CHAPTER 1

Overview of Financial Management and the Financial Environment

Topics in Chapter

- Forms of business organization
- Objective of the firm: Maximize wealth
- Determinants of fundamental value
- Financial securities, markets and institutions

Why is corporate finance important to all managers?

- Corporate finance provides the skills managers need to:
  - Identify and select the corporate strategies and individual projects that add value to their firm.
  - Forecast the funding requirements of their company, and devise strategies for acquiring those funds.

Business Organization from Start-up to a Major Corporation

- Sole proprietorship
- Partnership
- Corporation

(More . .)

Starting as a Proprietorship

- Advantages:
  - Ease of formation
  - Subject to few regulations
  - No corporate income taxes
- Disadvantages:
  - Limited life
  - Unlimited liability
  - Difficult to raise capital to support growth

Starting as or Growing into a Partnership

- A partnership has roughly the same advantages and disadvantages as a sole proprietorship.

Becoming a Corporation

- A corporation is a legal entity separate from its owners and managers.
- File papers of incorporation with state.
  - Charter
  - Bylaws

Advantages and Disadvantages of a Corporation

- Advantages:
  - Unlimited life
  - Easy transfer of ownership
  - Limited liability
  - Ease of raising capital
- Disadvantages:
  - Double taxation
  - Cost of set-up and report filing

Becoming a Public Corporation and Growing Afterwards

- Initial Public Offering (IPO) of Stock
  - Raises cash
  - Allows founders and pre-IPO investors to "harvest" some of their wealth
- Subsequent issues of debt and equity

Agency Problems and Corporate Governance

- Agency problem: managers may act in their own interests and not on behalf of owners (stockholders)
- Corporate governance is the set of rules that control a company's behavior towards its directors, managers, employees, shareholders, creditors, customers, competitors, and community.
- Corporate governance can help control agency problems.

What should be management's primary objective?

- The primary objective should be shareholder wealth maximization, which translates to maximizing the fundamental stock price.
  - Should firms behave ethically? YES!
  - Do firms have any responsibilities to society at large? YES! Shareholders are also members of society.

Is maximizing stock price good for society, employees, and customers?

- Employment growth is higher in firms that try to maximize stock price. On average, employment goes up in:
  - firms that make managers into owners (such as LBO firms)
  - firms that were owned by the government but that have been sold to private investors

(Continued)

Is maximizing stock price good? (Continued)

- Consumer welfare is higher in capitalist free market economies than in communist or socialist economies.
- *Fortune* lists the most admired firms. In addition to high stock returns, these firms have:
  - high quality from customers' view
  - employees who like working there

What three aspects of cash flows affect an investment's value?

- Amount of expected cash flows (bigger is better)
- Timing of the cash flow stream (sooner is better)
- Risk of the cash flows (less risk is better)

Free Cash Flows (FCF)

- Free cash flows are the cash flows that are available (or free) for distribution to all investors (stockholders and creditors).
- FCF = sales revenues - operating costs - operating taxes - required investments in operating capital.

What is the weighted average cost of capital (WACC)?

- WACC is the average rate of return required by all of the company's investors.
- WACC is affected by:
  - Capital structure (the firm's relative use of debt and equity as sources of financing)
  - Interest rates
  - Risk of the firm
  - Investors' overall attitude toward risk

What determines a firm's fundamental, or intrinsic, value?

