

Principles of Accounting II

Chapter 18: Plan Debt Financing

Recollecting

- Why does a business need capital?
- What are the three sources of financing?
- If the partnership gives one of its partners a salary, how is the salary shown on the income statement?
- What are the differences among authorized, outstanding, and issued shares?
- Why might a company have treasury stock?
- What do we call outstanding shares minus issued shares?
- What is legal capital?
- What's the difference between par and stated value?
- What's the purpose of legal capital?
- What journal entry records an investor's contribution of assets to a business?
- To what account are revenues and expenses closed?
- To what account is "Income summary" closed?

- How is the declaration of a dividend recorded?
- How are treasury stock purchases recorded?
- Why does a company split its stock?

Rewards and Risks of Debt

- If the company's return on _____ > the cost of _____, the _____ receive the excess. That is, the owners use _____ to increase the return on their equity.
- Debt involves _____. If the company defaults, the lender can force the _____ of company assets to satisfy the liability.

Understanding Financial Leverage

| | | | |
|---|----------|------------------|----------|
| Cash | \$10,000 | Accounts payable | \$ 8,000 |
| Accounts receivable | 40,000 | Salaries payable | 12,000 |
| Inventory | 60,000 | | |
| Equipment | 80,000 | Owners' equity | 170,000 |
| <p>This company can obtain a \$ _____ loan to invest in a project with an annual return of \$ _____ (_____ %).</p> | | | |

Should the company obtain the loan and invest in the project?

Financial Leverage: Criterion

Borrow only if _____ exceeds _____.

Financial leverage involves _____ to increase return on _____.

Return on equity =

What happens when a project's annual return equals the cost of financing the project?

What happens when a project's annual return exceeds the cost of financing the project?

What happens when a project's annual return is less than the cost of financing the project?

Financial Leverage: Caution

- Debt generally involves a _____ commitment with a definite end _____.
- If the project's expected return is _____ (high _____) or _____ (less than debt's cost), the company must use other assets to:
 - Pay _____ or
 - _____ the loan.
- _____ the debt to the project.

Financial Risk

- Financial leverage has a downside called _____ (likelihood of _____).
- Lenders and borrowers compare _____ capital to _____ capital (_____ -to- _____ ratio).
- Lenders and borrowers compare _____ payments to the company's _____ (_____ - _____ - _____ ratio).

Financial Risk: Key Ratios

$$\text{Debt to equity} = \frac{\text{Total liabilities}}{\text{Total equity}}$$

$$\text{Times interest earned} = \frac{\text{Income before interest and tax}}{\text{Interest expense}}$$

Analyze BellSouth's Financial Risk

| BellSouth Balance Sheet (millions) on September 30, 1999 | |
|---|----------------|
| Total assets | \$48,985 |
| Current liabilities | 15,101 |
| Long-term liabilities | 11,036 |
| | |
| BellSouth Income Statement (millions) for 6 months ended June 30, 2000 | |
| Operating income | \$3,570 |
| Interest expense | 638 |
| Other income | 129 |
| Gain on sale | 153 |
| Income before taxes | \$3,214 |
| Income taxes | 1,149 |
| Net income | <u>\$2,065</u> |

Debt-to-equity ratio:

Times-interest-earned ratio:

If BellSouth borrows \$_____ million at _____% for a project yielding \$_____ million a year, will return on equity increase?

Does the project result in positive or negative financial leverage?

Debt Instruments

Borrower and lender must reach agreement on:

- _____ repayment
 - All at the _____ of the loan?
 - Some each _____?
- _____ payment
 - Same _____ for the full loan?
 - Interest paid _____?
- _____ date
 - _____ to project's expected life?
- Financial _____ and other guarantees
 - _____ not to take out more debt?
 - Keep other _____ within certain guidelines?
 - _____ property as _____?

Basic Debt Instruments

| | | | |
|--|-----------------|------------------|--------------|
| | Interest | Principal | Other |
|--|-----------------|------------------|--------------|

| | Payments | Repayments | Characteristics |
|--|-----------------|-------------------|------------------------|
| Installment note (periodic payments) | | | |
| Interest-bearing note (periodic and lump-sum) | | | |
| Noninterest-bearing note (lump-sum payment only) | | | |

Creative Debt Financing

- The ideal strategy is to repay the loan's _____ and _____ from the project's expected _____.
- All home mortgages once had _____-year maturities, _____ interest rates, and _____ payments.
- Now, as you will discover in the 3rd Lee case, many varieties exist:
 - Maturities of _____, _____, and _____ years
 - _____ interest rates
 - _____ payments

Installment Note: Example

You get a \$_____, ____% car loan with monthly payments for _____ years.
Your payments are \$_____ per month. Complete the schedule below, figuring the loan balance after the third payment.

| Date | Payment | Principal | Interest | Balance |
|---------|----------|-----------|----------|-------------|
| Loan | | | | \$12,000.00 |
| Month 1 | \$542.73 | | \$80.00 | |
| Month 2 | | | | |
| Month 3 | | | | |

Loan Amortization Schedule

- _____ payments
- Principal payments _____
- Interest payments _____
- Loan _____ declines to _____

