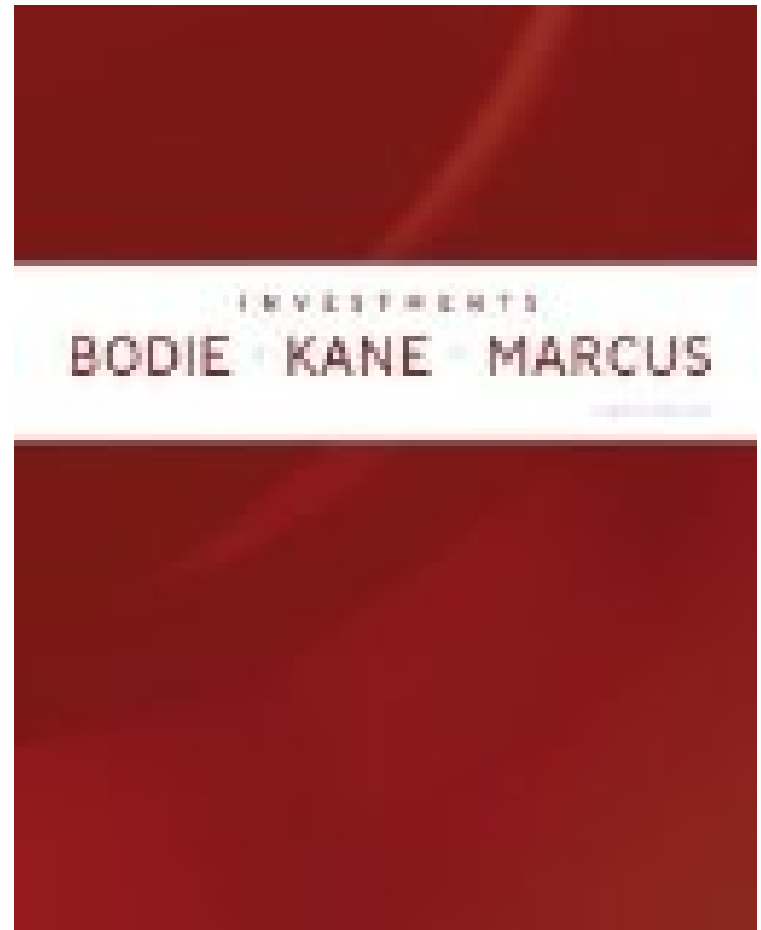


Financial Investment

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 - 2/2
 - Seminars
 - Paper – form of bachelor thesis (approximately 10 pages)
 - Questions as a preparation for final test
 - Paper presentation
- Final grade
 - Paper: 40 points
 - Final Test: 60 points

Financial Investment

- Bodie Kane Marcus



Lecture 1

- The Investment Environment
- Asset Classes and Financial Investments

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

Real Assets Versus Financial Assets

- Essential nature of investment
 - Reduced current consumption
 - Planned later consumption
- Real Assets
 - Assets used to produce goods and services
 - Generate net income to the economy
- Financial Assets
 - Claims on real assets
 - Allocation of net income along investors

- Distinction between real and financial assets
 - Table 1.1 and 1.2

Table 1.2 Domestic Net Worth

Assets	\$ Billion
Nonresidential real estate	\$ 9,549
Residential real estate	28,265
Equipment and software	4,498
Inventories	1,759
Consumer durables	3,966
<i>Total</i>	<u>\$ 48,038</u>

TABLE 1.2

Domestic net worth

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.

Table 1.1 Balance Sheet of U.S. Households, 2007

Assets	\$ Billion	% Total	Liabilities and Net Worth	\$ Billion	% Total
Real assets					
Real estate	\$22,874	32.9%	Mortgages	\$10,070	14.5%
Consumer durables	3,966	5.7	Consumer credit	2,413	3.5
Other	247	0.4	Bank and other loans	222	0.3
<i>Total real assets</i>	<u>\$27,086</u>	<u>38.9%</u>	Security credit	310	0.4
			Other	418	0.6
			<i>Total liabilities</i>	<u>\$13,432</u>	<u>19.3%</u>
Financial assets					
Deposits	\$ 6,629	9.5%			
Life insurance reserves	1,174	1.7			
Pension reserves	12,188	17.5			
Corporate equity	5,391	7.7			
Equity in noncorp. business	7,553	10.9			
Mutual fund shares	5,123	7.4			
Debt securities	3,160	4.5			
Other	1,305	1.9			
<i>Total financial assets</i>	<u>42,522</u>	<u>61.1</u>	<i>Net worth</i>	<u>56,176</u>	<u>80.7</u>
<i>Total</i>	<u>\$69,608</u>	<u>100.0%</u>		<u>\$69,608</u>	<u>100.0%</u>

