

SECURITIES MARKETS

Credit conditions are affected by and affect various developments in securities markets. An important part of the Board's continuous study of general credit conditions, therefore, is concerned with securities markets and changes in long-term interest rates. An additional reason for watching the securities markets grows out of the Board's responsibilities for regulating margin requirements for the purchase and sale of listed stocks. In this respect credit policy is directly related to the securities markets.

The statistics for securities markets are organized into two groupings: bond yields and prices (Tables 11-13); prices and yields on stocks, and volume of trading (Tables 14-18). The following paragraphs describe these series in detail. The accompanying table has been designed to show users of the statistics in Tables 11 through 15 how the averages of security yields and prices are calculated.

Figures for stock market credit and new security issues and for changes in outstanding corporate securities are discussed on pages 17-24. Differences in bonds and stocks are described on page 21.

BOND YIELDS AND PRICES

Changes in bond prices are useful as rough indicators of changes in the value of invested funds, particularly over short periods of time. Prices of bonds, however, are not precise measures of the return to the purchaser; the return is also affected by the coupon rate and the length of time to maturity. Market yields, which indicate the percentage rate of return to investors on securities purchased at current market prices and held to maturity (taking into account the effect of differences in the length of time to maturity and in coupon rates), measure changes in the costs of money more precisely than prices. However, they do not necessarily reflect the return realized by purchasers on other dates or by investors who dispose of their

obligations before maturity. For each of these, capital gains or losses arising out of price changes may be more important than market yields.

Nor do yields reflect the costs of funds to the borrower. When a new security is marketed, its yield is related to the market yield on outstanding issues of comparable quality and terms, but the yield on the new issue generally exceeds the yield during the same period on outstanding issues by the cost of flotation—including underwriters' compensation—and any discount from market price that may be required to facilitate initial placement of the issue.

Yields on different types of long-term securities reflect—in addition to the general level of interest rates—relative supplies of various types of securities, preferences (including those imposed by legislation and regulation) of investors for the various types, relative amounts of funds available to investors with different types of preferences, and distinctive characteristics of the various types of securities. Among the latter, the most important are the market's evaluation of differences in underlying risk, differences in marketability, and differences in the tax status of the income return to investors.¹⁰ The price and yield series presented in Tables 11, 12, and 13 are classified by some of these characteristics.

Table 11-A shows annual and monthly yields for U.S. Government bonds; for State and local government bonds, by rating; and for corporate bonds by rating and by industry. Table 11-B shows weekly data for these series, except that Moody's series for State and local government bonds do not begin until 1948.

Table 12 shows price series for U.S. Government, high-grade State and local government, and high-grade corporate bonds. These series

¹⁰ Yields on securities also vary because of differences in term to maturity. Except for Table 13, only long-term securities are considered here (for discussion of yields on short-term securities see pp. 7-9).

BASIS OF FIGURES USED FOR AVERAGE YIELDS AND PRICES ON LONG-TERM SECURITIES

Series	Weekly figures	Monthly figures, averages of—	Annual figures, averages of—
<i>U.S. Government bonds:</i>			
Yields.....	Averages of daily closing bids	Daily closing bids	Weekly figures
Prices (dollars).....			
<i>State and local government bonds:</i>			
Yields:			
Moody's.....	Thurs. closing asked	Thurs. figures	} Monthly figures
Standard and Poor's (high-grade).	Wed. closing bid	Wed. figures	
Prices:			
Standard and Poor's (high-grade).	"	"	
<i>Corporate bonds:</i>			
Yields:			
Moody's.....	Averages of daily closing bid	Daily figures	
Standard and Poor's (high-grade).	Wed. closing bid	Wed. figures	
Prices (dollars):			
Standard and Poor's (high-grade).	"	"	
<i>Common stocks:</i>			
Prices (indexes)			
Standard and Poor's:			
1900-18.....(1).....	(1).....	Monthly high and low ²	} Monthly figures
		Figures for one day per week:	
1919-27.....(1).....	(1).....	Wed. Jan. 1918- Oct. 1923;	
		Mon. Nov. 1923- Dec. 1925;	
1928-.....	Averages of daily ³	Fri. Jan. 1926- Dec. 1927	} Weekly figures
Securities and Exchange Commission.....	Last sale price during week	Daily figures	
Yields (dividends/price ratio):		Weekly figures	
Standard and Poor's.....(1).....	(1).....	Figures for one day per week:	} Monthly figures
		Fri. Jan. 1926- Dec. 1928;	
		Thurs. Jan. 1929- Apr. 1930;	
<i>Preferred stocks—Standard and Poor's</i>		Wed. thereafter	
Prices (indexes)			
Jan. 1910-Jan. 1928.....(1).....	(1).....	Monthly high and low	} Monthly figures
		Figures for one day per week:	
Feb. 1928-.....(1).....	(1).....	Fri. Feb.-Dec. 1928;	
		Thurs. Jan. 1929- Apr. 1930;	
Yields.....(4).....	(4).....	Wed. thereafter	

¹ Not published in this section of the *Supplement*.
² Based on indexes published by the Cowles Commission; see text.

