

Financial Investment

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 - Seminars
 - Exercises in a seminars evaluated by lecturer (different number of (extra) points)
 - Questions as a preparation for final test
 - (Seminar paper presentation – 15 points)
 - 2 in-term tests (20 points per each)
 - 29/10/2014 and 3/12/2014
- Final grade
 - Final Test: 30 points
 - A 92 – 100 and more, B 84 – 91, C 76 – 83 , D 68 – 75 , E 60 – 67, F less than 60 points

Financial Investment

- Bodie, Kane, Marcus **OSE 1009**



Lecture 1 - 2

- The Investment Environment
- Asset Classes and Financial Investments

Economic vs. Financial System

- Economic System
 - Households, firms, government?
- Financial System
 - Surplus units, deficit units

Real Assets Versus Financial Assets

- The material wealth of an economy is determined by production of the economy
 - How many goods and services are its members possible create
- This can be produced by using real asset
- In contrast to real assets are financial assets
 - Sheet of paper or computer entry
 - Means by which individuals hold claims on real assets
 - Auto plant vs. stock of Toyota

Financial Assets

- Essential nature of investment
 - Reduced current consumption
 - Planned later consumption
- Financial Assets
 - Claims on real assets
 - Allocation of net income along investors

System of markets

- Issuance
 - Primary vs. Secondary market
- Products/ instruments
 - Stock, bond, foreign exchange, derivative market, commodity markets, other financial instrument markets (ETFs, mutual funds, passive investment products, etc)
- Maturity
 - Money vs. Capital market

A Taxonomy of Financial Assets

- Three broad types of financial assets
 - Fixed income (debt), Equity and derivative securities
- 1. Fixed income or debt
 - Fixed stream of income vs. Determined stream of income (some formula)
 - Corporate bonds or floating-rate notes
 - Money market instruments
 - Bank certificates of deposit, T-Bills, etc.
 - Capital market instruments
 - Corporate bonds, government bonds, etc.

A Taxonomy of Financial Assets cont.

- 2. Common stock or equity
 - Ownership in corporation
 - Without promise of regular payment
- 3. Derivative securities
 - Options, futures contracts
 - Underlying
 - Hedging
 - Speculation

Financial Markets and the Economy

- 1. Information Role
 - Investor decides which company live or die
 - Bid up or bid down prices
- 2. Consumption Timing
 - Earning more or less than wish to spend
 - Store wealth in financial assets
 - Shift purchasing power

AAPL US \$ Market

P100.52 / 100.83P

2x1



Prev 100.86

Vol 400

AAPL US Equity

98) Report

Page 2/

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1) Profile

2) Issue Info

3) Ratios

4) Revenue & EPS

5)

6) Public Offerings (CACs)

7) More

8) Institutional Holdings

| Date | Shares | Price | Lead Manager |
|----------|--------|----------|--------------------|
| 05/01/81 | 2.60M | \$ 31.25 | F C Morgan Stanley |
| 12/12/80 | 4.60M | \$ 22.00 | I C Morgan Stanley |

| | |
|---------------------|--------------|
| # of Inst. Owners | 3.86B |
| Shares Owned | |
| Shares Out/Float | 64.5%/64.5% |
| # of Buyers/Sellers | 1.136k/1.38k |
| Shares Bought | 34.95M |

9) Issue Information (RELS)

10) Eqty Wgts (WGT)

11) Insider Holdings (OWN)

| | |
|----------|----------------------------|
| Sec Type | Common Stock |
| Pri Exch | NASDAQ GS PAR USD 0.000... |
| Pri MIC | XNGS |
| Incorp | UNITED STATES (CA) |
| SIC Code | 3571 (ELEC COMPUTER) |
| BBGID | BBG000B9XRY4 |
| ISIN | US0378331005 |
| CUSIP | 037833100 |
| SEDOL1 | 2046251 US NAICS 334111 |
| Common | 009718834 WPK # 865985 |
| | Sicovam 905635 |

| | |
|---------|------|
| SPX | N.A. |
| CCMP | N.A. |
| NDX | N.A. |
| RIY | N.A. |
| RAY | N.A. |
| S5INFT | N.A. |
| OEX | N.A. |
| RLG | N.A. |
| SPR | N.A. |
| SPBUYUP | N.A. |

| | |
|--------------------------|-------|
| % Held by Insiders | 0.06% |
| Net change last 6M | 8.41% |
| 12) Top Holders (HDS) | |
| as of 9/16/2014 | |
| BLACKROCK | 5.42% |
| VANGUARD GROUP INC | 5.40% |
| STATE STREET CORP | 4.03% |
| FMR LLC | 3.21% |
| CAPITAL GROUP COMPAN... | 1.73% |
| BANK OF NEW YORK MELL... | 1.52% |
| NORTHERN TRUST CORPO... | 1.44% |

13) OMON

Opt/LEAPs/Marginable

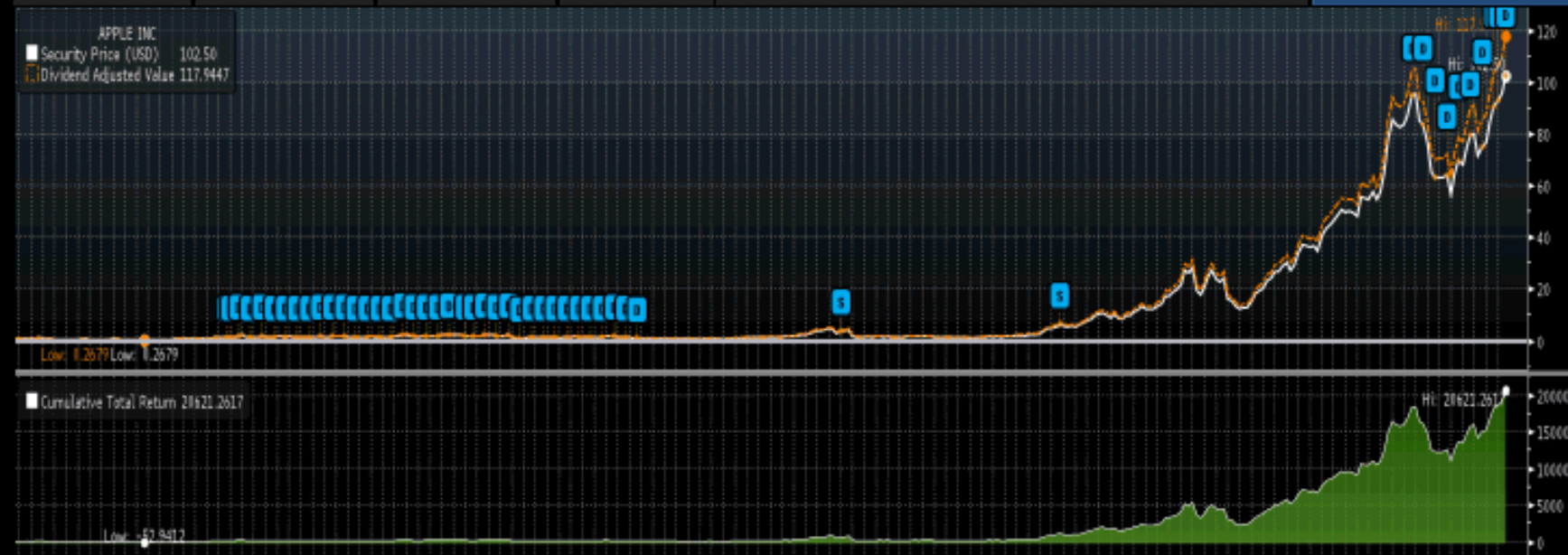
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AAPL US Equity 1) Settings 2) Actions Total Return Analysis

Buy Date: 11/30/1982 Sell Date: 08/29/2014 Period: Monthly
 Buy Price: 31.875 Sell Price: 102.50 Shares: 1000 Currency: USD
 5) Adj. Price: .5692 6) Adj. Shares: 56000.0
 Total Dividends: 221.44k Gross Net 7) Commission Cost: N.A.

| Holding Strategy | | Total Return | Annual Eq | Gain/Loss |
|----------------------------------|--------------------------|--------------|-----------|-----------|
| Price Change | | 17907.843% | 17.7606% | 5.71M |
| Divs Reinvested in Security | Shares Purchased: 8.44k | 20621.261% | 18.2820% | 6.57M |
| Dividends Reinvested at: 0.0152% | Reinvested Income: 59.10 | 18602.928% | 17.9010% | 5.93M |

1M 3M 6M YTD Show Dividend Events



Dec 1983 | Dec 1984 | Dec 1985 | Dec 1986 | Dec 1987 | Dec 1988 | Dec 1989 | Dec 1990 | Dec 1991 | Dec 1992 | Dec 1993 | Dec 1994 | Dec 1995 | Dec 1996 | Dec 1997 | Dec 1998 | Dec 1999 | Dec 2000 | Dec 2001 | Dec 2002 | Dec 2003 | Dec 2004 | Dec 2005 | Dec 2006 | Dec 2007 | Dec 2008 | Dec 2009 | Dec 2010 | Dec 2011 | Dec 2012 | Dec 2013 | Dec 2014

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BBRY US \$ Market  P10.95 / 11.16P 1x5

Prev 11.06 Vol 10,799,937

BBRY US Equity **98 Report** Page 2/5 Description

1) Profile 2) Issue Info 3) Ratios 4) Revenue & EPS 5) Industry Info

6) Public Offerings (CACS) 7) More 8) Institutional Holdings (OWN)

| Date | Shares | Price | Lead Manager | # of Inst. Owners | |
|----------|--------|-----------|------------------------|-------------------|------------------------------|
| 01/14/04 | 12.07M | \$ 78.25 | F C LEH,ML | 401 | Shares Owned 372.24M |
| 10/30/00 | 6.00M | \$ 102.00 | F C Merrill Lynch & Co | | Shares Out/Float 70.6%/73.7% |
| 10/14/99 | 5.00M | \$ 30.75 | F C Merrill Lynch & Co | | # of Buyers/Sellers 104/117 |
| | | | | | Shares Sold 15.90M |

9) Issue Information (RELS) 10) Eqty Wgts (WGT) 11) Insider Holdings (OWN)

| | | | | | |
|----------|--------------------|-------|------|--------------------|-------|
| Sec Type | Common Stock | CCMP | N.A. | % Held by Insiders | 0.11% |
| Pri Exch | NASDAQ GS PAR None | SPADR | N.A. | Net change last 6M | 6.93% |

12) Top Holders (HDS)

| as of 9/16/2014 | | | | | |
|-----------------|-------------------------|----------|--------|---------------------------|--------|
| SIC Code | 3661 (TELEPHONE/TELEG) | BRMOBHCP | 8.427% | PRIMECAP MANAGEMENT C... | 10.73% |
| BBGID | BBG000CR90K4 | SPGSTIHA | N.A. | FAIRFAX FINANCIAL HOLD... | 8.85% |
| ISIN | CA09228F1036 | REWWADR | 0.229% | LAZARIDIS MICHAEL | 4.98% |
| CUSIP | 09228F103 | TXX | 0.550% | TORONTO-DOMINION BANK | 3.48% |
| SEDOL1 | BCBHZ42 US NAICS 334220 | | | FREGIN DOUGLAS E | 2.26% |
| Common | 095556108 WPK # A1W2YK | | | SAC CAPITAL ADVISORS LP | 2.13% |

13) OMON

Options, LEAPs

BBRY US \$ Market P10.95 / 11.16P 1x5
 Prev 11.06 Vol 10,799,937

BBRY US Equity 95 Save As 96 Actions 97 Edit 98 Table Line Chart
 02/26/1999 - 09/16/2014 Last Price Line 11) Compare Mov. Avgs Volume USD
 1D 3D 1M 6M YTD 1Y 5Y Max Monthly Security/Study Event



Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000
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Financial Markets and the Economy

cont.

