Volume Title: Mergers and Acquisitions

Volume Author/Editor: Alan J. Auerbach, ed.

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-03209-4

Volume URL: http://www.nber.org/books/auer87-1

Publication Date: 1987

Chapter Title: The Growth of the "Junk" Bond Market and Its Role in Financing Takeovers

Chapter Author: Robert A. Taggart, Jr.

Chapter URL: http://www.nber.org/chapters/c5819

Chapter pages in book: (p. 5 - 24)

# 1 The Growth of the "Junk" Bond Market and Its Role in Financing Takeovers

Robert A. Taggart, Jr.

## 1.1 Introduction

"Junk" bonds, as they are popularly called, or "high-yield" bonds, as they are termed by those wishing to avoid pejorative connotations, are simply bonds that are either rated below investment grade or unrated altogether.[1] Fueled by the introduction of newly issued junk bonds in 1977, this segment of the bond market has grown rapidly in recent years and now accounts for more than 15 percent of public corporate bonds outstanding. However, the growth of junk bond financing, particularly in hostile takeover situations, has been bitterly denounced.

For example, Martin Lipton, a merger specialist with the firm of Wachtell, Lipton, Rosen, and Katz, has argued that junk bond financing threatens "the destruction of the fabric of American industry" (Williams 1984). In a similar vein, twelve U.S. senators signed a letter in support of Federal Reserve restrictions on junk bond–financed takeovers, that stated, "By substituting debt for equity on the balance sheets of the nation's corporations, junk bond financing drains financial resources from productive uses such as economic development and job creation" (Wynter 1985).

Robert A. Taggart, Jr., is a professor of finance in the School of Management, Boston University, and a research associate of the National Bureau of Economic Research.

Why did junk bond financing arise, and how important is its influence in the capital markets? Why has it been the target of such acrimony, and how justified are the charges of its critics? This paper seeks to answer these questions.

Section 1.2 describes the major forces that have shaped capital market developments generally in recent years. Against this backdrop, the growth and current dimensions of the junk bond market are traced in section 1.3. It is argued that junk bond financing is a natural outgrowth of the same forces that have influenced the capital market as a whole. Section 1.4 reviews both the charges that have been brought against junk bonds and the evidence available for assessing those charges, and section 1.5 offers conclusions.

## 1.2 Forces Underlying Recent Capital Market Developments

The past ten to fifteen years have been ones of highly uncertain inflation and interest rate volatility. Since the Federal Reserve announced in 1979 that it would pay less attention to interest rate levels, the standard deviations of returns on fixed income securities have more than doubled (Ibbotson 1985). Changing rates of inflation have contributed to sharp swings in the availability of internal funds relative to total corporate financing needs (Taggart 1986). Thus, U.S. corporations have had to move in and out of the external capital markets more frequently in recent years, and they have faced highly uncertain conditions when doing so.

In response to these conditions, corporations have placed greater emphasis on reducing the costs of raising external funds. They have gone further afield to tap new sources of funds, as is illustrated by the growth of Eurodollar bond financing by U.S. corporations from $300 million in 1975 to $20 billion in 1984 (Kidwell, Marr, and Thompson 1985). Even firms with little or no overseas operations, such as public utilities, have raised funds in this market. Corporations have also sought when possible to raise funds directly from investors, thus avoiding the administrative and regulatory costs implicit in borrowing from financial intermediaries. This is exemplified by the rapid growth of the commercial paper mar-

ket, in which outstanding paper of nonfinancial corporations quadrupled to more than $80 billion between 1978 and 1985. As a result, commercial and industrial loans from large banks fell from 34 percent of nonfinancial business borrowing in 1978 to 28 percent in 1985.

Similarly, changes in investor behavior have been induced by more volatile conditions in capital markets. Investors have searched for higher-yielding securities after suffering losses from inflation, and they have been more inclined to trade securities in response to changing economic conditions. Annual secondary market trading volume in Treasury bonds, for example, has increased tenfold since 1978 to more than $10 trillion in 1985 (Frydl 1986). Among financial intermediaries, a similar desire for flexibility has manifested itself in the unbuckling of loan origination from investment, as in the growth of mortgage-backed securities.

Recent years have also witnessed increased competition among financial institutions. Making loans to prime customers has become more of a commodity-type business as U.S. banks have faced competition both from foreign banks and from the commercial paper market. Banks have thus turned increasingly to asset-based financing and other forms of lending to lower-grade credits in an attempt to maintain profit margins. A similar phenomenon has occurred in investment banking, where margins on underwriting bonds for large corporate customers have narrowed, especially since 1982, when the shelf registration rule (Rule 415) was adopted. This has in turn led to an emphasis on higher-margin activities, such as advising on mergers and acquisitions. Investment bankers have also tried to attract customers with innovative securities and transactions, such as zero coupon bonds and interest rate swaps.

Competitive upheaval has affected numerous other sectors of the U.S. economy as well. The effects of regulatory change, foreign competition, volatile commodity prices, and new technology have been felt in industries ranging from transportation and communication to energy and manufacturing. Mergers and divestitures, new investment, and plant closings have led to large capital flows into and out of these industries. In the financial markets, these activities have placed a premium on the ability to mobilize large amounts of capital quickly.

