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VII
CONVERTIBLE BONDS

The rise in convertible bond offerings has been a striking development of postwar bond financing. In part this was a natural development since it was virtually the only way in which equity investments could be sold to a market largely institutional in nature. The largest user of convertible bond issues by far has been the American Telephone and Telegraph Company. While the convertible feature is not new, as will be seen, its popularity in the postwar period is probably the result of a special need for equity funds by a few major corporations and, until the late 1950's, when pension-fund stock purchasing began in volume, lack of any institutional source of equity money. The rising stock market throughout most of the postwar period made convertibles the cheapest method of external financing for many corporations.

Ordinarily, convertible bonds have been issued as debentures. There is generally a schedule of prices at which the bond is convertible at different times. The investor receives both the protection of the bond and the opportunity to share in a rise in value of the common stock. The issuing corporation, on the other hand, is able to raise capital at moderate interest cost, and if the company prospers the issuing corporation will find its fixed income obligations eliminated automatically as holders exchange them for common stock.

Investment textbooks until recently were unfavorably disposed toward these issues, the conversion feature of which was interpreted as a substitute for quality. Indeed, a well-known text had the following advice to give on convertible issues: ". . . investors should approach these offerings with an eye for a possible Trojan horse." [1]

While there is no precise rule for valuing convertible bonds, many investors determine their attractiveness according to how much premium is paid over comparable fixed-income securities without the conversion feature. This is one important reason why the so-called

[1] Benjamin Graham and David L. Dodd, *Security Analysis,* 3rd ed., New York, 1951, p. 523.

market rating fails to give a significant indication of corporate bond quality per se in the postwar period. However, the majority of postwar investors in convertible bonds have not been so prudent as to test their value as a fixed-income security. Instead, as the bull market of the late 1950's continued to gather steam, convertible bonds became increasingly popular with investors and with corporations needing capital funds.

Why are convertible bonds possibly of greater risk than other bonds? The convertible feature of itself does not worsen the quality of a fixed-income security. So long as conversion is at the privilege of the bondholder, there is no reason why a convertible bond is any more risky than a nonconvertible bond. Rather, other attributes of the fixed-income obligation, attributes frequently closely associated with the convertibility feature, may induce added risk. In the first place, convertible bonds may be sold by corporations unable to market regular bond issues. Second, convertible bonds are nearly always unsecured by any but the general credit of the corporation and are often subordinate to other debt. In case of default, this may mean a poorer settlement. Finally, more often than not, speculative demand for convertible bonds may induce purchasers to pay more than is warranted by the risks involved. In the postwar period, convertible bonds have been a particularly favored instrument for equity-type speculation since stock margin requirements do not apply to them.

The Prewar Experience

The prevalence of convertible issues in the late postwar period suggests that it might be appropriate to examine their earlier record. How did bonds convertible into common stocks make out in the early 1930's? [2] How were they judged at the time of their offering, and how did these judgments work out in time of general defaults? The history of the 1920's and 1930's may offer insights about the effect of convertible issues on aggregate bond quality.

Table 31 shows that convertibles were some 10 per cent of the volume of straight corporate bond financing during the 1900–43 period. The peak was in 1929, when they accounted for 40 per cent of all straight

[2] A few convertible bonds issued prior to World War II were convertible into preferred stock or other classes of bonds. These have been excluded from the present study.

TABLE 31

Amount and Proportion of All Offerings of Bonds Convertible into Common Stock, 1900-65
(dollars in millions)

