

Financial Markets +  
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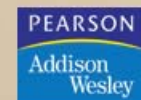
Frederic S. Mishkin

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# Class 2

## The Money Markets

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# What are money markets (MM)?

- Money (currency) is not actually traded in MM
- MM securities are short-term with high liquidity
  - Thus, close to being money
- Example: Microsoft invests heavily in MMs
  - \$6 bln in cash and equivalents
  - \$42 bln in short-term instruments
  - Being ready to acquisitions / court settlements



# Typical characteristics of MM instruments

- Usually liquid
  - Active secondary markets
  - Very flexible to fill short-term financial needs
- Usually sold in large denominations (over \$1 mln)
  - Wholesale markets
- Have low default risk
  - Mature in one year or less from their issue date
  - If more than a year: *capital markets* (stocks and bonds)



# Why Do We Need Money Markets?

- Couldn't banks mediate between savers and borrowers?
  - They have an information advantage on the credit-worthiness of participants.



# Cost Advantages of MMs

- Banks are heavily regulated.
  - Reserve requirements
  - Ceiling on deposit rates
- In 1970s, short-term rates rose and this led to a significant growth in MMs
  - Depositors moved their money from banks to MMs to earn a higher interest rate.
- Even today, the banks are only competitive where their informational advantage outweighs the regulatory costs.

# The Purpose of Money Markets

- Investors:
  - MM provides a place for warehousing surplus funds for short periods of time
- Borrowers:
  - MM provides a low-cost source of temporary funds
- Cash inflows and outflows to corporations or government are not well synchronized.
  - MM provides a way to solve these cash-timing problems.

# Which Rates are Traded in MMs?

**TABLE 1** *Sample Money Market Rates, Decemnrber 15, 2004*

<b>Instrument</b>	<b>Interest Rate (%)</b>
Prime rate	5.25
Federal funds	2.25
Commercial paper	2.30
Certificate of deposit	2.36
Banker's acceptance	2.35
London interbank offer rate	2.41
Foreign prime rates	
Canada	4.25
European Central Bank	2.00
Japan	1.375
Treasury bills	2.20
Merrill Lynch Ready Assets Trust	1.38

*Source: Wall Street Journal, December 15, 2004, p. C15.*

# Who Participates in MMs?

**TABLE 2** *Money Market Participants*

<b>Participant</b>	<b>Role</b>
U.S. Treasury Department	Sells U.S. Treasury securities to fund the national debt
Federal Reserve System	Buys and sells U.S. Treasury securities as its primary method of controlling the money supply
Commercial banks	Buy U.S. Treasury securities; sell certificates of deposit and make short-term loans; offer individual investors accounts that invest in money market securities
Businesses	Buy and sell various short-term securities as a regular part of their cash management



# Who Participates in MMs?

Investment companies  
(brokerage firms)

Trade on behalf of commercial accounts

Finance companies  
(commercial leasing  
companies)

Lend funds to individuals

Insurance companies  
(property and casualty  
insurance companies)

Maintain liquidity needed to meet unexpected  
demands

Pension funds

Maintain funds in money market instruments in  
readiness for investment in stocks and bonds

Individuals

Buy money market mutual funds

Money market mutual funds

Allow small investors to participate in the money  
market by aggregating their funds to invest in  
large-denomination money market securities

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# Money Market Instruments

- Treasury Bills
- Federal Funds
- Repurchase Agreements
- Negotiable Certificates of Deposit
- Commercial Paper
- Banker's Acceptance
- Eurodollars



# Treasury Bills

- 91-day, 182-day or 12 month maturities
- Sold via auction to the dealers every Thursday
- Computing annualized yield:

