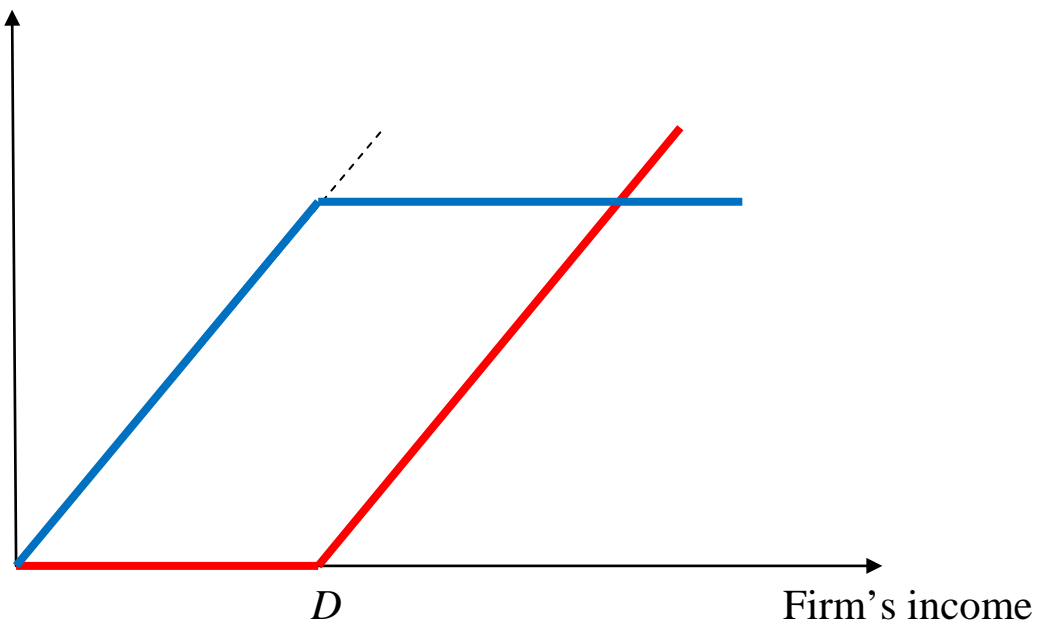


Corporate financing

Two main financial instruments

- debt
- equity

Essentially, debt has a concave return, and equity has a convex return.



Blue – Debt holders' return

Red – Equity holders' return

Question: Who would be more interested in taking risk – the debt holder or the equity holder?

Modifying the picture

- The firm is ongoing, producing not only a single return.
- Who holds the claim matters
 - Equity: insiders (managers, etc.) vs outsiders
 - Debt: banks vs bond holders
- Claims also bring various *control rights* (rights to make decisions)
 - Example: debt holders may seize control if payment is not done according to contract.
- Returns may be hard for outsiders to verify, particularly in small firms.
- Ordinary debt vs secured debt
 - Collateral
- Richness of claims
 - Senior debt vs junior (or subordinated) debt
 - Return for junior debt neither concave nor convex
 - Preferred stock
 - Fixed payment, like debt, but the firm is not obliged to pay.
 - Convertible debt
 - An option for holder to convert from debt to equity.
 - *Mezzanine finance*: inbetween debt and equity
 - Junior debt, preferred stock, convertible debt.

Financial structure

- The firm's debt-equity mix
- Under some circumstances, it does not matter
 - Modigliani and Miller (1958).
 - Simple illustration: Assume risk neutrality, and consider the case from slide 1.

D – debt repayment

V_E – value of equity

V_D – value of debt

R – firm income

Total firm value = $V_E + V_D$

$$= E[\max(0, R - D)] + E[\min(R, D)]$$

$$= \begin{cases} E[0] + E[R], & \text{if } R < D; \\ E[R - D] + E[D], & \text{if } R \geq D. \end{cases}$$

$$= E[R].$$

- The firm's total value is independent of D .
- Also, *dividend policy* has no effect on firm value
- The Modigliani-Miller theorem does not hold when corporate insiders do not have proper incentives to maximize total firm value.

Other causes for the theorem to break down

- Tax considerations
- Bankruptcy law

Debt instruments

- Collateral
 - Securing the debt

- Public vs private placement: the liquidity of debt
 - Public bonds
 - Securitization

- Maturity
 - Short term vs long term
 - Trade credit: borrowing from suppliers
 - Long-term: debt covenants

Debt covenants

- Covenants preventing value reduction: the “*conflict view*”
 - Preventing actions that do not increase risk
 - Restrictions on payments to shareholders
 - Limits on further indebtedness
 - Preventing actions that increase risk: *asset substitution*
 - Prohibitions against new lines of business
 - Earmarking
- Covenants defining control rights: the “*control view*”
 - Shift of control if performance is bad
 - Leverage constraint: total debt not exceeding a certain fraction of total assets
 - Minimum amount of liquidity (working capital)
 - Completing the control view
 - Informational covenants
 - reports to lenders, rights of inspection, etc.
 - Covenants limiting accounting manipulations

Bankruptcy process

- Priority rules
 - 1. administrative costs; 2. unpaid taxes; 3. wages; 4. secured debt; 5. junior debt; ...; equity holders
- Reorganization

Two dichotomies in the credit market

- One among lenders, the other among borrowers
- Lenders
 - Sophisticated lenders
 - Concentrated, well-informed
 - Relationship investors
 - Banks, institutional investors, etc.
 - Dispersed lenders
 - Public bondholders, trade creditors
 - Numerous, with a free-rider problem
 - Claims issued to the two groups differ greatly
 - Screening: *ex-ante* monitoring
 - Covenants: sophisticated creditors have more and tighter covenants
 - Seniority, security, maturity
 - Financial distress
 - Renegotiation easier with sophisticated investors
 - Certification
 - Having a sophisticated creditor conveys good news to outsiders

Two dichotomies in the credit market, cont.

- Borrowers
 - High-quality vs low-quality borrowers
 - High-quality borrowers have more long-term debt
 - High-quality borrowers can borrow from dispersed investors, low-quality ones must stick to sophisticated investors.
 - High-quality borrowers have less restrictive debt covenants.

The life cycle of equity financing

- Start-up financing
 - Privately held by sophisticated investors
 - Venture capitalists, large customers, etc.
 - Screening, conditions
 - Venture capital: Similar to sophisticated debtholders, with the addition of equity-like control rights (firing manager, controlling financing, etc.)
- Initial public offerings (IPOs)
 - Going public: Most firms don't get this far
 - The costs of going public
 - Information disclosure
 - Underpricing of IPOs: winners' curse?
 - Shares traded at a premium shortly after IPO
 - Private information
 - Giving away control rights: hard for family firms
 - The benefits of going public
 - Diversifying sources of finance
 - Facilitating exit
 - Provides a better measure of firm value
 - Helps disciplining managers: takeover threats
 - But reduced monitoring: dispersed owners
- Seasoned public offerings (SPOs)

Sources of corporate finance

- Figure 2.4, p. 96, in the book.
- Most important: internal financing, that is, retained earnings
- External financing: mostly banks, well ahead of new equity
 - *Net* equity issuance may even be negative
- Bond market: only in the US.
- Tradeoff retained earnings vs payout to investors.
 - Tradeoff funds now vs funds later
 - Retaining earnings now makes it difficult to attract external funds today but provides funds for later.
 - Growth opportunities call for retention
 - Financial constraints call for payout
 - Earnings size calls for payout
 - Dividends vs. payout to debtholders
 - Related to *financial structure*: debt vs equity
 - Table 2.5, p. 99, in the book.
 - Risky firms have a low debt/equity ratio.