Year of Offerings	Convertible	All	Per Cent	Year of Offerings	Convertible	All	Per Cent
1900	11.2	693.4	1.6	1933	39.8	444.3	9.0
1901	125.0	1489.0	8.4	1934	129.1	581.3	22.2
1902	65.6	1009.8	6.5	1935	115.8	2314.9	5.0
1903	32.6	919.2	3.5	1936	142.7	3666.1	3.9
1904	33.1	1092.0	3.0	1937	257.3	1561.6	16.5
1905	164.5	1226.0	13.4	1938	218.9	1960.1	11.2
1906	184.3	1092.0	16.9	1939	260.6	2213.1	11.8
1907	166.6	1089.3	15.3	1940	11.5	2416.4	0.5
1908	106.5	1112.1	9.6	1941	256.1	2005.2	12.8
1909	198.4	1264.0	15.7	1942	46.3	897.7	5.2
1910	123.5	1133.2	10.9	1943	0.0	809.5	0.0
1911	29.1	1299.5	2.2	1944	34.2	2194.3	1.6
1912	74.3	1396.9	5.3	1945	13.0	4245.3	0.3
1913	218.7	1167.6	18.7	1946	401.9	3810.3	10.5
1914	75.3	1193.4	6.3	1947	396.6	3725.9	10.6
1915	198.9	1184.8	16.8	1948	230.4	4064.8	5.7
1916	193.5	1485.0	13.0	1949	428.4	3490.2	12.3
1917	68.4	1228.6	5.6	1950	122.6	3730.7	3.3
1918	111.2	800.4	13.9	1951	472.8	4536.9	10.4
1919	141.9	1038.7	13.7	1952	908.9	5970.6	15.2
1920	275.0	1448.0	19.0	1953	949.3	4998.5	19.0
1921	102.0	2074.6	4.9	1954	133.9	6049.2	2.2
1922	148.1	2270.2	6.5	1955	1412.1	5278.6	26.8
1923	134.6	2118.2	6.4	1956	757.6	5987.1	12.7
1924	79.4	2227.0	3.6	1957	1056.7	7972.9	13.3
1925	159.8	2202.4	7.3	1958	1115.4	7965.7	14.0
1926	186.4	2724.8	6.8	1959	618.5	5343.7	11.6
1927	156.8	3856.8	4.1	1960	358.5	5602.0	6.4
1928	294.3	2997.0	9.8	1961	525.7	7154.9	7.3
1929	788.5	1957.7	40.3	1962	301.5	7201.3	4.2
1930	570.4	2978.3	19.2	1963	280.9	7695.6	3.7
1931	58.5	2030.1	2.9	1964	352.7	7145.0	4.9
1932	30.6	873.7	3.5	1965	888.9	8962.9	9.9

Source: 1900-43: Hickman, *Statistical Measures of Corporate Bond Financing,* Tables 70 and 118; 1944-65: Tables D-1 and F-1.

offerings. Our figures for the postwar period indicate that convertibles have also comprised about 10 per cent of all corporate debt offerings, or 16 per cent of public offerings. The peak was in 1955, with $1.4 billion in debt issues representing 27 per cent of total marketing of bonds. (The corresponding figures for public offerings are $1.3 billion and 46 per cent.)

In the 1920's and 1930's, the proportion of convertibles going into default was twice that for all corporate bonds, and this relationship apparently did not change between the two decades analyzed (Table 32).

Table 33 and Chart 13 show default rates for convertibles and for all bonds by year of offering. Since the number of convertible issues was relatively small in many years, default rates would be expected to vary more on them than on nonconvertible bonds. The chart shows a tendency for the years that produced high-grade convertible bonds to produce low-grade nonconvertibles and vice versa. The proportion of bond offerings with convertible privileges is also shown on the chart. In general, years that produced a high proportion of convertibles ultimately going to default were those years when convertibles were relatively scarce. This suggests that the high volume of convertibles issued in the postwar period does not in itself mean an increased incidence of convertible bond defaults.

May convertible bonds be rated as to likelihood of default as efficiently as others? A look at the proportion of convertibles classified as poor risk according to agency ratings, times-charges-earned, market

TABLE 32

Average Annual Default Rates, All Corporate Bonds and Convertible Bonds Outstanding, 1920-39

(per cent)

Period of Defaults	All Bonds	Convertible Bonds
1920-29	1.0	2.2
1930-39	3.2	6.3

Source: All bonds from Hickman, *Volume of Corporate Bond Financing*, Table 22, p. 208; convertibles computed from data compiled by Corporate Bond Research Project, on file at NBER.