$$i_{yt} = \frac{F - P}{P} \times \frac{365}{n}$$

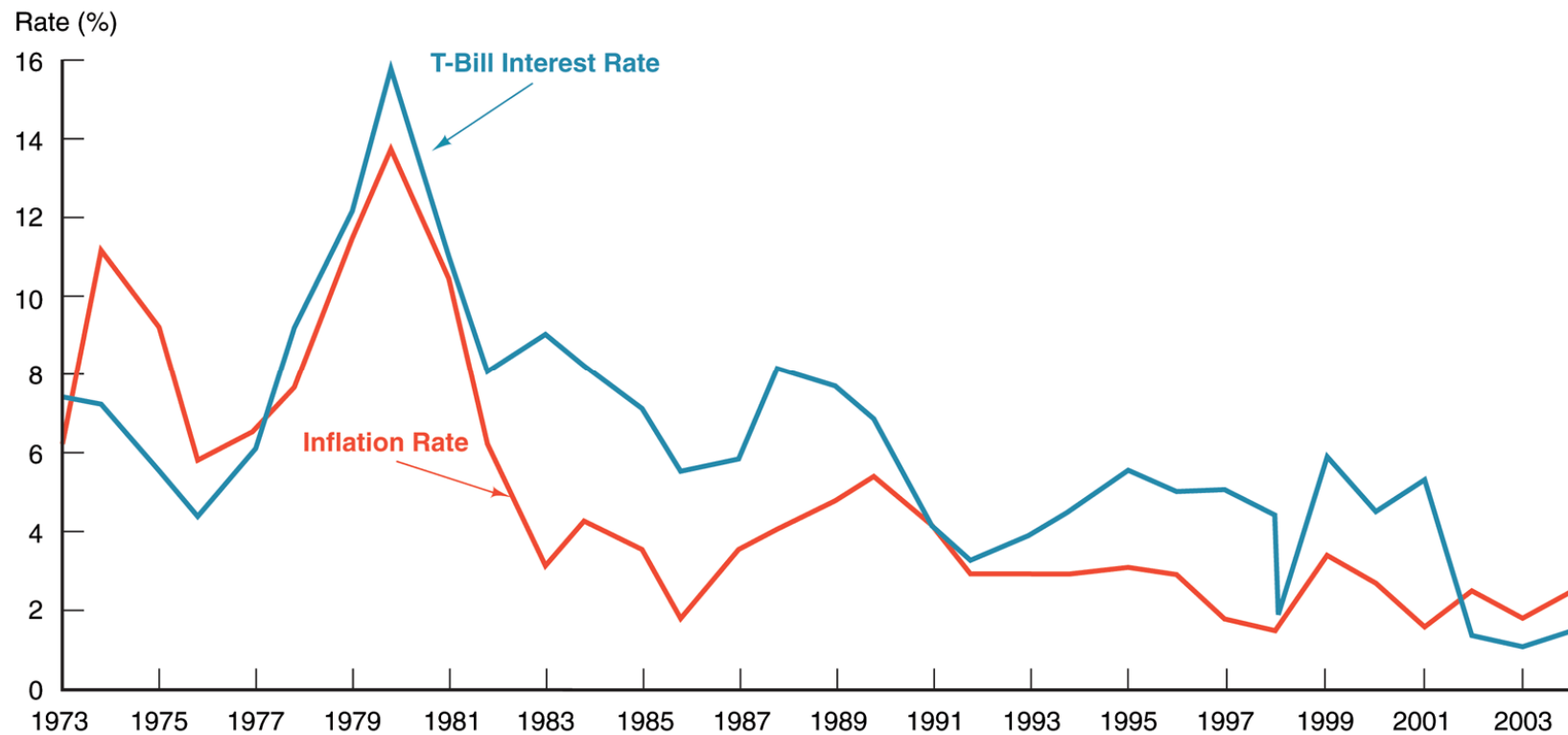
# Treasury Bills Discounting Example

- You pay \$9850 for a 91-day T-bill. It is worth \$10,000 at maturity. What is its annualized yield?

$$i_{yt} = \frac{F - P}{P} \times \frac{365}{n} \quad (1)$$

$$i_{yt} = \frac{\$10,000 - \$9,850}{\$9,850} \times \frac{365}{91} = 0.0611 = 6.11\%$$

# Treasury Bills



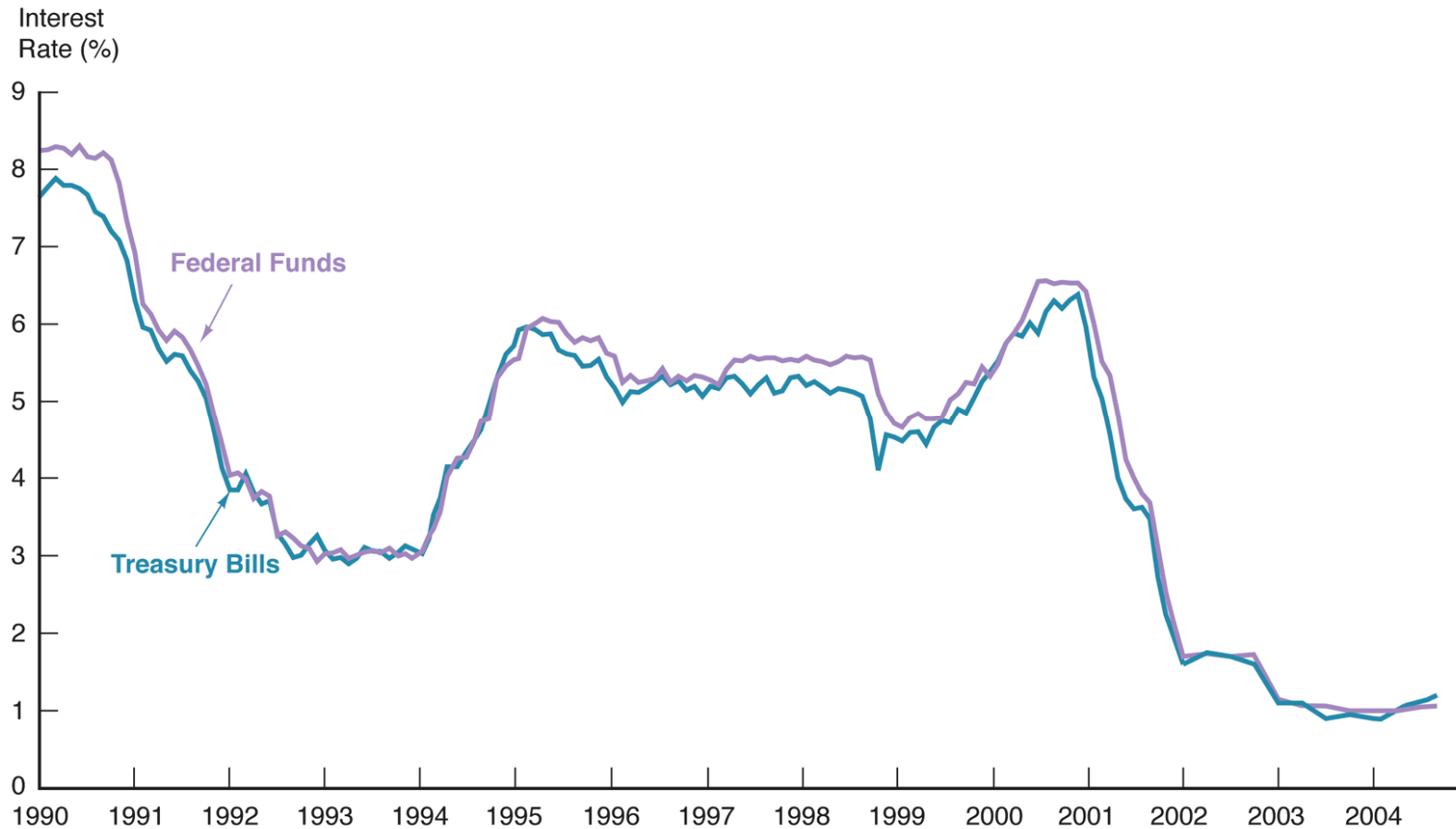
**Figure 9.1** Treasury Bill Interest Rates and the Inflation Rate, January 1973–January 2004



# Fed Funds

- Short-term funds transferred (loaned or borrowed) between financial institutions, usually for a period of one day.
  - Nothing to do with the federal government
- Used by banks to meet reserve requirements for a short period.
- Rates closely tracking those of T-bills