In the next section it will be argued that the growth of the junk bond market is a product of this same set of forces. It should also be noted that the turbulent economic environment resulting from these forces has given rise to a host of emotion-charged policy issues. These include the debate over "industrial policy," the soundness of corporate financial practices, the stability of financial intermediaries in the face of regulatory and competitive change, and the role of mergers and takeovers in economic growth. Since the growth of the junk bond market stems from the economic forces that gave rise to these issues, it should not be surprising that the market itself has become entwined in many of the same issues.

## 1.3 Dimensions of the Junk Bond Market

### 1.3.1 Growth of the Market

Prior to 1977, the public junk bond market consisted almost entirely of "fallen angels," or bonds whose initial investment grade ratings were subsequently lowered. As the first two columns of table 1.1 show, fallen angels accounted for about 5 percent, on average, of U.S. corporations' public straight debt outstanding between the beginning of 1970 and the end of 1976.

The market began to change in 1977, when bonds that were rated below investment grade from the start were first issued in significant quantities. Although Lehman Brothers is credited with having underwritten the first such issue (*Institutional Investor* 1985), Drexel Burnham Lambert turned this innovation into a major business thrust and quickly became the market leader.[2]

The economic conditions described in the preceding section were conducive to increased acceptance of junk bonds at this time. For example, investors' search for higher-yielding securities had already enhanced interest in lower-grade bonds, so new issues offered a way to satisfy this demand.

At the same time, the changing industrial structure was stimulating the growth of a number of medium-sized firms whose lack of credit history prevented them from qualifying for investment grade bond ratings. Junk bonds afforded such

**Table 1.1 Outstanding Debt of U.S. Corporations (billions of dollars)**

| Year | Total Public Straight Bonds[a] (1) | Public Straight Junk Bonds[a] (2) | (2) as % of (1) (3) | Total Corporate Bonds[b] (4) | (2) as % of (4) (5) |
|---|---|---|---|---|---|
| 1985 | 410.0 | 59.1 | 14.5 | 653.7 | 9.0 |
| 1984 | 371.1 | 41.7 | 11.2 | 568.9 | 7.3 |
| 1983 | 339.9 | 28.2 | 8.3 | 518.0 | 5.4 |
| 1982 | 320.9 | 18.5 | 5.8 | 487.4 | 3.8 |
| 1981 | 303.8 | 17.4 | 5.7 | 458.6 | 3.8 |
| 1980 | 282.0 | 15.1 | 5.4 | 431.7 | 3.5 |
| 1979 | 245.0 | 9.4 | 3.8 | 370.8 | 2.5 |
| 1978 | 245.0 | 9.4 | 3.8 | 370.8 | 2.5 |
| 1977 | 228.5 | 8.5 | 3.7 | 333.1 | 2.6 |
| 1976 | 209.9 | 8.0 | 3.8 | 304.4 | 2.6 |
| 1975 | 187.9 | 7.7 | 4.1 | 277.7 | 2.7 |
| 1974 | 167.0 | 11.1 | 6.6 | 251.9 | 4.4 |
| 1973 | 154.8 | 8.1 | 5.2 | 233.2 | 3.5 |
| 1972 | 145.7 | 7.1 | 4.9 | 219.1 | 3.2 |
| 1971 | 132.5 | 6.6 | 5.0 | 200.2 | 3.3 |
| 1970 | 116.2 | 7.0 | 6.0 | 176.5 | 4.0 |

[a]Measured as of June 30 for each year. Source: Altman and Nammacher (1985b, 1986).

[b]Average of beginning and ending years' figures. Source: Board of Governors of Federal Reserve System.

firms direct access to investors and thus provided a potentially lower-cost alternative to borrowing through financial intermediaries.

In investment banking, the competitive pressures described in the preceding section were already eroding the profitability of high-grade bond underwriting, so firms in the industry had become increasingly receptive to new market segments. Since only 6 percent of the roughly 11,000 public corporations in the United States qualify for investment grade ratings (Paulus 1986), junk bond underwriting appeared to offer a higher-margin business with potential for growth. Hence the development of the junk bond business in investment banking may be seen as analogous to commercial banks' pursuit of nonprime customers in an attempt to maintain profitability.

Newly issued junk bonds were an especially attractive business opportunity for Drexel Burnham, which had little established position in the higher-quality segment of bond under-

writing and few competitive advantages on which it could build such a position. It did, however, have an established junk bond trading operation, which Michael Milken had been developing since the early 1970s. Drexel Burnham had already established a network of potential investors and the capability to serve as a secondary market–maker; together, these were key contributing factors to its dominance of junk bond underwriting. Issuers saw Drexel's investor network as giving it almost a unique ability to mobilize large amounts of capital quickly, while investors found junk bonds far more attractive when they could be resold in a liquid secondary market.[3]

It can be argued, in fact, that much of what was innovative about newly issued junk bonds was the ability to trade them. As Jensen (1986) has pointed out, junk bonds can be thought of as term loans that have been packaged to enhance their liquidity and divisibility. They are thus a substitute for bank loans and private placements, which the original lenders typically hold until maturity. In this light, the development of the junk bond market is analogous to the securitization process that has taken place in the mortgage market.