TABLE 33

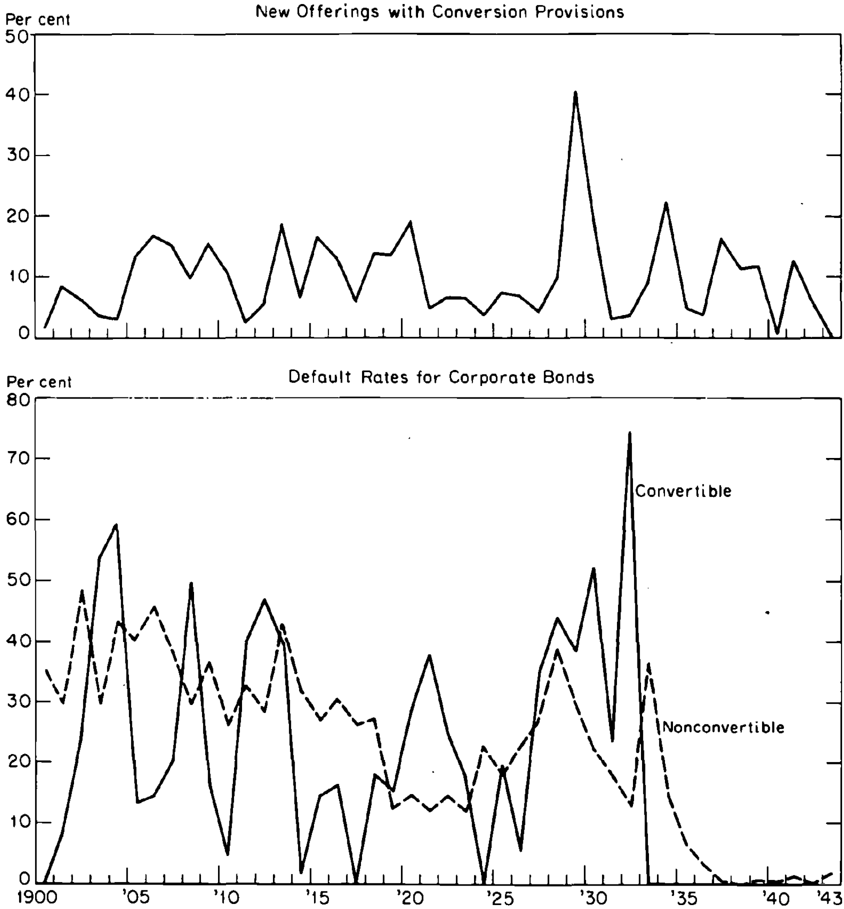
Default Rates by Year of Offering, Convertible and Nonconvertible Bonds, 1900-43
(percentage of par amount offered)

Year of Offerings	Convertibles	Nonconvertibles	Year of Offerings	Convertibles	Nonconvertibles
1900	0.0	35.1	1922	24.7	14.6
1901	8.0	29.6	1923	17.8	11.9
1902	23.8	48.4	1924	0.0	22.6
1903	54.0	29.5	1925	19.6	18.1
1904	59.2	43.2	1926	5.2	22.9
1905	13.4	40.2	1927	35.4	26.8
1906	14.4	45.8	1928	44.1	39.0
1907	20.4	38.1	1929	38.3	30.0
1908	49.8	29.6	1930	52.3	21.9
1909	16.0	36.5	1931	23.4	18.0
1910	4.5	26.0	1932	74.5	12.6
1911	39.9	32.7	1933	0.0	36.8
1912	47.0	28.3	1934	0.0	14.5
1913	39.9	42.8	1935	0.0	6.9
1914	1.6	31.6	1936	0.0	3.0
1915	14.6	26.9	1937	0.0	0.4
1916	16.2	30.5	1938	0.0	0.0
1917	0.0	26.2	1939	0.0	0.5
1918	18.0	27.3	1940	0.0	0.1
1919	15.1	12.2	1941	0.0	1.1
1920	28.7	14.8	1942	0.0	0.0
1921	37.9	11.9	1943	–	1.6

Source: Same as Table 32 for convertibles.