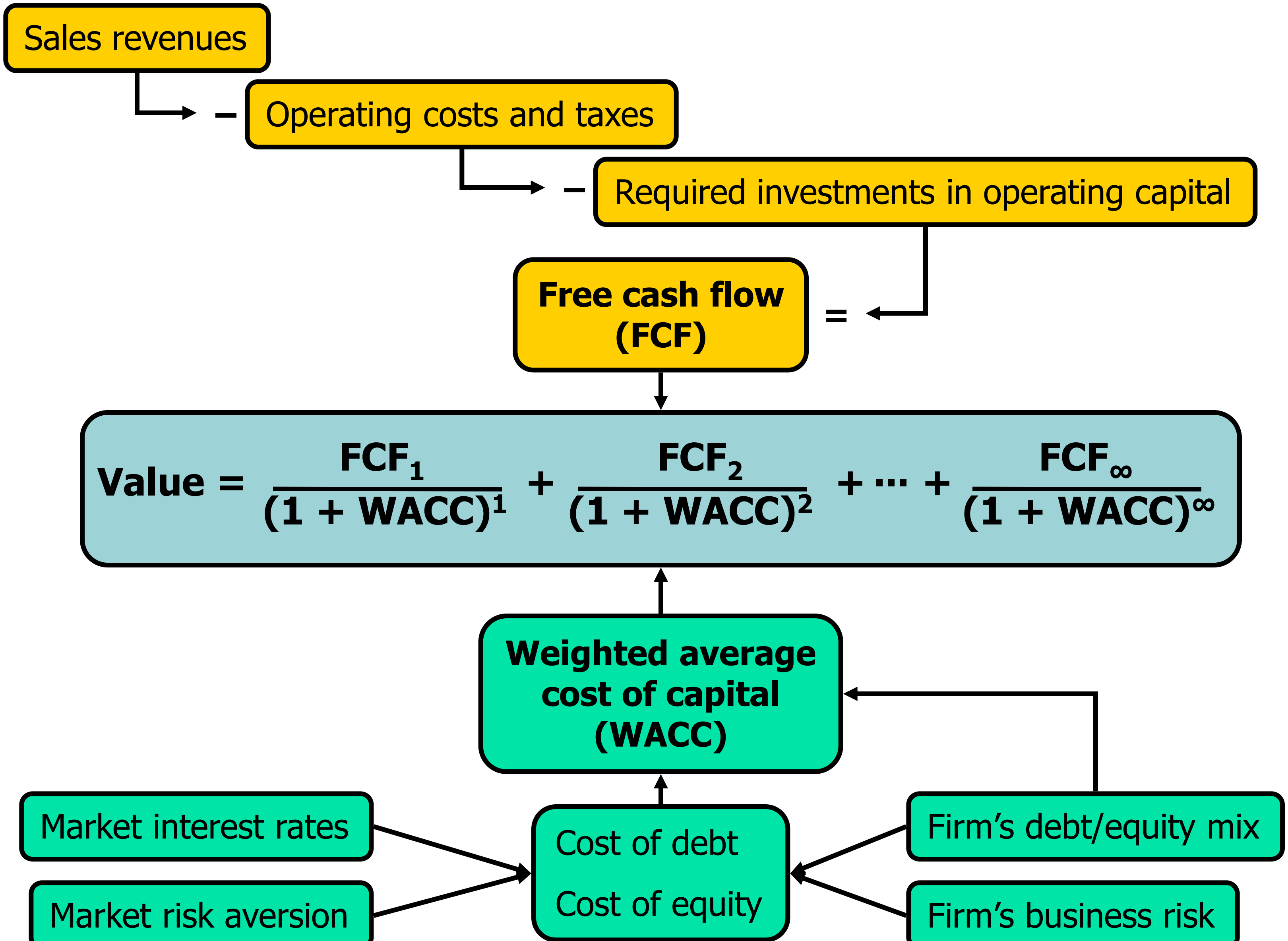
Intrinsic value is the sum of all the future expected free cash flows when converted into today's dollars:

$$\text{Value} = \frac{FCF_1}{(1 + WACC)^1} + \frac{FCF_2}{(1 + WACC)^2} + \ldots + \frac{FCF_\infty}{(1 + WACC)^\infty}$$

See "big picture" diagram on next slide.

(More . .)

