Is There Too Much Corporate Debt?

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Borrowing by U.S. corporations has increased dramatically in recent years. The outstanding debt of nonfinancial corporations rose 70 percent between 1983 and 1988, more than two-thirds faster than growth of nominal GNP. Highly leveraged transactions, such as the $25 billion takeover of RJR Nabisco, routinely make the front pages.

Heavy borrowing such as this has raised the issue of whether corporate debt has become excessive. Congress has been considering whether changes should be made in the tax law to try to reduce the rate of corporate debt accumulation. The Federal Reserve has been studying the implications of debt growth for monetary policy and banking system oversight.

In evaluating the debt situation there are many issues to consider, but two questions lie at the heart of the debate. First is the "micro" issue: do high levels of debt increase the efficiency of firms, as some proponents of high leverage have claimed? Then there is the

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"macro" issue: does increased corporate debt reduce the stability of the country's financial and economic system?

THE MICRO ISSUE: DOES DEBT PROMOTE EFFICIENCY?

The traditional explanation for why corporations use debt as a source of finance is debt's tax advantage: interest payments made by a firm are tax-deductible, while dividend payments are not. Offsetting this advantage are the costs of bankruptcy and reorganization that may be incurred should the firm not be able to meet the stipulated interest payments. According to the traditional view, the optimal ratio of debt to equity is the one that just balances these two costs.

More recently, however, financial economists have gone beyond this traditional view to focus on the possibly beneficial effects of debt issuance on managerial performance.[1] This point can be illustrated by a simple example.

A Tale of Two Twins. Suppose that there are two potential entrepreneurs, who (like the two characters in a well-known children's magazine) are named Goofus and Gallant.[2] Goofus and Gallant plan to start ice cream stands on opposite sides of town. The necessary equipment for a stand costs $1,000, and since the entrepreneurs each have only $100, they must obtain some outside finance.

Goofus finances his ice cream stand through stock issuance: that is, he finds some friends to put up $900, in exchange for which he promises them 90 percent of the profits. Gallant issues debt instead; he gets a friend to lend him $900, for which Gallant promises to pay $100 in annual interest. Both boys thus have enough capital to get their businesses going.

Things go along well enough at first for both entrepreneurs. But the summer days are hot, and scooping ice cream is hard work. Goofus says to himself, "I've made $100 profit at my stand already this week. If I were to keep working through the weekend, I could make another $100. But I have to share 90 percent with my partners—so that extra $100 really means only $10 for me! I'm not really willing to work the weekend for less than a $25 personal profit, so I think I'll quit and go fishing."

On the other side of town, Gallant is also having a crisis of conscience; he is developing scooper's elbow from serving so much ice cream. He loves to fish as much as Goofus does. Should he quit working? He says to himself, "The $100 I have earned so far is enough to cover the interest payment on my loan. From now on, any profits the ice cream stand earns are mine to keep. If I worked through the weekend, I could earn another $100; that's more than the $25 I would be willing to pay to knock off and go fishing." So Gallant goes back to work.

The two entrepreneurs have faced the same quandary, but have made different decisions. It is important to understand that, in both cases, it is economically efficient to keep the ice cream stand in operation through the weekend, in that the $100 in extra profit that could be earned is greater than the $25 value the proprietor of each stand places on his leisure. Yet, of the two, only Gallant does the "right" thing and keeps working.

Incentives to Do The Right Thing. In the children's magazine, Gallant's decisions to do the right thing stem from his superior moral character. In this example, morality has nothing to do with it; both boys make their decisions based on their calculations of personal gain. The difference between Goofus and Gallant is the way in which they have financed their ventures. By financing with equity, Goofus has created a situation in which his personal rewards are relatively insensitive to the profits of the company; a $100 increase in profits in-

[1]The classic article that introduced this approach is Jensen and Meckling (1976).