# Fed Funds Rates



**Figure 9.2** Federal Funds and Treasury Bill Interest Rates, January 1990–January 2004



# Repurchase Agreements

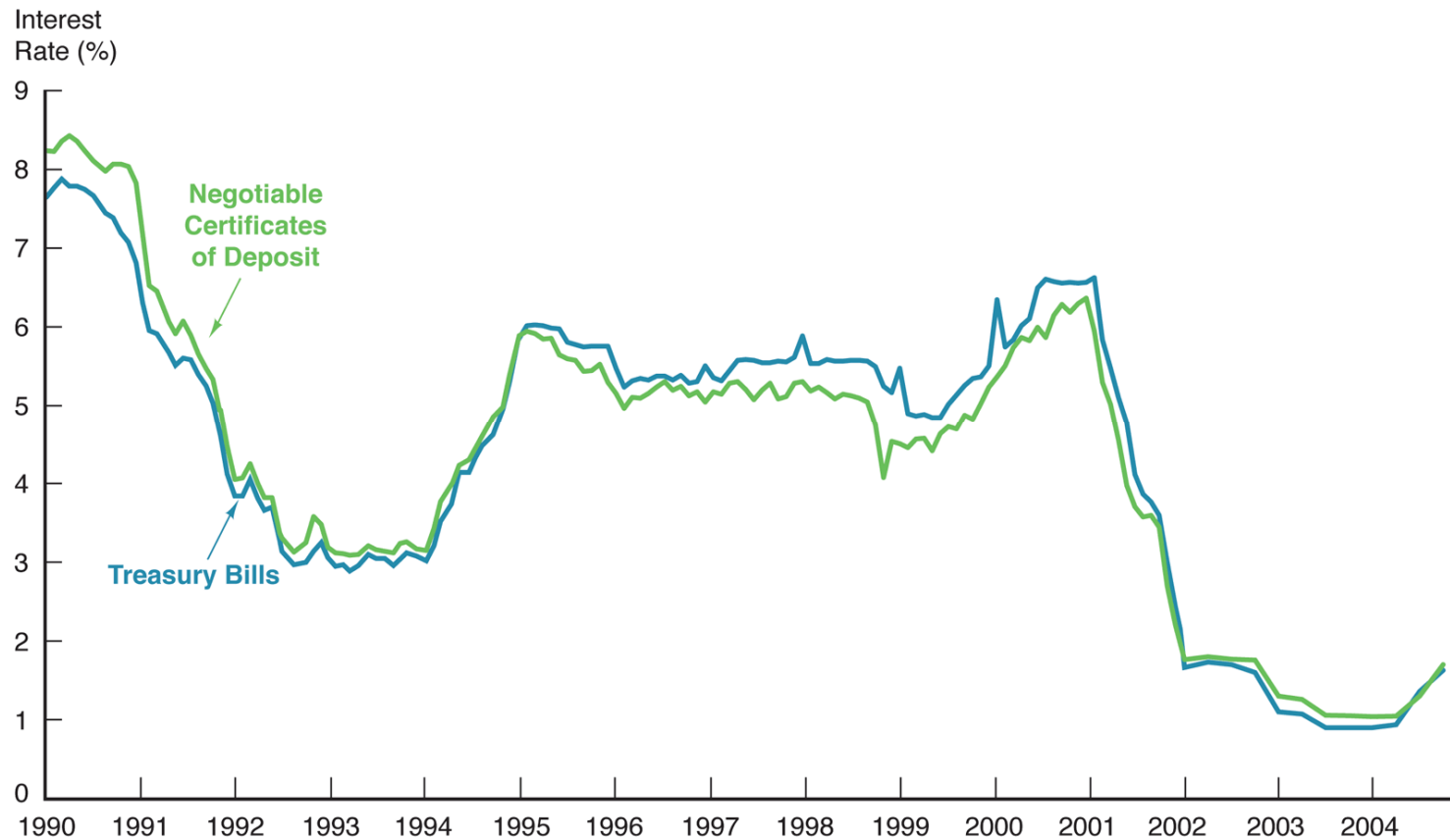
- These work similar to the market for fed funds, but nonbanks can participate.
- A short-term collateralized loans: a firm sells Treasury securities, but agrees to buy them back at a certain date (usually 3–14 days later) for a certain price.
- The Fed purchases/sells Treasury securities in the repo market to conduct its monetary policy.



# Negotiable Certificates of Deposit

- A bank-issued security that documents a deposit and specifies the interest rate and the maturity date
- Denominations range from \$100,000 to \$10 million
- Rates closely tracking those of T-bills