- 3. Allocation of Risk
 - Transformation risk according to investor profile
 - Bond vs. stock
 - Diversification or insurance or hedging
- 4. Separation of Ownership and Management
 - Companies owned and managed by same individuals
 - Agency Issues
 - Does management attempt to maximalise firm value?
 - Conflict of interest
 - Tie managers income to profit of a firm
 - Stock options
 - Treat of takeover – proxy contest or other firm

GE US \$ Market

P25.95 / 26.30 P

1 x 1

Prev 26.21

Vol 27,482,919

GE US Equity 98 Report Page 1/5 Description

1) Profile

2) Issue Info

3) Ratios

4) Revenue & EPS

5) Industry Info

GENERAL ELECTRIC CO

6) Electrical Power Equipment (CCB)

General Electric Company is a globally diversified technology and financial services company. The Company's products and services include aircraft engines, power generation, water processing, and household appliances to medical imaging, business and consumer financing and industrial products. [BBGID BBG000BK6MB5]

7) Price Chart (GP)



| | |
|--------------------|--------------------|
| Px/Chg 1D (USD) | 26.21/+1.12% |
| 52 Wk H (12/31/13) | 28.09 |
| 52 Wk L (10/09/13) | 23.50 |
| YTD Change/% | -1.82/-6.49% |
| Mkt Cap (USD) | 262,988.6M |
| Shrs Out/Float | 10,033.9M/10,02... |
| SI/% of Float | 72.1M/0.72% |
| Days to Cover | 3.3 |

8) Earn (ERN) 9) Est (EE)

| | | |
|----------------|-------|----------|
| Date | (C) | 10/17/14 |
| P/E | | 18.52 |
| Est P/E | 12/14 | 15.61 |
| T12M EPS (USD) | | 1.41 |
| Est EPS | | 1.68 |
| Est PEG | | 1.71 |

11) Dividend (DVD)

| | |
|-----------------|-------|
| Ind Gross Yield | 3.35% |
| 5Y Net Growth | 0.72% |
| Cash 09/18/14 | 0.22 |

12) Corporate Info

| |
|---|
| 13) www.ge.com |
| Fairfield, CT, United States |
| Empls 307,000 (12/31/13) |
| 14) Management (MGMT) |
| 15) Jeffrey R Immelt "Jeff" Chairman/CEO |
| 16) Keith S Sherin Vice Chairman |
| 17) Daniel C Heintzelman "Dan" Vice Chairman:Service & Ops |
| 18) 12M Total Ret (TRA) 10.75% |
| Beta vs SPX 1.05 |
| 20) Depository Receipts |
| Active Receipts 5 |

GE US \$ Market

P25.95 / 26.30P

1 x 1

Prev 26.21

Vol 27,482,919

GE US Equity 98 Report Page 2/5 Description

1) Profile 2) Issue Info 3) Ratios 4) Revenue & EPS 5) Industry Info

6) Public Offerings (CACs) 7) More 8) Institutional Holdings (OWN)

| Date | Shares | Price | Lead Manager | # of Inst. Owners | |
|----------|----------|----------|--------------------|-------------------|---------------------|
| 10/02/08 | 547.83M | \$ 22.25 | F C JOINT LEADS | 2,891 | Shares Owned 5.57B |
| 03/08/04 | 119.39M | \$ 31.83 | F C MS,CITI,GS,JPM | 55.5%/55.5% | Shares Out/Float |
| 01/01/61 | 0.00 | \$ 72.25 | F C Not Available | 1.074k/1.031k | # of Buyers/Sellers |
| IPO | 06/23/82 | | | 24.01M | Shares Bought |

9) Issue Information (RELS) 10) Eqty Wgts (WGT) 11) Insider Holdings (OWN)

| Sec Type | Common Stock | SPX | N.A. | % Held by Insiders | 0.05% |
|----------|--------------------|----------------------|--------|---------------------------|-------|
| Pri Exch | New York | INDU | 0.982% | Net change last 6M | 2.11% |
| Pri MIC | XNYS | RIY | N.A. | 12) Top Holders (HDS) | |
| Incorp | UNITED STATES (NY) | RAY | N.A. | as of 9/16/2014 | |
| SIC Code | 3600 (ELECT EQUIP) | OEX | N.A. | BLACKROCK | 5.51% |
| BBGID | BBG000BK6MB5 | RLV | N.A. | VANGUARD GROUP INC | 5.09% |
| ISIN | US3696041033 | S5INDU | N.A. | STATE STREET CORP | 4.00% |
| CUSIP | 369604103 | SPR | N.A. | CAPITAL GROUP COMPANI... | 2.77% |
| SEDOL1 | 2380498 US | COMP | 0.543% | NORTHERN TRUST CORPOR... | 1.51% |
| Common | 002079925 | BWORLD | 0.486% | BANK OF NEW YORK MELLO... | 1.37% |
| | NAICS 336412 | 13) OMON | | T ROWE PRICE ASSOCIATES | 1.27% |
| | WPK # 851144 | Opt/LEAPs/Marginable | | | |
| | Sicovam 012943 | | | | |

AAPL US \$ Market

Q100.28 / 100.40 Q

4x2

Prev 100.86 Vol 17,908

AAPL US Equity

75 Settings

Holders: Transactions

Apple Inc

CUSIP 03783310

1 Current 2 Historical 3 Matrix 4 Ownership 5 Transactions 6 Options

Transaction Type

All

Net Transaction Volume

9 Chart

10 Table

Shareholders

All

Range

09/16/10

- 09/17/14

7) Max shares sold in single transaction

COOK TIMOTHY DONALD

08/22/2014

-290,834

8) Max shares bought in single transaction

COOK TIMOTHY DONALD

08/22/2014

560,000



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 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000
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AAPL US \$ Market

Q100.28 / 100.40 Q

4x2

Prev 100.86 Vol 17,908

AAPL US Equity

75 Settings

Holders: Transactions

Apple Inc

CUSIP 03783310

1) Current 2) Historical 3) Matrix 4) Ownership 5) Transactions 6) Options

Transaction T
Shareholders

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Equity GPTR

10 Table

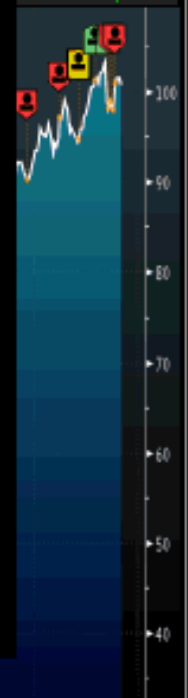
7) Max sha
8) Max sha

Insider/Major Shareholder Transactions

Date 9/9/2014 Net Buys/Sells -10,300

-290,834
560,000

| Name | Relation | Transaction Definition | Shares | Trade Price | Date |
|------------------|----------|------------------------|--------|-------------|------------|
| III MAESTRI LUCA | Officer | Open Market Sale | -7,800 | 99.4700 | 09/09/2014 |
| EI MAESTRI LUCA | Officer | Open Market Sale | -1,400 | 100.3700 | 09/09/2014 |
| D MAESTRI LUCA | Officer | Open Market Sale | -900 | 101.5500 | 09/09/2014 |
| II MAESTRI LUCA | Officer | Open Market Sale | -200 | 102.8000 | 09/09/2014 |



Sep 2010 Dec 2010 Mar 2011 Jun 2011 Sep 2011 Dec 2011 Mar 2012 Jun 2012 Sep 2012 Dec 2012 Mar 2013 Jun 2013 Sep 2013 Dec 2013 Mar 2014 Jun 2014 Sep 2014

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Apple Inc

CUSIP 03783310

1) Current

2) Historical

3) Matrix

4) Ownership

5) Transactions

6) Options

Transaction T
Shareholders

<HELP> for explanation, <MENU> for similar functions.
<Menu> to Return

Equity GPTR

10 Table

7) Max sha

8) Max sha

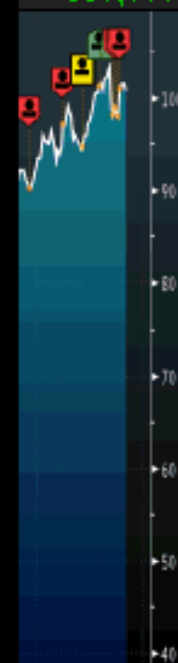
Insider/Major Shareholder Transactions

Date 8/22/2014 Net Buys/Sells 269,166

-290,834

560,000

| Name | Relation | Transaction Definition | Shares | Trade Price | Date |
|-------------------------|----------|---|----------|-------------|------------|
| III COOK TIMOTHY DONALD | Officer | Exercise or Conv of derivative security | 560,000 | .0000 | 08/22/2014 |
| II COOK TIMOTHY DONALD | Officer | Payment of exercise price by delivery | -290,834 | 101.3200 | 08/22/2014 |



Sep 2010 Dec 2010 Mar 2011 Jun 2011 Sep 2011 Dec 2011 Mar 2012 Jun 2012 Sep 2012 Dec 2012 Mar 2013 Jun 2013 Sep 2013 Dec 2013 Mar 2014 Jun 2014 Sep 2014

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Financial Markets and the Economy cont.

