ALIGNING SHAREHOLDERS & BONDHOLDERS

Debt-Based Pay May Give Much-Needed Balance

By ALEX EDMANS

Debt-Based Pay May Give Much-Needed Balance

The idea of compensating CEOs according to debt value is catching on in the United States. This article examines this model, and suggests the best way to determine a manager's debt/equity mix.

The recent global financial crisis saw many CEOs undertake risky actions that cost bondholders billions of dollars. Particularly in the United States, these actions included excessive subprime lending, overexpansion or diversifying away from their core business into derivatives trading, as happened with Enron and A.I.G. to their peril.

Critics argue that CEOs had incentives to do this because they were compensated exclusively with equity-like instruments, such as stock and options. Shareholders gain if a risky project pays off, but their losses are capped by limited liability. Thus, if the firm is already close to bankruptcy and equity is close to zero, things can't get much worse. In such case, managers who hold only equity may "gamble for resurrection" – in other words, they begin pursuing riskier and riskier projects in a last-ditch attempt to salvage their firms.

We all know how that story turned out. Now, many disgraced companies are rethinking their compensation schemes. Some, including A.I.G., have even started tying pay more closely to debt rather than purely to equity.

The use of debt can be an efficient compensation solution, as I argue in a recent paper written with Qi Liu of Wharton. This is because its payoff depends not only on the occurrence of bankruptcy, but also on the value of the firm should it become insolvent. In this way, debt can serve as a positive tool for improving project-selection decisions.

More firms in the United States are exploring this idea of compensating CEOs according to debt value, not just equity value. Debt compensation can be done either directly – by giving them debt-like securities such as bonds, pensions or deferred compensation – or indirectly – by linking their bonuses to the price of debt or to a firm's credit rating or credit default spread.

This article examines the theoretical framework underpinning this compensation model. For those interested in going down this route, I also suggest what proportion of a manager's compensation should be issued in debt.

Debt: The Undiscovered Planet

Until recently, it was commonly assumed that companies compensated CEOs with equity-like instruments alone, such as stock and options. For this reason, debt compensation was not studied in any great depth, nor did anyone attempt to justify it. Some business researchers, such as Bebchuk and Jackson, have even argued that debt represents inefficient rent extraction, since CEOs take advantage of limited disclosure rules to pay themselves high pensions, even though they are not optimal.

Many misconceptions persist, not because CEOs don't hold any debt, but because disclosure of debt compensation has been extremely limited. It's like a planet no one has heard of.

New rules put in place by the U.S. Securities and Exchange Commission (SEC) in March 2007 have shed light on the fact that more companies offer debt-like compensation than previously thought. Before, data on debt compensation had to be hand-collected. Now, the SEC mandate has allowed more systematic studies on debt-based compensation and paved the way for a deeper understanding of inside debt.

Studies by Sundaram and Yermack, Gerakos, and Wei and Yermack have found that some CEOs do hold substantial amounts of debt in their own firms in the form of defined benefit pensions and deferred compensation. Jack Welch of General Electric, for example, held $109 million of this kind of debt, and the former CEO of Coca-Cola, Roberto Goizueta, had more than $1 billion in deferred compensation when he died. According to Sundaram and Yermack, an estimated 13 percent of CEOs hold a greater percentage of debt than equity in their firms.

Debt-Based Pay May Give Much-Needed Balance

> There are sure signs that debt compensation is gaining ground. This is good news, because it allows corporate boards to better balance the interests of shareholders and bondholders.

These are sure signs that debt compensation is gaining ground. This is good news, because it allows corporate boards to better balance the interests of shareholders and bondholders, while boosting executive motivation if bankruptcy looms on the horizon.

Based on my own study of the subject, I believe that inside debt compensation can indeed be optimal for the long-term success of firms. By "inside" debt, I am referring to debt – or any security with payoffs very similar to debt – held by the manager, as opposed to "outside" debt, which is held by external investors.

Moves in the Right Direction

Some commentators argue that caps on equity ownership would solve the problem of CEOs undertaking the kinds of risky actions that precipitated the financial crisis. However, caps have potential side effects: CEOs with limited equity have very little incentive to engage in productive effort.

Instead, I propose an alternative solution to risk shifting: paying the CEO with debt. This echoes recent calls to tie CEOs to the value of their bonds to prevent future crises.

Indeed, such a change has been adopted by the insurance giant, A.I.G., which was one of those troubled institutions that had to be bailed out by the U.S. government. A.I.G. subsequently changed its compensation scheme to include bonuses known as "long-term performance units." The scheme calls for basing 80 percent of the bonus on the price of the firm's bonds, and 20 percent on equity. A.I.G.'s plan was approved by Kenneth Feinberg, the so-called "pay czar" formerly with the United States Department of the Treasury's Troubled Asset Relief Program (TARP),

EXECUTIVE SUMMARY

When business takes a bad turn, managers whose compensation only ever contains equity-like instruments, such as stock and options, are often tempted to take bigger risks in a last-ditch attempt to salvage their firms. But even if their firms go down in flames, these managers usually emerge with fewer scars than those unfortunate bondholders saddled with the resulting debt. The litany of corporate failures in the United States and elsewhere remains fresh in everyone's memory.