# Negotiable CD Rates



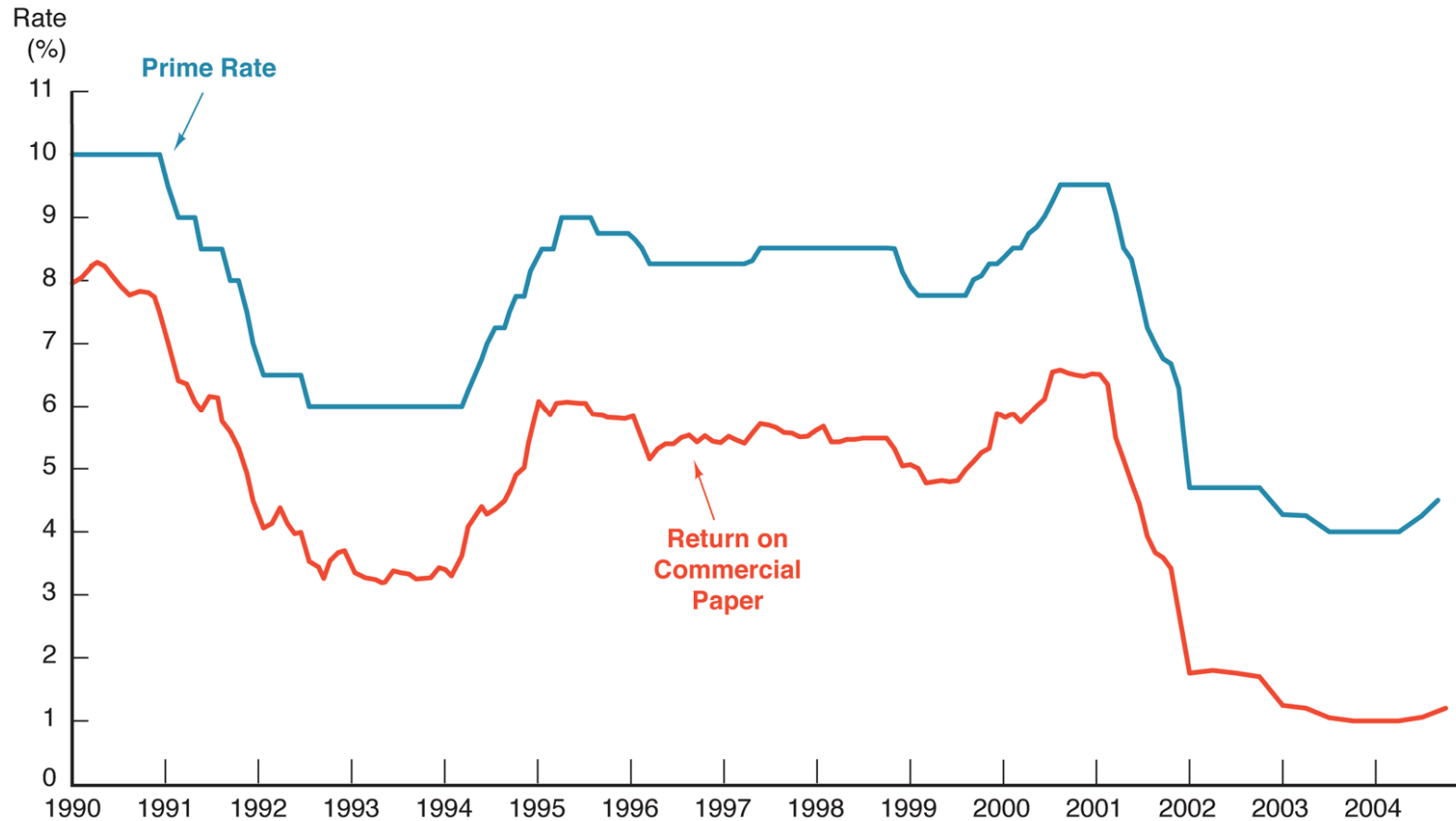
**Figure 9.3** Interest Rates on Negotiable Certificates of Deposit and on Treasury Bills, 1990–2004.



# Commercial Paper

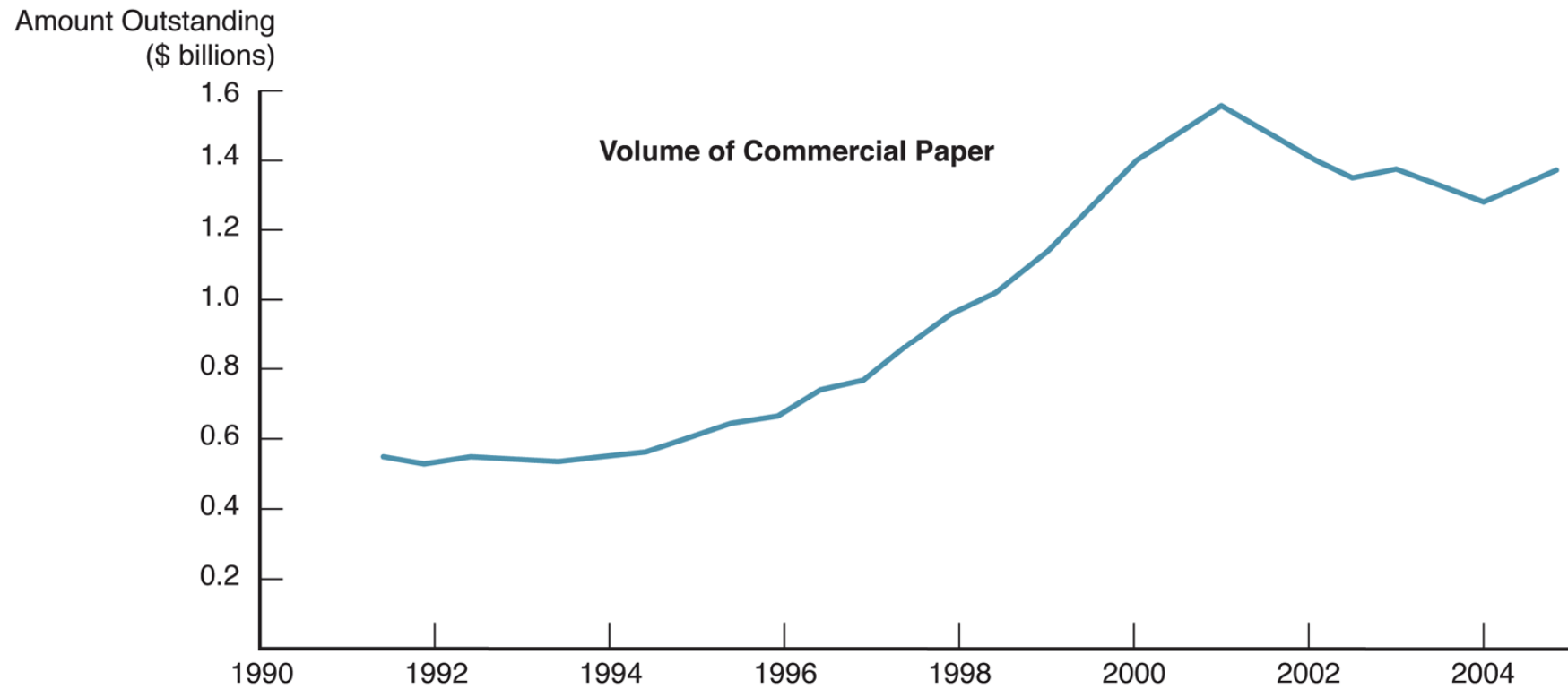
- Unsecured promissory notes, issued by corporations, maturing in no more than 270 days.
  - To avoid the registration with SEC
  - No strong secondary markets
- Their use increased significantly in the early 1980s because of the rising cost of bank loans.
- The outstanding volume is well over \$1 trillion.
- The commercial paper rates exceeded the prime rates by roughly 2% in the 1990s.