CHART 13

Default Rates for Convertible and Nonconvertible Corporate Bonds and Proportion of New Offerings with Conversion Provisions, by Year of Offering, 1900–43



Source: Tables 31 and 33.

TABLE 34

Distribution of Percentage of Dollar Volume of Bond Offerings by Agency Ratings, Convertibles and Nonconvertibles, 1910-39

Year or Period of Offerings	Convertibles				Nonconvertibles			
	I-IV	V-IX	N.R.[a]	Total	I-IV	V-IX	N.R.[a]	Total
1910-19	64.6	13.5	21.9	100.0	46.7	10.7	42.6	100.0
1920-29	70.5	26.9	2.5	100.0	79.4	18.2	2.4	100.0
1930-39	58.1	39.5	2.4	100.0	85.1	10.8	4.1	100.0
1926	83.1	16.9	0.0	100.0	80.3	18.0	1.7	100.0
1927	74.0	22.1	3.8	100.0	82.2	17.4	0.4	100.0
1928	80.0	13.3	6.7	100.0	69.9	27.6	2.6	100.0
1929	72.4	24.1	3.5	100.0	67.5	25.0	7.5	100.0
1930	54.5	44.3	1.2	100.0	91.3	5.8	2.9	100.0

Source: See source for Table 33.
Note: Detail may not add to total because of rounding.
[a]N.R. = not rated.

rating, and lien position prior to World War II will show how accurately these measures operated in predicting default.

Agency ratings of convertible and nonconvertible bonds by year of offering are shown in Table 34. The years 1910–19 are not comparable with the other periods because only railroad bonds were rated in the early years of that period. Nonconvertibles were rated somewhat higher than convertibles in the decade of the twenties, but the individual years did not all show the same pattern. The greatest difference in the treatment of convertibles and nonconvertibles by rating agencies was in the 1930's. Not until 1930 did convertible bonds bear agency ratings markedly below nonconvertible bonds. In 1929, which was a peak year in convertible financing, nonconvertibles and convertibles bore about the same portion of the dollar value in the subinvestment grade (V–IX).

The rating agencies have apparently had as much difficulty with convertibles as investors have had. Table 35 shows default rates for convertibles by agency rating. Except for the twenties, and particularly the last half of that decade, default rates were no worse on subinvestment-grade than on investment-grade convertibles. Convertible bonds

TABLE 35

Default Rates for Convertible Bonds with Various Agency Ratings, 1910-39
(percentage of total amount offered)

Year or Period of Offerings	I-IV	V-IX	Not Rated	Total
1910-19	21.6	21.4	12.7	19.6
1920-29	22.6	45.4	87.7	30.4
1930-39	20.6	14.2	33.6	18.4
1926	0.0	30.8	0.0	5.2
1927	34.5	32.3	71.7	35.4
1928	31.0	94.9	100.0[a]	44.1
1929	23.1	75.3	100.0[a]	38.3
1930	68.5	31.2	100.0[a]	52.3

Source: See source for Table 33.
[a]Based on fewer than five offerings.

not receiving an agency rating were insignificant in the twenties and thirties, but had much poorer default experience than even those marked subinvestment grade. The analysis of convertibles by agency rating suggests that this type of bond was particularly risky in the depression, when the convertibility feature may well have been used to cover up other defects of the security. Convertibility itself was apparently not a mark against a bond when judged by the rating agencies during the 1920's, but in the 1928–29 boom the agencies were able to detect a relatively high volume of faulty convertibles, as is shown by the subsequent default record for subinvestment-grade convertibles.

