influence saving decisions. To wealth holders and to managers of investment flows, interest rates or yields are the common denominator for evaluating alternative forms of holding wealth and alternative avenues for placing funds.

Interest rates are believed to have an effect on economic activity. Other things equal, a rise in interest rates has a dampening effect on investment decisions and increases the incentive to save. Conversely, a decline in interest rates is usually interpreted as expansionary.

There is a great deal of uncertainty concerning what causes interest rates to be what they are. A most popular interpretation emphasizes the role of changes in the supply of and demand for credit in various markets. There are questions, however, about why interest rates in general reach the level they do. Issues such as the role of productivity of capital as a basic determinant of rates, the impact of fiscal actions of the Government on rates, and the influence of rates in one country on those in another have not been resolved. There are also unanswered questions concerning why debt instruments of different maturities have different interest rates.

In addition to the other forces bearing on interest rates, it is widely agreed that monetary actions have an influence. Transactions in the Government securities market are a chief means by which the Federal Reserve System conducts monetary policy.¹ These transactions directly affect the prices—and, hence, the yields or interest rates—of the securities bought or sold. They also affect interest rates through their impact on

¹These transactions, called “open market operations,” add to or reduce member bank reserves and have a major impact on the money supply and interest rates. See Chapters III and IV of *The Federal Reserve System: Purposes and Functions* (5th ed., Washington, D. C.: Board of Governors of the Federal Reserve System, 1963), which discuss instruments of monetary regulation and the function of bank reserves.

commercial bank credit expansion or contraction.² Indirectly, transactions in the Government securities market influence the prices, or interest rates, on virtually all marketable securities. Other monetary actions, e.g., changes in reserve requirements and in the discount rate, also have an effect on interest rates.

Because of the role interest rates play in our economic system and because System actions play a part in interest rate behavior, levels and changes in interest rates have been used as a convenient measure of monetary actions. When interest rates are high and rising, analysts using this measure describe monetary policy as restrictive; when rates are low and declining, they say policy is easy.

The following discussion and accompanying chart (see pages 6 and 7) summarize movements in interest rates on marketable securities since the Federal Reserve System began operations in 1914. From the host of available market rates, a major money market rate (four- to six-month prime commercial paper until 1937 and three-month Treasury bills thereafter) and a leading capital market rate (highest grade railway bonds until December 1919 and highest grade corporate bonds thereafter) have been selected. Although other rates give somewhat different results, these probably were typical of rates in the short-term and long-term markets.

This discussion is intended as a short resume of background information on this key financial variable,³ tracing the course of interest rates since 1914 and noting some of the chief economic developments which may have had an influence on rates. Although the analysis is not designed to form the basis for conclusions regarding the proper level of interest rates or the desirability of using interest rates as a guide for

²Open market transactions add to or absorb member bank reserves, which affect the volume of commercial bank credit, bank deposits, money supply, and other financial variables. The main effect of System actions on interest rates may not be through the increase or reduction of Federal Reserve assets but through the resultant increase or decrease of assets held by the commercial banks.

³For a detailed examination of rates covering a much longer time span, see Sidney Homer, *A History of Interest Rates* (New Brunswick, N. J.: Rutgers University Press, 1963).

future public policy, such a review does provide background for these important issues.

This 50-year period may be divided roughly into three parts: before 1930, when interest rates on highest grade securities averaged about 5 per cent; 1930 to 1946, when, in the depression of the 1930's and in World War II, interest rates were low; and since 1946, when interest rates have generally worked higher. Today, both short- and long-term rates are still much lower than in some extensive earlier periods and are somewhat below the average levels of 1914 through 1929. Short-term rates averaged about the same as long-term rates during the 1914-29 period. In recent months short-term rates have been only slightly below long-term rates.

The Course of Interest Rates

World War I

During 1913 and 1914 the economy was in recession, and, although there was some quickening of activity during 1915, the average level of output during that year was only slightly changed from the previous two years. From early 1914 to November 1915 short-term interest rates declined, except for a period of uncertainty and tension in the summer and early fall of 1914, at the outbreak of World War I. The yield on prime four- to six-month commercial paper decreased from roughly 4.50 per cent in early 1914 to 3.45 per cent in November 1915. The yield on highest grade railroad bonds showed little net change during this period, averaging about 4.50 per cent.