# Commercial Paper Rates



**Figure 9.4** Return on Commercial Paper and the Prime Rate, 1990–January 2004

# Commercial Paper Volume



**Figure 9.5** Volume of Commercial Paper Outstanding



# Banker's Acceptances

- An order to pay a specified amount to the bearer on a given date if specified conditions have been met, usually delivery of promised goods.
- Often used when buyers / sellers of expensive goods live in different countries.
  - Avoid the need to establish the credit-worthiness of a customer living abroad.
- Active secondary market
  - The terms of note indicate that the bearer, whoever that is, will be paid upon maturity.



# Eurodollars

- Dollar denominated deposits held in foreign banks
  - Many foreign contracts call for payment in U.S. dollars
  - Started when the Soviet government moved dollar accounts from the US to European banks
- The Eurodollar market has continued to grow rapidly because depositors receive a higher rate of return on a dollar deposit in the Eurodollar market than in the domestic market.
- Multinational banks are not subject to the regulations restricting U.S. banks

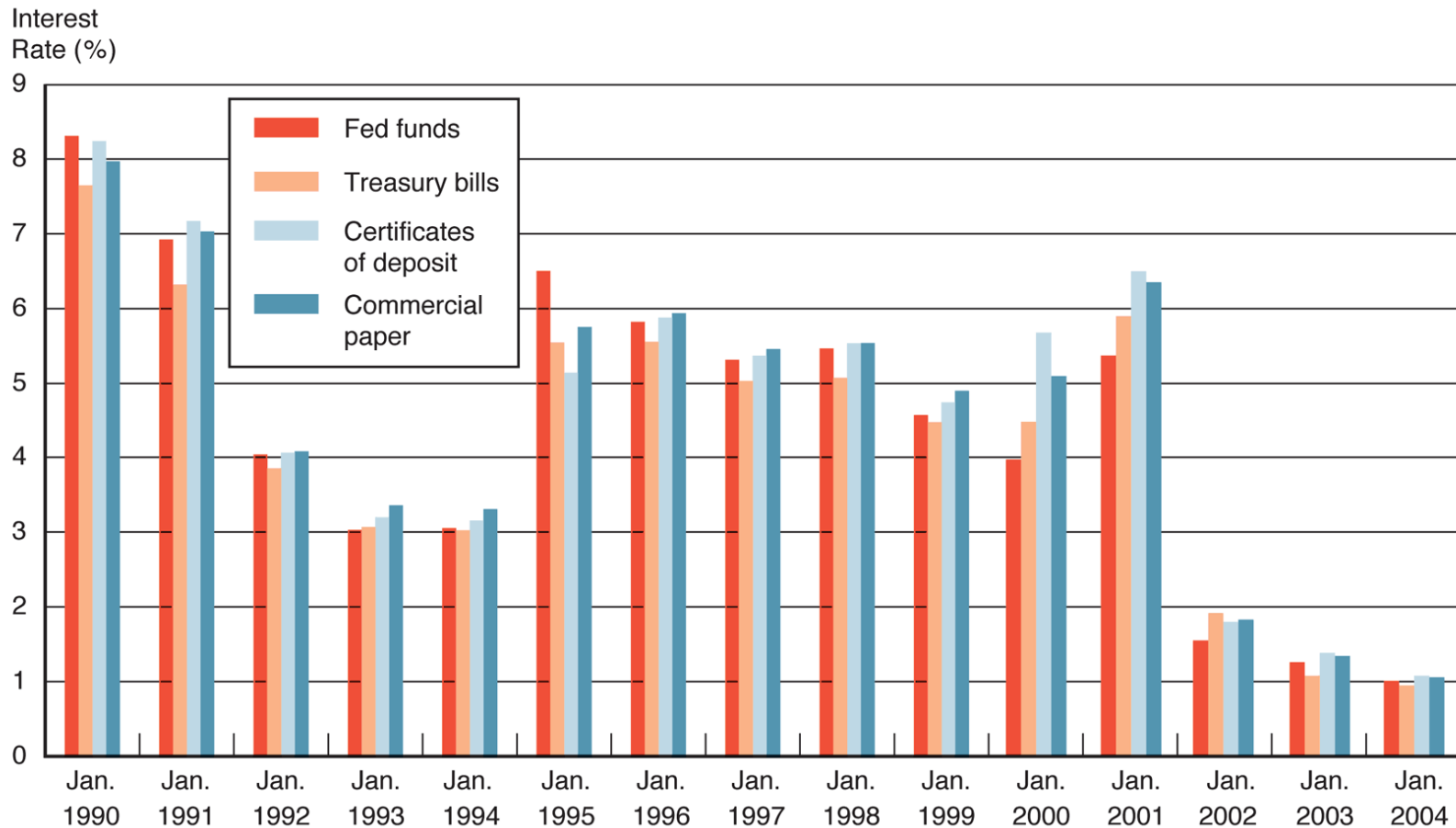


# Eurodollars Rates

- London interbank bid rate (LIBID)
  - The rate paid by banks buying funds
- London interbank offer rate (LIBOR)
  - The rate offered for sale of the funds
- Time deposits with fixed maturities
  - Largest short term security in the world