[2]The characters Goofus and Gallant are copyrighted by *Highlights for Children*, and their names are used with permission.

creases his personal return by only $10. This reduces Goofus's incentive to work hard and make decisions that are in the interest of the company. In contrast, once the interest payment is made, Gallant's personal returns fluctuate dollar for dollar with the profits of the company; he thus has a strong incentive to take actions that maximize the company's profits.

Indeed, in this particular example, Gallant would do the right thing (keep working) as long as he was financed at least 60 percent by debt. With 60 percent ($600) in debt, there would be 40 percent ($400) in total equity. Gallant's $100 in original capital would give him 25 percent of that equity, giving him a 25 percent share of the firm's profits. With a 25 percent share, Gallant would be just indifferent between working through the weekend (which nets him an extra .25 x $100 = $25) or going fishing (which is worth $25 to him). With anything above 60 percent debt finance, he would keep working.

Changing the Mode of Financing. We can add another chapter to the story of Goofus and Gallant. At the end of the summer, both boys notice that the debt-financed ice cream stand is more profitable than the equity-financed stand, and that this extra profitability is due entirely to the way in which the stands are financed. This implies that pure profits can be earned by a capital restructuring—a change in the mode of finance—of Goofus's operation. This restructuring can be accomplished if someone takes out a loan and uses the borrowed money to buy back the shares from Goofus's shareholders; this changes the stand's financing from equity to debt. The share buyback is particularly attractive at the current market price for Goofus's company's shares, which—because Goofus is always going fishing—is low. But the buyback would be profitable even if the acquirers had to pay the current stockholders some premium for their shares; the acquirers would simply be sharing with the current shareholders some of the profits expected to be produced by the restructuring.

The capital restructuring of Goofus's stand would work equally well if performed by Goofus, by Gallant, or by someone else.[3] In any case, the swapping of debt for equity is called a *leveraged buyout*, or LBO. If done by Goofus, the current manager of the operation, it could also be called a *management buyout*; if done by Gallant, it would be called a *takeover* (a hostile takeover, if Goofus resisted and tried to hold on to the company). The key point is that, in either case, the leverage of the company (its ratio of debt to equity) would increase, and this would lead to more efficient and profitable operations.

The Recent Explosion of Debt. The parable of Goofus and Gallant illustrates the idea that the financial structure of firms influences the incentives of "insiders" (managers, directors, and large shareholders with some operational interest in the business) and that, in particular, high levels of debt may increase the willingness of insiders to work hard and make profit-maximizing decisions. This incentive-based approach makes a valuable contribution to our understanding of a firm's capital structure. But while this theory might explain why firms like to use debt in general, does it explain why the use of debt has increased so much in recent years?

Michael Jensen, a founder and leading proponent of the incentive-based approach to capital structure, argues that it can.[4] Jensen focuses on a recent worsening of what he calls the "free cash flow" problem. Free cash flow is defined as the portion of a corporation's cash flow that

[3]This assumes, first, that Gallant has time to operate both stands and, second, that Gallant has enough profits from operating his own stand to buy out Goofus's share.

[4]For a summary of Jensen's views, see Jensen (1988). Jensen's article is part of a *Journal of Economic Perspectives* special symposium on takeovers, which provides an excellent and balanced introduction to this subject.

it is unable to invest profitably within the firm. Companies in industries that are profitable but no longer have much potential for expansion—the U.S. oil industry, for example—have a lot of free cash flow.

Why is free cash flow a problem? Jensen argues that managers are often tempted to use free cash flow to expand the size of the company, even if the expansion is not profitable. This is because managers feel that their power and job satisfaction are enhanced by a growing company; so given that most managers' compensation is at best weakly tied to the firm's profitability, Jensen argues that managers will find it personally worthwhile to expand even into money-losing operations. In principle, the board of directors and shareholders should be able to block these unprofitable investments; however, in practice, the fact that the management typically has far more information about potential investments than do outside directors and shareholders makes it difficult to second-guess the managers' recommendations.

