How Securities are Traded

How Securities are Traded

- A broad introduction to the many venues and procedures available for trading securities
- Trading mechanism
  - Direct negotiable
  - Fully automated computer crossing of trade orders

How Firms Issue Securities

- <u>Need raise capital</u>
  - <u>Sell or float securities</u>
- <u>Primary</u>
  - New issue
  - Key factor: issuer receives the proceeds from the sale
  - Investment banks
- <u>Secondary</u>
  - Existing owner sells to another party
  - Issuing firm doesn't receive proceeds and is not directly involved
  - Has no affect the outstanding amount of securities
  - Ownership is transferred from one investor to another

- STOCKS:
- Initial Public Offering
  - IPO
  - Stocks issued by a formerly privately owned company that is going public for the first time
- Seasoned equity offerings
  - By companies that already have floated equity
- BONDS:
- Public offering
  - Selling bonds to general investing public that can be traded on secondary market
- Private placement
  - Selling to one or more institutional investors that generally hold till maturity

How Firms Issue Securities Continued

- Investment Banking
- Shelf Registration
- Private Placements
- Initial Public Offerings (IPOs)

Investment Banking

- Public offering of both stock and bond are market by investment banks
  - Underwriters
- More than one investment bank
  - Underwriting syndicate
- Red herring
  - Preliminary prospectus
- Prospectus
  - Final form, approved by SEC
- At this point the price at which the security will be offered is announced.

Figure 3.1 Relationship Among a Firm Issuing Securities, the Underwriters and the Public

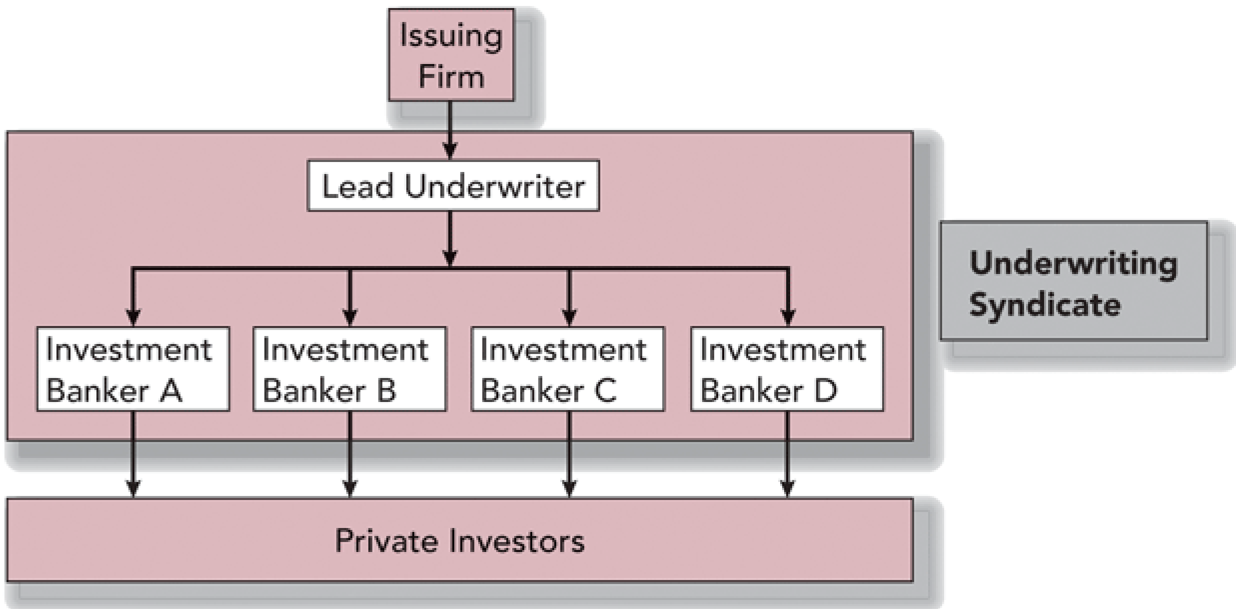

FIGURE 3.1 Relationship among a firm issuing securities, the underwriters, and the public