From the end of 1915 to the late summer of 1918 a large volume of European securities were sold here, and the U. S. Government borrowed heavily. Economic activity, stimulated by a strong wartime demand for goods, rose vigorously. Reflecting these developments, interest rates increased, particularly during 1917. Yields on commercial paper jumped from 3.45 per cent in November 1915 to 6.22 per cent in August 1918. Rates on railroad bonds went up from about 4.50 per cent in late 1915 and 1916 to 5.41 per cent in September 1918.

Immediately after the war interest rates declined. Short-term rates decreased about one percentage point from August 1918 to May 1919, and long-term rates moved down about one-half of one percentage point in late 1918. During this period demand for credit slackened, and economic activity was either slowing or at a reduced level as the war drew to a close.

The Twenties

Economic activity rose during most of 1919, and interest rates moved up moderately. They continued

to rise in the first half of 1920, reaching record levels. Demands for credit may have slackened somewhat with the start of the 1920-21 recession, but, if so, the decreases were more than matched by declines in the supply of funds, since bank credit, bank deposits, and money grew at a slower rate.⁴ By July 1920 interest rates on commercial paper averaged 8.13 per cent and on highest grade corporate bonds averaged 6.34 per cent.

The 1920-21 recession was particularly severe. In late 1920 short-term rates remained relatively high; an apparent slackening in the demand for credit was nearly matched by a contraction in outstanding commercial bank credit. Interest rates declined markedly during 1921 and drifted still lower in the first half of 1922. Commercial paper, which was yielding 8.13 per cent in the fall of 1920, was bringing only 4.13 per cent in the late summer of 1922. Interest rates on corporate bonds fell from 6.34 per cent to 4.93 per cent.

On balance, from the early twenties to the end of 1927 interest rates declined, even though corporations, real estate owners, and state and local governments were large net borrowers. There was a large volume of saving, but part of the explanation for the downward drift in rates may have been in the mix of public policy actions adopted. The Federal Government was operating at a surplus and retiring debt, and there was a rapid expansion of bank credit and money during much of this period.

During the economic boom lasting from the fall of 1927 to the fall of 1929, interest rates again moved higher. Yields on four- to six-month commercial paper rose from 4.00 per cent to 6.25 per cent, and interest rates on highest grade corporate bonds increased from 4.50 per cent to 4.80 per cent.

