

Pension Claims and Corporate Assets

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The beneficiary of an "underfunded" pension plan must look beyond the pension assets to the sponsoring corporation. Whether pension claims are "fully secured"—as opposed to "fully funded"—depends on whether the corporation is solvent in terms of an *augmented corporate balance sheet* that includes pension claims, discounted at the riskless rate, as a corporate liability and pension assets, valued at market, as a corporate asset.

Pension Claims and Corporate Assets

◀ Because a lender's entire principal is at risk, he cannot safely confine himself to looking at current flows. Rather he must ask how the value of his claim compares with what the underlying security could be sold for in foreclosure. This is true even when his loan is secured by the general credit of the borrower, in which case he must look to the value of the borrowing corporation itself for protection.

For purposes of comparison with the underlying security, the appropriate value of pension beneficiaries' claims is the present value of future benefits, discounted at the riskless interest rate. If the assets available exceed the present value of the claims only when the latter are discounted at a higher rate, the proceeds from the underlying security will prove inadequate — unless the underlying assets are invested aggressively, with the attendant possibility of losses leading to a still greater inadequacy.

The beneficiary of a pension plan that is "underfunded" in this special sense must look beyond the pension assets to the sponsoring corporation for the security underlying his claim. Whether pension claims are "fully secured" — as opposed to "fully funded" — depends on whether the corporation is solvent in terms of an *augmented corporate balance sheet* that includes pension claims, discounted at the riskless rate, as a corporate liability and pension assets, valued at market, as a corporate asset. ▶

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"The book value of a common stock was originally the most important element in its financial exhibit. It was supposed to show the value of the shares in the same way a merchant's balance sheet shows him the value of his business. This idea has almost completely disappeared from the financial horizon. The value of a company's assets as carried in its balance sheet has lost practically all its significance. This change arose from the fact, first, that the value of the fixed assets, as stated, frequently bore no relationship to the actual cost and, second, that in an even larger proportion of cases these values bore no relationship to the figure at which they could be sold or the figure which would be justified by the earnings."

— Graham and Dodd¹

The potential burden of the pension plan is important.² But *how* important and *who* bears the burden? That depends on how pension claims are treated. We are fully aware that, before ERISA, a pension beneficiary's legal claim was against the pension fund and not the assets of the employer corporation. Yet, in practice, the system generally functioned as if the claim did extend to corporate assets. The beneficiary expected sufficient employer contributions to fund his or her claim, and society expected the company to pay such claims as they fell due.

On the other hand, the pension beneficiary's claim was not a conventional lender's claim against the corporation. Until ERISA, it was virtually ignored by corporate lenders and security analysts (as we shall see, for good reason). With ERISA they can no longer afford to do so. But to understand why, we

1. Footnotes appear at end of article.

must first understand the nature of a lender's claim against a corporation:

1. Because a lender's entire principal, as well as current interest, is at risk, a lender cannot safely confine himself to looking at current flows (e.g., to comparing the annual interest expense or the debt service to earnings before interest and taxes). The basic question of security for a lender is one of stocks rather than flows.

2. The lender must ask himself: How does the value of the lender's claim compare with what the underlying security could be sold for in foreclosure? If we assume that markets are reasonably efficient, then current market prices will be useful guides in answering this question.

3. This is true even when the loan in question is secured by the general credit of the borrower, in which case it is the value of the borrowing corporation itself to which the lender must look for protection. If the lender's claim is junior to other claims on the general credit, then it is the value of the corporation *less* the value of the senior claims to which the lender must look.

4. The market value of a corporation fluctuates from day to day. This does not diminish the relevance of current market value for the lender, because this value impounds everything known about the borrower, including all past market values. This does raise the possibility, however, that *future* market values will be less than the current market value—a possibility that constitutes the fundamental risk for a lender.

5. In bankruptcy, a borrower will sometimes be worth more as a going concern, sometimes more with his assets liquidated piecemeal. It may or may not be true that market value reflects the worth of the firm on a going-concern rather than a piecemeal basis, but the value relevant to creditors (i.e., the greater of these two values) will never be *less* than the market value.