TABLE 1.1

Balance sheet of U.S. households, 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.

A Taxonomy of Financial Assets

- 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
 - Capital market instruments
 - Bonds

A Taxonomy of Financial Assets cont.

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

Financial Markets and the Economy

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

Financial Markets and the Economy

cont.

- Allocation of Risk
 - Real assets involve risk as well
 - Transformation risk according to investor profile
 - Bond vs stock
- 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
 - » Analysis of pension funds or analysts
 - » Treat of takeover – proxy contest or other firm

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
 - 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
- Asset allocation
 - Choice among broad asset classes
- 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

Markets are Competitive

- Prediction of future return
 - Risk associate with investment
- Risk-Return Trade-Off
 - If all else is equal, investors will prefer investments with the highest expected return
 - Else can not be equal
 - Fair return to risk
- Efficient Markets
 - Role of information
 - 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

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
 - 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
 - Table 1.3 compare with table 1.4
- 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

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
 - Perform specialized services for businesses
 - Markets in the primary market
 - Expertise to security issuers
 - Assisting in issuing securities

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

Figure 1.1 Globalization: A Debt Issue Denominated in Euros

This announcement appears as a matter of record only. March, 1999



North West Water Finance PLC
EURO 500,000,000
4.875% Notes due 2009
guaranteed by
North West Water Limited
issued pursuant to the
United Utilities PLC, NORWEB PLC and North West Water Finance PLC
U.S. \$2,000,000,000
Euro Medium Term Note Programme

Joint Lead Managers
ABN AMRO J.P. Morgan Securities Ltd.

Co-Lead Managers
Banque Nationale de Paris S.A. Barclays Capital
Credit Suisse First Boston Deutsche Bank
ING Barings/BBL Warburg.Dillon Read

Co-Managers
Dresdner Kleinwort Benson Greenwich NatWest
HypoVereinsbank Salomon Smith Barney
Tokyo-Mitsubishi International plc



