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## RESEARCH REPORTS

### COMING EFFECTS OF CURRENT EVENTS

#### *Long-Term Trends of Interest Rates*

In a recent article<sup>1</sup> in these bulletins we discussed short-term financial trends and pointed out the possibility of a shock of some magnitude to the money markets within the next eighteen months. If that occurs, there will be at least a temporary period of higher rates for short-term funds. Presumably, this will affect yields on longer maturities also, to some extent. The purpose of the present discussion is to ascertain the most probable longer-term trend of interest rates in the years following the period of higher rates expected sometime during the next one to two years.

The trend of interest rates is of substantial importance to life insurance companies and savings banks, to individual policy holders and investors, to prospective home owners, and to business men generally. It has also become of primary importance to the Government and every taxpayer, because the interest burden of the Federal debt will increase when and if refunding of the enormous borrowings at higher rates is forced by circumstances.

#### *The Historical Record*

A brief glance at the historical record is desirable, because what has happened in the past is at least an indication of the range of possibilities. Fortunately, the records covering a full century are available for England; and equally good records for the United States cover nearly the same period.

The yield on Consols (more or less equivalent to U. S. Treasury long-term bonds) at the market price in England has varied during the past hundred years from the low of about two per cent reached in 1897 to the high of more than five per cent reached in 1920. The period of extremely low yields lasted nearly five years, and the period of extremely high yields lasted about four years.

In the United States there is no single security comparable to the Consols in the length of time it has been on the market. Consequently, it is necessary to use the average yield of groups of highest-grade bonds. Inasmuch as railroad bonds were favored investment securities until the depression of the 1930's, the yield on high-grade railroad bonds provides

<sup>1</sup>May 21, 1945.

a satisfactory measure of long-term interest rates from 1857 to 1929; and Moody's average yield on Aaa corporate bonds provides a satisfactory guide since that time.

In 1857, high-grade bonds in the United States sold at a price to yield nine per cent. This was the highest yield recorded during the entire period from 1857 to date. By 1899, yields on such bonds had declined to nearly three per cent, and for more than a decade in the early 1900's the yield was between three and four per cent with relatively minor fluctuations.

The highest yield since 1900 was reached in 1920 at nearly six per cent, and bond prices held at the five per cent yield basis for most of 1920 and 1921. Subsequent fluctuations kept yields between four and five per cent until 1934, except for the brief rise to more than five per cent in 1932.

Since 1934, yields have decreased almost uninterruptedly. The three per cent level was reached in 1936, and after a setback in 1937 bond prices continued upward so that yields have fallen to new all time lows. At present, the yield on Moody's Aaa group of corporate bonds is only 2.6 per cent. Long-term United States Government bonds at present prices yield about 2.4 per cent, so that the yield on Governments is still slightly above the lowest yields ever recorded for Consols.

#### *The Theory of Interest and Interest Rates*

Books of many pages have been written on the economic reasons for interest, interest rates, and fluctuations in the prices of bonds. Many theories purporting to explain both short-term and long-term fluctuations of interest rates have been evolved, and many attempts have been made to predict the month-to-month and year-to-year trends of interest rates. Unfortunately, it is necessary to add that no completely satisfactory or even reasonably satisfactory results have been obtained consistently, insofar as predictions are concerned.

One of the most popular theories is that bonds tend to rise in price when stocks decline and to fall in price as common stocks rise. From this notion there naturally came the belief that wise investors bought bonds near the peaks of bull markets and sold bonds at the end of bear markets in order to buy common stocks. It would be a wonderful money-making procedure, provided one could determine the proper timing, but for the unfortunate fact that on many occasions even the

highest-grade bonds have gone up with stocks or down with them, albeit not so far of course.

It is best to be frank and admit that we have a rather humble attitude toward our own ability to forecast the future of interest rates. In the paragraphs that follow, we shall confine our attention to what seem to be the major factors concerned. There will be many other influences affecting bond yields to some extent and there will be several changes in price trends (or yield trends) that we shall not even attempt to foresee.

It appears probable that there was a marked shortage of capital in the United States during the years prior to about 1875 to 1880. Much capital for new development in our country came from Europe, especially from England, and it was not until the period mentioned (after the resumption of specie payments in 1873) that European investors generally became convinced that American securities were desirable. We think it probable that this situation explains the relatively high yields during most of the two decades prior to 1875. (Comprehensive data for earlier years are not available.)