Shelf Registrations

- SEC Rule 415
- Introduced in 1982
  - Allows firm to register securities and gradually sell them to the public for 2 years following the initial registration
  - Because securities are registered they can be sold on short notice with little additional paper work
- Ready to be issued – on the shelf

Private Placements

- Sale to a limited number of sophisticated investors not requiring the protection of registration
- Allowed under Rule 144A
- Dominated by institutions
- Very active market for debt securities
- Not active for stock offerings
- Private placement do not trade in secondary markets, this reduces their liquidity and prices that investors will pay for issue.

Initial Public Offerings

- Once SEC has commented on the registration statement and a preliminary prospectus has been distributed:
- Process
  - Road shows – travel around the country to publicize offering
    - Generate interest among potentional investors and provide information about offering
    - Provide information to the issuing firm and its underwriters about the price they will be able to market the securities
  - Large investors communicate their interest in purchasing shares
    - Indication of interest are called book and process of polling potentional investor is
      - Bookbuilding
    - Useful – demand, prospectus, competitors
      - Revise initial estimates about offering price or number of shares offered
- Underpricing
  - IPO generally underprices
  - Post sale returns
  - Price jumps that occur on the date when the shares are first traded in pubic security markets
    - December 1999 VA Linux $30 a share and closed on the first day of trading at $239,25 a 698% 1-day return
  - Cost to the issuing firm
    - Explicit costs of an IPO around 7% of a fund raised
    - Underpricing another cost of the issue

Figure 3.2 Average Initial Returns for IPOs in Various Countries

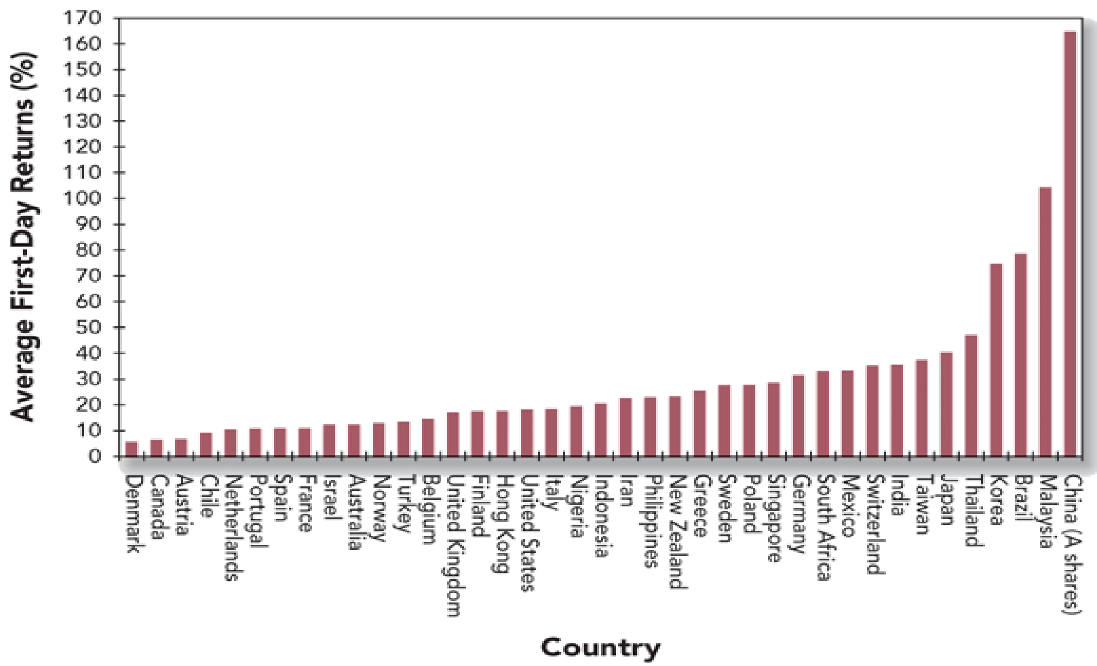

FIGURE 3.2 Average initial returns for IPOs in various countries

Source: Provided by Professor J. Ritter of the University of Florida, 2005; **bear.cba.ufl.edu/ritter.** This is an updated version of the information contained in T. Loughran, J. Ritter, and K. Rydqvist, "Initial Public Offerings," *Pacific-Basin Finance Journal* 2 (1994), pp. 165–199. Copyright 1994 with permission from Elsevier Science. Updated August 2007.