Market yields on convertible bonds are often not commensurate with the risk of default, and therefore market ratings have little meaning. Table 36 is presented mainly to show the data for the years 1926 through 1930. In 1926 and 1927 no convertible issues were sold to yield less than 1 per cent above the basic yield, but in 1928 and 1929 about two-thirds of them had such low yield differentials. In 1930, the percentage with low yield differentials fell to about half. This suggests that convertibles are likely to be offered in considerable volume in

TABLE 36

Percentage of Convertible and Nonconvertible Bonds with Market Ratings of Less Than 1 Per Cent, 1900-39

Year or Period of Offerings	Convertible Bonds	Nonconvertible Bonds
1900-09	55.1	41.0
1910-19	34.0	35.2
1920-29	31.0	36.8
1930-39	40.9	64.8
1926	0.0	40.0
1927	0.0	55.0
1928	68.8	47.5
1929	64.8	49.6
1930	51.8	66.8

Source: See source for Table 33. Based on par amount of bonds with market rating.

years of strong stock market action and to be bid up considerably in value (to have lower yields than if considered strictly as bonds).

In contrast, more nonconvertibles than convertibles yielded less than 1 per cent above the basic yield in 1926, 1927, and again in 1930, when economic conditions deteriorated. In 1928 and 1929, less nonconvertibles than convertibles had such low yield differentials.

It is hard to generalize about either the level or the trend of earnings coverage for convertibles (see Table 37). In the first decade of the century, convertibles had a slightly higher earnings coverage than did nonconvertibles; in the crucial 1920–29 decade, the two groups had approximately the same coverage. In 1929, the peak of convertible bond offerings, average coverage of convertibles after taxes was 2.70 as compared with 2.03 for nonconvertible bonds. On the other hand, earnings coverage was less for convertibles than for nonconvertibles in 1926, 1927, 1928, and 1930. Complicating the analysis prior to 1930 was the fact that rail bonds were not convertible but almost universally had poor earnings coverage.

Table 38 shows that, for the first four decades of the century, never less than 70 per cent of the nonconvertible bond offerings were secured,

TABLE 37

Average Times-Charges-Earned Coverage After Taxes, Convertible and Nonconvertible Corporate Bonds, 1900-39

Year or Period of Offerings	Convertible Bonds	Nonconvertible Bonds
1900-09	1.78	1.48
1910-19	1.74	1.93
1920-29	2.07	2.04
1930-39	1.90	2.86
1926	1.89	2.12
1927	1.51	2.21
1928	1.60	1.94
1929	2.70	2.03
1930	1.92	2.25

Source: See source for Table 33.

TABLE 38

Percentage of Convertible and Nonconvertible Bonds Classified as Secured, 1900-39

Year or Period of Offerings	Convertible Bonds	Nonconvertible Bonds
1900-09	29.4	92.6
1910-19	42.8	84.6
1920-29	21.4	73.3
1930-39	30.4	72.2
1926	49.4	71.8
1927	36.1	71.6
1928	11.4	66.9
1929	15.0	58.4
1930	20.7	56.7

Source: See source for Table 33.

Note: Bonds on which information on security was unavailable were omitted from the denominator.

whereas less than half and sometimes less than one-fourth of the convertible issues were secured. Interestingly, the proportion of both convertibles and nonconvertibles that were secured began falling in 1926. It began rising again for convertibles in 1929 and for nonconvertibles in 1931.

It is not easy to summarize prewar investment experience with convertible bonds. As a group, they had a poorer default experience than nonconvertible bonds, especially in the twenties and thirties. Defaults among them were particularly high in periods characterized by generally poor default rates and thus, presumably, lax credit standards. On the other hand, the relationship between convertibles and poor quality was scarcely one-for-one; there was some evidence that earnings coverage of convertibles was as good as for nonconvertibles in the first three decades analyzed, as well as in the year of greatest convertible volume, 1929. Seemingly, the convertible feature can be used in two different ways—as a legitimate device for encouraging investors or as an eyecatcher for the speculator to induce sales of what otherwise would be a relatively poor-quality offering. The experience of the prewar decades may provide some insight into which way convertibles were used in the postwar era.