How much his claim is really worth (as opposed to its cost or its face value) is of critical importance to the lender. But what is the relevance of this question for the executive of the borrowing corporation?

In arm's-length dealing, a rational lender will be unwilling to accommodate a borrower unless the value of the claim created by the loan exceeds the amount of the loan. But the corporation's ability to borrow is measured by the lender's willingness to lend. The value of the residual equity remaining after *existing* lenders' claims are deducted measures what the corporation can give *future* lenders in return for still further loans to the corporation. Thus the residual equity at market value is an upper limit on the corporation's as yet untapped borrowing

power—a number of more than token interest to corporate executives. Since this number fluctuates unpredictably from day to day, the corporation's future borrowing power is to this extent also unpredictable.

In sum, although there are several ways to view the worth of the assets underlying claims on a corporation, there is only one pertinent way—market value. An asset is worth only what a willing buyer will pay for it. It is the relevant number even though it depends in part on economic and market forces wholly external to the assets being valued.

Whether the security in question is an entire firm or a specific asset, accounting book value will rarely, if ever, be superior to current market value as an estimate of what a lender could sell his security for, if he were to foreclose today. Book value is irrelevant, for it is an accountant's concept based on an entirely different premise—that of historical cost. The accountant's principal concern is the amortization of cost over the useful life of the asset, which rarely relates to economic reality. When valuing pension claims and assets—and particularly in making the actuarial interest assumption—the actuaries tend to assume a correlation between past returns and future returns, applying "smoothing techniques" to the valuation of pension portfolios, and basing their assumptions about future portfolio returns on past history. Yet, almost all studies of financial markets indicate that there is no correlation between historical returns and future returns and that asset prices tend to fluctuate unpredictably.³ Because of the unpredictable character of market value fluctuations, today's value is the best basis for an estimate of tomorrow's value, and so on.

In a period of rising interest rates companies often take advantage of differences between book and market values and reduce debt outstanding by purchasing in the open market their own bonds selling at deep discounts. In 1973 and 1974, companies such as General Host, United Brands and Western Union engineered debenture swaps that required minimal cash outlays but cleared the books of millions of dollars of debt. In June 1973, Western Union offered holders of its 5-1/4 per cent debentures \$100 cash and \$560 principal amount of a new 10-3/4 per cent debenture for each \$1,000 principal amount of their 5-1/4 per cent debentures. Because the market value of the latter was only \$570 at the time of the offering, eager bondholders swapped \$62 million of the old bonds for six million in cash and \$35 million of the new bonds. In effect, Western Union wrote down some of its outstanding debt from book to market value, and thereby reduced its debt load by \$21 million.

THE PENSION BURDEN PRIOR TO ERISA

Since corporate pension assets were commonly invested at least in part in risky assets (i.e., common stocks), were the beneficiaries automatically in jeopardy?

Consider the analogy between pension beneficiaries and bank deposits. Loan defaults occur, and the rate of default is sensitive to economic and market conditions overall, so that even a highly diversified loan portfolio is risky. Yet in a properly run bank, depositors' claims can truly be said to be virtually riskless—even in the absence of a Federal Deposit Insurance Corporation. The reason is that a well-run bank maintains equity capital sufficiently large in relation to its deposits to absorb any losses incurred in the loan portfolio.

In similar fashion, the corporation can encourage risk-taking in its pension portfolio without jeopardizing the beneficiaries so long as:

1. Pension beneficiaries are considered to have a claim on the general credit of the corporation in the event that assets in the pension portfolio prove inadequate.
2. The going-concern value of the corporation is adequate to meet the pension and other claims.

Whether the second condition is satisfied is most easily determined in terms of what we may call the *augmented corporate balance sheet* (see Figure 1), which includes pension and corporate assets, and pension and corporate liabilities.⁴ On the left-hand side of the balance sheet we have the assets of the corporation—measured, however, at market rather than book value and augmented by the current market value of the pension portfolio. On the right-hand side of the balance sheet we have the usual claims of corporate creditors, but augmented by the present value of the pension obligations. In the augmented balance sheet the residual equity available to corporate shareholders is the margin of protection for the pension beneficiaries. (The introduction of the pension assets on the left side and the present value of pension claims on the right will generally change the residual equity.)