This article is based on a paper originally written with Qi Liu of Wharton, forthcoming in the *Review of Finance*, which has attracted considerable attention for being the first to show that debt compensation can be an optimal element in executive compensation, particularly when a company faces financial difficulties.

Instead of the typical practice of paying top managers heavily with stock, the author suggests giving them debt-like securities, such as bonds, pensions or deferred compensation, or linking their bonuses to the price of debt or to a firm's credit rating or credit default spread. He suggests what proportion of a manager's compensation should be issued in debt: equal proportions of debt/equity if the manager only ever takes project-selection decisions; less so in situations when a CEO has to take decisions in which "effort" is a key variable, depending on whether effort has a greater effect on the firm's solvency value or liquidation value.

With new evidence emerging that an estimated 13 percent of CEOs hold a greater percentage of debt than equity in their firms, along with recent moves by A.I.G. and others in a similar direction, the author feels that this compensation model is an idea whose time has come.

> By aligning compensation with both bondholders and shareholders, the manager will choose projects that are beneficial to both types of investors, rather than favoring one over another.

which wound down in October 2010.

In a telling announcement, an A.I.G. spokesperson stated, "A.I.G. is committed to compensation practices that allow the company to attract and retain capable and experienced professionals and motivate them to achieve strong business results in both the short and long term."

This strikes me as a positive move. In essence, it represents a shift away from the typical practice of paying top managers heavily with stock. Hopefully, it will prevent future financial crises for A.I.G. and others, and align the manager more closely with all investors, both shareholders and bondholders. This is crucial.

Equity Alone Makes Risk More Tempting

In our study, we started by considering a model in which a CEO has to make a project-selection decision between a risky venture and a safe bet. We later extended our model to consider situations in which a CEO had to make an "effort decision."

Some risky projects, like investing in R&D, can create value in the process. Others, like subprime lending, destroy value. We took into consideration a set of standard securities: debt, equity and a fixed bonus that pays during solvency.

We found that a CEO who holds equity exclusively will opt for the risky project, even when it destroys value. This behavior is known as "risk shifting" or "asset substitution." The thinking behind it is that if the CEO gets lucky and the gamble pays off, then the equity will shoot up in value. If, however, the project is unsuccessful, it is the bondholders who suffer the brunt of the losses. This is exactly the scenario that transpired in the cases of Bear Stearns and Lehman Brothers.

But consider another scenario: tying the CEO partly to bondholders. Compensating managers with debt – or rather, debt plus equity combined – requires them to internalize their losses, and they will more likely refrain from undertaking the risky project when it is detrimental to the overall value of the firm.

Put differently, by aligning the manager's compensation with both bondholders and shareholders, the manager will choose projects that are beneficial to both types of investors, rather than favoring one group over another.

Nice Idea – If It Worked

Some have suggested that risk-shifting might be solved by giving the CEO a bonus if the firm is solvent, or conversely, hitting the executive with an equivalent penalty if the firm goes belly up.

Unfortunately, this doesn't work. It may make the CEO sensitive to the possibility of bankruptcy, but not to the value of assets in the actual event of bankruptcy. True, if the business flops, the manager consequently misses out on the potential bonus or suffers the previously agreed penalty – none of which has any bearing on whether creditors recover 80 cents on the dollar or 10 cents on the dollar. Again, there is much less at stake, so the manager is tempted to gamble for resurrection, even if it means sacrificing recovery values.

Meanwhile, during bankruptcy, deferred compensation and pensions stand in line with other unsecured creditors. If debt holders receive 80 cents per dollar, then so should the manager whose compensation has been tied to that debt, thus aligning the CEO's interests more closely with creditors. Bondholders, in turn, will demand a lower return on their debt if they know that the manager is aligned with them, and they won't engage in risk-shifting behavior, either.

Furthermore, recent data by Wei and Yermack suggest that disclosures of large inside debt lead to increased bond prices. This

> If the manager only ever takes project-selection decisions, the debt/equity ratio should be the same proportion. In situations when the manager exerts effort, it may be best to depart from this principle.

lower cost of debt benefits shareholders. Even though shareholders set pay, they also wish to take bondholders into account in order to reduce the firm's cost of debt.

The case of leveraged buyouts (LBOs) is particularly relevant in this regard. LBOs usually involve large firms affected by excessive investment, which are taken over by managers working for private equity firms that often assume both the company's debt and equity.

Determining the Right Mix

When determining the manager's debt/equity mix, the place to start is by assessing your firm's overall debt/equity ratio, and also the nature of the decisions that the manager has to take. If the manager only ever takes project-selection decisions, and there are no effort decisions, then the debt/equity ratio should be the same proportion. In other words, the more debt the firm has, the more debt the manager should have.