How More Leverage Can Help. The problem of free cash flow is precisely analogous to the problem in the Goofus and Gallant example. Just as Goofus was willing to sacrifice company profits in order to pursue his personal goals (going fishing), so the company manager with lots of free cash flow may attempt to use that cash to increase his power and perquisites, at the expense of the shareholders. Jensen argues that the solution to the free-cash-flow problem is the same as the solution to the Goofus-Gallant problem: more leverage. For example, suppose that management uses the free cash flow of the company, plus the proceeds of new debt issues, to repurchase stock from the outside shareholders—that is, to do a management buyout. This helps solve the free-cash-flow problem in several ways. First, as in the Goofus and Gallant example, the personal returns of the managers are now much more closely tied to the profits of the firm, which gives them incentives to be more efficient. Second, the re-leveraging process removes the existing free cash from the firm, so that any future investment projects will have to be financed externally; thus, future projects will have to meet the market test of being acceptable to outside bankers or bond purchasers. Finally, the high interest payments implied by re-leveraging impose a permanent discipline on the managers; in order to meet these payments, they will have to ruthlessly cut money-losing operations, avoid questionable investments, and take other efficiency-promoting actions.

According to Jensen, a substantial increase in free-cash-flow problems—resulting from deregulation, the maturing of some large industries, and other factors—is a major source of the recent debt expansion. Jensen also points to a number of institutional factors that have promoted increased leverage. These include relaxed restrictions on mergers, which have lowered the barriers to corporate takeovers created by the antitrust laws, and increased financial sophistication, such as the greatly expanded operations of takeover specialists like Drexel Burnham Lambert Inc. and the development of the market for "junk bonds."[5] Jensen's diagnosis is not controversial: it's quite plausible that these factors, plus changing norms about what constitutes an "acceptable" level of debt, explain at least part of the trend toward increased corporate debt.[6] However, the im-

[5]Junk bonds, more properly called below-investment-grade or high-yield bonds, have been used in a number of large corporate restructurings. For a discussion of the junk-bond market and the uses of junk bonds in takeovers, see Loeys (1986).

[6]One important piece of evidence in favor of this explanation is that net equity issues have been substantially negative since 1983. This suggests that much of the proceeds of the new debt issues is being used to repurchase outstanding shares. This is what we would expect if corporations are attempting to re-leverage their existing assets, rather than using debt to expand their asset holdings.

plied conclusion—that the debt buildup is beneficial overall to the economy—is considerably more controversial.

Criticisms of the Incentive-based Rationale for Increased Debt. Jensen and other advocates of the incentive-based approach to capital structure have made a cogent theoretical case for the beneficial effects of debt finance, and many architects of large-scale restructurings have given improved incentives and the promise of greater efficiency as a large part of the rationale for increased leverage. The idea that leverage is beneficial has certainly been embraced by the stock market: even unsubstantiated rumors of a potential LBO have been sufficient to send the stock price of the targeted company soaring, often by 40 percent or more. At a minimum, this indicates that stock market participants *believe* that higher leverage increases profitability. Proponents of restructuring interpret this as evidence that debt is good for the economy.

There are, however, criticisms of this conclusion. First, the fact that the stock market's expectations of company profitability rise when there is a buyout is not proof that profits *will* rise in actuality. It is still too soon to judge whether the increased leverage of the 1980s will lead to a sustained increase in profitability. One might think of looking to historical data for an answer to this question. But buyouts in the 1960s and 1970s were somewhat different in character from more recent restructurings, and, in any case, the profitability evidence on the earlier episodes is mixed.