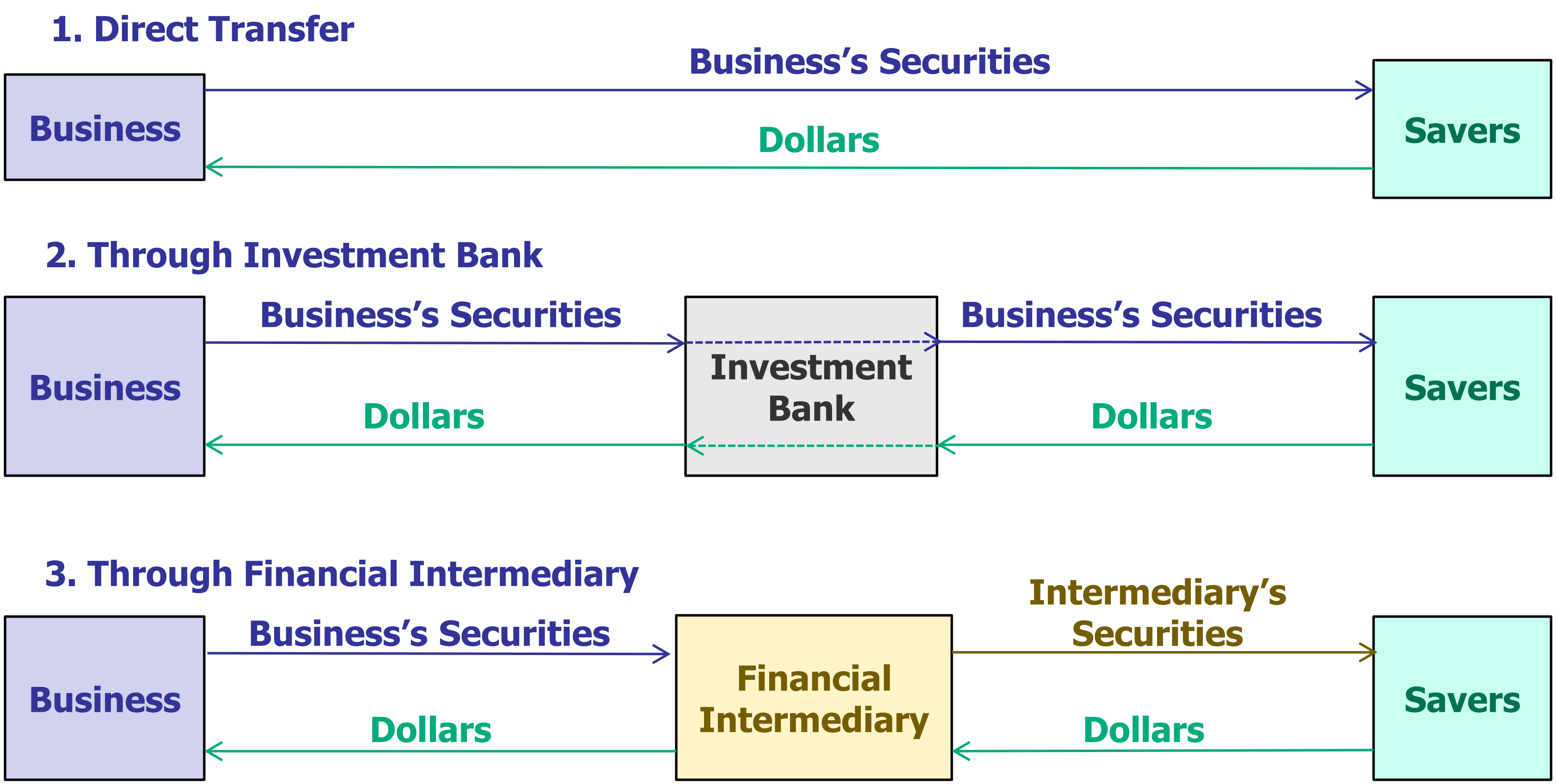
Determinants of Intrinsic Value: The Big Picture



Who are the providers (savers) and users (borrowers) of capital?

- Households: Net savers
- Non-financial corporations: Net users (borrowers)
- Governments: U.S. governments are net borrowers, some foreign governments are net savers
- Financial corporations: Slightly net borrowers, but almost breakeven

The Capital Allocation Process



Transfer of Capital from Savers to Borrowers

- Direct transfer
  - Example: A corporation issues commercial paper to an insurance company.
- Through an investment banking house
  - Example: In an IPO, seasoned equity offering, or debt placement, company sells security to investment banking house, which then sells security to investor.
- Through a financial intermediary
  - Example: An individual deposits money in bank and gets certificate of deposit, bank makes commercial loan to a company (bank gets note from company).

Cost of Money

- What do we call the price, or cost, of debt capital?
  - The interest rate
- What do we call the price, or cost, of equity capital?
  - Cost of equity = Required return = dividend yield + capital gain

What four factors affect the cost of money?

- Production opportunities
- Time preferences for consumption
- Risk
- Expected inflation

What economic conditions affect the cost of money?

- Federal Reserve policies
- Budget deficits/surpluses
- Level of business activity (recession or boom)
- International trade deficits/surpluses

Financial Securities

	Debt	Equity	Derivatives
Money Market	•T-Bills •CD's •Eurodollars •Fed Funds		•Options •Futures •Forward contract
Capital Market	•T-Bonds •Agency bonds •Municipals •Corporate bonds	• Common stock • Preferred stock	•LEAPS •Swaps

What are some financial institutions?