Figure 3.3 Long-term Relative Performance of Initial Public

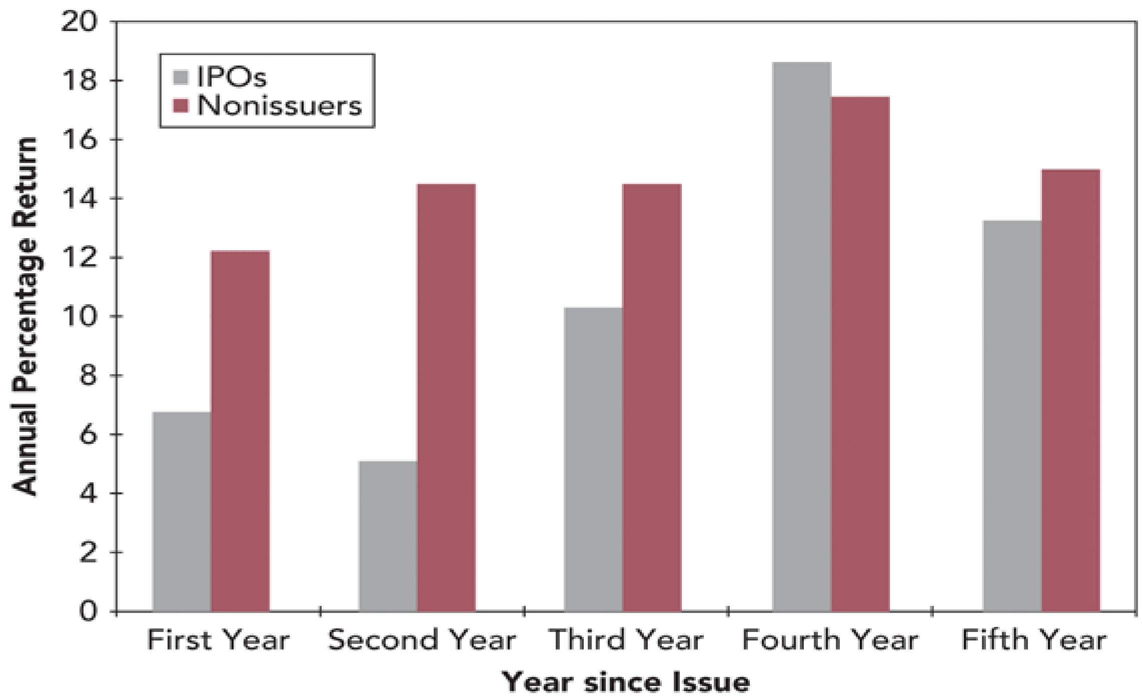

FIGURE 3.3 Long-term relative performance of initial public offerings

Source: Professor Jay R. Ritter's Web site, University of Florida, May 2005, **bear.cba.ufl.edu/ritter/ipodata.htm.**

How Securities are Traded

- Financial markets develop to meet the needs of particulate traders
- Without organized market
  - Wishing to invest meets wishing to sell

How Securities are Traded

- Types of Markets
  - Direct search
    - Least organized
  - Brokered
    - Trading in a good is active
  - Dealer
    - Trading in a particular type of asset increases
  - Auction
    - Most integrated

- Direct search market
  - Buyers and sellers must seek each other out directly
  - Sporadic participations, low-priced and nonstandard goods
- Brokered Markets
  - Active market
  - Brokers fin it profitable to offer search services for sellers or buyers
  - Real estate market
  - Important brokered investment market is the primary market
    - Investment bank acts as a broker
  - Market for large blocks of stocks (10.000 shares or larger)
    - Block houses

