

Capital Structure and Corporate Strategy

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Outline

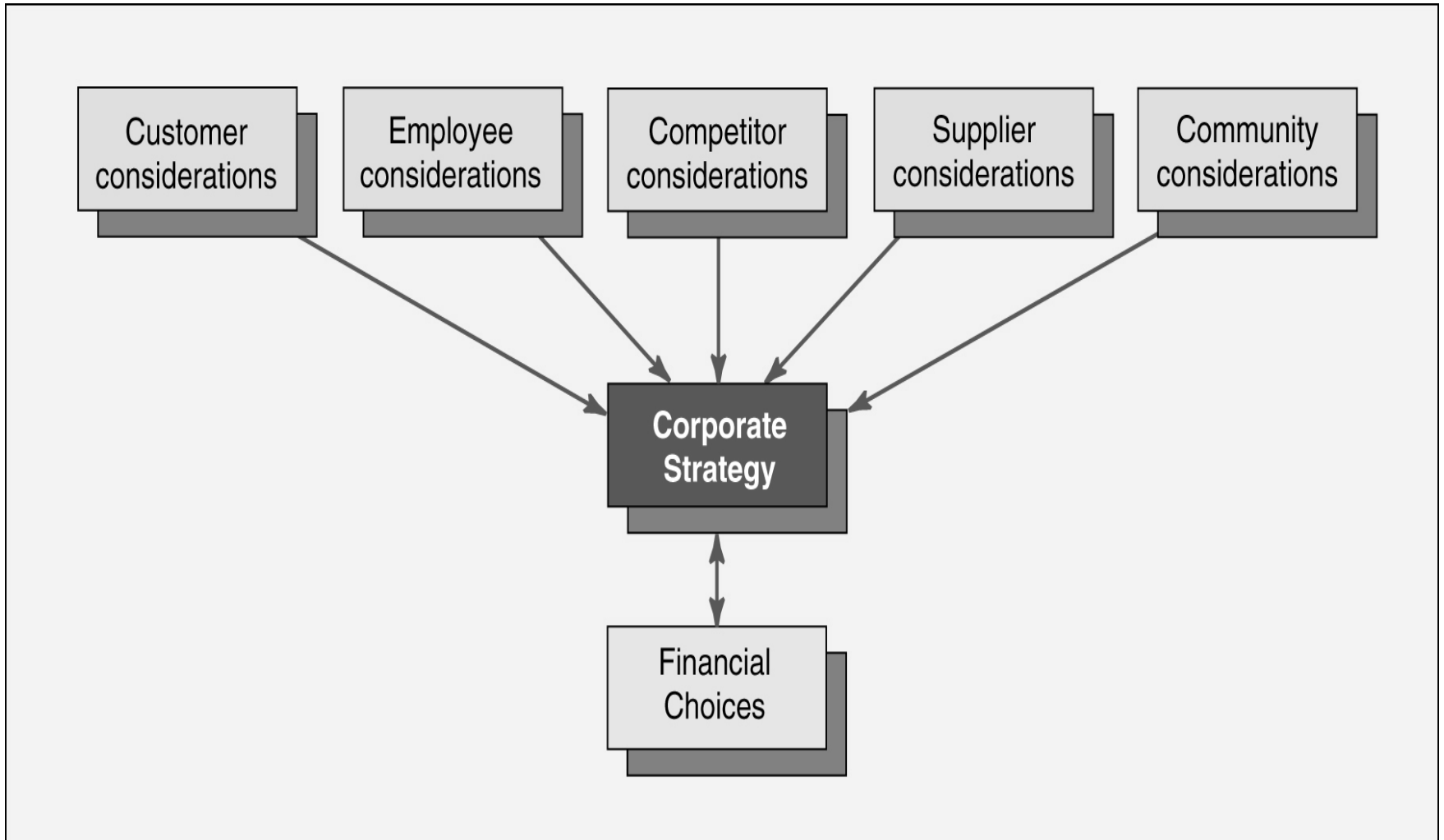
- The stakeholder theory of capital structure
- The benefits of financial distress
- Capital structure and competitive strategy
- Dynamic capital structure
- Related empirical evidence

The Stakeholder Theory of Capital Structure

- For most large firms in the U.S., indirect bankruptcy costs stemming from conflicts between debt holders and equity holders do not appear important
- Yet many large firms maintain low debt ratios, why?
- Indirect bankruptcy costs to nonfinancial stakeholders
- Nonfinancial stakeholders are the associates of a firm including customers, employees, suppliers, who do not have debt or equity stakes in the company
- The stakeholder theory of capital structure deals with how financial decisions interact with the product design, employment policy, and other strategic choices