³ Weekly averages in Table 14-B begin with 1934.
⁴ Same as for price series shown above.

are not averages of actual prices (except for U.S. Government bonds prior to April 1952) but are derived from three of the corresponding yield series shown in Table 11-A. They represent prices that are equivalent to those yields on the basis of an assumed coupon rate and term to maturity. Thus, they indicate what

price movements would have occurred for a representative bond of unchanging coupon and maturity. Because of the wide and shifting variety of coupon rates and maturities of bonds actually outstanding, they do not measure the actual average level of current price quotations in the market.

Table 13 shows annual figures for basic yields on corporate bonds with various periods to maturity. The basic yield is defined as the yield of the highest grade issues that are free from extraneous influences—that is, bonds that are nonconvertible, noncallable, fully taxable, free from manipulation, and so forth.

The following paragraphs describe the composition of individual series shown in Tables 11-13 as well as the sources of the data.

U.S. Government bonds: Yields (Table 11). An unweighted arithmetic average of yields on a varying number of long-term U.S. Government marketable bonds is computed each day from closing bid prices; these yields are computed to maturity for bonds selling at or below par and to first call date for those selling above par. This series includes partially tax-exempt bonds for the period before November 1941 and fully taxable bonds thereafter. The maturity groupings on which the series is based vary: the series includes bonds due or callable after 15 years for the period January 1941-March 1952; after 12 years, April 1952-March 1953; and 10 years or more beginning with April 1953.¹¹ The average maturity of the issues in the series varies because of changes in definition and also because of the passage of time and the inclusion of new bonds after issuance.

Source: *Federal Reserve Bulletin*.

Prices (Table 12). The series for prices of U.S. Government bonds is based on the same issues as the yield series. For the period January 1941-March 1952 it is an unweighted arithmetic average of actual closing bid prices. Beginning with April 1953, it represents hypothetical prices derived from the yield series on the basis of an assumed 3 per cent, 20-year bond.

Source: *Federal Reserve Bulletin*.

High-grade State and local government bonds—Standard and Poor's series: Yields (Table 11). An arithmetic average of the yield to maturity of 15 high-grade (rated A or better¹²) tax-exempt, general obligation bonds of State and local governments in the United States is computed from Wednesday closing bid quotations; the maturity of each bond is approximately 20 years. The issues are selected

on the basis of quality, trading activity, and geographic representation; the average quality of the bonds is between AAA and A.

Prices (Table 12). The series on prices of high-grade State and local government bonds is derived from the average yields shown in Table 11-A on the basis of an assumed 4 per cent bond with 20-year maturity.

Source: *Standard and Poor's Corporation Security Price Index Record*, 1964 Edition, pages 204-05, and earlier editions.

State and local government bond yields—Moody's series (Table 11). Series represents the market yield to maturity on long-term tax-exempt State and local government bonds as reflected in the yields of selected bonds rated Aaa, Aa, A, and Baa by Moody's Investors Service. The 20 bonds included are all general obligation issues with an average maturity of 20 years. They are selected on the basis of quality (5 bonds in each of the four quality rating groups), trading activity, and geographic representation. The yield for each group is an unweighted arithmetic average for the 5 bonds included, computed from Thursday closing asked quotations and adjusted as necessary for occasional abnormally wide spreads between bid and asked quotations and for other temporarily distorting factors. The composite series is an average of the average yields for the four rating groups. Weekly data are not available before 1948.

Source: Monthly and annual averages, *Moody's Municipal and Government Manual*, 1964 Edition, pages a20-a22; weekly figures, *Moody's Bond Survey*.

High-grade corporate bonds—Standard and Poor's series: Yields (Table 11). Series is an arithmetic average of the yields to maturity of 17-19 taxable, nonconvertible, representative corporate bonds rated AAA by Standard and Poor's Corporation.¹³ It includes the bonds in Standard and Poor's AAA industrial, railroad, and public utility series. Both the number of bonds and the average maturity vary slightly from time to time as deletions are made to reflect changes in rating or approaching maturity, or because a bond is called or sells too far above its call price and no appropriate substitute is immediately available. As of February 1964, the three major categories contained 7, 5, and 6 bonds, respectively, and the average term to maturity was about 26 years.