- Dealer Markets
  - For particular type of asset
  - Dealers specialized in various assets, purchase these assets for their awn accounts, and later sell them for a profit from their inventory
  - Spreads between dealers' buy and sell is a source of profit
  - OTC market is one example of a dealer market

- Auction markets
  - The most integrate market
  - All traders are concentrated in one place
    - Physically and electronically
  - NYSE
  - Advantage compare with dealer market is that one need not search across dealers to find the best price for good
  - Continuous suction markets require very heavy and frequent trading to cover the expense of maintaining the market
  - For this reasons exchanges set up requirements, which limit the stocks traded on the exchange
  - Example secondary markets

Types of Orders

- Market—executed immediately
  - Bid Price
  - Ask Price
- Price-contingent
  - Investors specify prices
    - Limit buy order - at or bellow a price
    - Limit sell order - rise above a specific price
  - Stop orders
    - Stop-loss order – to be sold if its price falls below a specific level
    - Stop buy order – to be bought if its price rises above a limit
    - Accompany short sales to limit potentional losses

Figure 3.4 The Limit Order Book for Intel on the Archipelago Market, January 19, 2007

INTC Intel Corp

NYSE Arca. INTC Go>>

Bid				Ask			
ID	Price	Size	Time	ID	Price	Size	Time
ARCA	20.77	23100	14:08:23	ARCA	20.78	27200	14:08:23
ARCA	20.76	35725	14:08:22	ARCA	20.79	31800	14:08:23
ARCA	20.75	37391	14:08:21	ARCA	20.80	32000	14:08:22
ARCA	20.74	24275	14:08:23	ARCA	20.81	30500	14:08:22
ARCA	20.73	20524	14:08:23	ARCA	20.82	17090	14:08:21
ARCA	20.72	6890	14:08:21	ARCA	20.83	19650	14:08:01

FIGURE 3.4 The limit order book for Intel on the Archipelago market, January 19, 2007

Source: New York Stock Exchange Euronext Web site, **www.nyse.com.**

Figure 3.5 Price-Contingent Orders

Action	Condition: Price below the Limit	Condition: Price above the Limit
Buy	Limit-Buy Order	Stop-Buy Order
Sell	Stop-Loss Order	Limit-Sell Order

FIGURE 3.5 Price-contingent orders

Trading Mechanisms

- Three trading systems:
- Dealer markets
- Electronic communication networks (ECNs)
- Specialists markets

Dealer Market

- OTC market
- Before 1971, all OTC quotations were recorded manually and published daily on so-called pink sheet
- In 1971, the National Association of Securities Dealers Automatic Quotations System NASDAQ was developed to link brokers nad dealers in a computer network to display bid and ask price
- As originally organized, NASDAQ was more of a price-quotation system that a trading system
  - While brokers could survey bid and ask prices across the network of dealers in the search for the best opportunity, actual trades required direct negotiation between investor‘s broker and dealer in the security
- Shortly, NASDAQ has been transferred in electronic market
  - Dealers still post bid and ask prices over the network but trades are executed automatically

Electronic Communication Networks

- Allow participants to post market and limit orders over computer network
- The limit-order book is available for all participants
- ECNs offer several attractions
  – Direct crossing of trades without using broker-dealer system eliminates the bid-ask spread
  – Trades are crosses at a modest cost, typically less than a penny per share
  – Offers investor anonymity in their trades

Specialist Markets

- In exchanges:
  - Trading in each security is managed by a specialist
- Brokers who wish to sell or buy shares must direct the trade to the specialist's post on the floor of the exchange
- Each security is assignee to one specialist, but each specialist firm – fewer than 10 on the NYSE – makes a market in many securities
- Specialists deal
  - Brokers to execute commands of other brokers
  - Create own portfolio
    - When no other trader can be found to take the other side of a trade, specialists will do so even if it means they must buy ar sell from their own account

Nasdaq

- Nasdaq Stock Market
  - 3,200 firms
- The Nasdaq Global Select Market
  - 1.000 largest, most actively traded firms
- The Nasdaq Global market
- The Nasdaq Capital market