- Commercial banks
- Investment banks
- Savings & Loans, mutual savings banks, and credit unions
- Life insurance companies
- Mutual funds
  - Exchanged Traded Funds (ETFs)
- Pension funds
- Hedge funds and private equity funds

What are some types of markets?

- A market is a method of exchanging one asset (usually cash) for another asset.
- Physical assets vs. financial assets
- Spot versus future markets
- Money versus capital markets
- Primary versus secondary markets

Primary vs. Secondary Security Sales

- Primary
  - New issue (IPO or seasoned)
  - Key factor: issuer receives the proceeds from the sale.
- Secondary
  - Existing owner sells to another party.
  - Issuing firm doesn't receive proceeds and is not directly involved.

Along what two dimensions can we classify trading procedures??

- By “location”
  - Physical location exchanges where trading is face-to-face
  - Computer/telephone networks
- By the way that orders from buyers and sellers are matched
  - Open outcry auction with face-to-face trading
  - Dealers (i.e., market makers) buy from and sell to clients from an inventory of stocks. Orders are not always automatically matched by computers.
  - Automated trading platforms match orders and execute trades automatically.

Types of Orders

- Instructions on how a transaction is to be completed
  - Market Order– Transact as quickly as possible at current price
  - Limit Order– Transact only if specific situation occurs. For example, buy if price drops to $50 or below during the next two hours.

Broker-Dealer Networks

- Registered with the SEC, but less regulated than alternative trading systems (ATS) and registered stock exchanges.
- Broker-dealer purchases stock being offered for sale by a client and then immediately sells it to another client who wished to buy the stock.
- Broker-dealer is the counterparty to each of the clients. Called internalization.
- Broker-dealer must report the transactions, but not any information prior to the trade.
- Trades in broker-dealer networks are called “off exchange” or over-the-counter (OTC).
- Trades can be with individuals (called retail trades) or with institutions. Large trades (10,000 shares or more) are called block trades and are sometimes called “upstairs” trades.

Alternative Trading System (ATS)

- A broker-dealer than registers with the SEC as an ATS.
- ATS usually has an automated trading platform to match orders from clients.
  - Owner of the ATS is not always the counterparty, in contrast to a broker-dealer network.
- The ATS must report trades, but not any pre-trade information.
  - Therefore, an ATS is often called a dark pool

Registered Stock Exchange

- Stocks can only be listed at a registered stock exchange
  - May be traded elsewhere
- Must comply with more regulations than an ATS.
- Must report:
  - Trades
  - Pre-trade information regarding bids and quotes

NYSE versus NASDAQ

- The NYSE is the oldest U.S. registered stock exchange.
- The NASDAQ Stock Market has the most listings because it is willing to list smaller corporations than the NYSE.
- NYSE's listings have a much bigger market value than NASDAQ's listed stocks.

Stock Exchange Listings

Exchange	Number of Listings	Market Value of Listings (Trillions)
NYSE	2,593	$25.8
NASDAQ	2,827	8.1
NYSE MKT	369	0.2
	5,789	$34.1

- January, 2015
- Source: www.nasdaq.com/screening/company-list.aspx.

Stock Trading

Owner of Trading Venue	Trading Venue	Percentage of Dollar Volume
BATS Global Markets	BATS BYX	2.9%
BATS Global Markets	BATS BZX	8.3%
BATS Global Markets	EDGA	2.5%
BATS Global Markets	EDGX	6.4%
	Total BATS:	20.1%
NASDAQ OMX	NASDAQ	18.7%
NASDAQ OMX	NASDAQ BX	2.5%
NASDAQ OMX	NASDAQ PSX	0.6%
	Total NASDAQ OMX:	21.8%
Intercontinental Exchange	NYSE	10.7%
Intercontinental Exchange	NYSE Arca	13.1%
Intercontinental Exchange	NYSE MKT	0.1%
	Total Intercontinental Exchange:	23.9%
Chicago Stock Exchange	CHX	0.7%
Others	Ceased operations during 2014	0.2%
	Total trading on all exchanges:	**66.7%**
Dark Pools (ATS)	Over 40 active pools	13.1%
Broker-Dealer Networks	Over 250	
Broker-Dealer Networks	Retail	≈7.7%
Broker-Dealer Networks	Institutional	≈12.5%
	Total Broker-Dealer:	20.2%
	Total trading off-exchanges:	**33.3%**

Based on total trading during 2014. Data are from BATS Global Markets at www.batstrading.com/market_data/market_volume_history/. The percentages for off-exchange trading are based on the proportions of off-exchange trading for ATSs and non-ATS shown in an SEC report by Laura Tuttle, which can be found at www.sec.gov/marketstructure/research/otc_trading_march_2014.pdf.