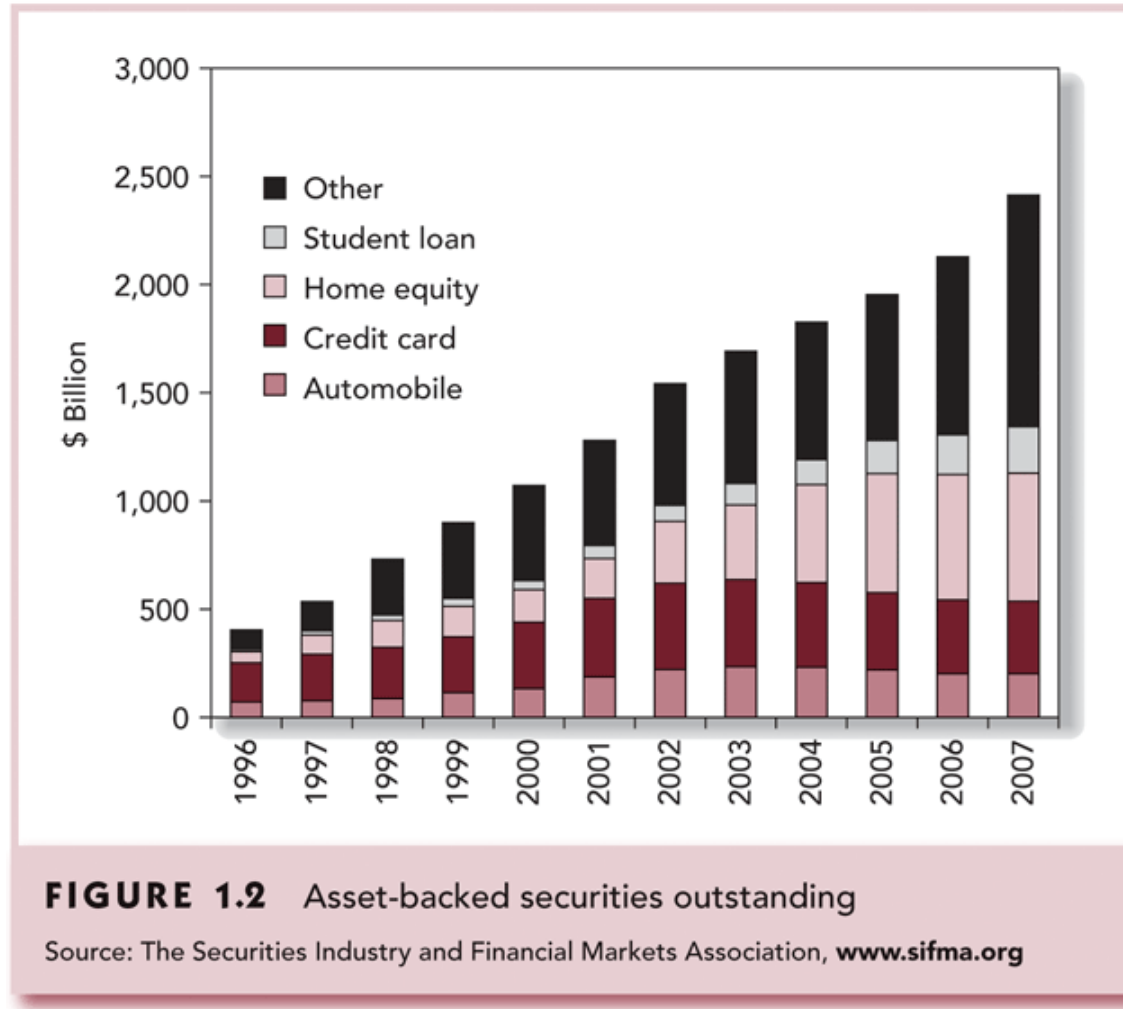


FIGURE 1.1 Globalization: A debt issue denominated in euros
Source: North West Water Finance PLC, April 1999.

Recent Trends—Securitization

- Mortgage pass-through securities
 - 1970
 - Aggregation of individual home mortgages into homogeneous pool
 - This pool works as backed for pass through security
 - Investors get share in principal and 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

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 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

Major Classes of Financial Assets or Securities

- Money market
- Bond market
- Equity Securities
- Indexes
- Derivative markets

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

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

LIBOR Market

- London Interbank Offered Rate
 - 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

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.

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

TABLE 2.1

Major components of the money market

*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.