Table 1.2 documents the growth of the new issue portion of the junk bond market since 1977. Most new issues are unsecured public straight debt with typical maturities in the ten- to

**Table 1.2** **Yearly Public Issues of Corporate Debt (billions of dollars)**

| Year | Total Public Bond Issues by U.S. Corporations[a] (1) | Public Issues of Straight Junk Bonds[b] (2) | (2) as % of (1) (3) |
|---|---|---|---|
| 1986 (1st half) | 114.3 | 15.8 | 13.8 |
| 1985 | 120.0 | 19.8 | 16.5 |
| 1984 | 73.6 | 15.8 | 21.4 |
| 1983 | 47.6 | 8.5 | 17.8 |
| 1982 | 44.3 | 3.2 | 7.2 |
| 1981 | 38.1 | 1.7 | 4.6 |
| 1980 | 41.6 | 2.1 | 5.0 |
| 1979 | 25.8 | 1.7 | 6.5 |
| 1978 | 19.8 | 2.1 | 10.8 |
| 1977 | 24.1 | 1.1 | 4.6 |

[a]1986 figure from *Investment Dealer's Digest*. Figures for 1977–85 from *Federal Reserve Bulletin*.

[b]1986 figure from *Investment Dealer's Digest*. Figures for 1977–85 from Drexel Burnham Lambert (1986).

fifteen-year range.[4] Since 1983, junk bonds of this type have averaged nearly 17 percent of total (convertible plus straight) public bond issues by U.S. corporations. Largely as a result of the increase in new issues, the share of junk bonds in total corporate bonds outstanding has also grown substantially. The market's rapid growth, in fact, is reflected in the continually increasing estimates of its size. According to a Morgan Stanley estimate (Altman and Nammacher 1986) shown in table 1.1, straight public junk bonds outstanding amounted to $59.1 billion in mid-1985. This represents over 14 percent of straight public corporate debt and 9 percent of total corporate bonds outstanding. Drexel Burnham (1986) provides an estimate of $82 billion in junk bonds by year-end 1985, which represents 19.1 percent of year-end public straight debt and nearly 12 percent of total corporate bonds outstanding at the end of the year. When convertibles and private placements with registration rights are also included, the share of junk bonds is slightly higher.[5] Finally, Morgan Stanley's data indicate that, as a result of both new issues and bond downgrades, public junk bonds outstanding had grown to $92.9 billion by June 30, 1986.

### 1.3.2 Investors

Financial institutions are the primary investors in junk bonds; Drexel Burnham estimates their total holdings to be between 80 and 90 percent. This represents between $45 and $84 billion in total holdings, depending on the date on which total junk bonds outstanding are estimated. Within the financial institutions category, approximately $5.5 billion (or 7 percent of outstanding junk bonds) was held by savings and loan associations, including their unconsolidated but wholly owned subsidiaries at year-end 1985.[6] There were also forty high-yield bond mutual funds by the end of 1985, with total assets of approximately $12 billion (about 15 percent of outstanding junk bonds). This had grown to forty-five funds with nearly $21 billion in assets by mid-1986. However, the assets of these funds were not invested exclusively in junk bonds (Altman and Nammacher 1985b, 1986). Other institutional holders of junk bonds include pension funds, insurance companies, commercial banks, and investment banking firms.

### 1.3.3 Junk Bond Returns and Risk

As one would expect, junk bonds experience more defaults than investment grade bonds, but as a group, they also tend to have higher returns. For the period 1974–85, the annual default rate on rated junk bonds averaged 1.53 percent, compared with 0.09 percent for all rated public straight bonds (Altman and Nammacher 1986).[7] During 1985 the default rate for junk bonds (1.68 percent) was slightly higher than its previous average, but at the same time the default rate for all bonds (0.23 percent) was substantially higher than average. For the first six months of 1986, the rate for junk bonds increased again to about 3 percent.

Although differences in returns are sensitive to the period chosen, junk bond returns have generally compared favorably with those of higher-grade bonds. For the period 1978–85, for example, Altman and Nammacher (1986) calculated a compound annual rate of return of 12.4 percent for junk bonds compared with 9.7 percent for the Shearson Lehman Long-Term Government Bond Index. For the period 1976–85, the average total reinvested return for high-yield mutual funds was 206.8 percent, compared with 178.0 percent for U.S. government bond funds. Using internal worksheets from market-makers, Blume and Keim (1984) constructed their own index of junk bond returns and found an annualized compound monthly rate of return of 20.3 percent for the period January 1982 to May 1984, compared with 15.0 percent for a portfolio of AAA-rated bonds. For the same period, they also found a positive (though not quite statistically significant) "alpha," or risk-adjusted excess rate of return of 0.61 percent, compared with 0.24 percent for AAA bonds.[8] It would be unjustified, of course, to extrapolate any of these specific return spreads to future periods, but there is substantial evidence that portfolios of junk bonds have performed relatively well in the recent past.