#### *The Long Decline in Interest Rates*

The fifteen-year period from 1881 to 1896 was a difficult one for business generally, primarily because of the long-term downward trend of commodity prices, which ended in the latter year. During most of this time, the average growth rate of industries in the United States was substantially less than the average rate before and after this period. We believe that the expectation of slowly declining prices, which must have become general during those years, encouraged investors to accept lower interest returns; and it also seems probable that the generally less rapid growth rate caused a relatively lower demand for new capital. These circumstances may well have accounted for the long decline of interest rates that continued until 1898.

#### *Higher Interest Rates*

Opportunities for business expansion were substantially better after the turn of the century; and commodity prices moved gradually upward until late 1915. Apparently, the combination of a greater demand for capital and the gradually strengthening expectation of rising prices influenced both the demand and supply sides of the long-term money market, and interest rates gradually increased.

The incidence of an extreme inflation, reflected in rapidly rising commodity prices, and the deliberate tight money policies adopted by the Federal Reserve System in late 1919 and 1920 are sufficient to account for the sudden rise in bond yields to the highs of the twentieth century in 1920. (The deflation initiated by the Government and the Federal Reserve Board's action of course caused much forced liquidation of securities and later of commodities.)

During the decade of the 1920's, business expansion was encouraged by the postwar resumption of long-term growth trends; and an inflationary progression more gradual than that of 1916 to 1919 aided in creating the illusion of boundless prosperity. Enterprisers were thus encouraged to borrow heavily for new hotels, apartments, manufacturing plants, etc., and investors were more than willing to lend their funds. Interest rates trended irregularly downward until late 1928. In 1932, the pressure of liquidation, especially that

related to the bank failures, forced bond prices down nearly to the high yield basis reached in 1920.

#### *Since 1932*

During recent years interest rates have not followed the pattern described in one of the most popular theories. Since 1932, the prices of high-grade bonds have risen almost uninterruptedly in spite of the equally prolonged rise in commodity prices. According to some of the widely accepted theories of interest, rates should have begun to increase some time ago. A more detailed analysis of the present situation is therefore in order.

During most of the 1930's, demand for new capital was adversely affected by the aftermath of the inflationary boom that culminated in 1929. It was not until the closing years of the decade that industry in general provided evidence that its long-term growth was destined to continue. But in those years, there was an enormous flow of investment funds to this country from abroad as European and other investors sought safety from the storms of war. Thus, at a time when demand for new capital was relatively weak, the supply of funds for investment continued to be relatively large. That interest rates trended downward is not surprising.

#### *Wartime Government Financing*

Since 1941, private demand for new capital has been greatly curtailed. New residential construction has been almost prohibited by War Production Board orders, and war priorities have restricted the acquirement of new plant and equipment by corporations in general. However, it may well be asked, has not the wartime Government financing provided a huge demand for investment funds, and therefore does not the current rate on Government bonds provide an accurate measure of long-term interest rates? This brings us to one of the most interesting and possibly the most instructive feature of the present situation.

Only a negligible percentage of long-term Government bonds has been sold to individual investors during the past four years. Nearly all United States bonds purchased by individuals have been extremely short-term bonds, by virtue of the redemption feature, and even disregarding that feature have not been long-term issues. The latter have of course been available on the market in huge quantities, but individuals generally have refused to buy them. This is in sharp contrast with the sales of longer-term Liberty Bonds to private investors during World War I. Furthermore, the Government bonds that individual investors have been willing to buy total only about one-fifth of all issued, although approximately half of the Liberty bonds issued during the last war were sold immediately to individual investors.

The commercial banks of the country, including the Federal Reserve Banks, have bought nearly half of the Government bonds sold to others than Government agencies and trust funds. The total bought by the banks is approximately \$100,000,000,000. In the last war, these institutions bought only about \$6,000,000,000 worth, less than one-quarter of the total issued. Furthermore, the Federal Reserve Banks have bought far more proportionately, than ever before. Few people realize that the latter's purchases create what are in effect paper money reserves for the commercial banks, and

that the latter in turn create the purchasing media used to buy the bonds they own. The deposits created by the Federal Reserve Banks are the reserves for the much larger deposits created by the commercial banks. There is virtually no limit to the purchasing media that can be created by this process, provided legal reserve requirements are suitably manipulated. Of course the banks would not dare purchase bonds to this extent, were it not for the fact that the Federal Reserve Banks have virtually guaranteed to take over any bank's holdings of Government bonds at par value, so that they need never be subject to the test of market rates for interest. In other words, the banks' bonds likewise have what is, in effect, a redemption feature.

