1980s, but since have returned to, and even surpassed, the leverage ratios experienced in the early 1970s, despite the disflationary environment that has prevailed since 1980.2 A somewhat different way of looking at this measure that is favored by financial theorists is to use market values of debt and equity. Also shown in chart 1, this ratio has stabilized somewhat, though it remains far above levels prevailing before 1972. Do either of these measures cause us to believe that corporate capital structures have degenerated to the point that their liabilities should be considered “junk” (that is, below investment grade)? Or, rather, the trend towards debt-based financing a natural response to the creation of the economic stabilizers and expectations of stability that have been developed since the Great Depression? There may in fact, be many factors that have led to the current appetite for debt financing, none of which conclusively contradicts the principles set forth by the traditional prudent investor guidelines. As was discussed above, it is considered perfectly acceptable for industries with stable earnings to employ a higher proportion of debt financing. The perception of increased stability of the overall economy, therefore, should lead to an increase in the percent- age of leverage that is considered safe for all firms. In chart 3, we present a time series representation of the percentage change in pre-tax corporate profits since 1930. Excluding the Great Depression and the Second World War, the volatility of the growth of corporate profits appears to have declined in recent years. Indeed, for the period covering 1910 to 1929, the variance of the percentage change in corporate profits is 7.1 percent. The same measure for the years 1945 through 1985 is 2.3 percent.8

The rational response to such a reduction, once it is regarded as permanent, would be to reduce the cushion of equity by taking advantage of the gains from leverage. Among these gains is the tax shield afforded by the deductibility of interest payments by borrowing firms. Seen in this light, the trend toward higher debt levels and the emergence of markets for low or unrated debt securities may well have encouraged the belief that we have on the economy as a whole and on industry in particular. Against this background, major economic stabilizers and the effect that expectations of economic stability may have on corporate financial decisions will be considered.

First, the historical context. Probably the first serious consideration of the macroeconomic effects of excessive debt accumulation was that of the distinguished economist and author Irving Fisher, who died in 1947. In a 1933 paper, he notes that debt is a complex phenomenon. It is not a simple, one-dimensional factor. In addition to the total of dollars owed, one must also take into account the maturity structure of the debt—that is, the time at which various payments come due. Moreover, the concept of overindebtedness is relative one that is dependent upon such factors as total national wealth, national income, and the availability of liquid assets.

Fisher felt that in these circumstances, distressed selling would cause a contraction in bank deposits as loans were repaid. In addition, an asset sales would take place at “fire sale” prices, leading to a fall in the overall price level. Lower prices would then reduce business profits, causing a reduction in business net worth, thereby leading to bankruptcies. The loss of confidence the economy could also lead to the hoarding of convertible currency and to bank runs. In such a world, nominal interest rates would fall, while real rates rose. The overall effect would be a reduction in output, employment, and trade.

Fisher felt that, in these circumstances, distressed selling would cause the economy to fall faster than debt could be liquidated.9

Conclusion

Over the past few years, the rapid growth in the level of public and private domestic debt, and growth in the level of foreign debt owed to American banks, has been a major cause for concern for our legislators and financial regulators.

This concern centers on the possible negative effects of rising levels of debt on the economy. Against this background, major economic stabilizers and the effect that expectations of economic stability may have on corporate financial decisions will be considered.

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Federal Reserve Bank of Cleveland
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Debt-Deflation and Corporate Finance
by Jerome S. Fons

This would result in real debts rising, rather than falling as intended. Only through some form of deflation could catastrophe be avoided. Moreover, he reasoned that deflation resulting from any cause other than overindebtedness would not have the same devastating consequences. Among the causes of overindebtedness, envisioned by Fisher was the existence of new opportunities to invest at above-normal prospective profits. The development of new inventions and technologies provides incentives for the pursuit of such opportunities. The lure of large dividends, as well as capital gains made possible by excessive borrowing, contributes to the bubble effect envisioned in his scenario. In addition, an “easy money” or low-interest-rate policy might have the same effect. Finally, the relentless promotion of investment opportunities (which unnecessarily raise expectations), in combination with fraud, also contributes to overindebtedness.

The failure of monetary authorities to offset rapid deflationary forces by creating more liquidity through open-market operations, currency issuance, or placement of Treasury funds in the banking system, may have been responsible for the severity of past depressions. Indeed, the Fed felt that the Roosevelt administration’s successful reflation in 1932 was the chief factor in arresting the economic decline that would have otherwise continued unabated.12 If the decline had gone unchecked, in short, the Federal Reserve Bank of Cleveland and the availability of government literature will eventually spread to the government,
LTV Corp. caused 1986's corporate default rate to be unfolding in certain areas of the economy. In view of this, it is reasonable to expect that the credit worthiness of these companies may have decreased, and this may have led to overcapacity in these industries that, in hindsight, can be characterized as excessive speculation. During this period, there was no shortage of loanable funds for firms engaged in the production of these commodities. In turn, this may have contributed to their willingness to carry high levels of debt, causing the banks and savings and loans (S&Ls) exposed to these industries to suffer losses as prices fell. The fact that our overall economy has not experienced a major depression over the past 50 or so years, however, may indicate that Fisher's theory is no longer relevant. Indeed, several major economic "stabilizers" that have been created since the Great Depression may be preventing the unfolding of Fisher's scenario. Deposit insurance is one example. Although bank failures are reaching post-1933 record numbers today, no retail depositor has suffered losses (on amounts paid-in capital). The recent rapid increase in liquidations of future inflation are usually part of expectations that the economy faces little risk of a major depression. Using essentially common sense coupled with observation, Graham and Dodd hoped that the wise investor would force the unwise away from speculative actions that might lead to the misvaluation of financial assets.