The weekly figures in Table 11 are averages of the yields for the three industry groups combined; each of these figures in turn is an unweighted arithmetic average computed from Wednesday closing bid quotations for the bonds in the particular industry group.

Prices (Table 12). Series is derived from the average yields shown in Table 11-A on the basis of an assumed 4 per cent, 20-year bond.

Source: *Standard and Poor's Security Price Index Record*, 1964 Edition, page 183, and earlier editions.

¹¹ Bonds paying interest subject to full Federal income taxation were first issued in March 1941. Until that time interest on U.S. Government bonds was partially tax exempt. A varying, but decreasing, volume of these bonds remained outstanding during the period 1941-62.

¹² Both Standard and Poor's Corporation and Moody's Investors Service rate State and local government and corporate bonds by quality; the former uses the designations AAA, AA, A, and BBB for investment-grade bonds in order of ascending risk, while the latter uses the designations Aaa, Aa, A, and Baa, also in ascending order of risk. Bonds rated AAA and Aaa, those rated AA and Aa, and so forth, by the respective organizations are of approximately the same quality.

¹³ This high-grade yield series is not the same as the one shown in *Banking and Monetary Statistics*. That series, which was compiled by the U.S. Treasury, has been discontinued.

Corporate bond yields—Moody's series: (Table 11). Moody's corporate bond yield series represent market yields to maturity on long-term, taxable, nonconvertible seasoned corporate bonds as reflected in quotations on selected bonds rated Aaa, Aa, A, and Baa by Moody's Investors Service. Seven groupings are shown—4 series by quality rating (Aaa, Aa, A, and Baa), and the 3 industry series (industrials, railroads, and public utilities).

The total number of bonds included, according to Moody's formula, is intended to be 120, with each quality rating group including 10 industrial, 10 railroad, and 10 public utility bonds. But there have not always been 10 bonds in each classification that would meet all the criteria for suitability. For example, as of July 1964, the Aaa series included 7 industrials, 6 railroads, and 10 public utility bonds; the Aa series included 10 industrials, 5 railroads, and 10 public utility bonds; and the other two rating groups each included 10 bonds in each industry group. The average term to maturity of the bonds included has also varied somewhat over time. In July 1964 it was about 24 years, with industrial bonds having a slightly shorter, and railroad bonds a slightly longer, term to maturity.

The daily yield for each bond is computed on the basis of its closing price, as reported in dealer asked quotations, adjusted as necessary for occasional abnormally wide spreads between the bid and asked quotations or for other temporarily distorting factors. Figures for each industry grouping of each rating group are unweighted arithmetic averages of the yields on the individual issues in that group. Figures for industry groups are averages of all ratings for the industry; for rating groups, averages of figures for all three industries. And the total is an unweighted average of the averages for the three industry groups.

Issues are selected to represent typical long-term bonds in each rating group for the three industrial categories. Substitutions in the bond list are made when a rating has been changed, when a bond has been called or sells too high above its call price, or when it is approaching maturity. Suitable adjustments (usually small) are introduced to prevent substitution from impairing the comparability of the series; these adjustments are gradually amortized.

Source: Monthly and annual averages: *Moody's Industrial Manual*, 1964 edition, pages a19-a21; *Moody's Transportation Manual*, 1964 edition, pages a48-a50; *Moody's Public Utility Manual*, 1964 edition, pages a4-a6; weekly data: Federal Reserve computation from daily figures published each week in *Moody's Bond Surveys*.

Basic yields of corporate bonds (Table 13). The series on basic yields shown in Table 13 represents the yields estimated to have prevailed in the first part of each year on the highest grade corporate issues, classified by term to maturity. Each estimate is based on quotations for practically all high-grade, seasoned, nonconvertible, corporate bonds for which valid quotations were available during the period

covered and which were not subject to special influences, with occasional reference to municipal and government yield quotations for interpolation of maturities. For each year the yields to maturity of outstanding bonds were plotted by term to maturity on a scatter diagram. The basic yield curve for each year is a free-hand curve so fitted that it passes below most of the yields on the chart but usually above a few isolated low ones. Basic yields for each maturity are read from the curve.

