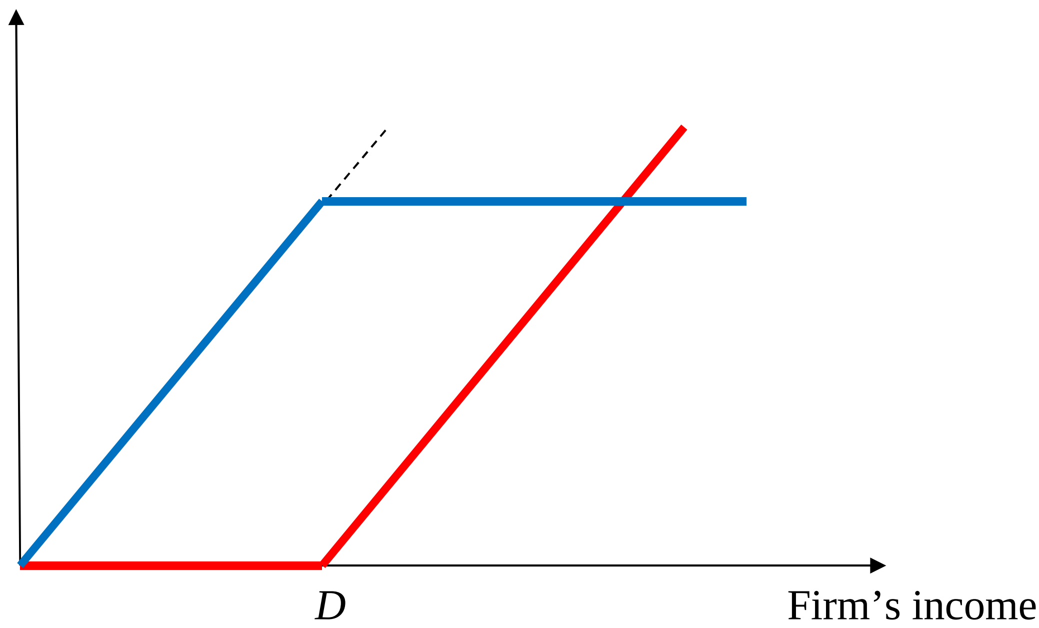
<u>Corporate financing</u>

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*: in between 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 = $V_E + V_D$

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

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

    $$= E[R].$$

  - 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 debt holders, 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.