### 1.3.4 Junk Bonds and Merger Activity

By far the most controversial use of junk bonds has been in leveraged buyouts and takeovers. Drexel Burnham began selling junk bonds to finance leveraged buyouts in 1981, and in 1983 the firm conceived the idea of using junk bond financing

commitments in connection with hostile takeovers. Again, Drexel's trading capability and investor network, which gave it the ability to raise large amounts of funds on relatively short notice, made acquisition activity a natural extension of its existing business. In particular, it had already established trading relationships with a number of so-called corporate raiders, including the Belzberg family, Carl Lindner, and Saul Steinberg (Bianco 1985).

Although a variety of financing structures have been used, the one attracting the most attention was that in which a potential acquirer, backed by financing commitments from investors, makes a tender offer for some fraction of the target company's shares. The commitments represent the investors' promise to purchase some amount of junk bonds or other securities, provided that the specified fraction of shares is tendered under the terms of the offer. The securities may be issued through a shell corporation, set up specifically for the purpose of acquiring the target's shares, but they are not explicitly collateralized by those shares. If the tender offer succeeds, the target company's assets can then be used as collateral for any additional loans needed to complete the acquisition. Whether or not the offer succeeds, the investors receive commitment fees ranging from 3/8 percent to 1 percent of the funds committed (Bleakley 1985).

From the acquirer's standpoint, the principal advantage of this structure is speed. Delays are felt to favor the target company in a hostile takeover attempt, and except for large acquirers, raising the needed funds can often be a source of delay. By relying on its established investor network, however, Drexel Burnham found that it could obtain sizable financing commitments in a relatively short period. This in turn considerably enhanced the ability of an acquirer to attempt the takeover even of a much larger target. Of course, investors' willingness to make these commitments on short notice depended on a good relationship with Drexel Burnham, based on successful investments in previous dealings with the firm. As long as this relationship could be maintained, though, Drexel Burnham was able to raise capital quickly.

Not surprisingly, the increased ability of "raiders" to attempt the takeover of even very large companies aroused an-

ger and suspicion in a number of quarters, and several bills were introduced in Congress aimed at curbing junk bond financing of takeovers. Some critics were especially disturbed that a small number of large investors appeared to be taking turns financing one another in takeover raids.[9]

To date, however, the only legislative or regulatory action taken against junk bonds has been by the Federal Reserve Board. Despite the fact that junk bonds issued in takeovers are not explicitly collateralized by the shares of the target company, the Fed voted in January 1986 to apply margin regulations to stock purchases by shell corporations. The ruling stipulated numerous exceptions, however, and thus made it clear that it was aimed directly at hostile takeovers using the shell financing structure just described.[10]

While it is clear that junk bonds have sparked heated controversy, it is less clear how important their actual role in financing acquisitions has been. Estimates of the amount of junk bond financing used in acquisitions differ widely but a range of possibilities can be established.

Drexel Burnham (1985), for example, estimates that in 1984, about $1.7 billion in publicly issued junk bonds was associated with acquisitions and leveraged buyouts. This represents about 11 percent of total public junk bond issues for the year and about 1.4 percent of the total 1984 value of merger and acquisition activity.[11] Of this amount, Drexel Burnham estimates that $0.6 billion, or 4 percent of 1984's total public junk bond issues, was associated with hostile takeovers. A very preliminary Drexel Burnham estimate (reported in Jensen 1986) indicates that during 1985, junk bond acquisition financing may have risen to $3.8 billion, which represents 19 percent of total public junk bond issues for the year and 2.7 percent of total merger financing.

The Federal Reserve Board, by contrast, estimates that $6.5 billion, or 41 percent of 1984's total junk bond issues, was related to mergers or acquisitions in some way (Martin 1985). In addition, it estimates that $4.3 billion in privately placed junk bonds was merger related, so that $10.8 billion in all, or about 9 percent of 1984's total merger and acquisition activity, was financed with junk bonds.[12]

Finally, Morgan Stanley gives an intermediate figure, estimating that junk bond financing of acquisitions and leveraged buyouts came to about $3.3 billion in 1984 and $6.2 billion in 1985 (Paulus 1986). This represents 21 percent and 31 percent, respectively, of total junk bond issues for those years. It also represents 2.6 percent and 4.5 percent, respectively, of the total value of merger activity for 1984 and 1985.

### 1.3.5 Conclusions about the Size of the Market

The inconsistencies in the figures cited above make it clear that the dimensions of the junk bond market are hard to determine precisely. Nevertheless, some general conclusions seem warranted.

First, the growth of the market has been impressive. Particularly since 1982, the share of junk bonds in both new issues and total corporate bonds outstanding has increased sharply. There can be no doubt that junk bonds now represent an important segment of the corporate bond market.

Second, while the importance of junk bonds must be conceded, it should also be recognized that they hardly threaten to overwhelm the market. The data in table 1.2, for example, do not give strong grounds for predicting that junk bonds' market share will experience further rapid increases in the immediate future.

Third, the role of junk bond financing in mergers and acquisitions must likewise be seen as significant, but not predominant. By any set of estimates, only a small part of the value of junk bonds issued is used for acquisitions. The rest is used to finance ongoing business operations. In addition, merger-related junk bond issues represent only a small fraction of total merger and acquisition activity.

