Monetary Economics
Stocks and Bonds

Gerald P. Dwyer

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Readings

- Cuthbertson, Ch. 2
- Next set of notes, Chs. 3-5

Outline

- How firms finance themselves and the implications of different instruments
- Stocks
- Bonds

How Firms Finance Themselves
and The Implications of Different Instruments

- How firms finance themselves depends on their organization and history

Figure 1: A Firm's Balance sheet

Assets	Liabilities
1. Current Assets (inventories, receivables)	1. Current Liabilities (accounts payable)
2. Fixed Assets 2a. Tangibles (e.g. plant and machinery) 2b. Intangibles (e.g. goodwill)	2. Long-Term debt (e.g. bank loans, bonds outstanding) 3. Shareholders' equity
= Total Assets	= Total Liabilities

Different ownership structures

- Sole proprietorship
- Partnership
  - Partners can be equal or unequal
  - Silent partners
- Corporation
  - Typically limited liability
  - Can be effectively a partnership but limited liability
  - S Corp
  - Everything depends on the legal framework

Sole Proprietorship

- Can write up a balance sheet just like for a corporation
- Liabilities typically are backed by the proprietor’s assets

Partnership

- Similar to a sole proprietorship except that more than one person is involved

Corporation

- Most firms are organized as corporations
- Incorporation is accomplished by applying to a government agency for a certificate of incorporation under incorporation laws of the state
  - Privilege is limited liability
  - This limited liability need not apply to all eventualities
    - Bank loans to a corporation run by one person often require that the owner provide personal collateral or be personally liable for the debt

How Raise Funds?

- Very new firms may raise funds by
  - Borrowing on the owner's credit cards
  - Borrowing from relatives and friends
- Somewhat less-new firms may raise funds from angel investors

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  - Angel investors are people who invest in relatively small, new firms
    - Provide funds and often expertise about the firm’s activity
    - Generally stock but sometimes debt
    - High expected return and many investments return zero

How Raise Funds?

- Very new firms may raise funds by
  - Borrowing on the owner’s credit cards
  - Borrowing from relatives and friends
- Somewhat less-new firms may raise funds from angel investors
- Successful new firms or those with excellent prospects raise funds from venture capital firms

Venture Capital Firms

- People provide funds to venture capital firms
- Venture capital firms invest in many new firms
  - Stock
  - Partial ownership
  - Venture capitalists often sit on board of directors and provide advice
  - Have been known to force out the entrepreneur who started the firm
- High expected return
  - Many of these new firms fail
  - Reduce risk by investing in many such firms

Publicly Traded Stock

- Venture capitalists cash out by selling to another firm or having an Initial Public Offering (IPO)
- An IPO is an initial offering of stock to the public
  - Stock traded on a public exchange
    - Most commonly on NASDAQ (National Association of Securities Dealers Quotations) exchange, at least in past
    - On NYSE (New York Stock Exchange) also
    - Investment banks bring the firm to market

Not All Firms Follow This Strategy

- Some firms do not have this sort of entrepreneurial history
- Most notably community banks
  - Several people get together and organize a bank
  - They subscribe funds as capital and get a bank charter
  - Build up capital through retained earnings
- Private firms
  - Private firm means not having publicly available stock
  - Chick-fil-A, QuikTrip, Belks
  - Virgin Group Limited, LLC (Richard Branson's firm)

Publicly Traded Stock

- Publicly traded stock is what is available to most investors
- Stock in a firm can be purchased on one or more stock exchanges open to the public
- Stock often is widely held

Ownership and Control

- Publicly traded stock often is held by many people
- These people have an interest in the firm, but it is limited because their investment is relatively small
  - Not worthwhile devoting much time to the firm
  - If an investor thinks the firm will do badly, sell stock instead of trying to change prospects
  - Suddenly, ownership does not necessarily imply any interest in control

Ownership and Control

- Even if stock is widely held, some people are affected by the firm’s prospects
  – Senior management
  – Relatively large shareholders
    - Large may be as little as 5 percent of the firm’s shares
    - What is large? Depends on value of holding and opportunity cost of time
- Divergence in interests of senior management, controlling shareholders and most shareholders is covered by the general term “agency costs”
  – Agency costs are costs of getting an agent – the manager – to pursue actions consistent with the interests of the principal – the owners of the firm

Corporate Debt

- Firms also finance their activities by debt

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Corporate Debt

- Current liabilities
  - Typically less than one year to maturity
- Long-term debt
  - Greater than one year to maturity
  - Bank loans and bonds issued by the firm