- Corporate Governance and Corporate Ethics
 - Financial market play important role in effective allocation of resources
 - Transparency of information
 - Accounting Scandals x Rating Agency failures
 - WorldCom
 - Examples – Enron, Rite Aid, HealthSouth
 - Auditors—watchdogs of the firms
 - Analyst Scandals
 - Arthur Andersen
 - Sarbanes-Oxley Act
 - Tighten the rules of corporate governance
 - 2002
 - Independent directors that are not managers
 - Prohibit auditors providing another services

The Investment Process

- Saving
 - Not spending all on consumption
- Investing
 - Choosing what assets to hold
 - Safe, risky, combination
- Investors are making two decisions in creation of their portfolio
- 1. Asset allocation
 - Choice among broad asset classes
- 2. Security selection
 - Choice of which securities to hold within asset class
- Security analysis
 - Evaluation of assets
- Top down portfolio
 - Asset allocation
 - Security selection
- Bottom-up strategy
 - Securities that are attractively priced

The Investment Process – decision making

- Prediction of future return
 - Risk associate with investment (historical or expected data)
- Risk-Return Trade-Off
 - If all else is equal, investors will prefer investments with the highest expected return
 - A vs. B
 - Historical risk 5 % vs. 8
 - Historical rate of return 3 % vs. 2,5
 - Coefficient of variation
- Efficient Markets
 - Role of information
- Process of diversification
- Active Management
 - Finding mispriced securities
 - Timing the market
- Passive Management
 - No attempt to find undervalued securities
 - No attempt to time the market
 - Holding a highly diversified portfolio

Chinese Symbol For Risk

- Risk
 - Systematic
 - Non-systematic



Breakdown of Risk (holding of one asset)

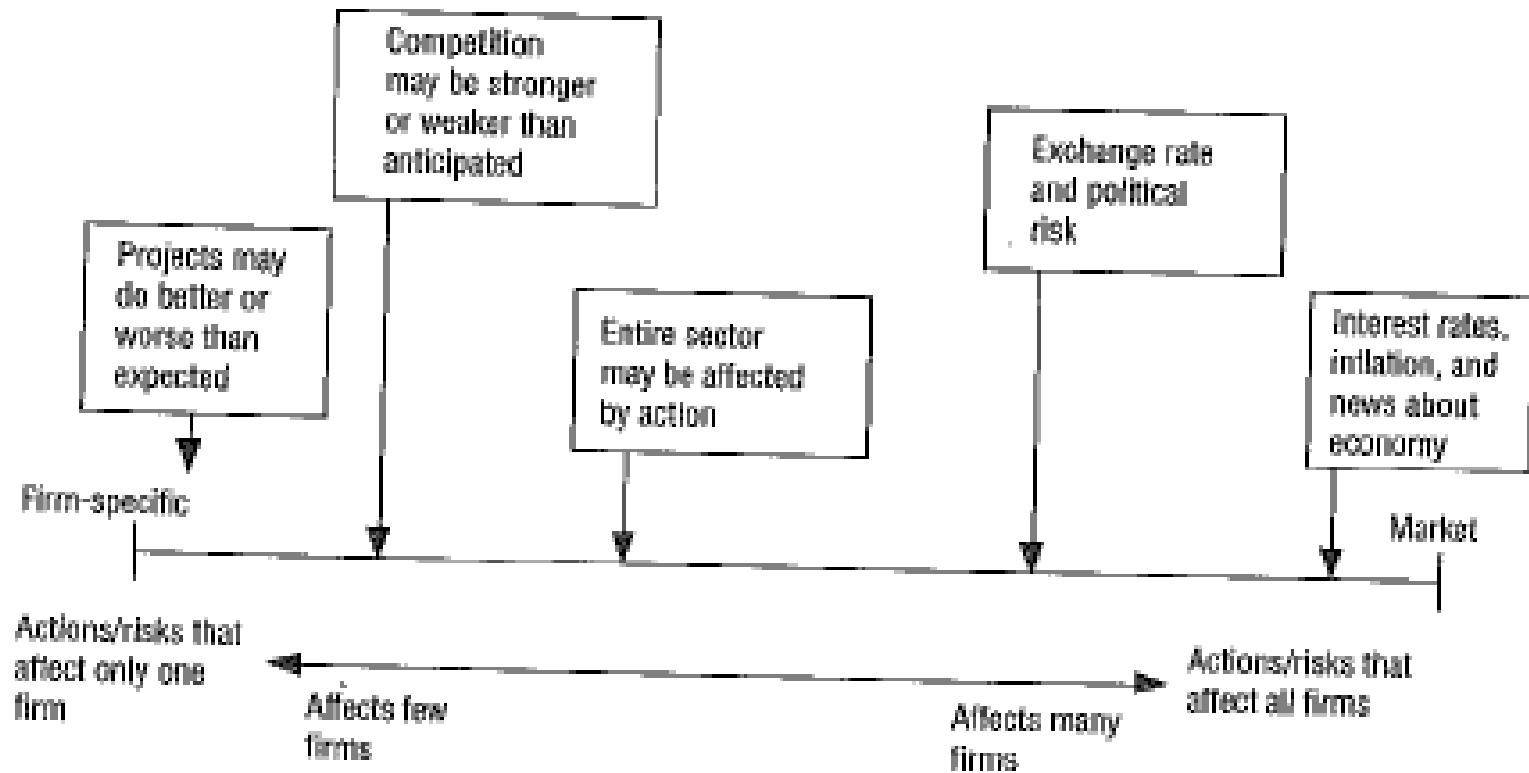


FIGURE 2.1 Breakdown of Risk

The Players

- Business Firms– net borrowers
 - Raise capital to pay for investments in plant and from income provides return to investors
- Households – net savers
 - Purchase securities from firms that need capital
- Governments – can be both borrowers and savers
 - After WWII mostly borrowers
- Role of financial institutions and intermediaries

The Players cont.

- Financial Intermediaries
 - Investment Companies
 - (Investment)Banks
 - Insurance companies
 - Credit unions

Financial Intermediaries

- For the households is direct investment difficult
- For small investor is lending money related with transactional costs
- Entrance of financial intermediaries
 - Bring them together
 - Different from another business
 - All their liabilities and claims are at most financial
- Primary function
 - Channelling funds from private to business sector
 - Pooling the resources from many small investors to be able to lend considerable sum of money
 - Lending to many borrowers
 - Diversification and thus can adopt risky project
 - Built expertise through volume of business they do
 - Economy of scale

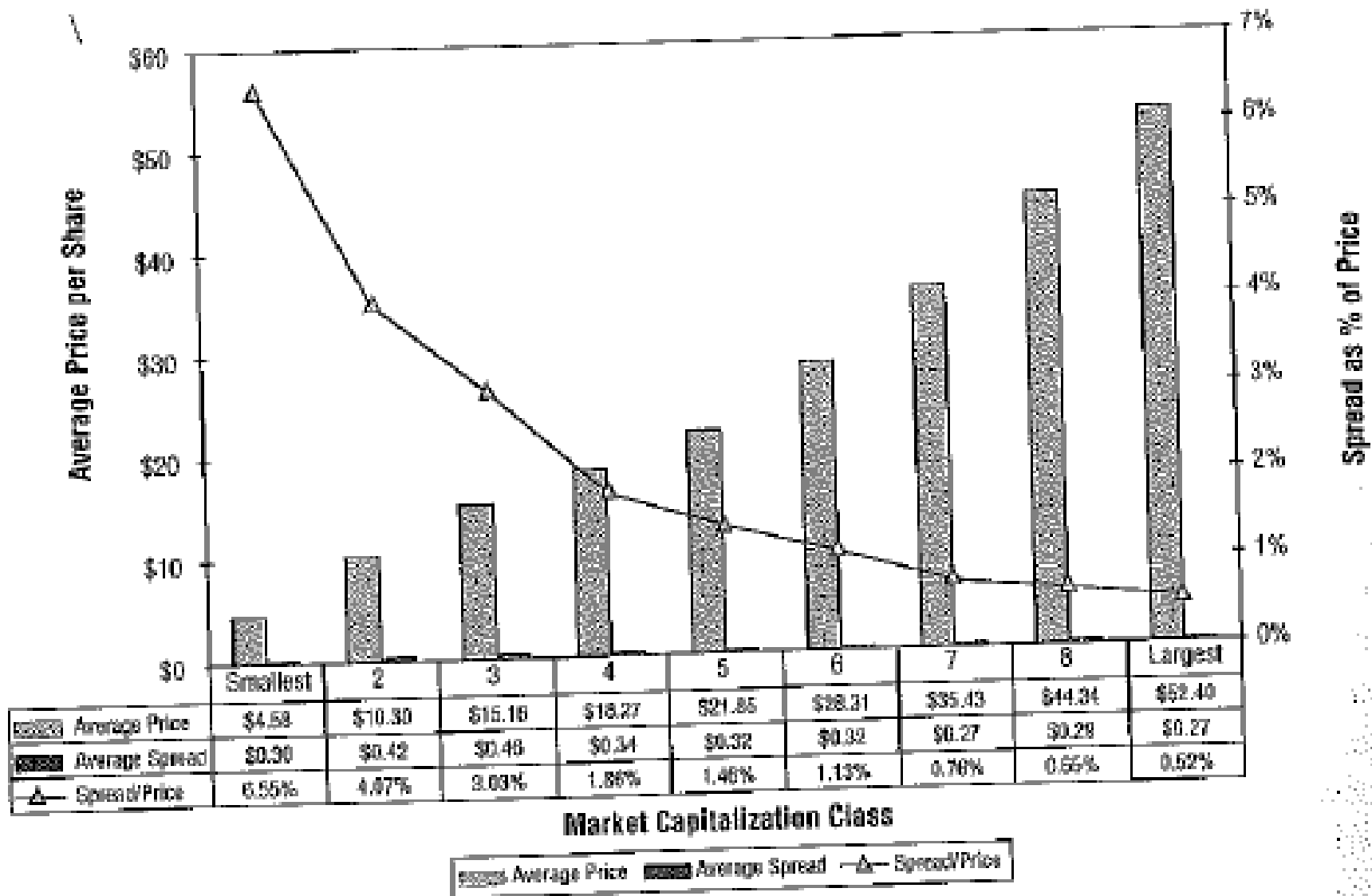


FIGURE 14.1 Prices and Spreads by Market Cap
Source: Loeb (1983).