## 1.4 Policy Issues Surrounding the Junk Bond Market

It has been argued in preceding sections that uncertain inflation and interest rate volatility, increased competition in the financial services industry, and the process of corporate restructuring have all contributed to the growth of the junk bond market. These forces have also produced a turbulent economic

environment, which has spurred policy debates about the level of debt in the economy, the stability of financial institutions, and the fairness and efficiency of the corporate takeover process. It is not surprising that the growth of the junk bond market, a product of the same economic forces, has been accompanied by the same policy debates. However, just as it would be implausible to argue that the junk bond market has itself been a root cause of interest rate volatility, financial services competition, and corporate restructuring, it would be equally implausible to argue that junk bonds have been fundamentally responsible for the perceived ills described in these policy debates. Let us consider several of these policy issues in turn.

### 1.4.1 Is There Too Much Debt in the U.S. Financial System?

There may be. If there is, however, it would be difficult to argue that the corporate sector is primarily responsible. It is true that there has been a fairly steady increase in recent years in corporate debt-equity ratios measured in book value terms. When measured in market value terms, by contrast, adjusting for inflation and for changes in the perceived ability of assets to generate cash, the debt-equity ratio has decreased substantially since 1974. In 1985, for example, the estimated market value debt-equity ratio for U.S. corporations was .37, compared with .61 in 1974 and an average of .46 for the period 1975–84.[13]

Moreover, as indicated in table 1.1, junk bonds do not account for a major fraction of total corporate debt. Since at least some portion of newly issued junk bonds are presumably a substitute for bank borrowing or private placements that corporations would otherwise have made, it is especially hard to argue that junk bonds have exerted any substantial upward influence on the overall corporate debt-equity ratio. Fears about the overall level of debt have been used to rationalize restrictions on the use of junk bonds in takeovers (Schultz 1985), such as the imposition of margin regulations by the Federal Reserve Board. Since takeovers account for only a small fraction of even total junk bond financing, such restrictions could hardly have much effect on total corporate debt.

### 1.4.2 Does Merger Activity Contribute to Increased Corporate Debt?

Available evidence indicates that this is not the case. A study by Becketti (1986), for example, found no statistical linkage between the value of merger activity in immediately preceding years and the total current level of domestic non-financial debt. But even if one disputes this evidence, the amount of junk bond merger financing is so small relative to total merger activity, as indicated in section 1.3.5, that junk bonds could not have made much of a contribution to any merger-induced increase in total debt.

### 1.4.3 Are Takeovers and Their Associated Tactics Harmful to the Economy?

This question has been widely debated, and a complete discussion is clearly beyond the scope of this paper. The point is, though, that this issue is also far beyond the scope of the junk bond market. Corporate raiders, greenmail and break-up acquisitions, or "asset-stripping," have all been blamed to some degree on junk bond financing.[14] But while it is true that junk bond financing has facilitated hostile takeover bids by enabling potential acquirers to raise capital quickly, hostile takeovers existed long before the introduction of junk bond financing and would continue to exist even if the junk bond market were heavily curtailed by regulation or legislation. Moreover, there would appear to be no more compelling reasons to pay greenmail to a junk bond financed raider than to a raider financed by some other means. In the same vein, breaking up assets makes economic sense only when they are perceived to be worth more separately than together, whether or not the assets have been financed with junk bonds.

### 1.4.4 Do Junk Bond Holdings by Financial Institutions Pose a Threat to the Deposit Insurance Agencies?

The fear here is that savings and loans, in particular, have abused their new diversification power by purchasing exceptionally risky assets. In so doing, it is charged, they have shifted risk to the Federal Savings and Loan Insurance Corporation.

In the broadest sense, this fear does not appear to be warranted. Federally chartered S&Ls are currently allowed to hold 1 percent of their assets in unrated bonds. Their 10 percent commercial lending authority may also be used to purchase junk bonds, giving total allowed holdings of 11 percent. State-chartered S&Ls in some states may devote larger fractions of their assets to junk bonds. In the aggregate, however, the Federal Home Loan Bank Board estimates the S&Ls held, on average, a total of $5.5 billion in junk bonds during 1985.[15] This represents approximately one-half of 1 percent of the total assets of FSLIC-insured institutions, and thus junk bonds would not appear to pose a system-wide threat to the FSLIC.

Nevertheless, it is true that junk bond holdings are very concentrated among the nation's S&Ls. For example, as of June 1985, ten S&Ls (out of 3,180 FSLIC-insured institutions) held $4.64 billion in junk bonds. This accounts for 77 percent of total junk bond holdings by S&Ls during that month and represents about 10 percent of total assets by those ten institutions. Five of these institutions are located in California and three in Texas, states that have more liberal asset composition regulations for state-chartered S&Ls. Furthermore, a single institution, Columbia Saving and Loan Association of Beverly Hills, California, held approximately $1 billion in junk bonds at this time, and by June 30, 1986, it had increased its junk bond holdings to $2.3 billion, or 28 percent of its total assets (Hilder 1986).