The life insurance companies and mutual savings banks have purchased large quantities of Government bonds. However, inasmuch as the only obligation of such institutions is to provide definite numbers of dollars at some future date, they are not concerned with the effects of inflation on the future value of the dollars.

From the foregoing, two important conclusions can be drawn. The first is that in spite of the huge total of Government bonds outstanding, only a small portion has been offered in competition with long-term bond issues of the ordinary sort; therefore, the demand for the strictly long-term investment funds of individual investors has not been greatly increased by the wartime financing. The second is that individual investors have had readily available a liquid, relatively high-yield investment (the War Savings Bonds) and possibly for that reason have not yet demanded a higher interest return from new corporate bonds as a hedge against the continuing inflation and rising commodity prices.

#### *The Postwar Trend*

It seems reasonably certain that in the first decade after the war there will be an outward instead of an inward flow of capital funds belonging to foreigners. The situation in this respect will then be the reverse of that in the late 1930's. Apparently, there will also be a substantial amount of foreign lending by American investors, either directly or through various Government institutions.

That there will be a huge demand for new mortgage money in connection with residential construction for several years after the war is a safe prediction. There are indications that additional capital will be sought by many businesses eager to exploit new fields. The need of the railroads for new equipment and similar needs of other relatively stable industries will add to the demand for new capital funds. Although the growth rates that were reached during the New Era of the 1920's may not be seen again in the near future, substantially better growth trends for businesses than those that prevailed during most of the 1930's are a reasonable expectation.

Our present guess is that interest rates during the decade after the war will be somewhat higher than they now are. The marked change in that direction to be expected as one result of a deflationary shock to the money markets within the next year or two will no doubt be temporary; and we do not expect the higher rates of that interlude to reach those of 1920. In the years immediately following, we expect interest rates to fluctuate within the three to four per cent range.

This would mean a moderate increase from present levels, albeit not to the four to five per cent range that prevailed during most of the 1920's. It may be well to add that much depends on the handling of the Federal debt and on Government policies not yet clarified. Consequently, there is perhaps not much better than a 50-50 chance that our prediction will prove to be correct.

#### *A Purse-Stretching Proposal*

The text of the bill sponsored by Senator Wagner and intended to become "social security amendments of 1945" is too extensive and involved to be summarized briefly. In fact, its chance of passage by Congress in anything like its present form is so remote as to make such a summary unnecessary. However, the bill is enlightening as evidence of plans now being made to extend social reforms beyond the limits reached by the New Deal Party under President Roosevelt.

Among other proposals, the bill provides for broadening the application of social security, a step that it is ultimately believed will be taken by Congress even though the self-employed may not be included as desired by Senator Wagner. The bill contemplates the creation of a national social insurance system that will include health insurance, unemployment and sickness insurance, and retirement benefits supplemented by survivors and extended disability insurance features. These amendments provide for large disbursements by the Federal Government as grants in aid and loans to States for hospital facilities, public health services, and similar purposes.

The ultimate result of the enactment of such a measure would be to increase the annual Federal budget already destined to be burdensomely large as a result of the wartime increase in the Federal debt and consequently in service charges. One feature of the proposed measure is its provision authorizing appropriations from Treasury general revenues "when necessary." This places no limit on expenditures in excess of receipts from the proposed four per cent withholdings from employees' earnings and another four per cent tax on employees' earnings to be paid by employers.

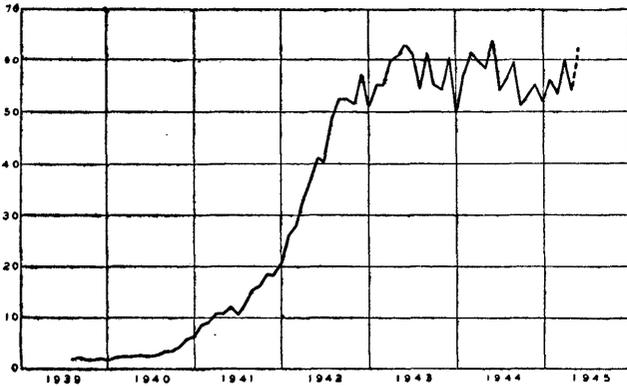
Such proposals as Senator Wagner's extending the sovietization of the American economy before the costs of the war can be reckoned are the antithesis of the policy needed to restore the National Government to a condition of solvency. The desirability of their objectives gives them a popular appeal, but the price that must be paid is concealed by the fantastic budgetary figures that have characterized Treasury finance in war time. If the Administration and Congress do not come down to earth early in the postwar period, the later descent will be exceedingly painful.