- Exhibit 17.1: Firm environment and corporate strategy
- Nonfinancial stakeholders will be less interested, all else being equal, in doing business with a financially distressed firm because its high likelihood to liquidate
- Spillover costs of liquidation imposed on nonfinancial stakeholders
 - Consider the example of Chrysler's financial difficulties in the late 1970s
 - Customers would have find it more difficult to have their cars repaired
 - Employees and suppliers will lose Chrysler-specific human/physical capital
 - Anticipating future costs, potential stakeholders avoid doing business with a firm that is experiencing financial distress
 - Potential employees/suppliers will demand higher wages/prices

Exhibit 17.1: Firm Environment and Corporate Strategy



- Example 17.1: The tradeoff between tax gains and distress costs
 - Apple produces computers at a cost of \$2000 and sells at \$2400. Consider a large increase in leverage that raises the default probability from 0 to 10%, but saves \$58 mil taxes, given its 40% corporate tax rate
 - But each computers can only sell at \$1200 if bankruptcy is certain, with 10% chance, the price is $\$2280 = .9(2400) + .1(1200)$,
 - Expects to sell 1 mil computers per year, should Apple increase the leverage?
 - If yes, then Apple pretax profits will be reduced by \$120 mil ($\$(2400 - 2280) \times 1 \text{ mil}$), this amount to $(\$120)(1 - .40) = \72 mil loss in after-tax profits
 - Loss in after-tax profits $>$ tax gain, so reject the proposal

- Estimating financial distress costs is extremely difficult
- Example 17.2 Chrysler's financial distress costs
 - In the late 1970s, Chrysler was close to liquidation
 - In 1979, Chrysler offered rebates on its cars and trucks to attract customers who might have avoided Chrysler due to its financial distress
 - The average rebate (\$300) times the number of cars sold (1,438,000) = a rough estimate of the distress costs (\$431 million)
 - The costs were more than half of the equity value (\$768 million)

- Financial distress costs on nonfinancial stakeholders when liquidation is unlikely
- Under distress, the long-run value of a good reputation might be less important to managers than the short-run need to generate enough cash to avoid bankruptcy
 - A reputation of high quality allows a firm to charge premium price
 - A firm may lower the quality of its products to save cash to pay its debt
- Who would you rather work for? Potential employees avoid distressed firms
 - Because of debt overhang, distress firms are less willing to take on new opportunities, offering less chances to employees for career advancement
 - Young managers with best talents tend to value growth opportunities
 - Distressed firms are more likely to lay off employees in recessions

- Summary of the stakeholder theory
- A firm's financial condition can affect how it is perceived in terms of being a reliable supplier, customer, and employer.
- Financial distress is especially costly for firms with
 - products with quality that is important yet unobservable
 - products that require future servicing
 - Employees and suppliers who require specialized capital or training

These firms should have less debt in their capital structures

- Distress is less costly for firms that sell nondurables and services, less specialized, and whose quality can easily be assessed; they should be more levered

The Benefits of Financial Distress

- Committed stakeholders:
 - A union, an ongoing supplier or employee with firm-specific investment
- Financial distress can benefit some firms by improving their bargaining positions with their committed stakeholders
- By increasing leverage, the firm can reduce its employees' demands by exploiting their fear that wage increases can push the firm over the edge
- Example 17.4: Debt and bargaining power
 - Kodak will be renegotiating its wage contracts within 12 months

- The union asks to increase wages from \$15 to \$22 per hour
 - Managers calculate this increase will lower profits from \$80 mil to \$30 mil
 - How Kodak can curb the increase to \$20 per hour to lower profits to \$35 mil?
 - One potential answer: Increase leverage so as to have \$35 mil interest payments
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- Both local and national communities can be viewed as stakeholders that can be hurt in the event of liquidation

 - This consideration forced the Congress to provide below-market loans to Chrysler

Capital Structure and Competitive Strategy

- How leverage affects the competitiveness of an industry?
- Debt overhang leads to higher discount rates in evaluating investments, i.e., firms compete less aggressively to increase their market share
- Example 17.5 Highland's pricing choice
 - Highland is considering lowering price to attract more customers
 - Managers estimate their cash flows to be:

	Year 1	Year 2
Low price strategy	\$100,000	\$147,000
High price strategy	\$120,000	\$125,000

- Low leverage leads to a discount rate of 8%, and high leverage 12%
 - The low-minus-high price strategy in Year-1 cash flow is $-\$20,000$, and in Year-2 cash flow is $\$22,000$
 - The low price strategy has a positive-NPV if its discount rate is less than 10%
 - High leverage (with 12% discount rate) prevents the aggressive strategy
- Debt and predation
- A highly levered firm might be vulnerable to predation from low levered competitors because they can purposefully lower its prices to drive the highly levered firm out of business

- Evidence in Opler and Titman (1994) shows that highly levered firms lose market share to their less levered rivals during industry downturns. Three reasons:
 - Distressed firms face debt overhang, invest less, sell off assets
 - Difficult to retain and attract customers because of concerns about long-term viability and quality of product
 - Rivals seize the opportunity to steal its customers