It is possible, then, that junk bonds could pose a problem for the FSLIC, albeit a problem confined to a relatively small number of institutions. But as in the debates discussed above, the issue is really much broader than the junk bond market itself. There is a host of risky financial practices in which S&Ls or other depository institutions might engage. It has yet to be demonstrated that junk bonds are significantly riskier than many other investments, such as construction loans or financial futures positions, and junk bond losses have not been a contributing factor in S&L failures to date. The FSLIC may indeed need to improve its procedures for monitoring and assessing S&L risk and for pricing deposit insurance, but junk bonds appear to be a small part of this overall problem.

### 1.4.5 Does Junk Bond Issuance Harm Other Bondholders?

The corporate restructuring phenomenon has increased leverage for a number of firms. This has come about through mergers, leveraged buyouts, and stock repurchases. In addition, many firms have altered the overall riskiness of their assets through acquisitions and divestitures. As a result of such transactions, the outstanding debt of a number of firms has been downgraded, and bondholders have suffered losses.[16] To the extent that newly issued junk bonds have been involved in restructuring transactions, they have shared some of the blame for these losses and some see the problem of bondholder expropriation as an important legal issue (McDaniel 1986).

There is little reason to suppose, though, that transferring wealth from bondholders is a primary motivation for issuing junk bonds. Firms could not impose extensive damage on existing bondholders without severely penalizing the terms on which they could raise funds in the future. Empirical studies also suggest that, while restructuring transactions are beneficial to shareholders, they do not, on average, cause significant losses for bondholders.[17]

There can be no doubt, of course, that bondholders have experienced significant losses in individual cases.[18] The restructuring phenomenon reflects a period of upheaval that was not widely anticipated, either by management or investors, at the time many outstanding bonds were issued. Thus, in retrospect, some investors have found themselves inadequately protected. In response, both investors and management have sought new protective mechanisms so as to make future bond issues more attractive. Several issues of "poison put" bonds have been made, for example, which allow holders to turn in their bonds for cash or stock in the event of a change in control of the issuing company (Hertzberg 1986). Similar provisions in some recent private placements allow loans to be called if a major restructuring occurs (Picker 1986). While restructuring transactions may pose difficult problems of negotiation between bondholders and firms, however, it is not clear that additional legislative or regulatory action is called for.

### 1.5 Conclusion

This paper has attempted to assess the size and influence of the junk bond market. Newly issued junk bonds represent a significant financial innovation. Spawned by the forces of interest rate volatility, competition in financial services, and industrial restructuring, they have tapped a significant pocket of investor demand, thereby allowing many corporations to raise funds more quickly and on better terms than would otherwise have been available.

At the same time, the significance that junk bonds have been accorded in policy debates appears to stem more from their symbolic value than their real influence. The mere mention of their label can conjure up visions of corporate raiders and heavy debt burdens. But regardless of one's position on the larger policy issues, actions directed at the junk bond market by itself seem unlikely to have a radical impact on the aggregate level of debt, the amount of corporate restructuring activity, or the safety of the financial system.

## Notes

I am grateful to Richard Pickering of the Federal Home Loan Bank Board's Office of Policy and Economic Research, Eric H. Siber of Drexel Burnham Lambert, Inc., and Richard S. Wilson of Merrill Lynch Capital Markets for providing helpful information. They bear no responsibility, however, for any errors this paper may contain.

1. Under Moody's rating system, therefore, junk bonds are those rated Ba or lower, while under Standard & Poor's, they are defined as BB or lower. For ease of expression, the more common term, "junk" bonds, will be used throughout the paper, but no derogatory implications are intended by that usage.

2. Drexel Burnham's dominance is illustrated by the fact that it served as lead manager for 56 percent of the value of total public junk bond issues during the period 1978–85 (Altman and Nammacher 1986).

3. Secondary trading volume in junk bonds is apparently substantial relative to other types of corporate bonds. G. Chris Anderson of Drexel Burnham has estimated that annual secondary market trading volume currently amounts to $240 billion (Reich 1986). This is about 20 percent of the annual dollar trading volume for New York Stock Exchange stocks.

4. The average years to maturity (ignoring sinking funds) of new junk bond issues fell from nineteen years in 1978 to eleven years in 1985 (Altman and Nammacher 1986). Call and sinking fund provisions are usually similar

to those found on other corporate bonds, although very recently a few junk bond issues have contained "net worth" clauses, stipulating that some or all of the issue must be called at par if the issuer's net worth falls below a certain level. In general, however, junk bonds tend to carry fewer restrictive covenants than investment grade bonds.

5. Private placements with registration rights are issues that are initially privately placed, but that give the original investors the right to have the issue registered for public trading at some future point. Such issues might be used, for example, in situations in which a need to raise funds quickly favors a private placement, but in which the initial investor would ultimately like to be able to trade his bonds in the public market.

6. This information was provided by the Federal Home Loan Bank Board's Office of Policy and Economic Research. The implications of S&L holdings of junk bonds will be discussed further in section 1.4.