Even if the higher profits expected by the stock market do materialize, there is contention over where they are likely to come from. The incentive-based theory of capital structure says they will come from improved efficiency. But some opponents have argued that the higher profits will primarily reflect transfers to the shareholders from other claimants on the corporation—its employees, customers, suppliers, bondholders, and the government. For example, Andrei Shleifer and Lawrence Summers, in a soon-to-be-published study, present evidence that the premium received by shareholders of Trans World Airlines, when it was taken over, was paid for twice over by the wage concessions wrested from three TWA unions. Customers may be hurt if takeovers are associated with increased monopolization of markets.[7] Bondholders have been big losers in some buyouts, as higher leverage has increased bankruptcy risk and thus reduced the value of outstanding bonds. The government may have lost tax revenue, as companies, by increasing leverage, have increased their interest deductions (although there are offsetting effects here, such as the taxes paid by bought-out shareholders on their capital gains). The perception that much of the profits associated with releveraging and buyouts comes from "squeezing" existing beneficiaries of the corporation explains much of the recent political agitation to limit these activities.[8]

Another possible explanation for the effect of LBOs on stock prices is that the announcement of a buyout provides information about, but does not directly affect, the firm's future prospects. Suppose that the management of a publicly owned pharmaceutical firm has secret information about a revolutionary new drug discovered in its laboratories. This highly profitable new opportunity, being secret, is not

[7]McAndrews and Nakamura (1989) present a model in which increased leverage by existing firms can help deter potential competitors from entering the market.

[8]Not much systematic empirical work on the "squeezing" hypothesis has been done to date. In a careful study of 76 companies' management buyouts, Kaplan (1988) found that most of the value gained from the buyout was due to increased operating income and tax benefits, and that the transfers from bondholders were small. However, the study considered only the first two years' experience of each firm after its buyout, and lack of data prevented measurement of the buyout's effects on employees, suppliers, and customers.

reflected in the firm's stock price. The management of this company has a strong incentive to do a buyout, because it knows the stock is currently underpriced relative to the firm's future profits. But if the managers attempt a buyout, this will reveal to the public that the management thinks the stock is underpriced—which will cause the stock price to be bid up. This means that the managers will have to share some of the profits from their inside information with the shareholders. Profits may indeed rise after the buyout—reflecting the introduction of the new drug—but this increase in profits would not be in any way caused by the increase in leverage associated with the buyout. Similar arguments apply if the buyout is initiated by a competitor or someone else who might have better information about the firm than do stock market investors.

The debt buildup can also be criticized from the perspective of incentive-based theories themselves. Two points are worth noting: first, the principal problem that higher leverage is supposed to address is the relatively weak connection between firms' profits and managers' personal returns, which reduces managers' incentives to take profit-maximizing actions. But if this is truly the problem, it could be addressed more directly—without subjecting the company to serious bankruptcy risk—simply by changing managerial compensation schemes to include more profit-based incentives. Robert Vishny and Andrei Shleifer (1988) argue that the approach of tying managers' pay to profits is limited by legal precedents that allow shareholders to sue if managerial compensation is "excessive"; however, if managerial incentives are really the problem, it does seem that more could be done in this direction.

The Downside of Debt Financing. A second point, made by the original Jensen-Meckling (1976) article and many since then, is that increased debt is not the optimal solution to all incentive problems. For example, it has been shown, as a theoretical proposition, that managers of debt-financed firms have an incentive to choose riskier projects over safe ones; this is because firms with fixed-debt obligations enjoy all of the upside potential of high-risk projects but share the downside losses with the debt holders, who are not fully repaid if bad investment outcomes cause the firm to fail.

That high leverage does not always promote efficiency can be seen when highly leveraged firms suffer losses and find themselves in financial distress. When financial problems hit, the need to meet interest payments may force management to take a very short-run perspective, leading them to cut back production and employment, cancel even potentially profitable expansion projects, and sell assets at fire-sale prices. Because the risk of bankruptcy is so great, firms in financial distress cannot make long-term agreements; they lose customers and suppliers who are afraid they cannot count on an ongoing relationship, and they must pay wage premiums to hire workers.