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

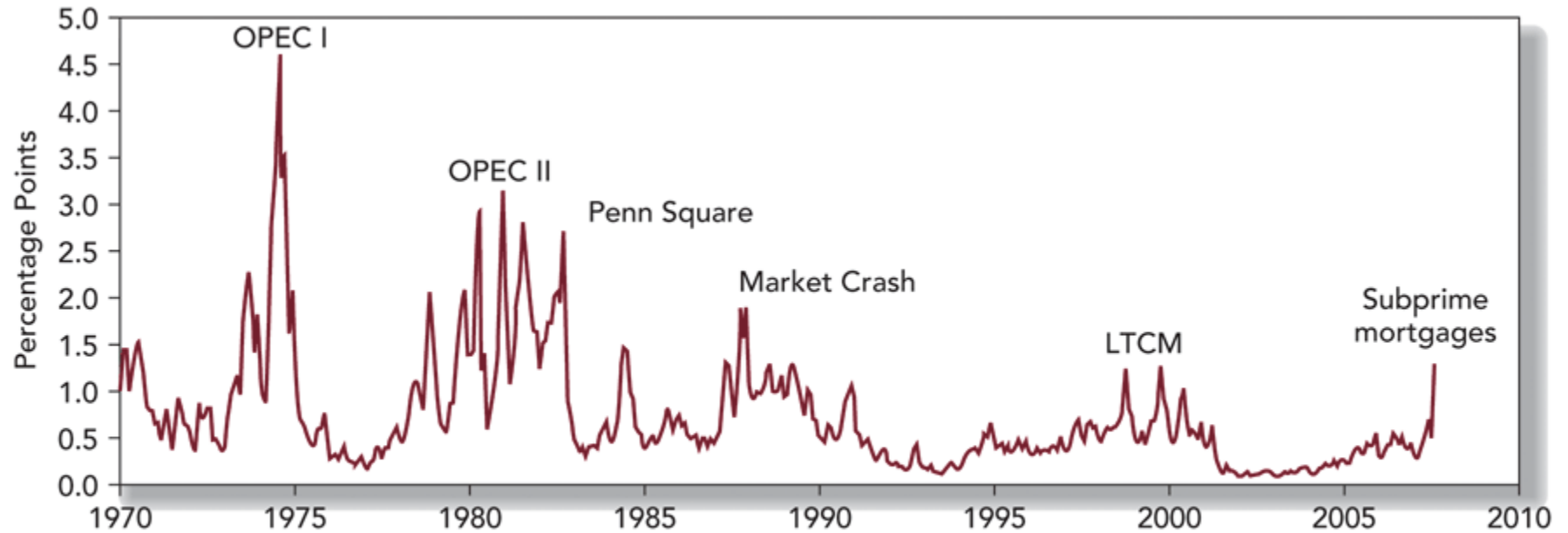


FIGURE 2.3 The spread between 3-month CD and Treasury bill rates

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

Municipal Bond Yields

- Interest income on municipal bonds is not subject to federal and sometimes not to state and local tax
- To compare yields on taxable securities a Taxable Equivalent Yield is constructed