# Comparing Money Market Rates



**Figure 9.6** Interest Rates on Money Market Securities, 1990-2004

# Comparing Money Market Securities

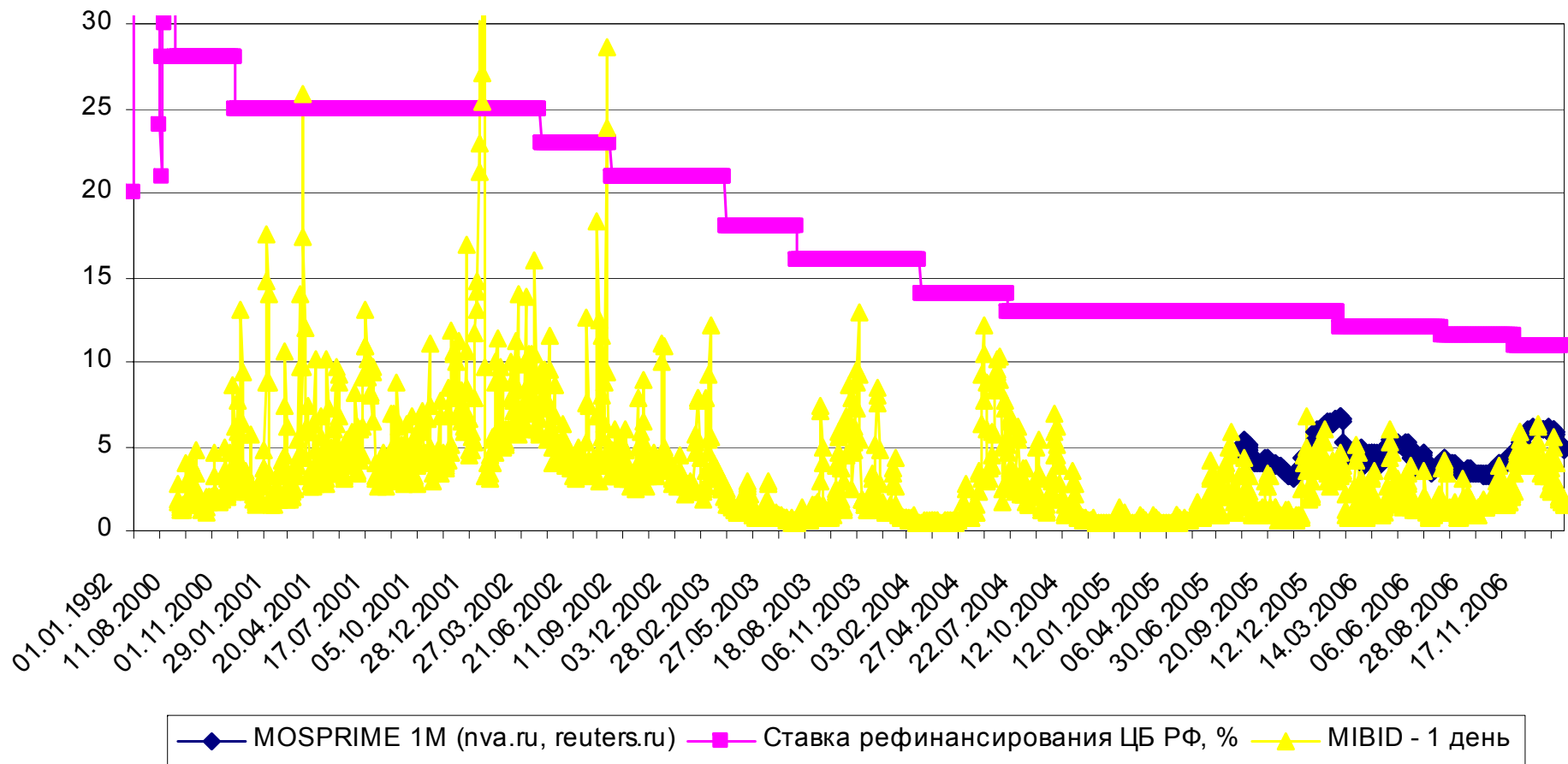
**TABLE 4** *Money Market Securities and Their Markets*

<b>Money Market Security</b>	<b>Issuer</b>	<b>Buyer</b>	<b>Usual Maturity</b>	<b>Secondary Market</b>
Treasury bills	U.S. government	Consumers and companies	13 weeks, 26 weeks, 1 year	Excellent
Federal funds	Banks	Banks	1 to 7 days	None
Repurchase agreements	Businesses and banks	Businesses and banks	1 to 15 days	Good
Negotiable certificates of deposit	Large money center banks	Businesses	14 to 120 days	Good
Commercial paper	Finance companies and businesses	Businesses	1 to 270 days	Poor
Banker's acceptance	Banks	Businesses	30 to 180 days	Good
Eurodollar deposits	Non-U.S. banks	Businesses, governments, and banks	1 day to 1 year	Poor

# The Russian money market

- Government bills: GKO
  - Copied after T-bills
  - Small volumes, low liquidity
- Commercial paper
  - Actively used by companies to finance short-term needs
  - Used to serve as a means to pay taxes
- Interbank market
  - Divided into several circles: first-class banks and the others
  - Periodically: liquidity crises

# The Russian money market rates



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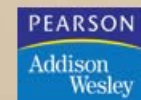
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# Class 2

## The Bond Markets

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# Capital markets

- Instruments with maturity over 1 year
  - For long-term financing or investments
  - Bonds and stocks
- Participants:
  - Federal and local governments: debt issuers
  - Corporations: equity and debt issuers
- Trading:
  - Primary and secondary markets exist for most securities



# Bonds

- Represent debt owed by the issuer to the investor
- Typically have specified payments on specified dates
- Types of bonds
  - Long-term government bonds (T-bonds)
  - Municipal bonds
  - Corporate bonds



# Treasury Bonds

- Issued and backed by the full faith and credit of the U.S. Federal government
- No default risk since the Treasury can print money to payoff the debt
- Very low interest rates, often considered the risk-free rate
  - Although inflation risk is still present
  - Short-term rates are more volatile