These efficiency losses, plus the direct costs of bankruptcy (such as legal fees), are the potential downside of high leverage. In terms of the ice cream stand, if Gallant does not earn enough to make his interest payment, he may be tempted to skimp on the ice cream or even serve the cracked cones, sacrificing future sales to increase short-run income and avoid bankruptcy. Or he may simply choose to stop working, letting the stand go into default. Maybe a highly leveraged Gallant isn't so gallant after all!

THE MACRO ISSUE: SPILLOVERS AND MULTIPLIERS

Most discussion of corporate debt has focused on the microeconomic efficiency issues. However, the macroeconomic implications of debt are also important. There are several possible (although speculative) scenarios under which high corporate debt could contribute to macroeconomic dislocations.

One scenario is a "liquidity crisis." In

1970, the bankruptcy of the Penn Central railroad, and Penn Central's resulting default on its short-term borrowings, caused a temporary, sharp decrease in new lending in the commercial-paper market. Prompt action by the Federal Reserve stabilized the situation. However, the potential for a similar episode, possibly on a larger scale, exists.

This potential arises from the fact that many firms count on being able to "roll over" their short-term debt (that is, re-borrow) as it comes due. If, for some reason, lenders became worried about bankruptcy risk and refused to roll over maturing debt, then these firms (even though they might be fundamentally solvent) would find themselves illiquid—that is, short of cash to make promised payments.

In most cases, firms would respond to this by taking loans on lines of credit previously negotiated with banks; however, that would spread the illiquidity problem to the banking system, as banks suddenly were subjected to large demands for credit. To ease such a liquidity crisis, the Federal Reserve would have to provide more funds to the financial system, either through the discount window, as it did during the Penn Central episode, or through open-market operations.

Perhaps a more disturbing scenario is a "solvency crisis." Suppose that, for reasons unrelated to financial structure, the economy were to enter a serious recession, leading to falling earnings and (perhaps) rising interest costs. Given high leverage inherited from the past, some firms might find it difficult to service their debt. Firms in financial distress are likely to retrench, cutting back employment, production, and investment. This would reduce total demand, worsening the recession and leading to financial problems in other firms. Thus, the initial recessionary shock could be magnified by high leverage; in the language of traditional Keynesian macroeconomic analysis, the "multiplier" relating the size of the initial disturbance to the size of the resulting recession will have increased.

Distressed Firms Can Have Far-reaching Effects. The difference between the microeconomic and macroeconomic perspective is that in the macroeconomic approach, we are concerned not only with the effects of financial distress on the distressed firm itself, but with the effects of the distressed firm's actions on other firms. If there are "spillovers" from one firm to another (for example, if the shutdown of a large employer in a town affects the town's economy more generally), then financial distress will increase the multiplier. Higher leverage thus has the potential to increase the vulnerability of the economy to destabilizing shocks. Importantly, the possible effects of spillovers and multipliers will not be taken into account by individual firms when they choose their preferred level of debt.

Are these scenarios likely? Nobody knows for sure, but there are several ways to argue that they are not very likely.

First, it should be pointed out that, despite the rapid increase in debt, corporate debt-to-equity ratios (measured in market-value terms) have not changed much during the 1980s. Indeed, Ben Bernanke and John Campbell (1988), using a sample of 1,400 large U.S. nonfinancial corporations, showed that debt-to-equity ratios in the 1980s remain well below their peaks, which occurred during the 1973-74 recession. The relative stability of the debt-to-equity ratio reflects the bull market in stocks of the 1980s, which allowed stock values to keep up with the high rate of debt issuance. From this perspective, debt burdens have not really increased.

However, even though debt-to-equity ratios have not increased, another measure of debt burden—the ratio of interest payments to total cash flow—has grown significantly. Bernanke and Campbell found this measure of interest burden to be about 50 percent higher in the mid-1980s than in the 1970s; several studies report that this ratio is currently close to its 1981-82 recession high, despite the long expan-

sion that has occurred since the end of 1982.