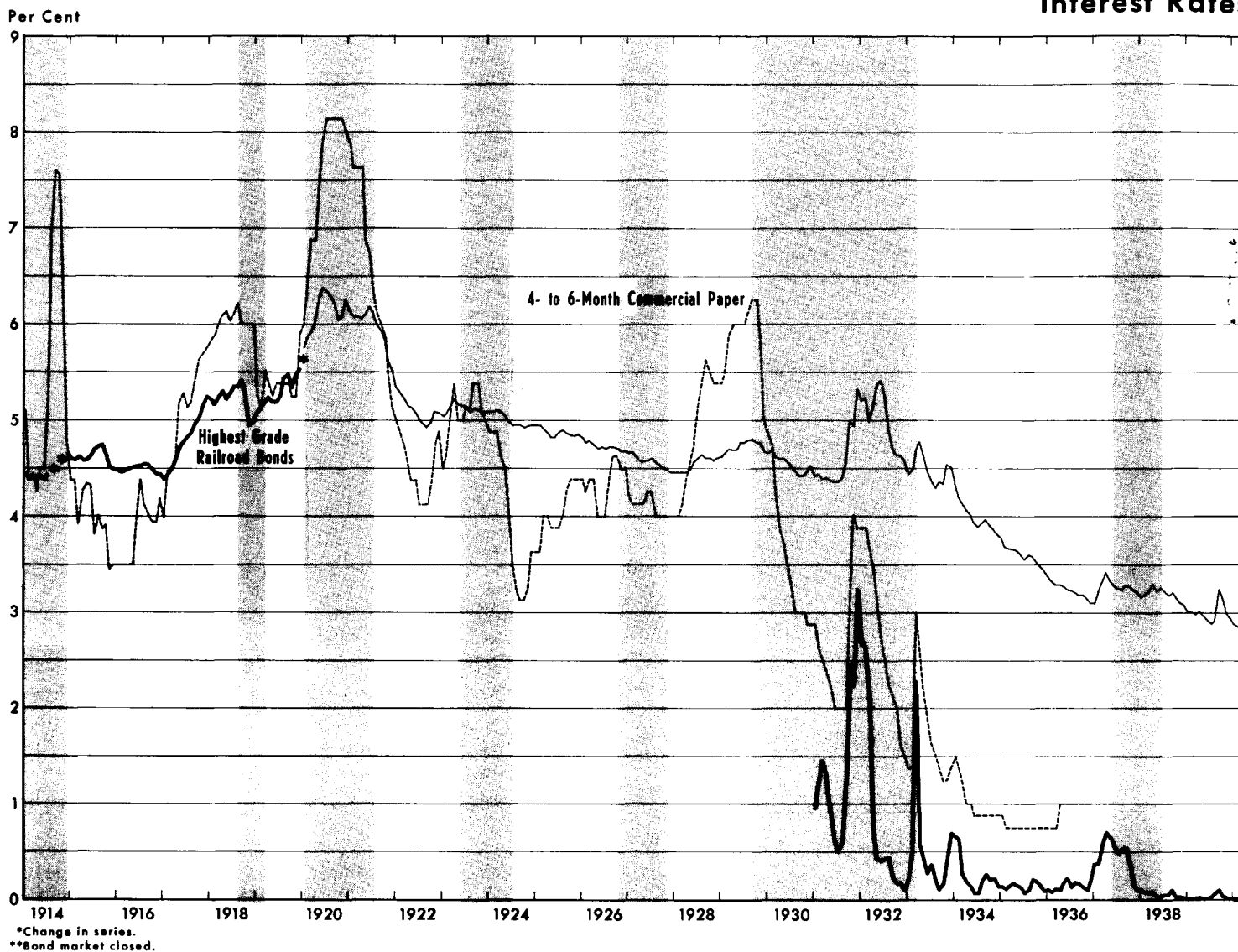
The Depression

In the initial stages of the great depression, beginning in late 1929, interest rates declined. From a level of 6.25 per cent in the fall of 1929, commercial paper yields dropped to 2.00 per cent in the summer and early fall of 1931. Likewise, highest grade corporate bond yields decreased, from 4.80 per cent to 4.36 per cent.

Despite the continued contraction in economic activity, interest rates rose markedly in late 1931. Foreign crises and devaluations, the large number of bank

⁴An examination of the rates of change in money since 1914 is presented in this Bank's September 1964 *Review* in an article entitled "Money Supply and Time Deposits, 1914-1964."

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failures, and distrust of the dollar brought a large gold outflow. The Federal Reserve met this crisis in the traditional fashion by taking actions designed to raise interest rates.⁵ Short-term rates doubled to a level of 4.00 per cent, and long-term rates went up about 1 percentage point to 5.32 per cent.

Except for another sharp jump for a brief period around the "bank holiday" in early 1933, interest rates generally worked lower until early 1937. The supply of short-term Government securities and other high-grade money market paper was severely limited. By early 1937 prime commercial paper was yielding only 0.75 per cent, and highest grade corporate bonds were