Table 3.1 Partial Requirements for Listing on NASDAQ Markets

TABLE 3.1

Partial requirements for initial listing on NASDAQ markets

	NASDAQ Global Market	NASDAQ Capital Market
Shareholders' equity	$15 million	$5 million
Shares in public hands	1.1 million	1 million
Market value of publicly traded shares	$8 million	$5 million
Minimum price of stock	$5	$4
Pretax income	$1 million	$750,000
Shareholders	400	300

Source: The NASDAQ Stock Market, **www.nasdaq.com.** December 2006, The NASDAQ Stock Market, Inc. Reprinted with permission.

Nasdaq

- Because Nasdaq system does not use a specialist, trades do not require a centralized trading floor as do exchange-listed stocks
- Levels of subscribers
  - Level 1 – subscribers receive only inside quotes (highest bid and lowest ask prices)
    - For investors who want to be informed about current price
  - Level 2 – receives all quotes but they can’t enter quotes
    - For brokerage firms that execute orders for clients but do not actively trade with stocks in own account
  - Level 3 – dealers making markets and inform about bid and ask prices

Table 3.2 Some Initial Listing Requirements for the NYSE

TABLE 3.2

Some initial listing requirements for the NYSE

Minimum annual pretax income in previous 2 years	$ 2,000,000
Revenue	$ 75,000,000
Market value of publicly held stock	$100,000,000
Shares publicly held	1,100,000
Number of holders of 100 shares or more	2,200

Source: New York Stock Exchange, **www.nyse.com** January 2007.

New York Stock Exchange

- 2.800 firms is traded with market capitalization about $15 trillion in 2008
- Daily is traded 2.1 billion shares in the value of $87 billion.
- Member functions
  - Commission brokers
  - Floor brokers
  - Specialists
- Block houses
  - Brokerage firms that match block buyers and sellers
  - For institutional investors
- SuperDot
  - electronic system for NYSE members
  - Sending limit and market orders via computer network
  - Useful for program traders
    - Coordinate purchase and sale of an entire portfolio of stocks

Table 3.3 Block Transactions on the New York Stock Exchange

TABLE 3.3

Block transactions on the New York Stock Exchange

Year	Shares (millions)	% Reported Volume	Average Number of Block Transactions per Day
1965	48	3.1%	9
1970	451	15.4	68
1975	779	16.6	136
1980	3,311	29.2	528
1985	14,222	51.7	2,139
1990	19,682	49.6	3,333
1995	49,737	57.0	7,793
2000	135,772	51.7	21,941
2005	112,027	27.7	17,445
2006	97,576	21.3	14,360
2007	57,079	10.7	7,332

Source: Data from the New York Stock Exchange Euronext Web site, www.nyse.com.

Other Systems

- Electronic Communication Networks
  - Private computer networks that directly link buyers with sellers
- National Market System
  - Securities Act of Amendments of 1975
- Bond Trading
  - Automated Bond System (ABS) in NYSE
  - The vast majority of bond trading occurs in the OTC markets

Trading Costs

EXPLICIT COSTS

- *Commission*: fee paid to broker for making the transaction
  - Full-service: beside carrying out a traditional services other services especially information and advices
  - Discount broker: only essential services

IMPLICIT COSTS

- *Spread*: cost of trading with dealer
  - Bid: price dealer will buy from you
  - Ask: price dealer will sell to you
  - Spread: ask - bid
- *Combination*: on some trades both are paid

Buying on Margin

- When purchasing securities, investors have easy access to a source of debt financing called broker's call loan
  - Taking advantage of broker's call loan
    - Buying on margin
- Purchasing stocks on margin means that investor borrow part of the purchase price of the stock from a broker

Stock Margin Trading

- *Margin* is currently 50%; you can borrow up to 50% of the stock value
  - Set by the Fed
  - It means that at least of 50% of the purchasing price must be in cash and the rest can be borrowed
- *Maintenance margin*: minimum amount equity in trading can be before additional funds must be put into the account
- *Margin call*: notification from broker that you must put up additional funds