The Players Continued

- Investment companies
 - Pool and manage the money of many investors
 - Most household portfolios is not large enough to be spread among a wide variety of securities
 - Brokerage fees
 - Researcher costs
 - Mutual funds
 - Portfolios for individual investors
- Investment Bankers (separate business till 1999, September 2008 respectively)
 - Perform specialized services for businesses
 - Markets in the primary market
 - Expertise to security issuers
 - Assisting in issuing securities
 - Key role in IPO
 - Universal banks – J.P. Morgan + Chase Manhattan – J.P. Morgan Chase different in Europe (Deutsche Bank, Credit Suisse)
 - Leverage 10 to 1 vs. 30 to 1

The end of stand-alone investment bank industry

| Investment Bank | Commercial bank |
|---------------------|----------------------------------|
| Bear Stearns | J.P.Morgan Chase (merge) |
| Merril Lynch | Bank of America (acquisition) |
| Goldman Sachs → | (transformation) |
| Morgan Stanley → | (transformation) |

- From March to September 2008
- End of independent investment bank industry

Table 1.3 Balance Sheet of Commercial Banks, 2007

| Assets | \$ Billion | % Total | Liabilities and Net Worth | \$ Billion | % Total |
|-------------------------------|-------------------|----------------|---|-------------------|----------------|
| Real assets | | | Liabilities | | |
| Equipment and premises | \$ 100.7 | 1.0% | Deposits | \$ 6,865.3 | 65.9% |
| Other real estate | 6.8 | 0.1 | Borrowed funds | 1,242.5 | 11.9 |
| <i>Total real assets</i> | \$ 107.5 | 1.0% | Subordinated debt | 161.3 | 1.5 |
| | | | Federal funds and repurchase agreements | 771.4 | 7.4 |
| | | | Other | 320.8 | 3.1 |
| | | | <i>Total liabilities</i> | \$ 9,361.3 | 89.9% |
| Financial assets | | | | | |
| Cash | \$ 457.5 | 4.4% | | | |
| Investment securities | 2,180.0 | 20.9 | | | |
| Loans and leases | 6,089.3 | 58.5 | | | |
| Other financial assets | 822.3 | 7.9 | | | |
| <i>Total financial assets</i> | \$ 9,549.1 | 91.7% | | | |
| Other assets | | | | | |
| Intangible assets | \$ 379.2 | 3.6% | | | |
| Other | 375.1 | 3.6 | | | |
| <i>Total other assets</i> | \$ 754.3 | 7.2% | <i>Net worth</i> | \$ 1,049.6 | 10.1% |
| <i>Total</i> | \$ 10,410.9 | 100.0% | | \$10,410.9 | 100.0% |

TABLE 1.3

Balance sheet of commercial banks, 2007

Note: Column sums may differ from total because of rounding error.

Source: Federal Deposit Insurance Corporation, www.fdic.gov, September 2007.

Table 1.4 Balance Sheet of Nonfinancial U.S. Business, 2007

| Assets | \$ Billion | % Total | Liabilities and Net Worth | \$ Billion | % Total |
|-------------------------------|-----------------|---------------|---------------------------|-----------------|---------------|
| Real assets | | | Liabilities | | |
| Equipment and software | \$ 3,764 | 15.0% | Bonds and mortgages | \$ 4,397 | 17.5% |
| Real estate | 7,861 | 31.2 | Bank loans | 707 | 2.8 |
| Inventories | 1,671 | 6.6 | Other loans | 745 | 3.0 |
| <i>Total real assets</i> | <u>\$13,295</u> | <u>52.8%</u> | Trade debt | 1,651 | 6.6 |
| | | | Other | 3,319 | 13.2 |
| Financial assets | | | <i>Total liabilities</i> | <u>\$10,818</u> | <u>43.0%</u> |
| Deposits and cash | \$ 608 | 2.4% | | | |
| Marketable securities | 953 | 3.8 | | | |
| Trade and consumer credit | 2,200 | 8.7 | | | |
| Other | 8,108 | 32.2 | | | |
| <i>Total financial assets</i> | <u>\$11,868</u> | <u>47.2%</u> | | | |
| <i>Total</i> | <u>\$25,164</u> | <u>100.0%</u> | <i>Net worth</i> | <u>\$14,346</u> | <u>57.0%</u> |
| | | | | <u>\$25,164</u> | <u>100.0%</u> |

TABLE 1.4

Balance sheet of nonfinancial U.S. business, 2007

Note: Column sums may differ from total because of rounding error.

Source: *Flow of Funds Accounts of the United States*, Board of Governors of the Federal Reserve System, June 2007.

New Trends

- Globalization
- Securitization
- Financial engineering
- Information and computer networks

Recent Trends—Globalization

- Investor is not limited only to domestic assets
- Efficient communication technology and decreasing of regulatory borders
- Possible way how to participate in foreign investments opportunities
 - Domestically traded securities that represent claim to share of foreign stocks
 - Purchase of foreign securities that are denominated in domestic currency
 - Buy mutual funds that invest internationally
 - Buy derivative securities with payoffs that depend on prices in foreign security market
- A giant step toward globalization 1999
 - 11 European countries adopted euro

Recent Trends—Securitization

- Mortgage pass-through securities
 - 1970 –Government National Mortgage Association or GNMA or Ginnie Mae
 - Aggregation of individual home mortgages into homogeneous pool
 - This pool works as backed for pass through security
 - Investors get share in principal ale payments related with backed securities
 - Securitization of mortgages means that mortgages can be traded as securities
- Other pass-through arrangements
 - Car, student, home equity, credit card loans
- Offers opportunities for investors and originators
- See Investment (Bodie, Kane, Marcus, p. 14 - 23)

Securitization

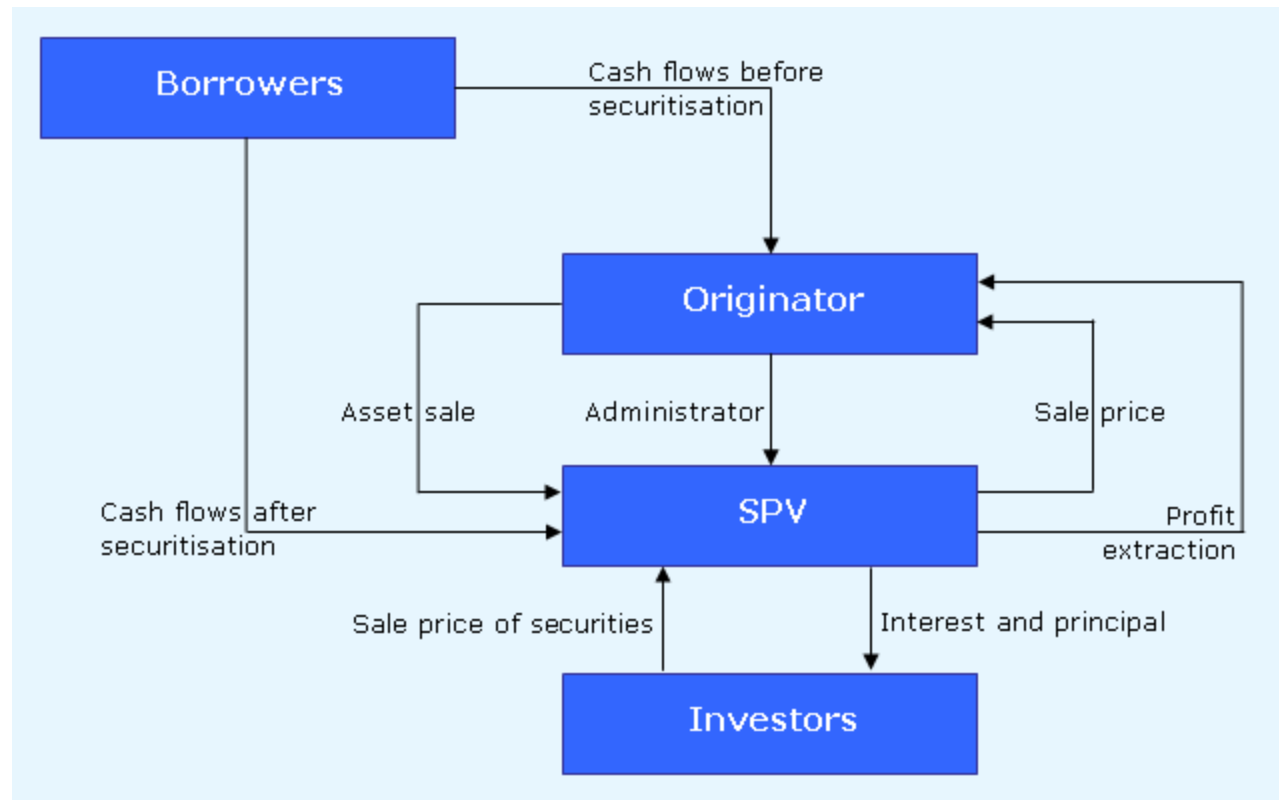
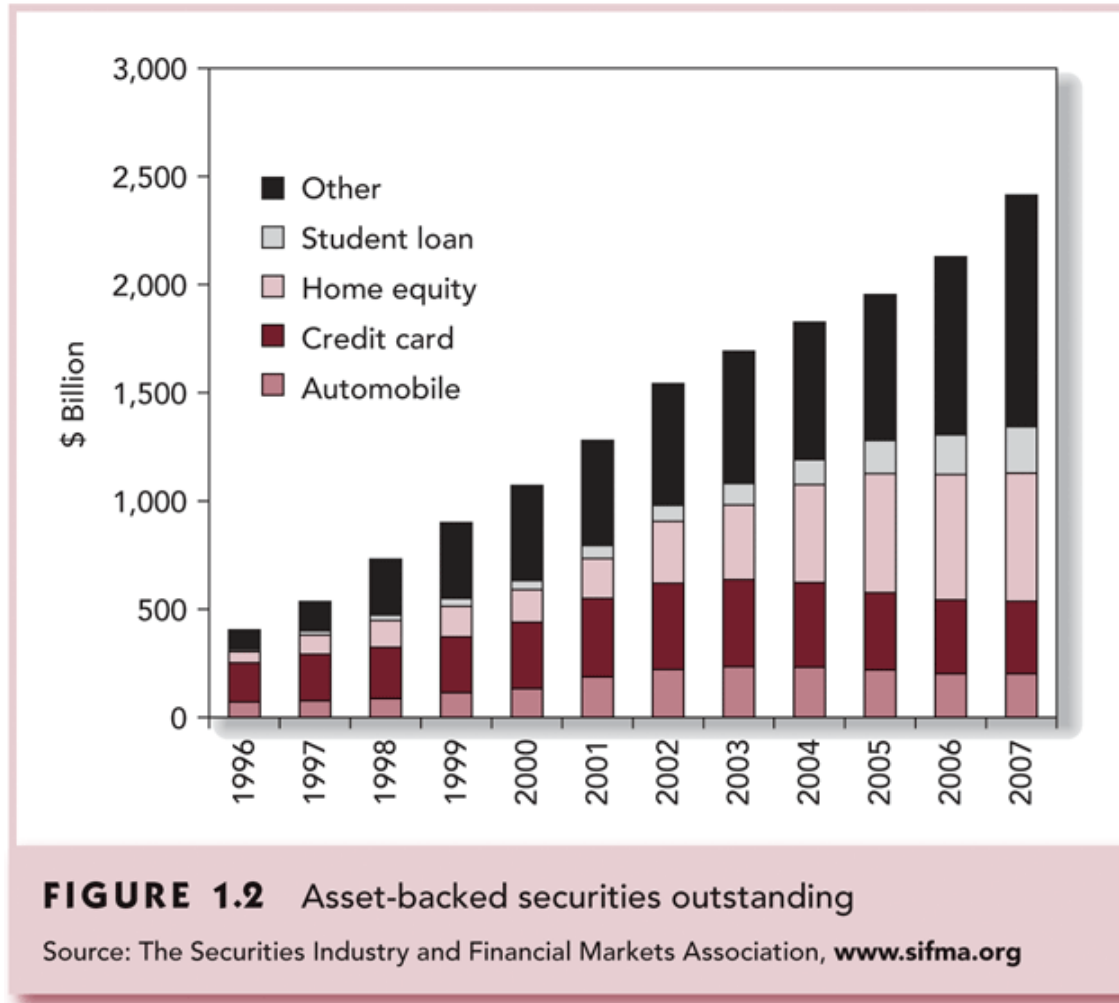