Lessons for the '80s

The parallels between Fisher's scenario and today's economy, at least within certain sectors, are quite compelling. The decline in the prices of agricultural and mining commodities, in oil, and in some other sectors, has led to a dramatic rise in the bankruptcy rates of firms within these industries over the past few years. Commercial and residential real-estate markets in portions of the country in which these sectors have a significant presence also have experienced similar problems. Heavy indebted, developing countries face in portions of the country in which these industries have a significant presence also have experienced similar problems. Heavy indebted, developing countries face serious consequences nationwide. The high-equity firm is invariant to its capital structure. The role of equity constitutes the best strategy for the prudent corporation. The role of equity, as a proportion of total assets involved accounting and operational lines involved accounting and operational lines. Institutional factors also may have emerged recently that serve to amend or otherwise shift certain forms of risk away from the individual creditor. People are less inclined, for example, to hold debt issues of firms directly. Increasingly individual investors claims to diversified funds with managers who claim to possess expertise in credit evaluation. In addition, the cascading bank failures envisaged by Fisher have not materialized. The increase in the overall level of debt has absorbed a succession of periods of weak business disruption. The high-equity firm can absorb a succession of periods of weak (or negative) earnings without the need to declare bankruptcy because it can always suspend dividends or otherwise exploit paid-in-capital. This rise in the equity of these high-equity firms is invariably valued more highly by investors than those of more leveraged capital structures. Because the likelihood of bankruptcy and the risk to investors' equity is somewhat lower for high-equity firms, investors generally require a lower rate of return on their equity, implying that, for a given level of earnings, the stock prices of high-equity firms will be valued more highly than those of highly leveraged firms.

Risk-Taking and Corporate Debt Growth

The current tendency of society to accept higher levels of debt may indicate an increased tolerance towards risk-taking. Institutional factors also may have emerged recently that serve to amend or otherwise shift certain forms of risk away from the individual creditor. People are less inclined, for example, to hold debt issues of firms directly. Increasingly individual investors claim to possess expertise in credit evaluation. In addition, the cascading bank failures envisaged by Fisher have not materialized. The increase in the overall level of debt has absorbed a succession of periods of weak business disruption. The high-equity firm can absorb a succession of periods of weak (or negative) earnings without the need to declare bankruptcy because it can always suspend dividends or otherwise exploit paid-in-capital. This rise in the equity of these high-equity firms is invariably valued more highly by investors than those of more leveraged capital structures. Because the likelihood of bankruptcy and the risk to investors' equity is somewhat lower for high-equity firms, investors generally require a lower rate of return on their equity, implying that, for a given level of earnings, the stock prices of high-equity firms will be valued more highly than those of highly leveraged firms.

Graham and Dodd specified limits on the use of corporate leverage that firms might lead to the misvaluation of financial assets. In later editions of their classic book, Graham and Dodd acknowledged, but gave short treatment to, the growing body of evidence that indicated that, except for the taxes and bankruptcy costs, the value of a firm is invariant to its capital structure. They stressed instead the view that firms with debt financing above recommended levels constitute speculative enterprises and are, therefore, not worthy of the prudent analyst's attention. Chart 2 is a plot of the ratio of the aggregate book value of the debt of nonfinancial corporations to the book value of equity. What emerges is a view of corporate America that conforms fairly closely to the ideal world of Graham and Dodd. Note that corporate balance sheets improved during the late 1970s and early 1980s.
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Because of the combination of monetary policy economic stabilizers, and diversified investment opportunities, investors may prefer to take on more risk. The high-equity firm, for example, may be more willing to invest in new projects, while the low-equity firm is more likely to seek outside financing. The high-equity firm also is more likely to experience business disruption. The high-equity firm is more likely to experience business disruption. The high-equity firm also is more likely to be constrained by its conservative financial policy, while the low-equity firm is more likely to be constrained by its aggressive financial policy.

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flationary environment that has prevailed since 1980, 7 a somewhat different way of looking at this measure that is favored by financial thesaurists is to use market values of debt and equity. Also shown in chart 1, this series behaves quite differently than its book value counterpart. For instance, the collapse of stock prices following the first major oil price shock (in late 1973) sent this ratio soaring. Investors systematically reduced their assessments of the value of the equity of American firms. In recent years, this ratio has stabilized somewhat, helped in part by rising equity prices, though it remains far above levels prevailing before 1972.