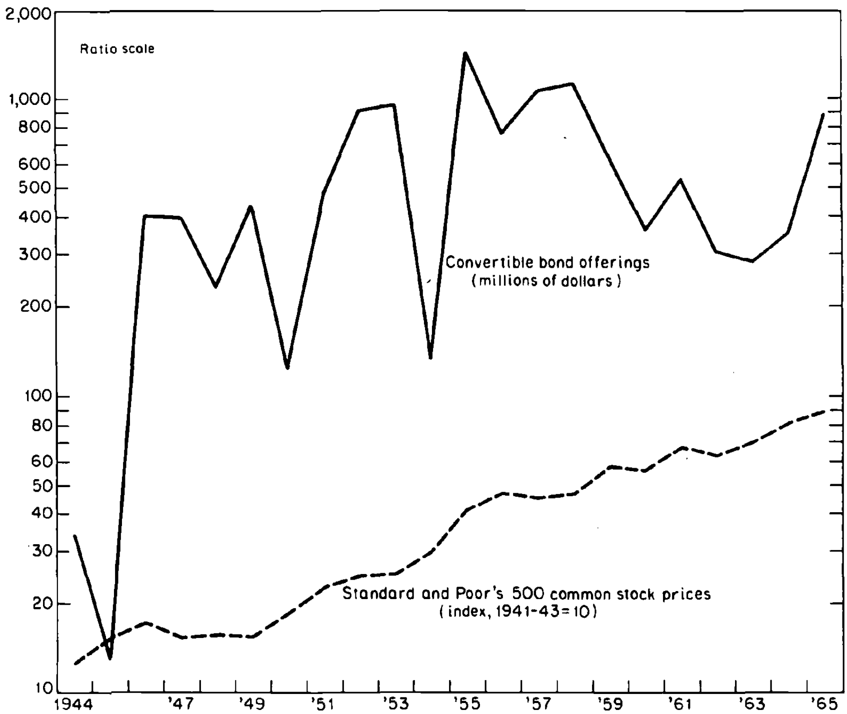
Convertibles in the Postwar Period

The evidence suggests that during the postwar period convertible bonds have been about as popular as in the period 1900–43, if public and direct offerings in both periods are included, or more popular if direct placements are excluded from the postwar data. (The early data do not distinguish between public and direct placements, but the latter accounted for only 7.2 per cent of all offerings in 1900–43 compared with 43.9 per cent in 1944–65.) The postwar peak for proportion of public offerings with conversion provisions (46 per cent) in 1955 was higher than the previous peak in 1929. The dollar volume of convertible issues was well in excess of the amounts in the era Hickman surveyed.

Chart 14 shows the relation between the volume of convertible offerings and stock prices in the postwar period. Rises in the volume of convertible bond offerings tend to coincide with increases in stock prices and fall off at or after declines in the stock market. This is as would be expected for an instrument whose basic appeal is the ability of the owner to change from a creditor to an owner status.

CHART 14

Relation of Volume of Convertible Bond Offerings to Stock Prices, 1944–65



Source: Table F-1 and Standard and Poor's *Security Price Index,* annual average of monthly indexes.

In terms of par amount of public offerings, the proportion of convertibles rose to a peak of 46 per cent in 1955 and then fell to 6 per cent in 1963, but had risen to 21 per cent by 1965. In terms of number of public offerings, the proportion of convertibles rose to a peak in 1959 of 42 per cent and then fell to 28 per cent in 1964. Comparison of the two series shows that the average convertible offering was smaller in the late fifties and early sixties than in the other postwar years.