The yields shown in Table 13 are for selected maturities that were least subject to error and required least reference to State and local and to U.S. Government yield quotations for interpolation of maturities.¹⁴ There have been no issues of 50-year or 60-year corporate bonds in recent years; hence, it has become impossible to obtain reliable basic yield estimates for obligations with maturities of more than 30 years. It has also been difficult to obtain a valid basic yield for prime obligations in the short-term area; the 1-year yield shown here is an approximation obtained by extrapolation of yields on government bonds and on equipment trust certificates.

Data for 1941-57 are based on high and low quotations for each of the first 3 months of each year; the 1958-63 figures are based on actual end-of-month sales or quotations for February.

Source: 1942-53, *The Economic Almanac 1953-54*, page 119, National Industrial Conference Board. 1953-58, David Durand, "A Quarterly Series of Corporate Bond Yields, 1952-1957, and Some Attendant Reservations," *The Journal of Finance*, Volume XIII, Number 3, September 1958. 1959-63, Scudder, Stevens, and Clark, New York.

STOCK PRICES, YIELDS, AND TRADING VOLUME

This section includes two series on prices of common stocks and one on prices of preferred; also series on dividend and earnings yields on common stocks and dividend yields on preferred stocks. In addition to the descriptions given below, users of the statistics may refer to the tabulation on page 13, which shows the basis of the figures used in calculating the averages shown in Tables 14-16.

Common stock prices. Each of the price indexes for common stocks—Standard and Poor's shown in Table 14 and the Securities and Exchange Commission series shown in Table 15—is designed to measure composite

¹⁴ See *Banking and Monetary Statistics*, p. 477, for a wider range of maturities for earlier years.

changes in price for a large group of actively traded common stocks, which account for a high proportion of the total market value of stocks listed on the New York Stock Exchange. The series in Table 15 was discontinued by the Securities and Exchange Commission at the end of May 1964. This table has been updated to show figures to that date.

The selections for the series in both Tables 14 and 15 were based on (1) aggregate market value of all outstanding shares of each stock, (2) trading activity, and (3) industry representation. The statistical concepts and procedures used in computing the two series are almost identical too. Both series are indexes—that is, prices for a given period are expressed as a relative of prices for a selected base period. They do not represent actual prices. They are designed to permit both short- and long-run comparisons of price changes for listed issues after eliminating the distorting effects on prices of issuance of rights, mergers, and so forth.

Nevertheless the two indexes do differ in a number of ways. For instance: (1) Standard and Poor's index covering some 500 stocks is somewhat broader in coverage than the SEC index, which covers 300 stocks. (2) Standard and Poor's index is based on daily closing prices; the SEC index, on weekly closing prices. (3) Major industry groupings in the Standard and Poor's index conform to market usage, whereas the SEC classification is based on the Standard Industrial Classification of companies used in most Governmental statistical series.¹⁵

Standard and Poor's index of common stocks measures average price movements of 500 common stocks (425 industrial, 25 railroad, and 50 public utility) representing about 90 per cent of the market value of all common stocks listed on the N.Y. Stock Exchange.¹⁶ The indexes are based on the aggregate market value of

the stocks in the sample expressed as a percentage of the average market value of the stocks included in the series in a base period (1941-43 = 10). So that the indexes will reflect only fluctuations in current market values, adjustments in the base-period value are made, as necessary, to offset the effect of issuance of rights and consolidations and acquisitions. Additions to or deletions from the list also make it necessary to adjust the base value.

Each stock in the index is weighted (number of shares outstanding multiplied by daily closing price) so that its influence will be in proportion to its market importance. Market values for the component stocks are aggregated to obtain the market value for their particular group. These values are all expressed as a relative, or index number, to the base period (1941-43) market value, and the index is obtained by multiplying the resulting quotient by 10.

Daily indexes before February 1957, when the new base period was first used (and daily computation of the 500 stock series began), are a conversion of Standard and Poor's earlier 90 stock index. Monthly figures for the period 1900-18 are based on the Cowles Commission stock price indexes, adjusted to the 1941-43 base by Standard and Poor's.

Source: *Standard and Poor's Corporation Security Price Index Record*, 1964 Edition.

The SEC price index, which was discontinued in late May 1964, is a measure of the average prices of 300 of the more actively traded common stocks listed on the N.Y. Stock Exchange. This group accounted for about two-thirds of the value of all trading in common stocks on the exchange in 1957.¹⁷

Like the Standard and Poor's indexes, this index represents the aggregate market value of the stocks included (that is, price multiplied by shares outstanding) for a given period expressed as a percentage of the aggregate market value of these same stocks for a base period (1957-59 average = 100) with appropriate adjustments to eliminate the effect on prices of the issuance of rights, mergers and so forth.