How do we reconcile the fact that the interest-payments-to-earnings ratios (and debt-to-earnings ratios) have grown while debt-to-equity ratios have not? Mechanically, the answer is that both debt and stock values have grown much faster than earnings. The high ratio of stock prices to current earnings—sometimes called the P/E ratio—implies optimism on the part of investors about future earnings.[9] The stock market can be interpreted as saying that, even though current interest burdens are high, earnings are likely to rise enough in the future for firms to meet their debt obligations.

If we take the stock market's prediction at face value, then, a liquidity crisis or solvency crisis cannot be called a likely event; a reasonable expectation is that the corporate debt will be serviced. This doesn't mean that macroeconomic problems due to debt are not possible, however; it only means that they should be thought of as a sort of worst-case scenario. Nevertheless, good policymaking requires attention to worst-case as well as average outcomes. Indeed, it is during crisis situations in which good policies are most important.

The Likelihood of Macroeconomic Debt Problems. To get an idea of what might happen in a worst-case situation, Bernanke and Campbell (1988) simulated the effects of a recession in their sample of large firms. They asked what would have happened if the changes in cash flow, stock prices, and interest rates that actually occurred in the recessions of 1973-74 and 1981-82 had occurred again in 1986, affecting the very same firms in their sample. Those two recessions were found to have different effects in the simulations. In the 1973-74 scenario, the stock market declines sharply; the simulation shows that in this type of recession more than 10 percent of the large firms would become technically insolvent, in the sense that the market value of their assets would fall below the market value of their debt.[10] In the 1981-82 scenario the stock market is fairly stable, but cash flow falls and interest rates rise; in this case Bernanke and Campbell found that about 10 percent of their firms would be unable to meet interest obligations without further borrowing. In the terminology introduced above, a 1973-74-type recession would create the potential for a solvency crisis, while a 1981-82-type recession might lead to a liquidity crisis.

Overall, then, the high share prices of U.S. corporations—not to mention the willingness of lenders to accept the high leverage of borrowing corporations—suggest that knowledgeable investors consider a macroeconomic debt crisis unlikely. However, unlikely is not the same as impossible; the Bernanke-Campbell simulations suggest that macroeconomic debt problems could be triggered by recessionary shocks of a magnitude that has been experienced twice in the last decade and a half.[11] This risk could possibly be ameliorated in the short run by aggressively expansionary monetary and fiscal policies, but only at the cost of higher inflation and potentially greater instability in the long run.

[9]If the stock market is "efficient," then the price of a share should represent the present discounted value of current earnings and future expected earnings. If the P/E ratio is high, then either interest rates are low (which they currently are not), or future earnings are expected to be high relative to current earnings.

[10]If the value of assets is less than the value of debt, then the debt cannot be repaid; the firm must either eventually go bankrupt or be reorganized.

[11]Another quantitative objection to the possibility of a macroeconomic debt crisis is that much of the recent debt buildup has occurred in cyclically insensitive sectors, such as food processing and services (see Roach, 1988). While this is true, it is also true that debt burdens have increased in cyclically sensitive sectors, like durable goods, as well. The simulations reported in the text implicitly take into account any shifting sectoral composition of debt.

Has Debt Become Less Risky? An alternative way to question the possibility of a macroeconomic debt crisis is to argue that, because of changes in the financial environment, a given level of debt poses less risk in 1989 than it would have in, say, 1974. Here is a concrete example: a recent development is the use of what is called "strip financing," in which investors in a firm commit to holding a fixed combination of the firm's debt and equity instruments. The idea is to minimize conflict between debt holders and shareholders (who, under strip financing, are one and the same), thus reducing the potential cost of financial distress and reorganization. Another development, stressed by Jensen, is that financial firms involved in arranging buyouts are in some cases retaining some stake in the management of the LBO firm; thus, the financial firm will have an incentive to assist the reorganization process should the LBO fall into financial trouble.