Do either of these measures cause us to infer that corporate capital structures have degenerated to the point that their liabili-
ty should be considered "junk" (that is, below investment grade)? Or, rather, the trend towards debt-based financing a natural response to the creation of the economic stabilizers and expectations of stability that have been developed since the Great Depression? 8

There may in fact, be many factors that have led to the current appetite for debt financing, none of which absolutely con-
tricts the principles set forth by the tradi-
tional prudent investor guidelines. As was discussed above, it is considered perfectly acceptable for industries with stable earn-
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The rational response to such a reduc-
tion, once it is regarded as permanent, would be to reduce the cushion of equity by taking advantage of the gains from leverage. Among these gains is the tax shield afforded by the deductibility of interest payments by borrowing firms. Seen in this light, the trend toward higher debt levels and the emergence of markets for low or unrated debt securities may suggest that the perceived probability of failure and/or bankruptcy costs (and the associated stigma) have been reduced over the past few years. 9

If today's economic environment is in fact perceived to be less volatile, are rating agencies reacting justifiably when they downgrade the credits of firms that increase their leverage? The rating agen-
cies claim to consider many factors beyond simple accounting ratios when assigning ratings to corporate debt. They try to take a broad view of the circumstances facing the industry in light of overall economic developments. By using criteria that seemed appropriate in decades past, but that no longer may be appropriate, rating agencies may have failed to take account of the possible reduction in certain busi-
ness risks. Or, perhaps corporate debt rat-
ings are intentionally biased downward simply because the agencies want to avoid the potentially high cost of a ratings mistake.

Conclusion
The effectiveness of various programs designed to protect against economic dis-
ruptions (both real and financial) have yet to face a serious challenge. Many re-
spected analysts believe that the next recession will provide that challenge, with consequences potentially as severe as those experienced in the 1930s. If the public and private promoters of debt-based financing have miscalculated and overestimated the stability of the econ-
omy, then we may find ourselves being pushed by bankruptcies into Fisher's debt-
exansion trap. Keeping us out of the trap, and protecting the economy from the debt-
deflation syndrome, would require exten-
sive governmental assistance that would come out of the pocket of every taxpayer. In any event, we appear to be dealing with new rules of prudent borrowing behavior that have been created and shaped by the belief that we have deve-
doped a "stabilized" economy. Our nation's corporations, as well as its households and government, may be just beginning to test these new rules.

Over the past few years, the rapid growth in the level of public and private domestic debt, and growth in the level of foreign debt owed to American banks, has been a major concern for our legislature and financial regulators. This concern centers on the possible need to impose new rules of conduct for our legislation and regulatory agencies. Against this background, major economic stabilizers and the effect that expectations of economic stability may be having on corporate financial decisions will be consid-
ered. First, the historical context. Probably the first serious consideration of the macroeconomic effects of excessive debt accumulation was that of the distinguished economist and author Irving Fisher, who died in 1947. In a 1933 paper, he notes that debt is a complex phenomenon. It is not a simple, one-dimensional factor. In addition to the total of dollars owed, one must also take into account the maturity structure of the debt—that is, the points in time at which various payments come due. Moreover, the concept of overindebtedness is a relative one, which depends upon such factors as total national wealth, national income, and the availability of liquid assets. Fisher thought that the increases in many historical business cycles could not be explained by the traditional theories used by classical economists. These theories tended to focus on things like the relative over- and under-production of various com-
modities, their relative prices, and the effects of disturbances (fire, earthquakes, perishable, etc.) from "outside the econo-
um. Although certains of disturbance might succeed in explaining much of the cyclical expansion and contraction of busi-
ess activity, he felt that major downturns required something extra: namely, overin-
debtenedness and deflation. The existence of these conditions was considered sufficient to cause a disruption in all other economic variables. In particular, Fisher felt that growing overindebtedness tended to excac-
berate overproduction, which would increase until the following scenario began to unfold. First, asset liquidation by overindebted borrowers would turn into distress selling. The distress selling would cause a contrac-
tion in bank deposits as loans were retired. In addition, asset sales would take place at "fire sale" prices, leading to a fall in the overall price level. Lower prices would then reduce business profits, causing a reduction in business net worth, thereby leading to bankruptcies. The loss of confi-
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Fisher felt that in these circumstances, distress selling and overindebtedness would cause the economy to fall faster than could be liquidated.

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or in arresting the economic decline that would have otherwise continued unab-
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9. Jerome S. Fons is an economist at the Federal Reserve Bank of Cleveland. The author would like to thank Mark Sniderman and Walker Todd for their helpful comments. The views expressed herein are those of the author and not necessarily those of the Federal Reserve Bank of Cleveland or of any Board of Governors of the Federal Reserve System.


2. Most notably, 1837, 1873, 1893, and 1929.

3. Another well-known factor was the simultane-
ous, large increase in federal spending. The financing for this stimulus may have been aided by Federal Reserve purchases of Treasury debt.

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EBONOMIC COMMENTARY

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