Figure 1.2 Asset-backed Securities Outstanding

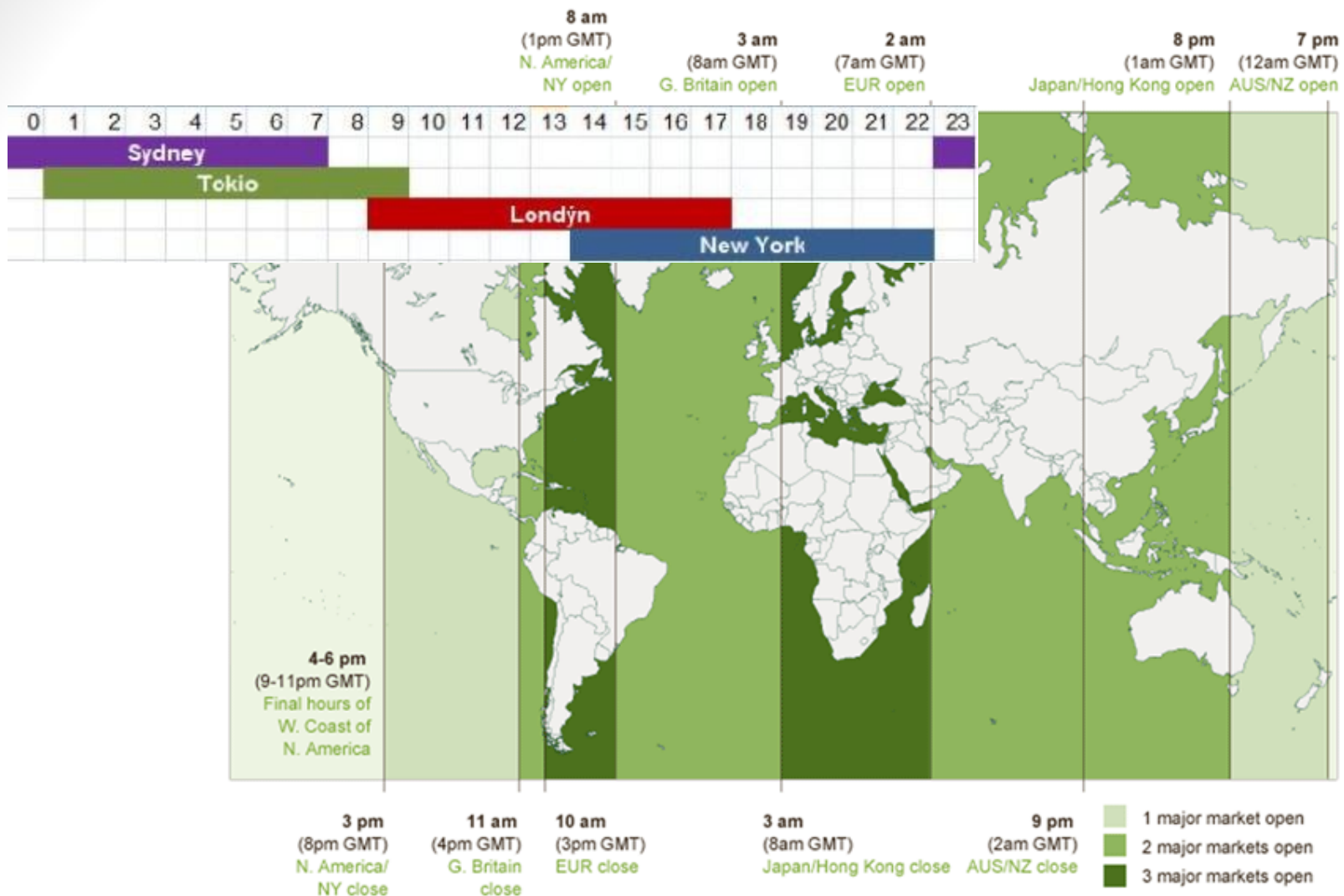


Recent Trends—Financial Engineering

- Use of mathematical models and computer-based trading technology to synthesize new financial products
 - Principal-protected or equity-linked note
 - Security that guarantee a minimum fixed return plus an additional amount that depends on the performance of some index
- Bundling and unbundling of cash flows
- Combination more than one security into a composite security or breaking up and allocation the cash flows from one security to create several new securities
- Securities tailored according to investor risk

Recent Trends—Computer Networks

- Online trading
 - Direct contact between customers and brokerage firm
 - Cheaper trading
 - Lower commissions
- Online information dissemination
- Information is made cheaply and widely available to the public
- Automated trade crossing,
 - Direct trading among investors
 - Trading without benefit for intermediaries such security dealers
- high frequency trading



Forex Liquidity by Trading Hour



Major Classes of Financial Assets or Securities

- Money market instruments
- Bond market instruments
- Equity Securities
- Indexes
- Derivative market products

The Money Market

- A subsector of the fixed income market
 - Short-term debt securities
 - Highly marketable
 - Traded in large denominations
 - Out of reach of individual investors

The Money Market cont.

- Treasury bills
 - Most market able
 - Simple for of borrowing
 - Government want to borrow from public
 - Investors buy with discount from face value
 - Maturities 28, 91 or 182 days
 - Individual can buy directly in auction or from government securities dealer
 - Highly liquid
 - Bid and asked price
 - Bank discount method

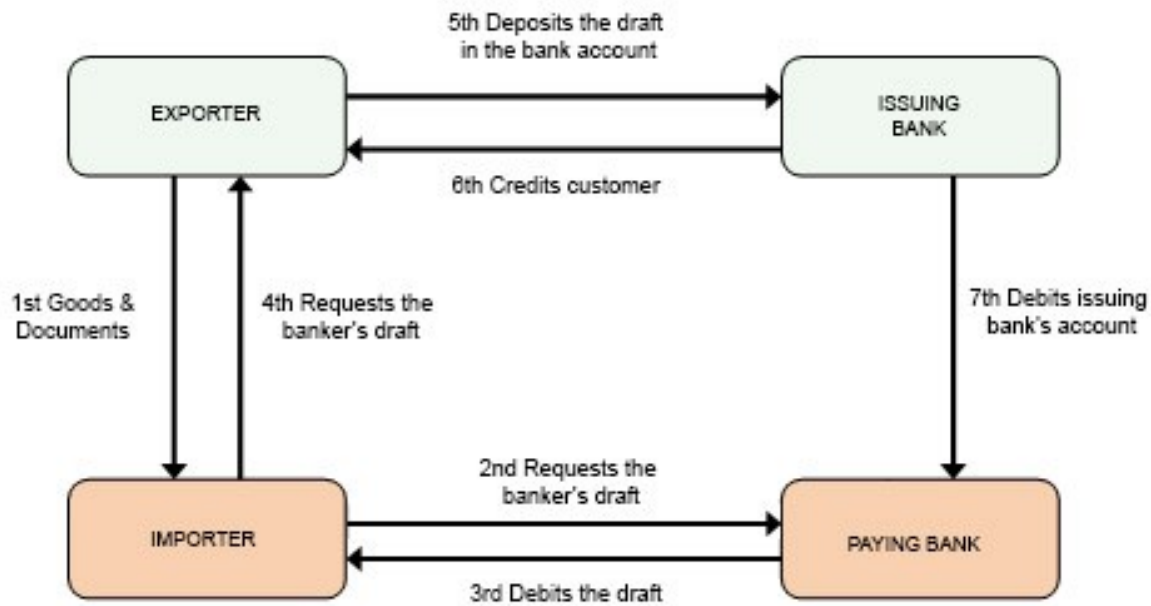
The Money Market cont.