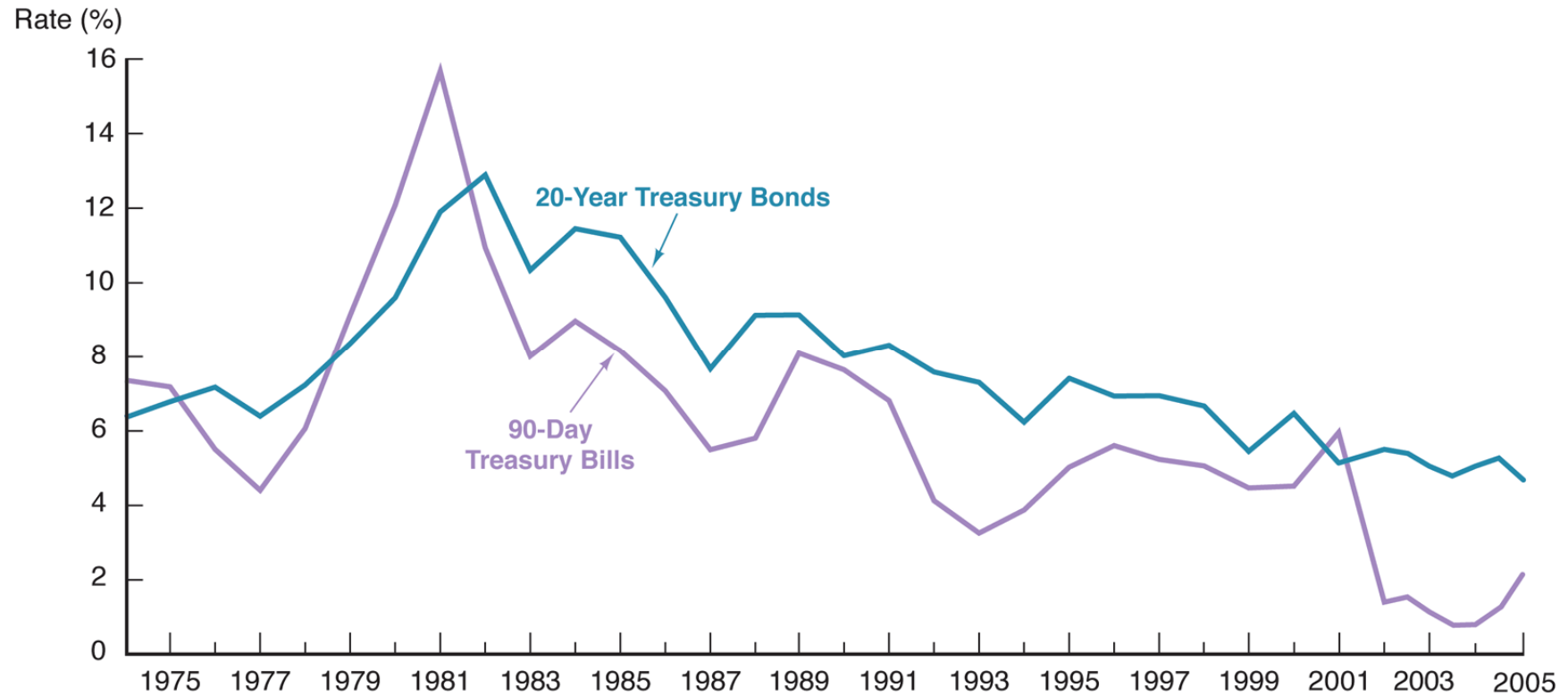


# Treasury Bonds

**TABLE 1** *Treasury Securities*

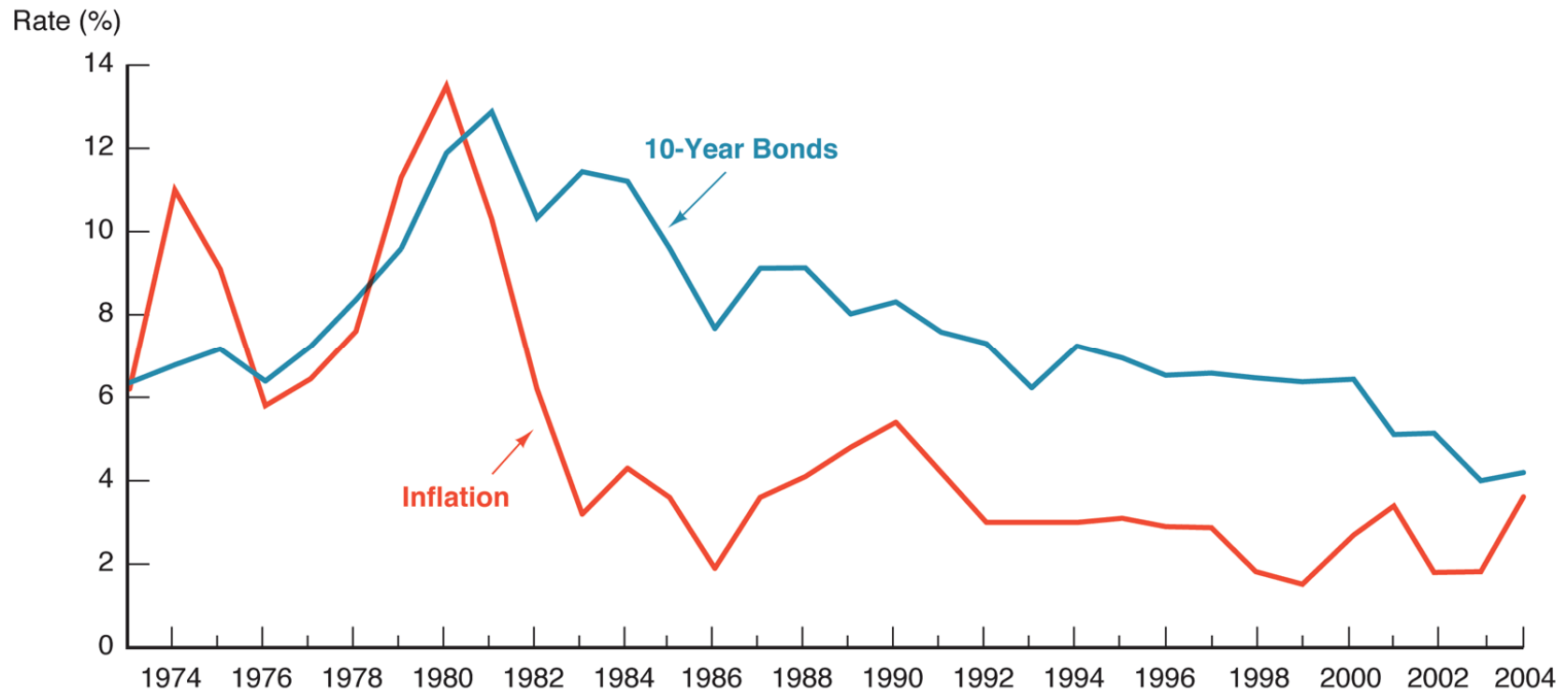
<b>Type</b>	<b>Maturity</b>
Treasury bill	Less than 1 year
Treasury note	1 to 10 years
Treasury bond	10 to 20 years