Source: Securities and Exchange Commission, *S.E.C. Stock Price Index*.

Yields and earnings/price ratios. The yield on common stocks shown in Table 16 is for stocks in Standard and Poor's 500 stock index. It is obtained each week by dividing the aggregate cash dividend (based on the latest known annual rates for the stocks included in the index) by the total market value for a single day during the week as described in the table on page 13.

The earnings/price ratio is obtained by dividing aggregate earnings of the 500 stocks in the Standard and Poor's common stock index for the period by aggregate market values of the stocks at the end of the period. For the period 1926-34, the figures are for the

¹⁵ In addition, Standard and Poor's publishes indexes for more subindustries than the SEC, but the tables in this section are limited to the major industry groups.

¹⁶ The indexes presented in these tables—total, industrial, railroad, and public utility—are further broken down by Standard and Poor's into 99 subgroups.

¹⁷ In addition to the total index and major industry groups shown in the tables in this section, the Commission also published data for 32 subindustries, also based on the Standard Industrial Classification.

end of the year and are based on actual earnings of the 500 companies during the year.

From 1935 on, the ratios are for the end of each quarter; aggregate earnings are converted to an annual rate by taking the average earnings for the quarter for the stocks in the index, adjusting these earnings for seasonal variation, and multiplying that figure by 4. From 1935 through the third quarter of 1950, aggregate earnings are based only on those of companies reporting quarterly, but by the end of that period coverage had become almost complete. Beginning with the fourth quarter of 1950, estimates of quarterly earnings for the missing companies have been included. The annual figures since 1935 are averages of the four quarterly ratios.

Source: *Standard and Poor's Corporation Security Price Index Record*, 1964 edition.

Preferred stock prices and yields. The series for prices and yields of preferred stocks shown in Tables 14 and 16 are from Standard and Poor's Corporation.

The preferred stock price series, as with the bond price series, does not represent averages of actual prices since February 1928; since that time, the yield series for preferred stocks described below has been converted to a price basis assuming a \$7 dividend. For earlier years (January 1910-January 1928) the monthly data are averages of monthly high and low prices for 20 high-grade preferred stocks, the price of each being first adjusted to represent a stock with par value of \$100 and an annual dividend of \$7.

Before February 1928 the yield was computed from the average price of 20 high-grade preferred stocks computed as described above. Beginning with February 1928 the preferred stock yield has been computed for a single day each week by determining the yield for each of 15 (14 in February 1964) high-grade, noncallable issues, and using the arithmetic average of 9 (8 in February 1964) median yields to represent the entire group.

Source: *Standard and Poor's Corporation Security Price Index Record*, 1964 edition.

Trading volume. Statistics on the number of shares traded and the dollar volume of trading in stocks on the N.Y. Stock Exchange appear

in Tables 17 and 18. Statistics on the volume of trading on other exchanges are available in reports of the SEC; in general, trading on other exchanges has tended to fluctuate with that on the N.Y. Stock Exchange, but is very much smaller. Data on trading in the over-the-counter market are not available.

Table 17 shows the volume of share trading in round lots as reported by the Exchange and on the Exchange ticker; it excludes "odd lot" (generally less than 100 shares) and "certain minor" transactions, which are not reported on the Exchange ticker. The weekly averages for the period 1934-63, shown in Table 17-B, have been computed by dividing aggregate weekly trading volume by the number of trading days in the week, each day representing 5½ hours of trading. On September 29, 1952, trading on the Exchange was increased from a 5-hour to a 5½-hour day Monday through Friday, and the 2-hour trading day on Saturday was discontinued. Weekly data for the period before that date have been adjusted to the current basis by assuming hourly trading would have been the same regardless of the length of the trading day.

Table 18 presents figures compiled by the SEC on the total volume of shares traded on the Exchange and the money value of these sales. These figures include round-lot volume as reported by the N.Y. Stock Exchange and also trading in odd lots and "unreported" round-lot transactions. They are compiled from reports furnished by members of the N.Y. Stock Exchange in connection with fees payable under the Securities Exchange Act of 1934.

STOCK MARKET CREDIT

Since 1934 the Board of Governors has been obligated by law to prevent excessive use of credit for purchasing or carrying securities. The Board was given power to limit the amount of credit that can be extended for purchasing or carrying stocks listed on national securities

exchanges. The limitations set by the Board are known as margin requirements.

The following paragraphs describe margin requirements as applied to brokers and dealers and to banks and the various statistical measures of stock market credit. Table 19