Dynamic Capital Structure

- Static capital structure theory says that managers make leverage decisions period-by-period, weighing tax benefits against financial distress costs
- The pecking-order theory of capital structure: Donaldson (1961), Myers (1984)
 - Firms finance investments with retained earnings rather than external funds
 - Firms adapt their payout policies in anticipation of investment demands
 - If firms have excess cash, they tend to pay off debt prior to repurchasing shares
 - If firms require external financing, firms begin with straight debt, convertible bonds, and equity only as a last resort

- Explanations for the pecking order behavior
- Transaction costs favor retained earnings and debt over issuing new equity
- Managers personally benefit from low leverage
 - Less levered firms can more easily raise investment than more levered firms, creating more growth opportunities
- Issuing equity conveys negative information to investors
- A firm having financial difficulties may want to maintain a high leverage ratio to gain concessions from its employees and suppliers
- Debt overhang makes stock issues less attractive for a distressed firm

- Example 17.6 Can financially distressed firms issue equity?
 - Gentry, Inc., distressed, its bonds are selling at 50% of their face values
 - Firm value \$600 mil = \$50 mil in equity and \$550 mil (market value) in bonds
 - Face value of the Bonds \$1.1 billion
 - \$100 mil due in one year and the rest in two years
 - Can Gentry issue stock to raise the fund to meet its \$100 mil debt-obligation?
 - Assume the value of bonds increase by 10% from the equity infusion
 - Probably not
 - The \$100 mil equity infusion increases the firm value by \$100 mil
 - Paying off debt is a zero-NPV project

- Bonds gain \$55 mil ($\$550 \text{ mil} \times 10\%$) in market value from equity infusion
 - Equity infusion makes the bonds more valuable because the likelihood that they will be paid in full goes up
 - The post-issue equity value of the firm is only $\$50 + \$100 - \$55 = \95 mil
 - Shareholders won't infuse equity capital into a distressed firm
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- If an equity infusion does not make the firm more valuable, then it only transfers wealth from equity holders to bond holders
 - But if cash infusion increases firm value, debt- and equity-holders can benefit

- Example 17.7: Issuing equity to improve customer confidence
 - Continue with Gentry, Inc. in Example 17.6
 - Suppose one reason for its low value is that customers have lost faith in its ability to produce quality products
 - Equity infusion can restore customer confidence and raise the firm value from \$600 mil to \$900 mil (before the \$100 mil debt payment)
 - Yes, if the proceeds from the issue are not fully absorbed by debt
 - If the debt increases in value by less than \$200 ($\$300 - \100) mil from the equity infusion, the post-issue equity value will exceed \$150 mil

- Dynamic capital structure: firms determine their capital structure from a dynamic process that accounts for costs with capital structure adjustments
- If the costs of changing capital structure are sufficiently high, leverage is determined in part by its past history:
 - Very profitable firms are likely to experience increased equity values and thus lower leverage ratios
 - Unprofitable firms may experience lower equity values and perhaps increased debt, and thus higher leverage ratios
- See Hennessy and Whited (2004, JF, “Debt Dynamics”) for a fully-articulated dynamic model on capital structure

Empirical Evidence

- Firms in the same industry tend to choose similar capital structure
 - The structure of costs and benefits of debt is similar within an industry
- Exhibit 17.2 Summary of empirical evidence on capital structure
- The negative profitability-leverage relation
 - Inconsistent with the static trade-off theory
 - More taxable earnings, high tax shield, high leverage

Exhibit 17.2: Summary of Empirical Evidence on the Capital Structure Choice

<i>Variables</i>	<i>Relation to Leverage Ratio</i>	<i>Explanation</i>
EBIT/total assets (profitability)	Strong negative relation.	Pecking order description.
R&D/sales Selling expenses/sales Market value/book value	Strong negative relation.	<ul style="list-style-type: none"> • Tax reasons. • Specialized assets and products imply greater stakeholder costs and potentially more conflicts between debt holders and equity holders.
Machines and equipment producers (dummy variable)	Less highly leveraged.	Customer avoidance of purchasing durable goods of distressed firms.
Unionization ^a	Highly unionized industries are more leveraged.	Leverage increases the firm's bargaining power.
Size	Small firms use more short-term debt.	<ul style="list-style-type: none"> • Transaction costs of issuing long-term debt. • Adverse incentive costs associated with long-term debt.^b

^aSee Bronars and Deere (1991).

^bThis explanation was discussed in Chapter 16.

- Consistent with the pecking-order theory
 - Use cash flows to pay down debt before paying dividend and repurchase
 - Insufficient cash flows, borrow before issuing equity
- Consistent with the dynamic trade-off theory, Hennessy and Whited (2004)
 - High profitability, high growth opportunities, low leverage