A Note on Financial Structure

The Financial Structure category examines the Financial Structure of your company — its relationship between Debt and Equity. Leverage is defined as:
Leverage = Total Assets / Total Equity

At basic level, Financial Structure addresses two questions:

1. **Who is taking the risks?**
2. **Who gets the wealth created by the company?**

All stakeholders are keenly concerned with these questions, and as a consequence, responses often take on a political character as stakeholders compete for their share of the wealth being created. Because risk and reward are linked, there is even competition among the stakeholders for the risk. For example, bankers want to loan money, bondholders want to buy bonds, and stockholders want to buy stock issues.

The Financial Structure of the firm is at the center of this conflict. Let's begin by identifying the stakeholders and their agendas.

We must make a distinction between "The Company" and "The People That Have a Claim on the Company". The Assets are The Company, and they are listed on the left side of the Balance Sheet. The Liabilities and Owner's Equity on the right side represent the people who paid for the Assets and their current stake. If a bulldozer scraped the Assets into a pile, it would consist of cash, invoices, inventory, bricks, and equipment. Next to the pile a row of people would line up to make a claim a vendor, banker, bondholder, stockholder, and (representing Retained Earnings) a manager. This is why a Balance Sheet always balances. The left is "what is owned"; the right is "who owns it" (see the example below).

Balance Sheet		**Liab.& Owner's Equity**		**Stakeholders**
Cash	$4,262	Accounts Payable	$7,583	*Vendors*
Accounts Receivable	$9,278	Current Debt	$6,000	*Bankers*
Inventory	$11,605	Long Term Debt	$37,500	*Bondholders*
Total Current Assets	$25,145	Total Liabilities	$51,083	
Plant and equipment	$113,800	Common Stock	$20,276	*Stockholders*
Accum. Depreciation	($38,313)	Retained Earnings	$29,273	*Mgt& Stockholders*
Total Fixed Assets	$75,487	Total Equity	$49,549	
Total Assets	$100,632	**Total Liab. & O. E.**	$100,632	

EXAMPLE

The Financial Structure of the firm is the relationship between Debt and Equity. The relationship is called "Leverage" because stockholders are matching their equity with debt to create a bigger

company.

The Debt versus Equity relationship is so fundamental that three popular definitions for leverage are in common use:

- Debt/Equity
- Debt/Assets
- Assets/Equity

Of these we prefer Assets/Equity because it gets at the relationship from an owner's perspective. (Debt/Assets isfavored by lenders, and Debt/Equity by Management.) Owners are creating Assets (the Company) by matching their Equity with Debt in some proportion.

A Leverage of 3.0 says, "For every $3 of Assets there is $1 of Equity."

Leverage	Assets	Debt	Equity
1.0	$1	$0	$1
2.0	$2	$1	$1
3.0	$3	$2	$1
4.0	$4	$3	$1

When students play Capstone®, they often strive to eliminate the Debt and bring Leverage down. They pay off any Current Debt and retire all bonds. Sometimes they set Accounts Payables policy to zero (paying vendors immediately), which eliminates all forms of debt and brings leverage to 1.0.

In short, they manage the company as they manage their personal finances. This thinking is incorrect, especially in the early years of your tenure. It occurs so frequently in Capstone® that we should take a moment to compare personal finances with corporate finances.

Consider the example. Without the Debt, the Assets would only be half as big. Instead of a company with $100 million in Assets, you would have a company with $50 million. Looking at the Leverage table, a competitor with identical equity and a Leverage of 2.0 would have twice your assets at their disposal. With a Leverage of 3.0, they would have three times your Assets.

In your personal finances, debt buys non-income producing assets. Interest payments consume your income instead of you. In a business, debt buys income producing assets. If you can borrow money at 10% and make 20%, you should borrow all you can get.

The relevant questions are:

1. Can we find investments that generate a higher return than the cost of the funding?

2. What is the risk that our investments will not produce the expected returns, perhaps even causing us to default on our debt and go bankrupt? The higher the Leverage, the higher the risk.

The amount that you can borrow is limited by debt holders. They know that things can go wrong. For example, you buy capacity, but your competitors introduce new products, and your new capacity sits idle. Debt holders control their risk by charging higher interest rates as Leverage increases, and by setting limits on the amount you can borrow.

Near the end of the simulation, Capstone® companies can usually fund plant improvements entirely from profits, and teams are tempted to pay down debt. For example, the company has a $30 million profit and only needs $15 million for plant improvements to keep up with industry growth. (Further, it has $10 million depreciation that could pay for the new plant.) The argument goes, "We do not need more debt to grow our company. We have become a cash cow, and it makes no sense to let cash accumulate. Let's use our excess Working Capital to retire debt, eliminate interest payments and improve profits."