It is certainly true that the safety of any given level of debt depends on the financial environment. Japanese corporations, for example, have borne much higher levels of debt than their U.S. counterparts without experiencing problems. This works because most Japanese corporate debt is in the form of bank loans, and the large banks take an active role in the management of the firms to which they lend. Should a firm experience difficulties, the bank assists in obtaining new finance or in reorganization; at the same time, the bank is well placed to oversee whatever management or strategy changes the firm must make. These sorts of practices, which contrast with traditional "arm's length" lending in the United States, make high debt burdens safer.

Whether the U.S. financial environment has in fact moved substantially in the Japanese direction is an open question. Oversight of corporate management by the financial firm that arranged the LBO is a step toward the Japanese model; however, it is not clear at this point how widespread this practice is. Working in the other direction is the fact that increasing corporate reliance on below-investment-grade (junk) bonds has come at the expense of corporate use of bank loans. Since junk bonds tend to be held by mutual funds, insurance companies, and other institutions not directly involved in the management of the firms to which they lend, the use of junk bonds (in place of bank loans) may strengthen the traditional "arm's length" tendency of U.S. capital markets. This may make negotiated avoidance of bankruptcy more difficult and increase potential bankruptcy costs.

The contention that the risks of leverage have been reduced by institutional changes also raises a theoretical question: according to the incentive-based approach, the whole point of increased leverage is to impose discipline on corporate management. If, because of changes in the financial environment, failure to make contracted interest payments becomes a minor concern, then it would seem that the disciplinary impact of debt on management will be much reduced.

CONCLUSION

The argument for higher leverage is that it imposes discipline on the managers of the corporation, leading to greater efficiency. Effectively, this greater discipline is achieved by means of a threat: if the firm does not perform up to expectations, it may well suffer insolvency and reorganization. As with the discipline of children, the advantage of a draconian threat is the good behavior it may promote; the disadvantage is that the threat may have to be carried out.

Here is an analogy often used in discussing the costs and benefits of high leverage. Suppose we want people to drive more carefully. One way to do this would be to require every car to have a dagger in the steering wheel, the point aimed directly at the chest of the driver. This would certainly promote more careful driving, since even a fender bender might have

ghastly consequences. But suppose there was a sudden worsening in driving conditions—a freak snowstorm, for example—that unexpectedly put even the most careful drivers at risk of accidents. Under these circumstances, the dagger-in-the-wheel policy might well lead to more deaths and injuries than if this "discipline device" had never been used.

In this story, the dagger in the wheel is supposed to represent high corporate leverage—which under normal circumstances promotes profit maximization ("safe driving") by managers. The snowstorm is an economy-wide recession (or perhaps some other disturbance, like a sharp increase in interest rates). The concern is that high leverage, while possibly a boon in good times, might become a destructive force in bad times.

This trade-off poses a quandary for policymakers. Despite the criticisms and existing uncertainties, few economists would completely dismiss the claim that higher leverage can be used to improve incentives and promote efficiency. Given the importance of improving the performance of U.S. corporations in a competitive international marketplace, it would probably be a severe mistake for the government simply to ban buyouts or limit leverage. On the other hand, pro-debt biases in the tax code, the possibility that higher leverage can help shareholders "squeeze" employees and others, and the possibility of "spillovers" from financial distress all suggest that firms will take on more debt than is good for the economy as a whole.

Three types of policy responses might help the situation. First, the government should take actions to increase the accountability of managers to shareholders (for example, by eliminating legal barriers to paying managers profit-based compensation); this would reduce the need to improve incentives indirectly through high leverage. Second, banking, financial market, and antitrust regulators should carefully scrutinize highly leveraged deals that fall within their purview; it is particularly important that government-insured deposits not be the funding source for risky buyouts, unless the bank's capital is demonstrated to be adequate. Finally, biases in the tax code that favor buyouts and high leverage should be removed.

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