Table 39 shows the difference in agency ratings between publicly offered issues of convertible and nonconvertible bonds. There was a very modest decrease in the proportion of nonconvertibles which are rated as subinvestment grade from 1944–62, but 1963–65 suggests a rise. There has been a substantial increase in the proportion of convertibles

TABLE 39

Percentage of Straight Convertible and Nonconvertible Public Offerings Rated by The Agencies Below Investment Grade, 1944-65

Year or Period of Offerings	Convertible Bonds	Nonconvertible Bonds	Total Straight Public Offerings
1944	3.8	2.6	2.6
1945	100.0	4.3	4.4
1946	3.2	3.6	3.6
1947	0.0	0.8	0.7
1948	2.9	0.8	1.0
1949	0.7	2.7	2.3
1950	34.1	0.8	2.9
1951	7.3	1.0	2.3
1952	3.0	0.7	1.3
1953	1.7	0.8	1.1
1954	59.0	2.1	4.1
1955	14.9	1.5	7.6
1956	39.1	3.6	10.7
1957	32.7	1.3	7.6
1958	22.2	0.0	4.1
1959	70.3	2.4	14.6
1960	75.3	2.4	7.9
1961	48.9	0.6	5.6
1962	48.3	0.4	3.0
1963	83.7	3.4	8.2
1964	100.0	7.3	16.6
1965	83.2	4.7	21.0
1944-47	2.1	3.0	3.0
1948-51	6.9	1.3	2.1
1952-55	9.5	1.4	3.5
1956-59	36.7	1.5	8.2
1960-63	62.2	1.7	6.1
1964-65	87.2	5.8	19.3

Source: Computed from Tables B-1 and F-2. Based on total rated.

TABLE 40

Proportion of Par Amount of Straight Public Offerings of Convertible and Nonconvertible Bonds with Market Rating of Less Than 1 Per Cent, 1944-65
(million dollars)

Year of Offerings	Convertible Bonds	Nonconvertible Bonds
1944	94.3	91.5
1945	0.0	91.6
1946	96.3	99.5
1947	99.8	99.0
1948	96.5	95.8
1949	98.5	96.5
1950	92.4	98.2
1951	95.7	93.1
1952	95.9	88.4
1953	93.0	90.4
1954	83.9	92.5
1955	43.4	85.1
1956	52.2	78.7
1957	45.8	37.0
1958	79.5	72.6
1959	76.5	58.1
1960	76.6	92.4
1961	72.1	91.3
1962	73.3	99.7
1963	72.9	99.5
1964	85.5	99.1
1965	87.3	99.0
1944-47	96.4	95.1
1948-51	96.5	96.0
1952-55	73.4	89.7
1956-59	63.0	61.1
1960-63	73.6	95.8
1964-65	86.9	99.1

Source: Compiled from *Moody's Bond Survey*, as described in text.

with subinvestment ratings from the mid-fifties through the end of the series. The net effect of the two movements has been a rise in total low-grade bonds, as measured by agency ratings, from 3 per cent in 1944–47 to 19 per cent in 1964–65.

Table 40 is similar to Table 39 except that it is in terms of high-grade market ratings rather than low-grade agency ratings. The market was less consistent than the agencies; the agencies rated nonconvertibles higher than convertibles in all periods except the first (1944–47), while the market also rated convertibles higher in 1948–51 and 1956–59. At least, they agreed that convertibles were better in 1944–47 and nonconvertibles in 1952–55 and 1960–65.

The Influence of American Telephone Debentures on Convertible Quality Analysis

In the postwar period the American Telephone and Telegraph Company used convertible bonds as a major financing device (see Table 41). In the eight issues offered between 1946 and 1958, $3.9 billion par amount of bonds were created by this firm, or about 36 per cent of all financing by convertibles in the postwar period (1944–65). Because obligations of this firm were highly rated (Aa) and because the com-

TABLE 41

American Telephone and Telegraph Convertibles By Earnings Coverage Before Taxes and Year of Offering, 1946-58

Year of Offerings	Par Amount	Times Charges Earned
1946	343.1	7.8
1947	360.0	9.7
1949	400.0	3.6
1951	365.0	3.8
1952	498.7	4.4
1953	602.5	6.0
1955	637.2	7.0
1958	718.3	5.6

Source: Same as Table 40.