To evaluate this argument, one must recognize that the environment has changed. At the beginning of the simulation, investment opportunities abound and you need new capital to fund them, either debt or equity. Seven or eight years later, the investment opportunities are still there, but you can easily handle them from the wealth you are creating.

Of course, this happens in the real world, too. Any cash cow could pay off its debt to improve profits. They maintain their Leverage for reasons worth exploring.

Capstone® highlights an intrinsic competition between Management and Owners (stockholders). By definition, Management owns no stock, and Owners do not manage. Of course, in the real world individuals can do both, but the roles are fundamentally different. Owners accumulate capital and put it at risk. In modern times "owners" include pension funds, mutual funds, venture capitalists, etc. as well as private investors. Managers take the capital and create additional wealth. In principle the new wealth belongs to the owners. In practice, managers want the wealth, too.

In Capstone®, your team owns no stock. You are pure Management.

Management has only one method to keep the wealth — retain the profits. Owners can take the wealth out two ways, via dividends and stock appreciation. Management argues against dividends by saying, "Let us keep the profits as Retained Earnings. We will grow the company and Owners will see stock appreciation." Owners listen. They are indifferent to the method so long as their wealth is maximized.

When a company becomes a cash cow, however, the argument that Management can grow the company becomes less persuasive. Assets stabilize. If Retained Earnings go up, Debt must fall and with it Leverage. Owners argue, "If the best you can do with our Retained Earnings is save

the interest payment, a paltry 8% or so, we want to put our money into a better investment."

In the real world, Management might counter argue that they can diversify the company, get into new businesses, etc., but this addresses a different question, "What shall we do with the surplus now that the Leverage question has been settled?" Typically cash cows become wholly owned business units, and their managers serve one stockholder, the parent company. When you examine the cash cow's balance sheet, you find it features a healthy leverage — not too much, not too little, just enough to maximize the return to the parent.

Capstone® differs from the real world in one important respect — you have a professor, not Owners, to worry about. Your professor may have allowed you to set your own performance measures. This puts a new spin on your situation. Owners and Management have somewhat competing agendas. You may have stacked the deck to favor Management.

Owners evaluate the profits (not the wealth) with two statistics:

- ROE (Return On Equity)
- EPS (Earnings Per Share)

The dollar amount of the profits is actually secondary to Owners, although primary to Management. It is one thing to say, "Our profits were $10 million", and another to say, "Our profits per share were one dollar."

ROE = Profits/Equity = Profits/Assets * Assets/Equity = ROA * Leverage.

EPS = Profits/Shares Outstanding.

From Management's standpoint, ROA is more useful than ROE, because it indicates how good they are at producing wealth from the Assets. For example, a 10% ROA would delight Management because, if they can retain the earnings, they grew the asset base by 10% in a single year. However, Owner's want a return on the money they invested, their Equity. If Leverage is 1.0 (no debt) their ROE becomes 10% * 1.0 = 10%. If Leverage is 2.0, their ROE becomes 10% * 2.0 = 20%.

From an Owner's viewpoint, Management should use Leverage to produce higher ROE. The higher returns become EPS. The EPS can now be given to the stockholder as a dividend. This puts cash into the Owner's pocket while increasing the value of the stock. Stock price goes up. Market Capitalization goes up. This is yet another reason why a stockholder would prefer that Management maintain the Leverage and pay out dividends.

If your performance measures favor stockholders, they include ROE, Stock Price, and Market Capitalization. You should maintain Leverage.

However, if your performance measures favor Management, they include ROA (Profit/Assets),

ROS (Profit/Sales), and Cumulative Profit. You should reduce Leverage.

The remaining two measures, Asset Turnover and Market Share, are somewhat neutral to Leverage, particularly in the latter years.

For the purposes of the Financial Structure category, stockholder's interests reign supreme. Your Leverage should fall between 1.81 and 2.8. But depending upon the measures you selected, you could find yourself conflicted.

Finally, let's step outside of Capstone® and take a look at a pragmatic reason why Management in publicly held companies tends to maintain high Leverage.

Managers wish to keep their jobs. They can lose their jobs two ways. Stockholder's have the power to remove managers for dismal returns. Other managers, corporate raiders, could take over their company and fire them.

Suppose that your company has a Leverage of 1.0 (no debt) and Total Assets of $150 million. Stock price and market capitalization are below what they would be at a higher Leverage, making the company a bargain. Although this is not possible in the simulation, a real-world raider would recognize that at a Leverage of 2.0, your assets could raise $150 million, and at a Leverage of 3.0, $300 million. The details of hostile takeovers vary enormously, but the essential characteristic of this particular deal is that your own debt capacity would be used against you.