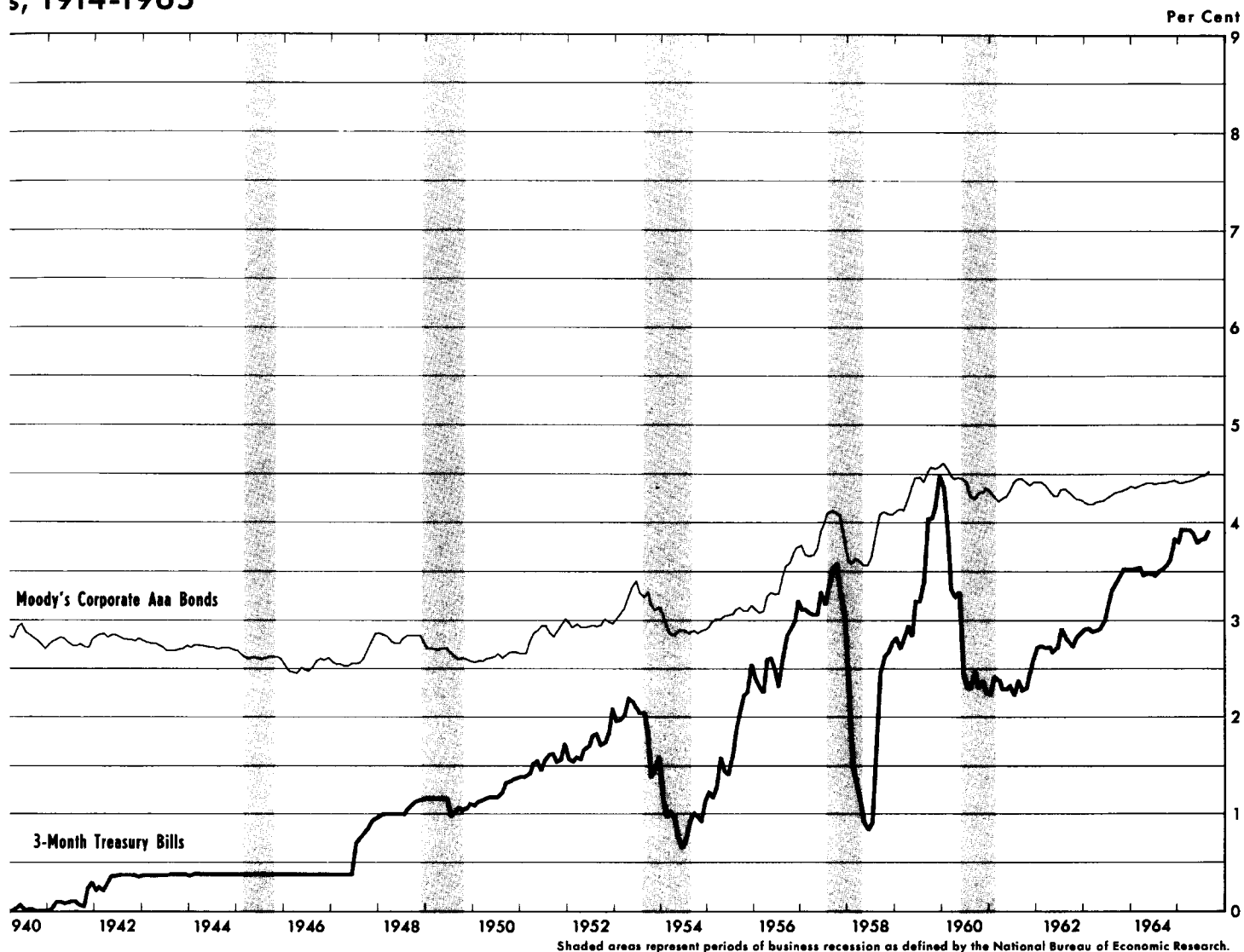
bringing 3.10 per cent. During the first quarter of 1937 interest rates jumped higher briefly but declined late in the year (during the 1937-38 recession) and continued at an unusually low level until early 1941.

World War II and the Immediate Postwar Period

During 1941 and early 1942 economic activity was quickening, and short-term interest rates worked up somewhat. In early 1942 the Federal Reserve began pegging the prices of Government securities to help finance the war effort, thereby keeping interest rates down. From April 1942 to July 1947, when the peg was relaxed, yields on three-month Treasury bills remained at three-eighths of one per cent, and yields on

⁵See pages 1-13 of the *Eighteenth Annual Report of the Federal Reserve Board, Covering Operations for the Year 1931* (Washington, D. C.: Government Printing Office, 1932).