7. The default rate is measured as the par value of bonds of a given type that default during a year, divided by the par value of total outstanding bonds of that type for the year. Since investors do not lose the entire par value of their investment in a default, it should be noted that this rate may considerably overstate actual investor losses.

8. Perhaps surprisingly, Blume and Keim also found a lower monthly standard deviation of returns (2.74 percent) for junk bonds during this period than for AAA bonds (3.59 percent). It should be noted, however, that the characteristics (call provisions, duration, etc.) of the two samples were not matched and that this was a relatively short period.

9. For example, Bleakley (1985) reports that of $3.1 billion in junk bond financing commitments for five takeover attempts (three of which were ultimately successful) during 1984 and 1985, $1.2 billion in commitments came from just eight investors. Moreover, four of the eight (the Belzberg family, Nelson Peltz of Triangle Industries, Saul Steinberg of Reliance Group, and Stephen Wynn of Golden Nugget), who together made $643 million in commitments, were themselves regarded as raiders.

10. Specifically, the Fed stated that margin rules would not apply under any of the following conditions: (1) the acquiring company has substantial assets or cash flow apart from the shares of the target; (2) the parent company guarantees the debt of the shell acquisition corporation; (3) there is a merger agreement between the acquirer and the target; (4) debt securities are offered to the public; (5) financing commitments are contingent on the shell corporation's acquisition of sufficient shares to complete a merger, under state laws, without the approval of the target's shareholders or directors (Langley and Williams 1986).

11. Figures on total merger activity are taken from the May-June 1986 issue of *Mergers and Acquisitions* magazine.

12. The Congressional Research Service (Winch and Brancato 1985) estimates that about $1.7 billion in junk bond financing was associated with leveraged buyouts during 1984. This also represents about 9 percent of the total 1984 value of leveraged buyouts.

13. These figures were estimated using the technique described in Taggart (1985). The Federal Reserve Board, using a different technique, has produced estimates that are numerically higher (Martin 1985). However, the same qualitative conclusions about the debt-equity ratio's pattern over time continue to hold.

14. As an example of the latter, Rohatyn (1985) asserts, "Whether large corporations can be treated like artichokes and simply torn apart without any regard for employees, communities, or customers solely in order to pay off speculative debt is a further question for public policy."

15. This figure includes junk bonds held by unconsolidated but wholly owned S&L subsidiaries, so it exaggerates somewhat the junk bond holdings of S&L parent companies.

16. For example, Moody's downgraded corporate bonds having a total par value of $107.5 billion during 1985, or about 16 percent of the total par value of corporate bonds outstanding. Bonds having a par value of $40.8 billion, or 38 percent of the value of downgrades, were downgraded as a result of restructuring transactions (Goldberg 1986).

17. Studies of this issue include Dann (1981) on stock repurchases, Dennis and McConnell (1986) on mergers, and Hite and Owers (1983) and Schipper and Smith (1983) on spin-offs. A study of the formation of captive finance subsidiaries by Kim, McConnell, and Greenwood (1977) did present some evidence of significant bondholder losses but a more recent study of the same phenomenon by Malitz (1986) does not confirm that finding. None of these studies, however, include the most recent round of corporate restructuring transactions.

18. For evidence of such losses see Alexander, Benson, and Gunderson (1986) and Wansley and Fayez (1986).

# References

Alexander, G. J., P. G. Benson, and E. W. Gunderson. 1986. "Asset Redeployment: Trans World Corporation's Spinoff of TWA." *Financial Management* 15 (Summer): 50–58.

Altman, E. I., and S. A. Nammacher. 1985a. *The Default Rate Experience on High-Yield Corporate Debt*. New York: Morgan Stanley & Co., March.

_____. 1985b. *The Anatomy of the High-Yield Debt Market*. New York: Morgan Stanley & Co., September.

_____. 1986. *The Anatomy of the High-Yield Debt Market: 1985 Update*. New York: Morgan Stanley & Co., June.

Anderson, G. C. 1985. Testimony before the Subcommittee on Domestic Monetary Policy. House Committee on Banking, Finance, and Urban Affairs. Hearings on the Financing of Mergers and Acquisitions, May 3.

Becketti, S. 1986. "Corporate Mergers and the Business Cycle: Federal Reserve Bank of Kansas City." *Economic Reviews* 71 (May): 13–26.

Bianco, A. 1985. "How Drexel's Wunderkind Bankrolls the Raiders." *Business Week* (March 4).

Bleakley, F. R. 1985. "The Power and the Perils of Junk Bonds." *New York Times* (April 14).

Blume, M. E., and D. B. Keim. 1984. "Risk and Return Characteristics of Lower-Grade Bonds." Working paper, Rodney White Center for Financial Research, the Wharton School, December.

Carney, W. 1985. "Junk Bonds Don't Merit a Black-Hat Image." *The Wall Street Journal* (April 29).

Dann, L. Y. 1981. "Common Stock Repurchases: An Analysis of Returns to Bondholders and Stockholders." *Journal of Financial Economics* 9 (June): 113–38.

Dennis, D. K., and J. J. McConnell. 1986. "Corporate Mergers and Security Returns." *Journal of Financial Economics* 16 (June): 143–87.