- Certificates of Deposits
 - CD time deposit with bank
 - Can not be withdraw on demand
 - Issued in denominations greater than 100.000 USD
 - Are negotiable
- Commercial Paper
 - Issued by well-know companies rather than using bank loans
 - Very often backed by a bank line of credit
 - Access to cash that can be used to pay off the paper at maturity
 - Issued in multiple of 100.000
 - For small investor open only indirectly

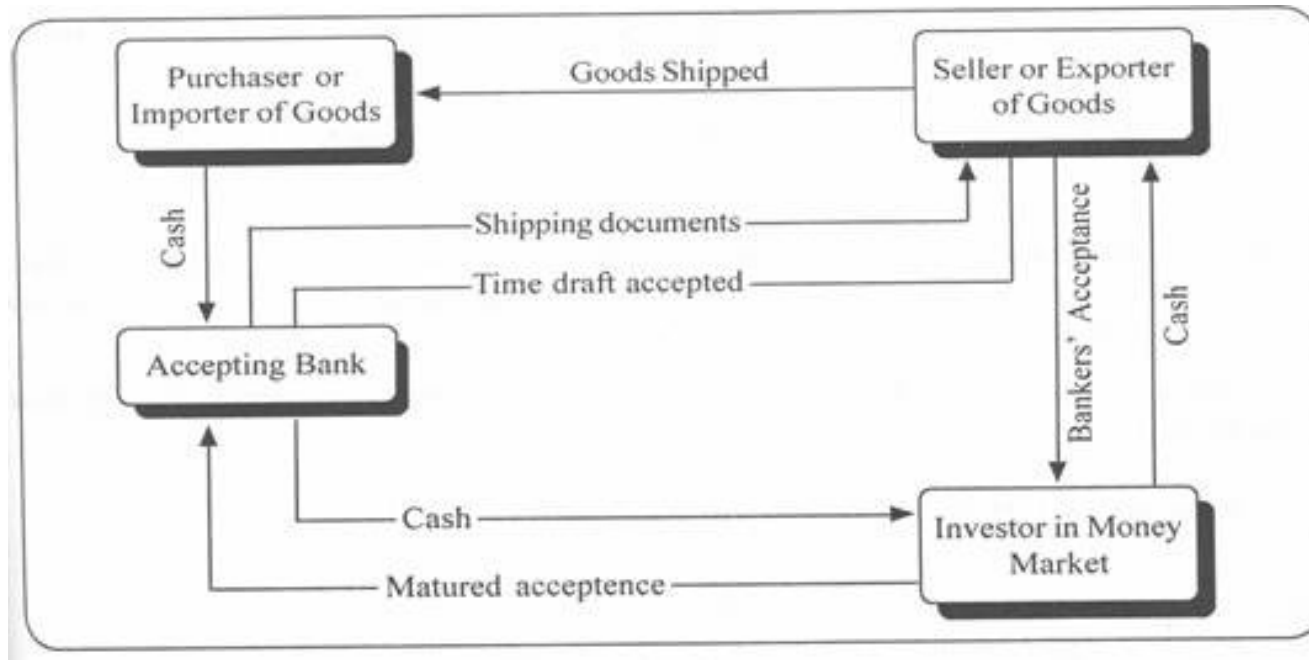
The Money Market cont.

- Bankers Acceptances
 - Order to a bank by bank's client to pay a sum of money at a future day, typically within 6 months
 - Can be traded in secondary market
 - It is selling with discount from face value

Bankers Acceptances



Bankers Acceptances



The Money Market Continued

- Eurodollars
 - Dollar-denominated deposits at foreign bank

The Money Market Continued

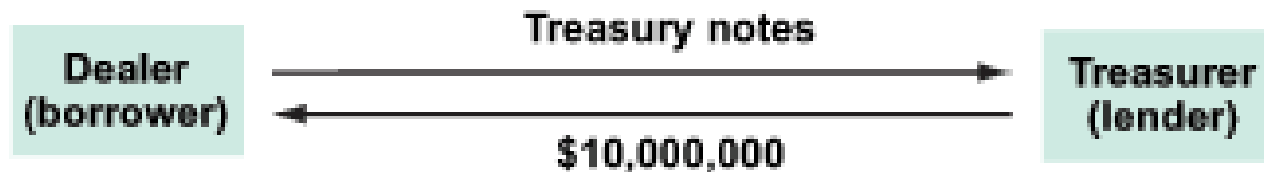
- Brokers' Calls
 - Individual who buy securities on margin borrow part of the funds to pay for the stocks from their broker
 - Broker may borrow the funds from a bank, agreeing to repay immediately on call if the bank request it
 - Price about 1 % higher than the rate on short-term T-bills

The Money Market Continued

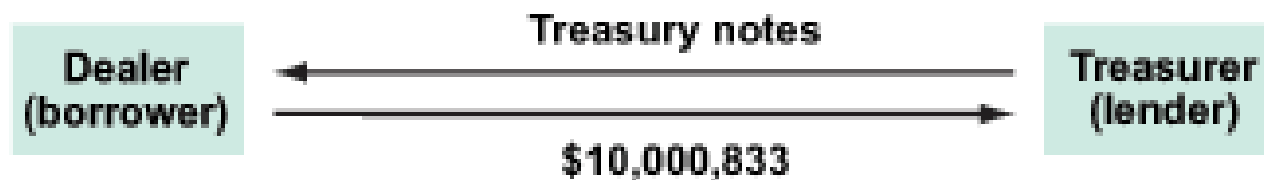
- Repurchase Agreements (RPs) and Reverse RPs
 - It is used by dealers with government securities
 - Form of short term borrowing
 - Most deposits are in large sum, time deposit less than 6 months
 - Overnight
 - Dealer sells government securities on an overnight basis with the promise to buy back these securities next day
 - Dealer get 1-day loan from the investor
 - Securities work as collateral
 - Safe in term of credit risk

Repurchase Agreements (RPs) and Reverse RPs

Starting leg (day t):



Closing leg (day t+1):



$$\$10,000,833 = \$10,000,000 + (1/360) \times 3\% \text{ of } \$10,000,000$$

LIBOR Market

- London Interbank Offered Rate
- LIBOR (lend)
 - Large banks in London are willing to lend money among themselves
 - (Short-term interest rate quoted in European money market)
 - Reference rate for a wide range of transactions
- EURIBOR, HIBOR, MIBOR (2x), SIBOR, etc.
- LIBID (borrow)

Figure 2.1 Rates on Money Market Securities

| Money Rates | | | | | January 4, 2007 | | | | | |
|--------------------------------|--------|----------|---------------------|-------|--|---------|----------|---------------------|--------|------|
| International rates | | | | | Other short-term rates | | | | | |
| | Latest | Week ago | — 52-WEEK — High | Low | | Latest | Week ago | — 52-WEEK — High | Low | |
| Prime rates | | | | | Commercial paper | | | | | |
| U.S. | 8.25 | 8.25 | 8.25 | 7.25 | 30 to 60 days | 5.23 | ... | ... | ... | |
| Canada | 6.00 | 6.00 | 6.00 | 5.00 | 61 to 90 days | 5.22 | ... | ... | ... | |
| Euro zone | 3.50 | 3.50 | 3.50 | 2.25 | 91 to 120 days | 5.20 | ... | ... | ... | |
| Japan | 1.625 | 1.625 | 1.625 | 1.375 | Dealer commercial paper | | | | | |
| Britain | 5.00 | 5.00 | 5.00 | 4.50 | 30 days | 5.26 | 5.27 | 5.36 | 4.32 | |
| Overnight repurchase | | | | | 60 days | 5.26 | 5.28 | 5.41 | 4.42 | |
| U.S. | 5.22 | 5.19 | 5.28 | 4.13 | 90 days | 5.25 | 5.30 | 5.46 | 4.46 | |
| U.K. (BBA) | 5.080 | 5.047 | 5.150 | 4.100 | Euro commercial paper | | | | | |
| Euro zone | 3.60 | 3.77 | 3.77 | 2.26 | 30 day | 3.58 | 3.58 | 3.62 | 2.00 | |
| U.S. government rates | | | | | Two month | 3.62 | 3.62 | 3.63 | 2.39 | |
| Federal funds | | | | | Three month | 3.69 | 3.68 | 3.69 | 2.45 | |
| Effective rate | 5.24 | 5.25 | 5.37 | 4.21 | London interbank offered rate, or Libor | | | | | |
| Treasury bill auction | | | | | One month | 5.32000 | 5.3256 | 5.4200 | 4.4188 | |
| 4 weeks | 4.760 | 4.660 | 5.170 | 3.950 | Three month | 5.36000 | 5.3600 | 5.5200 | 4.5500 | |
| 13 weeks | 4.930 | 4.875 | 4.990 | 4.070 | Euro Libor | | | | | |
| 26 weeks | 4.900 | 4.900 | 5.110 | 4.250 | One month | 3.628 | 3.634 | 3.713 | 2.386 | |
| Secondary market | | | | | Three month | 3.733 | 3.724 | 3.733 | 2.488 | |
| Freddie Mac | | | | | Euro interbank offered rate (Euribor) | | | | | |
| 30-year mortgage yields | | | | | One month | 3.625 | 3.634 | 3.672 | 2.384 | |
| 30 days | 5.92 | 6.06 | 6.71 | 5.81 | Three month | 3.734 | 3.723 | 3.734 | 2.490 | |
| 60 days | 5.93 | 6.07 | 6.75 | 5.82 | Asian dollars | | | | | |
| One-year ARM | 3.375 | 3.375 | 3.375 | 3.375 | One month | 5.335 | 5.337 | 5.425 | 4.418 | |
| Fannie Mae | | | | | Three month | 5.363 | 5.370 | 5.525 | 3.570 | |
| 30-year mortgage yields | | | | | Eurodollars (mid rates) | | | | | |
| 30 days | 6.066 | 6.107 | 6.792 | 5.913 | | LATEST | Week | 52-WEEK | | |
| 60 days | 6.089 | 6.125 | 6.821 | 5.924 | | Offer | Bid | ago | High | Low |
| Bankers acceptances | | | | | One month | 5.28 | 5.30 | 5.32 | 5.39 | 4.36 |
| 30 days | 5.29 | 5.31 | 5.38 | 4.35 | Two month | 5.29 | 5.31 | 5.32 | 5.44 | 4.45 |
| 60 days | 5.30 | 5.31 | 5.43 | 4.44 | Three month | 5.30 | 5.32 | 5.34 | 5.51 | 4.51 |
| 90 days | 5.31 | 5.31 | 5.49 | 4.49 | | | | | | |

FIGURE 2.1 Rates on money market securities

Source: *The Wall Street Journal*, January 5, 2007. Reprinted by permission of Dow Jones & Company, Inc. via Copyright Clearance Center, Inc. © 2007 Dow Jones & Company, Inc. All Rights Reserved Worldwide.