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highest grade corporate bonds drifted from 2.85 per cent to 2.55 per cent.

Interest rates rose from July 1947 until 1949; for short-term rates the rise was sharp just after mid-1947. The economy was expanding during most of this period, although a mild economic adjustment began in late 1948. In 1949 interest rates declined. Short-term rates declined abruptly around the middle of the year, following reduction of member bank reserve requirements and discontinuance of net sales of securities by the Federal Reserve System to meet market demand (which began early in the year).⁶ Long-term rates

⁶See pages 7-11 of the *Thirty-Sixth Annual Report of the Board of Governors of the Federal Reserve System, Covering Operations for the Year 1949.*

generally drifted lower throughout the year, although the decline was sharpest around midyear.

Since 1950

From early 1950 to the spring of 1953 interest rates rose. In March 1951, with the Treasury-Federal Reserve "accord," rates were freed from the peg. Economic activity in the early fifties, which included the period of Korean conflict, was accelerating. In late 1953 and early 1954 rates declined rather sharply, along with a contraction in economic activity.

Interest rates rose during the economic expansion from the late summer of 1954 to the fall of 1957 to a much higher level than during the previous period of economic upswing. In late 1957 and the first few

months of 1958, a period of economic recession, interest rates remained at their high level a few months, and then they fell abruptly.

From mid-1958 through 1959 rates again moved higher, surpassing the previous postwar peak levels. At the end of 1959 three-month Treasury bills were yielding about 4.50 per cent, and highest grade corporate bonds were yielding about 4.60 per cent. In early 1960, while economic activity was still at a high level, interest rates fell markedly.

Since the spring of 1960 interest rates have followed different cyclical and seasonal patterns. The new patterns may have reflected, in part, the rapid growth of C.D.'s and the mix of policy actions designed both to reduce the outflow of funds seeking higher yields abroad and to stimulate domestic economic activity. During the May 1960-February 1961 period of declining economic activity, interest rates remained about unchanged at a level down from the peak but substantially higher than the lows of the three previous recessions. Since early 1961 short-term interest rates have moved higher, but at a slower rate than in previous postwar expansions. Long-term rates have shown only small net increases. Also, the decline in short-term rates early in the year and the rise in the late summer and fall which was typical of the fifties has virtually disappeared since mid-1960. In September 1965 rates on three-month bills averaged 3.92 per cent and on highest grade corporate bonds averaged 4.52 per cent.

Conclusions

Interest rates have generally been high and rising during periods of rapid economic expansion and have been low and declining during periods of economic contraction. Exceptions have occurred, such as the unusually high rates during the first year of the 1920-21 economic contraction, the sharp upward movement of rates during the depression in 1931, and the comparatively low rates during the period of heavy demand for goods and services during and immediately following World War II.

According to a popular belief, proper economic stabilization action calls for relatively high and rising interest rates during periods of rapid expansion, especially when output is pressing the limits of productive capacity and prices are rising. Conversely, it is generally thought that lower rates are desirable in periods of insufficient and declining demand for goods and services. According to this view, interest rates have behaved in a stabilizing fashion during the past half century, except for a few atypical periods.

Proper interest rate policy, however, may be much more complicated than merely determining that rates are rising during periods of strong economic advance and inflation or declining during periods of substantial and rising unemployment. Questions arise as to how much interest rates need to change under various conditions, what should be the relation among rates on loans of various maturities, the influence of factors other than monetary actions, and lags in the effect of changes in interest rates on economic activity.

This article does not purport to evaluate interest rate policy over this 50-year period, but an examination of the data indicates a need for caution by those who use interest rates alone as a measure of monetary action. Economic activity itself has been the major influence on rates. As activity quickens, demands for funds for capital investment and other purposes rise faster than the supplies of funds from saving, exerting upward pressures on rates. Conversely, as activity contracts, downward pressures on interest rates develop. In the light of these observations, the apparent countercyclical behavior of rates during the past 50 years may have been partially or entirely a reflection of changing economic conditions rather than a reflection of monetary actions.