Drexel Burnham Lambert, Inc. 1985. *Financing America's Growth: High Yield-Bonds* (April).

———. 1986. *The Case for High-Yield Securities* (April).

Ehrbar, A. 1985. "Have Takeovers Gone Too Far?" *Fortune* (May 27).

Frydl, E. J. 1986. "The Challenge of Financial Change." *Seventy-First Annual Report*. Federal Reserve Bank of New York.

Goldberg, H. H. 1986. "Corporate Bond Market Outlook 1986." *Moody's Bond Survey* 78 (February).

Hertzberg, D. 1986. "'Poison-Put' Bonds Are Latest Weapon in Companies' Anti-Takeover Strategy." *The Wall Street Journal* (February 13).

Hilder, D. B. 1986. "Bank Board Staff Expects to Offer Rules Curbing Thrifts' 'Junk Bond' Investments." *The Wall Street Journal* (September 28).

Hite, G. L., and J. E. Owers. 1983. "Security Price Reactions Around Corporate Spin-Off Announcements." *Journal of Financial Economics* 12 (December): 409–36.

Hughes, K. A. 1985. "Columbia Savings' Chief, Spiegel, Invests $1 Billion of S&L's Assets in 'Junk Bonds.'" *The Wall Street Journal* (June 7).

Ibbotson Associates, R. G., Inc. 1985. *Stocks, Bonds, Bills, and Inflation, 1985 Yearbook*. Chicago.

*Institutional Investor*. 1985. "Banker of the Year." August.

Jensen, M. C. 1986. "The Takeover Controversy: Analysis and Evidence." Working paper, Harvard Business School, July.

Joseph, F. H. 1985. "High-Yield Bonds Aren't 'Junk.'" *The Wall Street Journal* (May 31).

Kidwell, D. S., M. W. Marr, and G. R. Thompson. 1985. "Eurodollar Bonds: Alternative Financing for U.S. Companies." *Financial Management* 14 (Winter): 18–27.

Kim, E. H., J. J. McConnell, and P. Greenwood. 1977. "Capital Structure Rearrangement and Me-First Rules in an Efficient Capital Market." *Journal of Finance* 32 (June): 789–810.

Langley, M., and J. D. Williams, 1986. "Fed Board Votes 3–2 to Restrict the Use of 'Junk' Bonds in Corporate Takeovers." *The Wall Street Journal* (January 9).

McDaniel, M. W. 1986. "Bondholders and Corporate Governance." *Business Lawyer* 41 (February): 413–60.

Malitz, I. B. 1986. "Do Owners Deliberately Expropriate Bondholder Wealth? The Case of Captive Finance Subsidiaries." Working paper, University of Illinois at Chicago, May.

Martin, P. 1985. Testimony before the Subcommittee on Domestic Monetary Policy. House Committee on Banking, Finance, and Urban Affairs, Hearings on the Financing of Mergers and Acquisitions, May 3.

Paulus, J. D. 1986. "Corporate Restructuring, 'Junk,' and Leverage: Too Much or Too Little?" *Economic Perspectives*. New York: Morgan Stanley & Co., March 12.

Picker, I. 1986. "Takeover Defenses Enter the Private Market." *Investment Dealer's Digest* (April 14).

Reich, C. 1986. "Milken the Magnificent." *Institutional Investor* 20 (August): 81–97.

Rohatyn, F. G. 1985. "Junk Bonds and Other Securities Swill." *The Wall Street Journal* (April 18).

Schipper, K., and A. Smith. 1983. "Effects of Recontracting on Shareholder Wealth: The Case of Voluntary Spin-Offs." *Journal of Financial Economics* 12 (December): 437–67.

Schultz, F. 1985. "The Fed's Vain Limit on Takeover Debt." *The Wall Street Journal* (December 23).

Stewart, J. B., and R. L. Rundle. 1985. "Drexel Burnham Mulls a Future Threatened by Junk-Bond Curbs." *The Wall Street Journal* (December 13).

Taggart, R. A., Jr. 1985. "Secular Patterns in the Financing of U.S. Corporations." In B. M. Friedman, ed., *Corporate Capital Structures in the United States*. Chicago: University of Chicago Press.

_____. 1986. "Have U.S. Corporations Grown Financially Weak?" In B . M. Friedman, ed., *Financing Corporate Capital Formation*. Chicago: University of Chicago Press.

Wansley, J. W., and E. Fayez. 1986. "Stock Repurchases and Security-holders' Returns: A Case Study of Teledyne." *Journal of Financial Research* 9 (Summer): 179–91.

Williams, J. D. 1984. "How 'Junk Financings' Aid Corporate Raiders in Hostile Acquisitions." *The Wall Street Journal* (December 6).

Winch, K. F., and C. K. Brancato. 1985. *The Role of High-Yield Bonds (Junk Bonds) in Capital Markets and Corporate Takeovers: Public Policy Implications*. Congressional Research Service, Library of Congress, April 20.

Wynter, L. E. 1985. "U.S. Agencies, SEC Object to Fed Plan to Curb Junk Bonds Used in Takeovers." *The Wall Street Journal* (December 24).