Interest-Bearing Note: Example

Consider the following payment schedule:

| Date | Payment | Principal | Interest | Balance |
|---------|-----------|-----------|----------|------------|
| Loan | | | | \$2,000.00 |
| Year 1 | \$ 160.00 | - | \$160.00 | 2,000.00 |
| Year 2 | 160.00 | - | 160.00 | 2,000.00 |
| Year 3 | 160.00 | - | 160.00 | 2,000.00 |
| Year 4 | 160.00 | - | 160.00 | 2,000.00 |
| Year 5 | 160.00 | - | 160.00 | 2,000.00 |
| Year 6 | 160.00 | - | 160.00 | 2,000.00 |
| Year 7 | 160.00 | - | 160.00 | 2,000.00 |
| Year 8 | 160.00 | - | 160.00 | 2,000.00 |
| Year 9 | 160.00 | - | 160.00 | 2,000.00 |
| Year 10 | 2,160.00 | 2,000.00 | 160.00 | - |

- _____ payments
- No _____ payments until _____
- Equal _____ payments

Instead of the borrower, suppose you are the lender, and you need your _____ now. But you've just received the year _____ payment. What can you do? You could _____ the note. What would you get for it?

The selling price depends on the _____ of _____ the buyer demands. What if the buyer wants a _____% return for the _____% note? How would you compute the price?

What is the present value of a \$_____ annuity for _____ years plus a \$_____ lump sum in _____ years? What do you think you will get? More or less than \$2,000?

If the buyer had demanded an _____% return for the _____% note, the price would have been the note's face value or \$_____. Since the buyer demands _____% (_____ the note's _____% interest rate), we know the price _____ \$2,000.

PV of lump sum:

PV of annuity:

Price of note

Now suppose the buyer demands only a _____% return (_____ the note's _____% interest rate). What do we know about the note's selling price?

PV of lump sum:

PV of annuity:

Price of note

Lender v. Borrower

- The lender can hold the note to _____ or _____ it.
- The borrower's obligation never _____. The debt instrument (signed agreement) establishes the _____ and _____, which establish how much the borrower must pay to whoever owns the note.
- The _____ that a note's buyer demands determines the note's _____ (see prior examples).
 - _____% market rate resulted in market value _____ face value
 - _____% market rate resulted in market value _____ face value

Stay Focused

- Purchasers of notes buy the right to receive a _____ stream.
- The _____ defines the _____ stream.
- The borrower pays whatever the _____ indicates to its current owner.

Noninterest-Bearing Note: Example

Suppose you get \$ _____ today in exchange for signing a loan document promising to pay \$ _____ in _____ years.

- No _____ or _____ payments until maturity.
- Interest rate is _____, but the _____ implies interest.
- These notes are not interest _____!
-

| Date | Payment | Principal | Interest | Balance |
|--------|---------|-----------|----------|----------|
| Loan | | | | |
| Year 1 | - | - | \$ 81.48 | 1,245.50 |
| Year 2 | - | - | 87.19 | 1,332.69 |
| Year 3 | - | - | 93.29 | 1,425.97 |
| Year 4 | - | - | 99.82 | 1,525.79 |
| Year 5 | - | - | 106.81 | 1,632.60 |
| Year 6 | - | - | 114.28 | 1,746.88 |
| Year 7 | - | - | 122.28 | 1,869.16 |
| Year 8 | | - | 130.84 | 0.00 |

As the unpaid “_____” accumulates, the loan’s _____ value (balance) increases toward the \$ _____ maturity value. What is this loan’s effective interest rate?

Corporate Bonds

- Some corporations borrow from the _____ (rather than a _____) with debt instruments called _____.
- Lenders buy _____ in exchange for a corporation's future _____ and _____ payments.
- The corporation's obligation remains fixed if bonds are sold from one owner to another. The _____ defines the interest and principal payments (the _____ stream).

How Bonds Work

- Corporations typically sell bonds with face amounts of \$_____ or \$_____. The _____ is the principal repaid at maturity.
- Each bond is a promise to pay the _____ at maturity plus the promise to make regular _____ payments (usually _____).
- The bond certificate specifies the annual interest rate (_____).

California Power and Light, Inc.

Bonds that California Power and Light issued are due in 2017. Each bond's face value is \$_____. The _____% face rate is payable semiannually.

What will the holder of a CPL bond receive each year and at maturity?

Semiannual interest:

Face value received in 2017:

Market Value of CPL Bonds

Suppose the market interest rate of CPL bonds above is _____%. For what price can CPL sell its bonds?

Should you pay > or < \$_____?

Discount the cash flow stream back to the present using the _____% required rate.

PV of lump sum:

PV of annuity:

Price of note

Suppose the market interest rate is only _____%.

Will CPL bonds sell for > or < \$_____?

Market Rate vs. Face Rate

- When **market rate** is ____ **face rate**, the bond doesn't pay enough _____ to justify the full price. So, it's _____ or sold at _____ than the face value.
- When **market rate** is ____ **face rate**, the bond pays more than investors demand. So, it's sold at a _____ (price _____ than face value).

Sample Bonds

If the market rate for bonds of this credit rating is _____%, which bonds would sell at premiums and which at discounts?

Calpine 7.625%

Charter 8.625%

Global Crossing 9.125%

Allied Waste 7.625%

Tenet Healthcare 8%

Nextel 9.375%

HMH Properties 7.875%

Lear 7.96%

Comcast Cablevision 6.2%

Operating vs. Capital Leases

- Some companies _____ asset purchases by signing “_____,” which are really just _____.
- _____ (true rentals) and _____ (really purchases) are treated differently.
 - Depends on lease _____
 - Depends on _____ rights