Home Mortgages Before S&Ls

- The problems if an individual investor tried to lend money to an aspiring homeowner:
  - Individual investor might not have enough money to fund an entire home
  - Individual investor might not be in a good position to evaluate the risk of the potential homeowner
  - Individual investor might have difficulty collecting mortgage payments

S&Ls Before Securitization

- Savings and loan associations (S&Ls) solved the problems faced by individual investors
  - S&Ls pooled deposits from many investors
  - S&Ls developed expertise in evaluating the risk of borrowers
  - S&Ls had legal resources to collect payments from borrowers

Problems faced by S&Ls Before Securitization

- S&Ls were limited in the amount of mortgages they could fund by the amount of deposits they could raise
- S&Ls were raising money through short-term floating-rate deposits, but making loans in the form of long-term fixed-rate mortgages
- When interest rates increased, S&Ls faced crisis because they had to pay more to depositors than they collected from mortgagees

Taxpayers to the Rescue

- Many S&Ls went bankrupt when interest rates rose in the 1980s.
- Because deposits are insured, taxpayers ended up paying hundreds of billions of dollars.

Securitization in the Home Mortgage Industry

- After crisis in 1980s, S&Ls now put their mortgages into “pools” and sell the pools to other organizations, such as Fannie Mae.
- After selling a pool, the S&Ls have funds to make new home loans
- Risk is shifted to Fannie Mae

Fannie Mae Shifts Risk to Its Investors

- Risk hasn’t disappeared, it has been shifted to Fannie Mae.
- But Fannie Mae doesn’t keep the mortgages:
  - Puts mortgages in pools, sells shares of these pools to investors
  - Risk is shifted to investors.
  - But investors get a rate of return close to the mortgage rate, which is higher than the rate S&Ls pay their depositor.
  - Investors have more risk, but more return
- This is called securitization, since new securities have been created based on original securities (mortgages in this example)

Collateralized Debt Obligations (CDOs)

- Fannie Mae and others, such as investment banks, can also split mortgage pools into “special” securities
  - Some securities might pay investors only the mortgage interest, others might pay only the mortgage principal.
  - Some securities might mature quickly, others might mature later.
  - Some securities are “senior” and get paid before other securities from the pool get paid.
  - Rating agencies give different
- Risk of basic mortgage is parceled out to those investors who want that type of risk (and the potential return that goes with it).

Other Assets Can be Securitized

- Car loans
- Student loans
- Credit card balances

The Dark Side of Securitization

- Homeowners wanted better homes than they could afford.
- Mortgage brokers encouraged homeowners to take mortgages even thought they would reset to payments that the borrowers might not be able to pay because the brokers got a commission for closing the deal.
- Appraisers thought the real estate boom would continue and over-appraised house values, getting paid at the time of the appraisal.
- Originating institutions (like Countrywide) quickly sold the mortgages to investment banks and other institutions.

(More . .)

The Dark Side (Continued)

- Investment banks created CDOs and got rating agencies to help design and then rate the new CDOs, with rating agencies making big profits despite conflicts of interest.
- Financial engineers used unrealistic inputs to generate high values for the CDOs.
- Investment banks sold the CDOs to investors and made big profits.
- Investors bought the CDOs but either didn't understand or care about the risk.
- Some investors bought "insurance" via credit default swaps.

The Collapse

- When mortgages reset and borrowers defaulted, the values of CDOs plummeted.
- Many of the credit default swaps failed to provide insurance because the counterparty failed.
- Many originators and securitizers still owned sub-prime securities, which led to many bankruptcies, government takeovers, and fire sales, including:
  - New Century, Countrywide, IndyMac, Northern Rock, Fannie Mae, Freddie Mac, Bear Stearns, Lehman Brothers, and Merrill Lynch.