FIGURE 1

Augmented balance sheet (all assets at current market value)	
Assets	Liabilities
Pension portfolio	Present value of pension obligations
Corporate assets	Corporate liabilities
	Corporate equity* (plugged figure)

* Because equity is a residual, it will generally be different for the augmented and original corporate balance sheets.

The key to interpreting the augmented balance sheet is the present value of the pension claims. The rate at which future obligations are discounted back to the present is critical. The appropriate discount rate is the riskless interest rate. If one considers that the corporation has no obligation to protect pension beneficiaries against inflation, then the appropriate discount rate is the rate on government obligations of comparable maturity. If, on the other hand, one considers that the current statement of future pension obligations is really a statement expressed in current dollars of future obligations, the real value of which is understood to be fixed, then the appropriate discount rate is the riskless interest rate with inflationary expectations removed—a rate commonly estimated at roughly three per cent. A more common way to take inflationary expectations into account is to adjust both the wage and asset return assumptions. It is critical, however, that the gap between the wage and return assumptions not exceed three percentage points, for the reason cited previously. Thus, a company that uses a six per cent interest rate assumption should apply at least a three per cent wage assumption, so as to maintain the three per cent spread.⁵

The present value that results from discounting at the appropriate rate is an estimate of the market value of the assets on which the beneficiaries must have a claim if they are not to be subjected to investment risk. If the assets available exceed the present value of future pension claims only when the latter are discounted at a higher rate, the expected proceeds from the assets will fail to meet the claims unless the assets are invested aggressively, with the attendant possibility of loss. Because the riskless rate represents the highest return one can be certain of getting, it enables us to calculate the magnitude of current pension assets necessary to *guarantee* that future obligations can be met.

Under defined benefit pension plans, the corporation guarantees, not its contributions, but the payment of the future obligations. The only way this guarantee can be meaningful is if the assets available to meet these obligations exceed this magnitude *at every point in time*. Any corporation that is insolvent in the sense of the augmented corporate balance sheet is imposing risks on the beneficiaries for which they are unlikely to get fully rewarded.

Unlike conventional corporate creditors, pension beneficiaries are not in a position to force reorganization of the corporation whenever the margin is threatened by suspending their willingness to lend. Hence pension beneficiaries have been virtually powerless to prevent employers from sliding into insolvency in this sense—even though in some cases it ultimately prevented them from collecting their pension benefits.

A Practical Example

Consider the application of the augmented balance sheet to a real, though slightly disguised, example. Figure 2 displays the conventional corporate balance sheet of firm ABC, with all figures at book value. The market value balance sheet, shown in Figure 3, is the second step. By adding stockholders' equity (\$717.8 million) and long-term debt (\$592 million), both at market value, to current liabilities (\$359.5 million), we have the market value of the right-hand side of the balance sheet (\$1,699.3 million). Since current assets are essentially valued

at market (the inventory question aside), we can subtract the current asset total (\$694.1 million) from the sum that appears on the right-hand side of the balance sheet to derive the implied market value of all noncurrent assets (in this case, largely plant and equipment, equal to \$975.2 million). These changes are reflected in Figure 3.

To that balance sheet we now add the market value of the pension fund as an asset (\$421.5 million) and the present value of the pension obligations as a liability (\$1,070 million). To make the balance sheet balance, we then adjust the market

FIGURE 2

ABC CORPORATION Augmented Balance Sheet December 31, 1975 (all figures in millions of dollars)	
<i>Assets</i>	<i>Liabilities and Stockholders' Equities</i>
Current assets	Current liabilities
Fixed assets	Long-term debt
Total Assets	Stockholders' equity*
	Total Liabilities and Stockholders' Equity

* Twenty-three million common shares outstanding.

FIGURE 3

ABC CORPORATION Balance Sheet December 31, 1975 (all figures in millions of dollars)	
<i>Assets</i>	<i>Liabilities and Stockholders' Equity</i>
Current assets	Current liabilities
Fixed assets	Long-term debt (m.v.)
Total Assets	Stockholders' equity (m.v.)*
	Total Liabilities and Stockholders' Equity (m.v.)