For example, with the advantage of hindsight, one might conclude that the marked decline in interest rates during the depression of the early thirties resulted primarily from forces associated with the economic contraction rather than from stimulative monetary action. While interest rates were declining, bank reserves, bank credit, bank deposits, and money supply were also contracting.

Conversely, since the early fall of 1962 interest rates on three-month Treasury bills have moved up in several steps from about 2.75 per cent to about 4.00 per cent, yet bank reserves, bank credit, total bank deposits, and money have each risen markedly. One might conclude that interest rates have increased despite expansionary monetary actions and that these monetary actions have been a factor in the continued economic expansion.

In some periods of recession, although interest rates have declined, it may be that a greater decline would have been appropriate. In some periods of boom, while interest rates have risen, it may be that greater increases would have been appropriate, and there may have been times near the end of economic expansions when rates were higher or rose more rapidly than was appropriate.

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share of the total land area in most states is set apart for such purposes, these uses may have a substantial impact on farm real estate prices. About 20 per cent of all land in the continental United States is within commuting distance of some metropolitan area, and farm land within this range tends to take on higher values than similar land further away. Metropolitan areas continue to gain population, and this has an impact on land values over an increasing area as better roads improve transportation.

Demand for land for farming has been affected diversely by farm technology. Increased yields per acre, brought about through improved fertilization, seed, and disease control, have been an important factor tending to reduce farm commodity prices and demand for land. On the other hand, improvements in mechanization and weed control have permitted a major increase in the number of acres that can be farmed by one man, thus tending to increase farm consolidations and demand for land for farm enlargement purposes. The reduction in labor costs increases the returns to other factors of production, including land.

Government land rental and crop allotment programs have also tended to increase the demand for real estate. Land rental payments have directly increased the returns accruing to land. The acreage allotment program may also increase farm consolidations and demand for farm land. If it decreases farm output, as in the case of the rental program, returns to all factors including land are increased in view of an inelastic demand for farm commodities. Furthermore, if farming units of optimum size maximize returns to the operator and the allotment program reduces the acreage that can be farmed on existing units,

additional acres are required to bring farms back up to optimum size. Thus, demand for additional acreage for farm consolidation or enlargement is enhanced.

Land Prices and Farm Consolidations in the Central Mississippi Valley

Part of the difference in farm real estate price trends among the Central Mississippi Valley states can be traced to the varying rates of farm consolidations in the area. For example, from 1945 to 1964 the annual rate of change in acres per farm was greatest in Arkansas and Mississippi, with percentage increases of 4.7 and 4.2, respectively (Table V). Land value increases in these states were also greatest, with gains of 7.1 and 6.8 per cent per year, respectively. Acres

TABLE V
CHANGES IN FARM SIZE AND LAND VALUES
Central Mississippi Valley, 1945 to 1964

	Annual Rates	
	Acres per Farm	Value per Acre
Arkansas	4.7%	7.1%
Kentucky	2.0	5.8
Mississippi	4.2	6.8
Missouri	2.0	5.5
Tennessee	1.7	5.7
Total 5 States	3.0	6.0
Illinois	1.6	5.4
Indiana	1.7	5.5
United States	2.8	5.7

Source: Calculated from USDA data in "Farm Real Estate Market Developments."

per farm in the five-state area rose at a slightly higher rate than in the nation, and value of land per acre also moved up at a higher rate.

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Countercyclical policy in terms of interest rates, it would seem, requires at a minimum some upward pressures on rates from the monetary system in periods of ebullience and some downward pressures in periods of economic decline. Since many forces are at all times impinging on rates, selection of the proper rate or determining the impact of monetary actions on rates at any given time is a difficult task. Because of a desire for relatively stable money market conditions in the short run, chances for error in selecting the proper rates seem to be greatest around cyclical turn-

ing points, when there is usually the most marked change in other forces affecting interest rates.

The frequently stated conclusion that increasing monetary restraint is being imposed as evidenced by rising interest rates during a boom may not be valid, since other forces, including the expansion of activity itself, may be placing upward pressure on rates. Analysis must go deeper and seek to determine in what direction and to what extent the monetary system has been pushing rates.

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