US0003M Index 95 Save As 96 Actions 97 Edit 98 Table Line Chart

09/26/2008 - 09/25/2013

1) Compare Mov. Avgs

1D 3D 1M 6M YTD 1Y 5Y Max Daily Security/Study Event



Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.
SN 541209 CEST GMT+2:00 H266-1666-1 25-Sep-2013 12:30:42

Table 2.1 Major Components of the Money Market

| | \$ Billion |
|-----------------------------------|------------|
| Repurchase agreements | \$1,150.2 |
| Small-denomination time deposits* | 1,164.4 |
| Large-denomination time deposits* | 2,155.7 |
| Eurodollars | 530.3 |
| Treasury bills | 911.5 |
| Commercial paper | 2,252.5 |
| Savings deposits | 3,874.8 |
| Money market mutual funds | 2,390.0 |

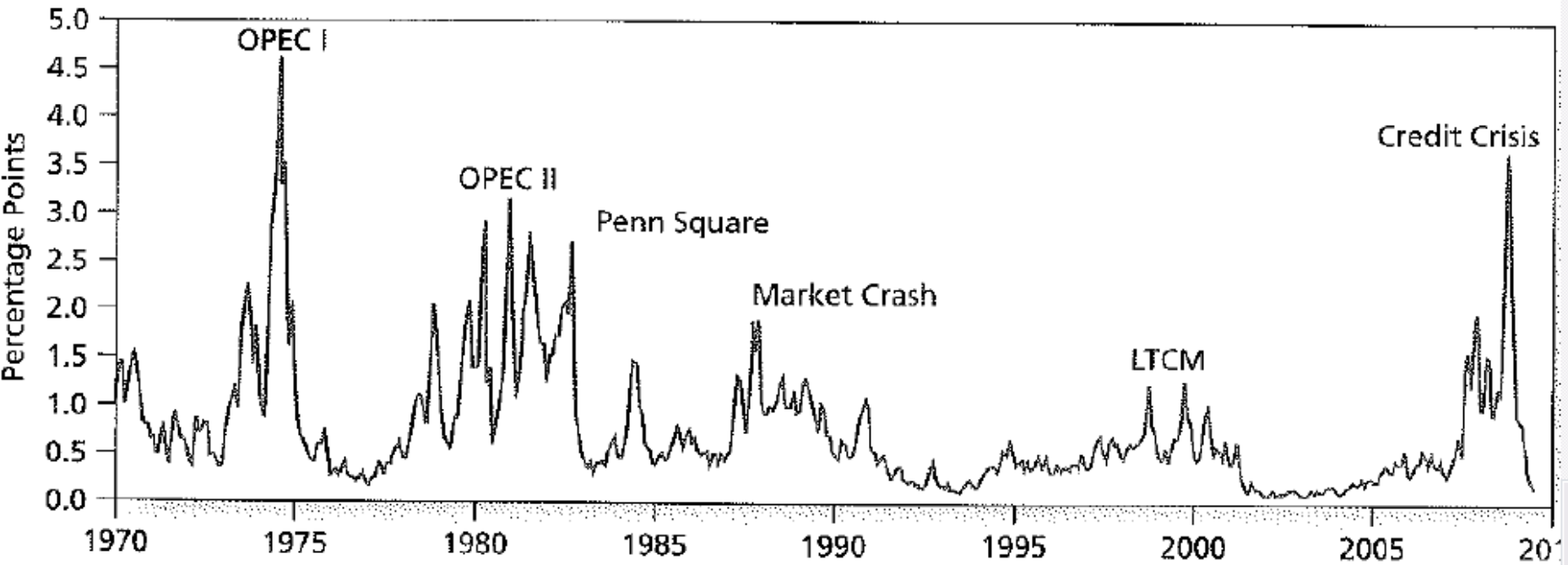
*Small denominations are less than \$100,000.

Sources: *Economic Report of the President*, U.S. Government Printing Office, 2007; *Flow of Funds Accounts of the United States*, Board of Governors of the Federal Reserve System, June 2007.

TABLE 2.1

Major components of the money market

Figure 2.3 The Spread between 3-month CD and Treasury Bill Rates



The Bond Market

- Longer term borrowing
- Debt instrument that are not traded in money market
- Mostly traded with fixed income capital market instruments
 - Either fixed stream of income
 - Stream of income that is determined from specific formula

The Bond Market

- Treasury Notes and Bonds
- Inflation-Protected Treasury Bonds
- International Bonds
- Municipal Bonds
- Corporate Bonds
- Mortgages and Mortgage-Backed Securities

Treasury Notes and Bonds

- Maturities
 - Used by government for debt financing
 - Notes – maturities up to 10 years
 - Bonds – maturities in excess of 10 years
 - 30-year bond
 - Semiannual interest payments called coupon payment
- Par Value - \$1,000
- Quotes – percentage of par

Inflation-Protected Treasury Bonds

Called TIPS

- The principal amount is adjusted in proportion to increase of CPI

International Bonds

- Many firms borrow abroad and many investors buy bonds from foreign issuers
- In addition to national capital markets, there is a rising international capital market, largely concentrated in London
- A Eurobond
 - Bond denominated in a currency that is different from country where it is issued
 - Eurodollar bond
 - E.g. A dollar-denominated bond sold in UK
- Many firms also issue bonds in different currency that is same as a currency of a investor
 - Yankee bond dollar denominated, sold in US by non-dollar issuer
 - Samurai bond yen denominated bond, sold in Japan by non-Japanese issuer

Municipal Bonds

- Issued by state and local governments
- Types
 - General obligation bonds
 - Backed by faith and credit of issuer
 - Revenue bonds
 - Issue to finance commercial project
 - Backed by revenues from this project
 - Airports, hospitals, etc.
 - Riskier than GOB
 - Industrial revenue bonds
 - Revenue bond to finance commercial enterprises
- Maturities – range up to 30 years

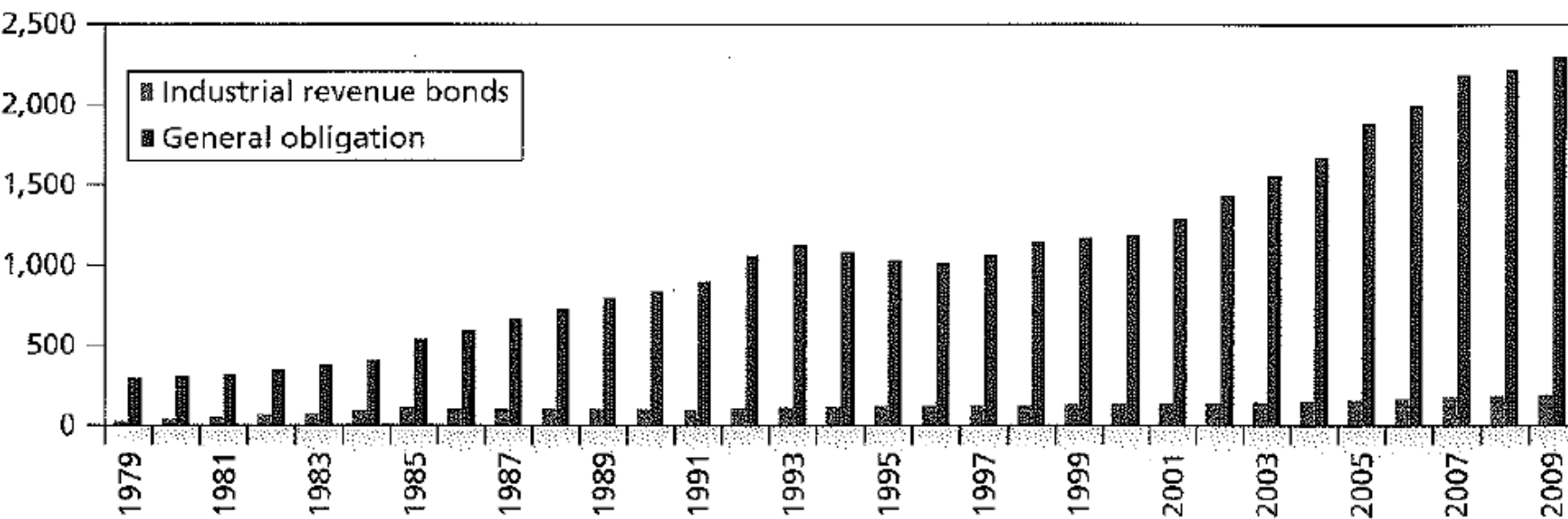


Figure 2.4 Tax-exempt debt outstanding

Source: Flow of Funds Accounts of the United States, Board of Governors of the Federal Reserve System, September 2009.

Corporate Bonds

- Issued by private firms
 - Borrow money directly from public
 - In structure almost same as Treasury issues
 - Semi-annual coupon
 - Return the face value
 - But different degree of risk – default risk
- Secured bonds – collateral backing them in the event of firm bankruptcy
- Unsecured bonds - debentures – no collateral
- Subordinate debentures – lower priority claim to firm's assets
- Options in corporate bonds
 - Callable – right of issuer to repurchase bond from the holder at a set price
 - Convertible - right of issuer to convert bond into a number of shares of stock

Mortgages and Mortgage-Backed Securities

- Developed in the 1970s to help liquidity of financial institutions
 - Mortgages written for long term 15 – 30 year maturity with fixed interest rate and fixed monthly payments – conventional mortgages
 - Difficulties from lenders if interest rate increase
 - Adjustable-rate mortgage
- Mortgage-Backed Security
 - Proportional ownership of a pool or a specified obligation secured by a pool
 - Securitization in mortgage market
 - Called as a pass-throughs
- Market has experienced very high rates of growth

Figure 2.7 Mortgage-backed Securities Outstanding, 1979-2007

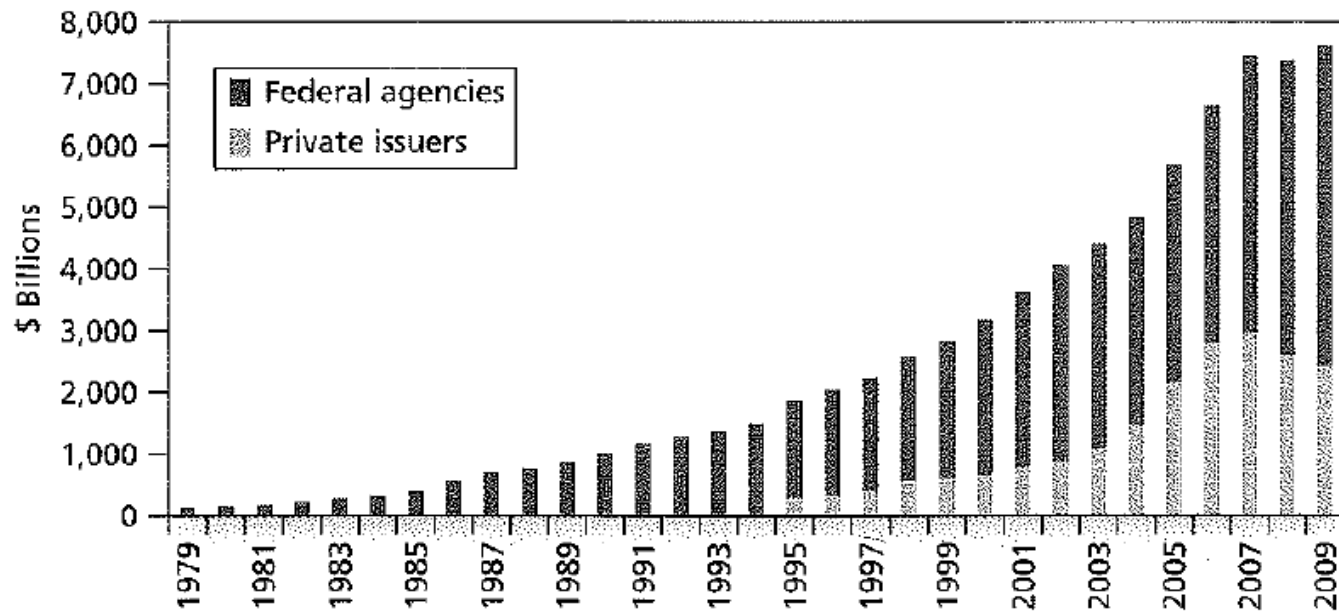


Figure 2.7 Mortgage-backed Securities Outstanding, 1979-2007

Equity Securities

- Represent ownership in a corporation
- The corporation is controlled by a board of directors that are elected by shareholders
- The board that meet only a few time each year selects managers who actually run the corporation on a day-to day basis.