Bank Loans

- Borrow funds from a bank
- Get funds now and pay them back later plus interest
- Interest payments typically are periodic, say once a quarter
- Interest rate can be fixed or floating
  - Fixed – interest rate stays the same over the life of the loan
  - Floating – similar to credit cards for which interest rates rise and fall with the general level of interest rates

Corporate Bonds

- When bonds are issued by a firm, the bonds are sold to investors for funds paid today
- The firm promises to pay the face value of bond at some date in the future and pay periodic interest, typically every six months
- Example, simple one
  - Face value of one-year bond is $10,000
  - Interest rate (yield to maturity) is 5 percent paid annually
  - Bond promises to pay $10,000 plus $500 a year from now
  - If price when issued is $10,000, the investor provides the firm $10,000 today and the firm pays $10,500 a year from now

Bonds and Risk

- There is a risk that the bondholders will not be paid
- This happens often enough that many characteristics of bonds are responses to this risk

Default

- Firms can default on bonds
  - Not true of common stock
- Default: Firms promise to make certain payments and they do not make those payments when promised
- Two resolutions
  - Firm negotiates a restructuring with bondholders
    - Restructure debt
  - Firm enters bankruptcy
    - A firm can file for bankruptcy
    - A creditor can petition for a firm to be placed in bankruptcy

Bond Ratings

- Bonds are rated by a ratings agency when they are issued
- Rating indicates the ratings agency's perception of the riskiness of the bonds
  - Ratings range from
    - AAA to C and D for Standard and Poor's
    - Aaa to C for Moody's
    - There is another Nationally Recognized Statistical Ratings Organization (NRSRO) – Fitch
- NRSROs are determined by SEC on application
  - Nine in November, 2011

Covenants in Corporate Bonds

- Often have covenants to restrict the behavior of the firm
- Why restrict the behavior of the firm?
  - Once it has issued the debt, the firm may decide to undertake a risky activity that makes the bonds riskier than anticipated when issued
    - This behavior is one example of what is called "moral hazard"
  - The firm may get into financial difficulties later and take actions that are in the interests of shareholders but not bondholders
    - This can include undertaking riskier activities
- Covenants enforced by making the bonds due and payable

Covenants on Corporate Bonds

- Covenants are idiosyncratic – different across firms and bonds
  - Often include restrictions on the firm's balance sheet or income statement
  - Can include restriction on mergers
- If the firm violates the covenants, the bondholders can call the bonds – i.e., they can demand payment immediately
  - If the firm does not pay immediately, the bondholders can force the firm into bankruptcy
- Generally, a firm and representatives of bondholders get together and work out an arrangement to continue operations
  - Can interpret this outcome as marginal return is higher than marginal cost to make arrangement if the firm gets into difficulties

Collateral in Corporate Bonds

- Bonds can be collateralized or not
- Collateralized bonds have claims on specific assets of the firm if the firm fails to make the promised payments
  - Railroads – a bondholder or set of bondholders can seize particular named railroad cars
- Uncollateralized bonds do not represent claims to specific assets
  - Can get funds from sale of firm's assets
  - Called "debentures" in the United States

Bankruptcy

- In bankruptcy court, the division of assets among creditors is determined

Priority in Bankruptcy

- Different creditors rank differently in terms of being paid in bankruptcy
- This discussion is "generally speaking"
- Secured creditors receive their collateral
  - If the collateral is worth less than the amount owed, than that part of debt is unsecured
- Creditors similarly situated receive pro rata payments
- Some creditors get paid before others, depending on priority

Order of Priority in Bankruptcy

- Secured creditors
- Administrative expenses of the bankruptcy
- Unsecured debts in an involuntary bankruptcy
- Claims for payment of unpaid wages for employees and salespersons. These wages must have been earned within 180 days prior to the bankruptcy, but only to the maximum of $10,950 for each individual. Claims in excess of $10,950 will be general unsecured claims unless they qualify for some other special treatment
- Contributions to employee benefit plans, up to a maximum of $10,950 per employee
- Recent taxes, including sales, income, employment, and gross receipts taxes
- General unsecured creditors

Source: http://biztaxlaw.about.com/od/aboutbusinessbankruptcy/f/bankruptpriority.htm

Summary

- Firms acquire funds to operate in different ways
- Source of funds partly depends on ownership structure
- Biggest overall categories
  - Stock
  - Loans
  - Bonds