Note: For these years, all A.T.&T. convertibles had an Aa agency rating.

TABLE 42

Median Times-Charges-Earned Ratios Before Taxes, Convertible and Nonconvertible Public Offerings, by Industry Group, 1945-65

	1945-51	1952-58	1959-65
Industrials			
Convertibles	13.7	9.5	4.0
Nonconvertibles	17.8	13.6	10.9
Public Utilities			
Convertibles	5.2	3.9	3.8
Nonconvertibles	5.4	4.6	4.5
Transportation			
Convertibles	a	<2.0	2.3
Nonconvertibles		5.6	4.8

Source: Special tabulations of data in Table C-1. A.T.&T. convertibles have been omitted (See Table 41).

Note: Ratios were not available for convertible offerings in 1944.

[a]Ratios were available for only one transportation offering in 1945-51.

pany was a unique business enterprise in terms of growth and stability of earnings and general soundness of its operations, the question naturally arises whether removal of the A.T.&T. issues from the analysis would appreciably alter the judgment on quality of convertibles.

As is indicated in Table 42, nonconvertibles had higher earnings coverage in each of the periods into which the postwar is divided and in major industry groups.

Comparison of Table 43 with Table 39 shows that in four of the eight years in which A.T.&T. convertibles were offered, a substantial proportion of convertibles other than A.T.&T. were of subinvestment grade, and this was hidden by the heavy weight of the A.T.&T. convertible issues in the total. No A.T.&T. convertibles were issued in 1960–65. The comparison of times-charges-earned coverage for convertibles including and excluding A.T.&T. shows the latter was higher because it consisted mostly of industrials, which generally have higher earnings coverage (Table 44).

TABLE 43

Proportion of Convertibles, Other Than Those of American Telephone and Telegraph, Rated Below Investment Grade, by Year of A.T.&T. Offering, 1946-58

Year	Per Cent Rated Below Investment Grade
1946	100.0
1947	0.0
1949	11.5
1951	67.7
1952	6.7
1953	4.7
1955	28.6
1958	73.0

Source: Same as for Table F-2.

TABLE 44

Median Times-Charges-Earned Ratios for Convertible Bonds, Excluding and Including A.T.&T. Convertibles, Combination of Eight Years in Which A.T.&T. Offered Convertibles

Industry	Ratio
A.T.&T.	6.0
Other public utilities	4.5
Industrials	9.8
Transportation	2.0[a]
Total including A.T.&T.	6.7
Total excluding A.T.&T.	9.5

Source: Same as for Table 40.
Note: For years included, see Table 41.
[a]Based on three issues.

Significantly, the deterioration in quality of bonds in the postwar period is apparent either including or excluding American Telephone offerings in the tabulation. The reduced use of convertibles as a means of American Telephone financing in recent years, however, has meant that the weakening in quality from early to late postwar years as shown by this measure is less evident with American Telephone omitted than with its offerings included.

In summary, the floating number of bonds convertible into common stock has been a recurrent phenomenon of financing throughout this century. Convertible bonds have been offered in particularly heavy volume in sharply rising stock markets or when financing seemed difficult, particularly for equity funds. Historically, default rates on convertible bonds based on amount in good standing at the beginning of given years have been roughly double those on issues with no conversion privileges. Default rates based on par amount of offerings have been much closer for convertible and nonconvertible bonds because large amounts of the former have been retired (mainly by conversion) before default occurred. The rating agencies had difficulty evaluating convertible bonds before 1944. In the postwar period, by most of our measures, convertible bonds were generally of poorer quality than nonconvertibles. For this reason they have been responsible for some part of the quality weakening observed to have occurred from the early to the late postwar period. But if convertible issues had not been permitted in the postwar period, it is quite likely that many of the same companies would have gone to the straight debt market for funds, which would have lowered the quality of the nonconvertible bonds offered. In general, convertibles as a group were improved in quality by the fact that the American Telephone Company used this means of financing.