Equity Securities

- Common stock
 - Residual claim
 - The last in line of all those who have a claim on the assets and income of the corporation
 - After tax authorities, employees, suppliers, bondholders and other creditors
 - If a firm is not in liquidation
 - After interest and taxes
 - Limited liability
 - Shareholders can lose only original investment

Figure 2.8 Listing of Stocks Traded on the NYSE

| NAME | SYMBOL | CLOSE | NET CHG | VOLUME | 52 WK HIGH | 52 WK LOW | DIV | YIELD | P/E | YTD% CHG |
|--------------------|--------|-------|---------|------------|------------|-----------|------|-------|------|----------|
| Gencorp | GY | 13.59 | -0.29 | 491,300 | 20.75 | 12.02 | .... | .... | dd | -3.1 |
| Genentech | DNA | 83.68 | -0.35 | 3,986,300 | 94.46 | 75.58 | .... | .... | 49 | 3.1 |
| General Cable | BGC | 42.67 | -1.11 | 679,700 | 45.41 | 20.3 | .... | .... | 23 | -2.4 |
| General Dynamics | GD | 74.59 | 0.17 | 1,497,300 | 77.98 | 56.68 | 0.92 | 1.2 | 16 | 0.3 |
| General Electric | GE | 37.56 | -0.19 | 26,907,700 | 38.49 | 32.06 | 1.12 | 3 | 23 | 0.9 |
| General Gwth Prop | GGP | 51.51 | -0.8 | 1,308,200 | 56.14 | 41.92 | 1.8 | 3.5 | 215 | -1.4 |
| General Maritime | GMR | 34.56 | -0.83 | 597,400 | 40.64 | 30.34 | 4.8 | 13.9 | 5 | -1.8 |
| General Mills | GIS | 56.97 | -0.42 | 1,355,600 | 59.23 | 47.05 | 1.48 | 2.6 | 18 | -1.1 |
| General Motors | GM | 30.24 | 0.6 | 10,477,600 | 36.56 | 19 | 1 | 3.3 | dd | -1.6 |
| Genesco Inc | GCO | 36.75 | -0.9 | 127,900 | 43.72 | 25.5 | .... | .... | 15 | -1.5 |
| Genesee & Wyoming | GWR | 25.86 | -0.5 | 364,500 | 36.75 | 21 | .... | .... | 9 | -1.4 |
| Genesis Lease | GLS | 23.6 | 0.1 | 298,500 | 24.4 | 23 | .... | .... | .... | 0.4 |
| Genuine Parts co. | GPC | 46.86 | -0.51 | 384,400 | 48.34 | 40 | 1.35 | 2.9 | 17 | -1.2 |
| Genworth Financial | GNW | 33.79 | -0.32 | 1,414,900 | 36.47 | 31 | 0.36 | 1.1 | 13 | -1.2 |
| Geo Group Inc | GEO | 37.57 | -1.53 | 157,500 | 40.3 | 14.69 | .... | .... | 35 | 0.1 |
| Georgia Gulf | GGC | 18.69 | -0.38 | 479,000 | 34.65 | 18.36 | 0.32 | 1.7 | 6 | -3.2 |
| Gerber Scientific | GRB | 12.32 | -0.07 | 243,200 | 16.8 | 9 | .... | .... | 27 | -1.9 |
| Gerdau Ameristeel | GNA | 8.59 | -0.04 | 446,200 | 11.02 | 5.85 | 0.08 | 0.9 | 7 | -3.7 |
| Gerdau S.A. Ads | GGB | 15.57 | -0.56 | 1,729,100 | 18.16 | 11.27 | 0.58 | 3.7 | .... | -2.7 |

FIGURE 2.8 Listing of stocks traded on the New York Stock Exchange

Source: Compiled from data from *The Wall Street Journal Online*, January 9, 2007.

Equity Securities

- Preferred stock
 - Fixed dividends - limited
 - Same as infinite-maturity bonds
 - No voting rights
 - Cumulative preferred stock
 - Unpaid dividends are cumulated and must be paid in fully before any other dividends
 - Tax treatment
 - Are not tax-deductible expenses for the firm
- Depository receipts - ADRs
 - Certificated that represent ownership in shares of a foreign company
 - Traded in U.S. markets

Stock Market Indexes

- There are several broadly based indexes computed and published daily
- There are several indexes of bond market performance
- Price-weighted index vs. Market capitalization weighted index
- Others include:
 - Financial Times Index

Dow Jones Industrial Average - NYSE

- Includes 30 large blue-chip corporations
- Computed since 1896
- Originally simple average of the stocks included in the index
 - Add up prices of the 30 stocks and it is divided by 30
 - Percentage change in DJIA is percentage change in average price of the 30 shares
 - Holding of portfolio of 30 shares (one share of each stock in the index)
 - Value of portfolio is value of 30 shares
- Price-weighted average

Standard & Poor's Indexes

Improvements of DJIA in two ways

- Broadly based index of 500 firms

- Market-value-weighted index
- Calculating the total market value of 500 firms and total market value of those firms in previous day
- The change in the value represent the change in index
- The rate of return of index represent the rate of return of portfolio of investor that hold 500stocks in proportion to their market value

• How to invest in index

- Index funds
- Exchange Traded Funds (ETFs)

Other U.S. Market-Value Indexes

- NASDAQ Composite
 - Index of all NASDAQ listed stocks
 - Subindexes – industrial, utility, transportation and financial stocks
 - More broadly based than S&P 500
- NYSE Composite
- Wilshire 5000
 - NYSE and Amex stocks plus actively traded NASDAQ stocks
 - About 6000 stocks

Foreign and International Stock Market Indexes

- Nikkei (Japan)
- FTSE (Financial Times of London)
 - "footsie"
- DAX (Germany)
- MSCI (Morgan Stanley Capital International)
 - International index
 - About 50 country indexes and some regional indexes
- Hang Seng (Hong Kong)
- TSX (Canada)

SPX C 1695.00 +13.45 1692.01 / 1698.05
 On 01 Oct d 0 1682.41 H 1696.55 L 1682.07 Prev 1695.00

SPX Index Save As Actions Edit Table Line Chart

03/31/1970 - 10/02/2013

Compare Mov. Avgs

1D 3D 1M 6M YTD 1Y 5Y Max Quarterly Security/Study Event

| Last Price | |
|------------------|----------|
| SPX Index (R1) | 1695.00 |
| DMX Index (R2) | 8651.53 |
| INDU Index (R2) | 15191.70 |
| MYX Index (R3) | 14170.49 |
| UKX Index (R2) | 6425.72 |
| HSI Index (R3) | 23046.27 |
| INDU Index (R2) | 15191.70 |
| SPTSX Index (R2) | 12847.44 |



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 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000
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 03/31/1970 - 10/01/2013 11) Compare Mov. Avgs
 1D 3D 1M 6M YTD 1Y 5Y Max Quarterly Security/Study Event



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 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000
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YHOO US Equity 95 Save As 96 Actions 97 Edit 98 Table Line Chart

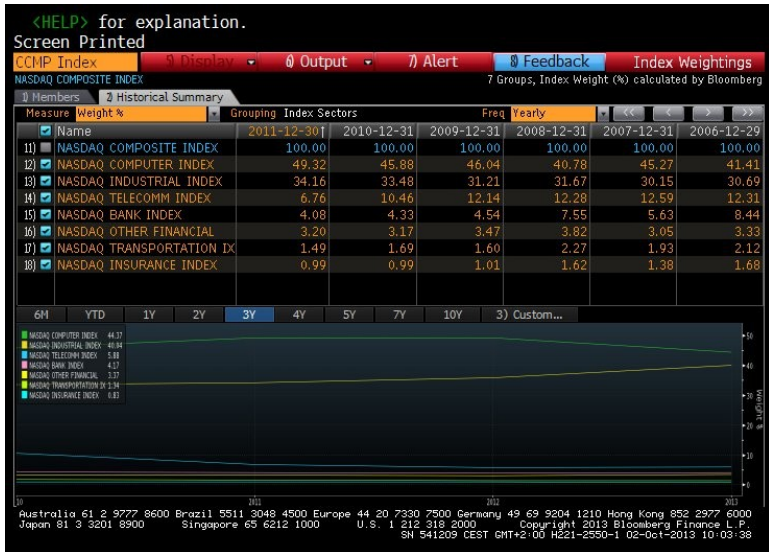
01/30/1998 - 10/01/2010 1) Compare Mov. Avgs

1D 3D 1M 6M YTD 1Y 5Y Max Monthly Security/Study Event



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 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

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Derivatives Markets

- One of the most significant developments in financial markets in recent years
- Provide payoffs that depends on development of another assets such commodity prices, bonds, stocks, market indexes, etc.
- Derivative assets or contingent claims
 - Value derive from or is contingent on the values of another assets

Derivatives Markets

Options

- Basic Positions
 - Call (Buy)
 - Put (Sell)
- Terms
 - Exercise Price or strike price
 - Expiration Date
 - Assets

Futures

- Basic Positions
 - Long (Buy)
 - Short (Sell)
- Terms
 - Delivery Date
 - Assets

Thank you for your
attention