* Market price of common stock 12/31/75 was \$33 per share.

FIGURE 4

ABC CORPORATION Augmented Balance Sheet December 31, 1975 (all figures in millions of dollars)	
<i>Assets</i>	<i>Liabilities and Stockholders' Equity</i>
Pension fund assets	Present value of vested pension liabilities*
Current assets	Current liabilities
Fixed assets	Long-term debt
Total Assets	Stockholders' equity
	Total Liabilities and Stockholders' Equity

* Note: The present value of this obligation no doubt would be substantially greater if one were to use the risk-free rate as the discount rate applied to the gross vested liability.

value for the stockholders' equity downward (by \$648.5 million) to reflect the difference between the market value of the pension fund and the present value of the pension obligation. The shrinkage in the equity section of the balance sheet is striking; nearly 90 per cent of the market value of the company on 12/31/75 was accounted for by the unfunded vested pension obligation. Moreover, the debt-to-equity ratio rises from 0.48 to 1.00 in Figure 2 to 0.82 to 1.00 in Figure 3 and finally to 8.5 to 1.00 in Figure 4. The augmented balance sheet illustrates the considerable increase in leverage that results if pension obligations are treated like conventional corporate liabilities.

The framework of the augmented balance sheet enables us to understand why, for many weak companies with poorly funded pension plans, the pension claim can be worth much less than its face value. Because the market value of the underlying assets is inadequate, the face value of the pension claim overstates its true economic value. Because a key element is still missing, however, this framework does not yet enable us to determine the economic value of a pension claim. A sequel to this article, to be published in the January/February 1977 *Financial Analysts Journal*, will supply the missing element. ■

Footnotes

1. Benjamin Graham and David L. Dodd, *Security Analysis* (New York: McGraw-Hill Book Co., 1940), pp. 573-74.
2. See Patrick J. Regan, "Potential Corporate Liabilities under ERISA," *Financial Analysts Journal* (March/April 1976), pp. 26-32.
3. In an efficient market where information is freely available, the market price of a security can be expected to approximate its "intrinsic" value because of competition among investors. Intrinsic values can change as a result of new information. If, however, there is only gradual propagation of new information

and awareness of its implications, past asset price changes will be correlated with future ones. If the adjustment to information is virtually instantaneous, successive price changes will be random.

Random does not mean uncaused; nor does it mean that returns on average will be zero. Historically, returns have been randomly distributed around a non-zero mean—something akin to a coin so constructed that on average heads come up six times in ten, but with the probability of a head on any toss totally unaffected by the outcome of previous tosses. We are not concerned with the average magnitude of price changes, only their sequence.

For further discussion, see the following: James Lorie and Mary Hamilton, *The Stock Market—Theories and Evidence* (Homewood, Ill.: Richard D. Irwin, Inc., 1973); and Richard A. Brealey, *An Introduction to Risk and Return from Common Stocks* (MIT Press, 1969; 3d printing, 1972).

4. The augmented balance sheet presentation here recapitulates Walter Bagehot, "Risk in Corporate Pension Funds," *Financial Analysts Journal* (January/February 1972). Walter Bagehot is the pseudonym of one of the authors of this book.
5. Some companies argue that the riskless rate for them is the rate guaranteed by major insurance companies. Indeed, several firms noted in their 1974 annual reports that their unfunded vested pension liabilities would have been much smaller if they had liquidated the pension assets and used the proceeds to purchase contracts from insurance companies. The latter were able to guarantee annual rates of eight to nine per cent only because bond yields were in the nine to ten per cent range, implying expected rates of inflation of six to seven per cent. To be sure, if a plan terminates, the dollar value of pension claims is frozen, and no adjustment in the nominal value of the claim for depreciation in the value of the dollar subsequent to termination is required. If, on the other hand, the plan does not terminate, it is usually the real, rather than the nominal, value of the claim that must be paid. Thus, the insurance contract is more likely to cover the ultimate value of the claim if termination occurs soon enough to prevent the nominal value of the claim from reflecting the full impact of inflation.