#### *Proportion of the National Economy Devoted to War Activities*

The chart on page 100 presents the expenditures for war activities, expressed as a per cent of the Nation's total income payments, including payments for war activities. The data are plotted at monthly intervals for the period beginning with the outbreak of the Second World War.

Monthly income payments averaged about \$6,000,000,000 during the first year of the war in Europe but

**PER CENT OF TOTAL INCOME  
FOR WAR ACTIVITIES**



increased substantially after we began to assume the role of "arsenal of Democracy," and by the end of 1941 reached \$9,000,000,000. After we entered the war, income payments continued to increase, although the proportional change was not so great as it was during 1941. The monthly average of income payments in 1944 was \$13,000,000,000, and the highest level reached was \$14,388,000,000 in December, when the seasonal peak in income payments is usually reached. This year they have been stabilized at about \$13,000,000,000 per month. During 1944, expenditures for war activities were essentially stabilized at an average level of about \$7,400,000,000. War spending will presumably decrease later this year, but the data for the first five months of the year show no evidence of a downward trend. Spending for war activities during the month of May totaled \$8,156,000,000, only slightly less than they were in the record high month for the war period, and the monthly average for the first five months of 1945 was \$7,600,000,000.

The following statistical summary shows the expenditures for war activities for each month of 1944 and for the first five months of 1945, together with the income payments for the corresponding period. The income payments figure for May is a preliminary estimate.

	<i>Expenditures for War Activities (In Billions of Dollars)</i>	<i>Income Payments</i>
<i>1944</i>		
January	7,138	12,542
February	7,518	12,114
March	7,726	12,871
April	7,346	12,493
May	7,879	12,300
June	7,567	13,946
July	7,201	12,892
August	7,571	12,661
September	6,998	13,659
October	7,479	13,669
November	7,401	13,309
December	7,503	14,388
<i>1945</i>		
January	7,551	13,357
February	6,948	12,739
March	8,246	13,686
April	7,139	13,180
May	8,156	13,000

**THE FUNDAMENTALS**

**Supply**

The steel-ingot production rate at ninety per cent of theoretical capacity last week was one point lower

than the rate that prevailed during the preceding week. *The Iron Age* stated: "Until those in charge of the big push against Japan have all their plans 'ready to go,' the current confusion over cutbacks and cancellations as it affects steel mill output will continue. Cancellations of steel orders have failed to keep pace with war contract cutbacks and although higher than at any time in the war, they have not opened up any appreciable space on mill order books. There is little doubt that many steel orders now on the books will probably never be shipped because of subsequent cancellations.

	1929	1932	1937	1938	1944	1945
Per Cent of Capacity	96.0	22.0	75.5	27.5	97.0	90.0

(Latest 1945 weekly data; corresponding week earlier years)

There was an increase in electric-power production last week, but the gain in comparison with output in the corresponding week of 1944 remained about the same as it was in the preceding week. The wartime rise in the consumption of electric power was substantially completed late in 1943. The present volume is somewhat smaller than it was in June 1943 but is slightly larger than it was in June 1944, when the seasonally adjusted index of electric-power production was declining.

	1929	1932	1937	1938	1944	1945
Billion Kilowatt-Hours	1.72	1.46	2.24	2.02	4.26	4.33

The adjusted index of lumber production last week decreased from 90.1 per cent of the 1935-1939 monthly average in the preceding week to 87.0 per cent. Last week's index was at substantially the same level as it was in the corresponding week of 1944. The lumber industry is the only major industry in the country whose products are required for the war effort that is operating at a rate lower than that prevailing during the years immediately preceding the outbreak of the Second World War in Europe.

	1929	1932	1937	1938	1944	1945
New York Times Index	131.7	38.7	96.9	65.2	86.9	87.0

**Demand**

The dollar volume of department-store sales last week was fourteen per cent larger than that for the corresponding week of 1944. This compared with a gain of four per cent in the preceding week. During the later stages of the war period when demand made possible by an abnormal supply of purchasing media is exerted in markets where supply is short, price controls and rationing systems are powerless to prevent inequities in distribution. One commodity after another has disappeared from the free market. These can be obtained only through special influence of one kind or another with suppliers or by the payment of premiums above fixed prices. The only remedy for the situation is the return of an adequate supply of these commodities.

**Prices**

Prices in the staple commodity markets moved toward higher levels last week, and there was a gain of more than a point in the average for the period. The Dow-Jones Index of Commodity Futures closed at 99.59 on June 7 and at 100.45 on June 14.

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