For example, if the firm is funded purely on equity, with no debt at all, then the firm should give the manager purely equity. If the firm is financed with 60 percent equity and 40 percent debt, then the manager's pay should be split likewise. If the manager owns 2 percent of the firm's shares, then he or she should also own 2 percent of its bonds. Regardless of what happens to debt and equity prices, it's simply a matter of ensuring that the manager ends up holding both securities in equal proportions.

It is important to note that this "equal proportions" principle is attractive, in that it is self-balancing in the long term. Take a situation in which a manager has 60 percent equity and 40 percent debt. Suddenly, the company lands on hard times. The value of its equity falls, and the value of the manager's equity falls commensurately. This is precisely the moment when debt compensation becomes effective: The closer the firm is to bankruptcy, the closer the manager's compensation becomes tied to that same debt. When this happens, the manager will avoid excessively risky projects and safeguard the firm's solvency value.

In situations when the manager exerts effort as well as makes a project-selection decision, the issues become more intricate. In this case, it is usually best to depart from the "equal proportions" principle.

Whether to move to more debt or more equity depends on whether the effort has a greater effect on the firm's solvency value or liquidation value, as this affects whether debt or equity is more powerful in inducing effort.

If the manager's effort has a particularly high effect on the firm's solvency value – such as pursuing new growth opportunities – then the manager should hold more equity than debt to induce this effort. This is because equity is most sensitive to solvency value.

In addition, in high growth firms, the project-selection problem of risk shifting is less severe, since risky projects are often efficient in such companies, again reducing the need for debt.

Take a different situation: Suppose the

ABOUT THE AUTHOR

Alex Edmans is Dorinda and Mark Winkelman Distinguished Scholar and Assistant Professor of Finance at The Wharton School, University of Pennsylvania. He earned his B.A. in economics and management from Merton College, University of Oxford, and a Ph.D. in financial economics from MIT Sloan School of Management as a Fulbright Scholar. In addition to executive compensation, his research interests include corporate governance, mergers and acquisitions, and behavioral finance. He has received numerous teaching awards, as well as Distinguished Referee Award, *Review of Financial Studies*; Finalist, Smith-Breeden Prize for Best Paper in *The Journal of Finance*; and Moskowitz Prize for Best Paper in Socially Responsible Investing. Previously he worked as an investment banker for Morgan Stanley.

> Will debt-based compensation become more commonplace? I certainly hope so. As with any innovation, the challenge is convincing firms to adopt it.

manager's effort has a particularly strong effect on the firm's liquidation value. For example, it involves scrapping non-core assets. In this case, the CEO should hold more debt than equity, because debt is most sensitive to liquidation value.

Consider a firm headed toward bankruptcy. Regardless of the severity of bankruptcy, the value of equity in bankruptcy is zero. A manager who only holds equity has no incentive to improve the liquidation value of the firm.

However, if the manager has some debt, even if the firm is going to go bankrupt, the manager has some incentive to work hard, since debt is sensitive to the liquidation value.

Will This Model Catch On?

The principle of "equal proportions" is only a guideline. As explained previously, there are certain circumstances in which firms may wish to depart from it, such as when effort is important in addition to project selection. Nonetheless, it can serve as a useful starting point.

This model of compensation delivers a number of predictions that are consistent with recent evidence. First, it predicts that inside debt should be higher in more leveraged firms, as found by Sundaram and Yermack, and lower in growing firms, as found by Gerakos.

It also suggests that CEOs with high inside debt manage their firms more conservatively – as confirmed by Sundaram and Yermack, using a measure of distance-to-default, as well as by Gerakos, who studied firms' credit ratings.

Will debt-based compensation become more commonplace? I certainly hope so.

As with any innovation, the challenge is convincing firms to adopt it. Everyone is waiting for someone else to embrace it first. This is particularly true in the realm of executive compensation, where CEO contracts are often benchmarked against those of their peers.

Still, the fact remains that this is not an unheard-of practice: Companies have employed some debt-based compensation – in the form of deferred compensation or defined benefit pensions – for many years. What's more, some fallen companies, like A.I.G., are picking themselves up after the crisis and deciding to tie executive compensation to debt values in an explicit fashion. Perhaps the movements we have seen in this direction in the United States will eventually encourage more companies to follow suit. □

TO KNOW MORE

- Edmans, A., and Q. Liu. "Inside Debt." *Review of Finance*, forthcoming.
- Bebchuk, L., and R. Jackson. "Executive Pensions." *Journal of Corporation Law* 30 (2005): 823-55.
- Gerakos, J. "CEO Pensions: Disclosure, Managerial Power and Optimal Contracting." Unpublished working paper, University of Chicago, 2007.
- Sundaram, R., and D. Yermack. "Pay Me Later: Inside Debt and Its Role in Managerial Compensation." *The Journal of Finance* 62 (2007): 1,551-88.
- Wei, C., and D. Yermack. "Deferred Compensation, Risk and Company Value: Investor Reactions to CEO Incentives." Unpublished working paper, Federal Reserve Bank of New York, 2010.