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

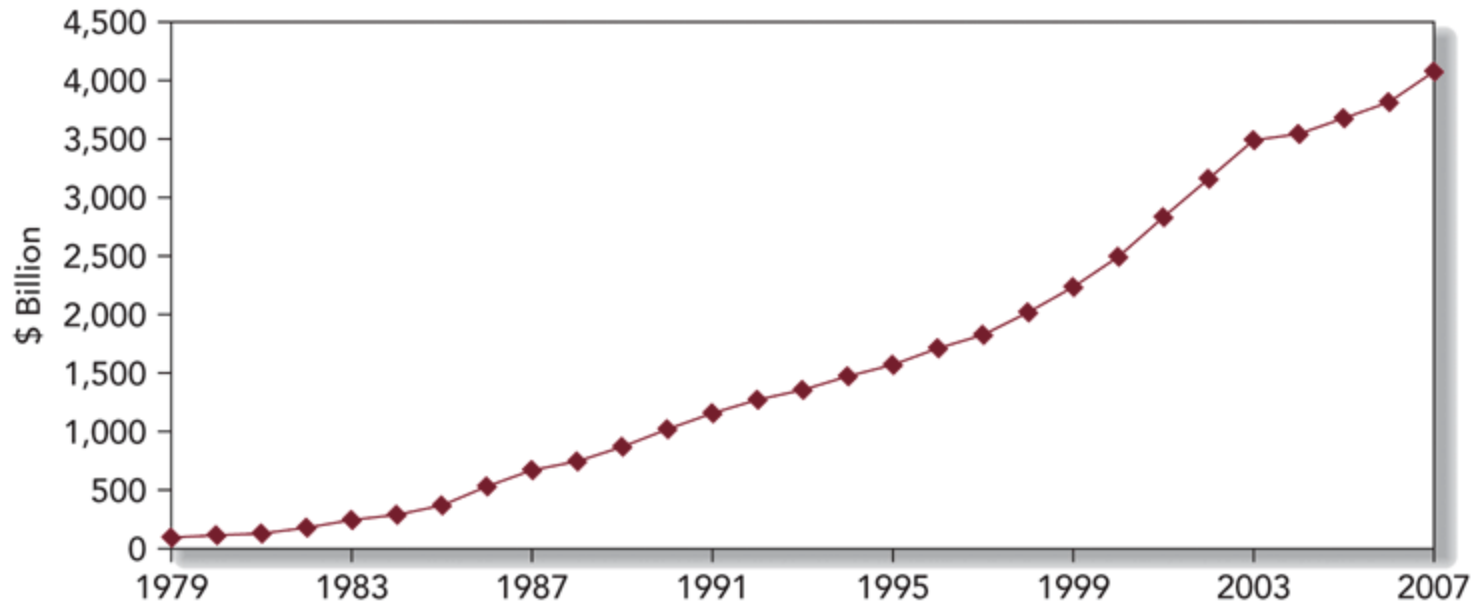


FIGURE 2.7 Mortgage-backed securities outstanding, 1979–2007

Source: *Flow of Funds Accounts of the United States*, Board of Governors of the Federal Reserve System, June 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 on U.S. markets

Stock Market Indexes

- There are several broadly based indexes computed and published daily
- There are several indexes of bond market performance
- Others include:
 - Financial Times Index

Dow Jones Industrial Average

- 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

Example 2.2 Price-Weighted Average

Portfolio: Initial value $\$25 + \$100 = \$125$

Final value $\$30 + \$90 = \$120$

Percentage change in portfolio value
 $= 5/125 = -.04 = -4\%$

Index: Initial index value $(25+100)/2 = 62.5$

Final index value $(30 + 90)/2 = 60$

Percentage change in index $-2.5/62.5$
 $= -.04 = -4\%$

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

Figure 2.9 Comparative Performance of Several Stock Indexes, 2001-2006

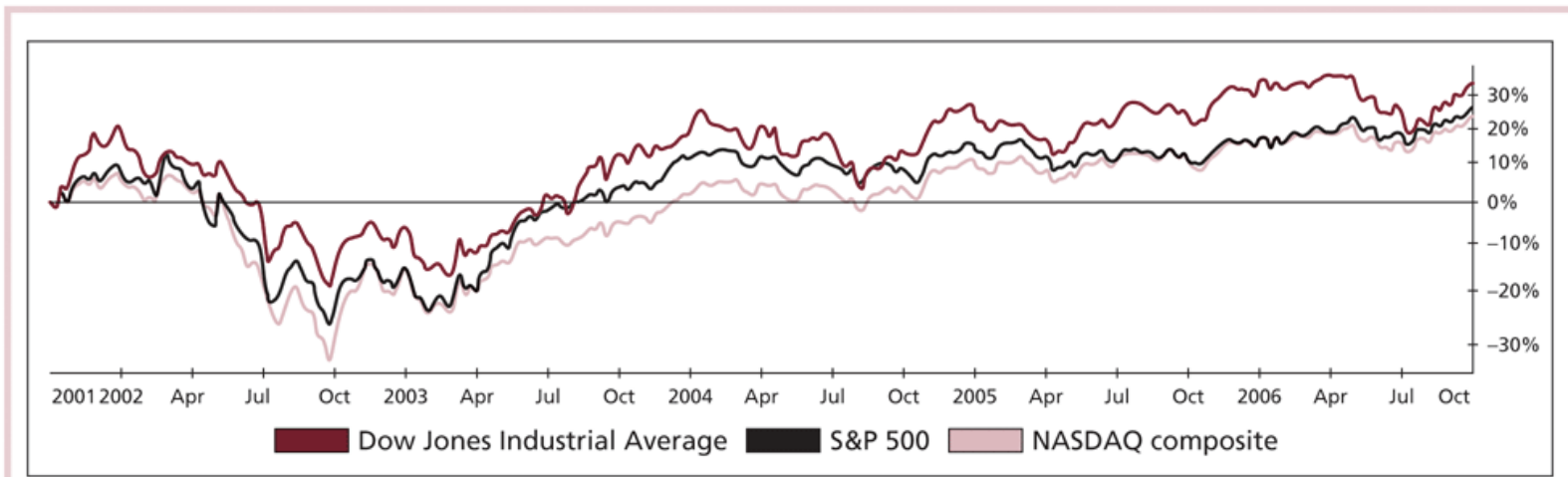


FIGURE 2.9 Comparative performance of several stock market indexes, 2001–2006

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)

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