Margin Trading - Initial Conditions Example 3.1

X Corp	$100
60%	Initial Margin
40%	Maintenance Margin
100	Shares Purchased

<u>Initial Position</u>

Stock	$10,000	Borrowed	$4,000
		Equity	$6,000

Margin Trading - Maintenance Margin Example 3.1

Stock price falls to $70 per share

<u>New Position</u>

Stock	$7,000	Borrowed	$4,000
		Equity	$3,000

Margin% = $3,000/$7,000 = 43%

Margin Trading - Margin Call Example 3.2

How far can the stock price fall before a margin call?

$(100P - \$4{,}000)^{*} / 100P = 30\%$

$P = \$57.14$

* 100P - Amt Borrowed = Equity

Table 3.4 Illustration of Buying Stock on Margin

TABLE 3.4

Illustration of buying stock on margin

Change in Stock Price	End-of-Year Value of Shares	Repayment of Principal and Interest*	Investor's Rate of Return
30% increase	$26,000	$10,900	51%
No change	20,000	10,900	−9
30% decrease	14,000	10,900	−69

*Assuming the investor buys $20,000 worth of stock, borrowing $10,000 of the purchase price at an interest rate of 9% per year.

Short Sales

- *Purpose*: to profit from a decline in the price of a stock or security
- *Mechanics*
  - Borrow stock through a dealer
  - Sell it and deposit proceeds and margin in an account
  - Closing out the position: buy the stock and return to the party from which is was borrowed
- Short-sellers must not only replace the shares but also pay the lender of the securities any dividends pay during the short sale.

Short Sale – Initial Conditions Example 3.3

Dot Bomb	1,000 Shares
50%	Initial Margin
30%	Maintenance Margin
$100	Initial Price

Sale Proceeds	$100,000
Margin & Equity	50,000
Stock Owed	100,000

Short Sale - Maintenance Margin

Stock Price Rises to $110

Sale Proceeds	$10,000
Initial Margin	5,000
Stock Owed	11,000
Net Equity	4,000
Margin % (4000/11,000)	36%

Short Sale - Margin Call

How much can the stock price rise before a margin call?

$$(\$150{,}000^{*} - 1000P) / (100P) = 30\%$$

$$P = \$115.38$$

* Initial margin plus sale proceeds

Regulation of Securities Markets

- Major regulations
  - Securities Act of 1933
    - Require full disclosure of relevant information relating to the issue of new securities
  - Securities Act of 1934
    - Established SEC
  - Securities Investor Protection Act of 1970
    - Protection investors from losses if their brokerage firms fail
- Self-Regulation
  - Stock markets are largely self-regulating
    - NASD oversee participants in Nasdaq
    - NYSE Regulation, Inc.

Regulation Securities Markets Continued

- 2000 – 2002
  - Tainted securities research and recommendation
  - Misleading financial statements and accounting practices
- Regulatory Responses to Recent Scandals
  - Public Company Accounting Oversight Board
    - Oversee the auditing of public companies
  - Financial experts to serve on audit committees of boards of directors
  - CEOs and CFOs personally certify firms’ financial reports
  - Boards must have independent directors
  - Sarbanes-Oxley Act

Circuit Breakers

- The market collapse in October 19, 1987 prompted several suggestions for regulatory change.
- To slow down or stop trading during periods of extreme volatility
- Trading halts
  - If DJIA falls by 10%, trading will be halted:
    - For 1 hour if the drop occurs before 2:00 p.m.
    - For ½ hour it the drop occurs between 2:00 and 2:30
  - If DJIA falls by 20%, trading will be halted:
    - For 2 hour if the drop occurs before 1:00 p.m.
    - For 1 hour it the drop occurs between 1:00 and 2:00, etc.

Insider Trading

- Regulations also prohibit insider trading
- It is illegal for anyone to transact in securities to profit from insider information
- Private information held by officers, directors or major stockholders that has not been yet deliver to the public
- Problem: distinction between legal public and illegal insider information

Thank you for your attention ☺