# Treasury Rates: Bills vs. Bonds



**Figure 10.3** Interest Rates on Treasury Bills and Treasury Bonds, 1973–2002 (January of each year)

# Treasury Bond Interest Rates



**Figure 10.2** Interest Rate on Treasury Bonds and the Inflation Rate, 1973–2004



# Treasury Bonds

- Treasury STRIPS, since 1985
  - The coupon and principal payments are “stripped” from a T-bond and sold as individual zero-coupon bonds.
  - Easy way to get zero rates
- Treasury Inflation-Indexed Securities, since 1987
  - The principal amount is adjusted for the inflation



# Treasury Bonds

- Agency bonds
  - Issued by government-sponsored entities
    - E.g., GNMA (Ginnie Mae)
  - Having “implicit” guarantee from the U.S. government
    - Usually, offer higher yield to compensate for lower liquidity



# Municipal Bonds

- Issued by state and local governments
  - Used to finance public interest projects
- Tax-exempt
  - Tax-free municipal interest rate = taxable interest rate  $\times (1 - \text{marginal tax rate})$

# Municipal Bonds: Example

Suppose the rate on a corporate bond is 9% and the rate on a municipal bond is 6.75%. Which should you choose?

Answer: Find the marginal tax rate:

$$6.75\% = 9\% \times (1 - \text{MTR}), \text{ or } \text{MTR} = 25\%$$

If you are in a marginal tax rate above 25%, the municipal bond offers a higher after-tax cash flow.

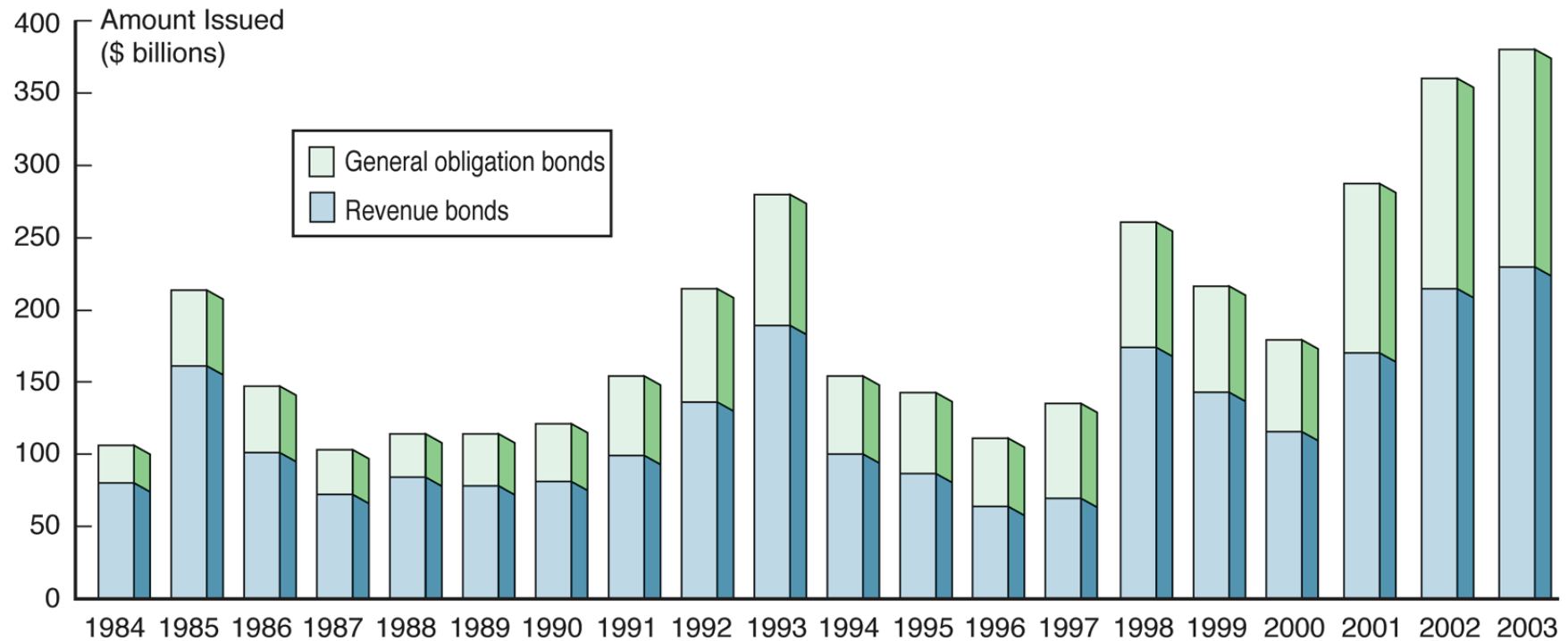


# Municipal Bonds

- Two types
  - General obligation bonds
    - Backed by “full faith and credit” of the issuer
  - Revenue bonds
    - Backed by a cash flow of a specific project
- Defaultable
  - E.g., Orange County California defaulted in 1990 for \$1.4 billion



# Municipal Bonds: Comparing Revenue and General Obligation Bonds



**Figure 10.4** Issuance of Revenue and General Obligation Bonds, 1984–2003 (End of year)



# Corporate Bonds

- Issued by corporations and have a wide range of features and risk
- Typically have a face value of \$1,000
- Pay interest semi-annually
- The degree of risk ranges from low-risk (AAA) to higher risk (BBB).
  - Bonds rated below BBB are *sub-investment grade*

# Sample Corporate Bond

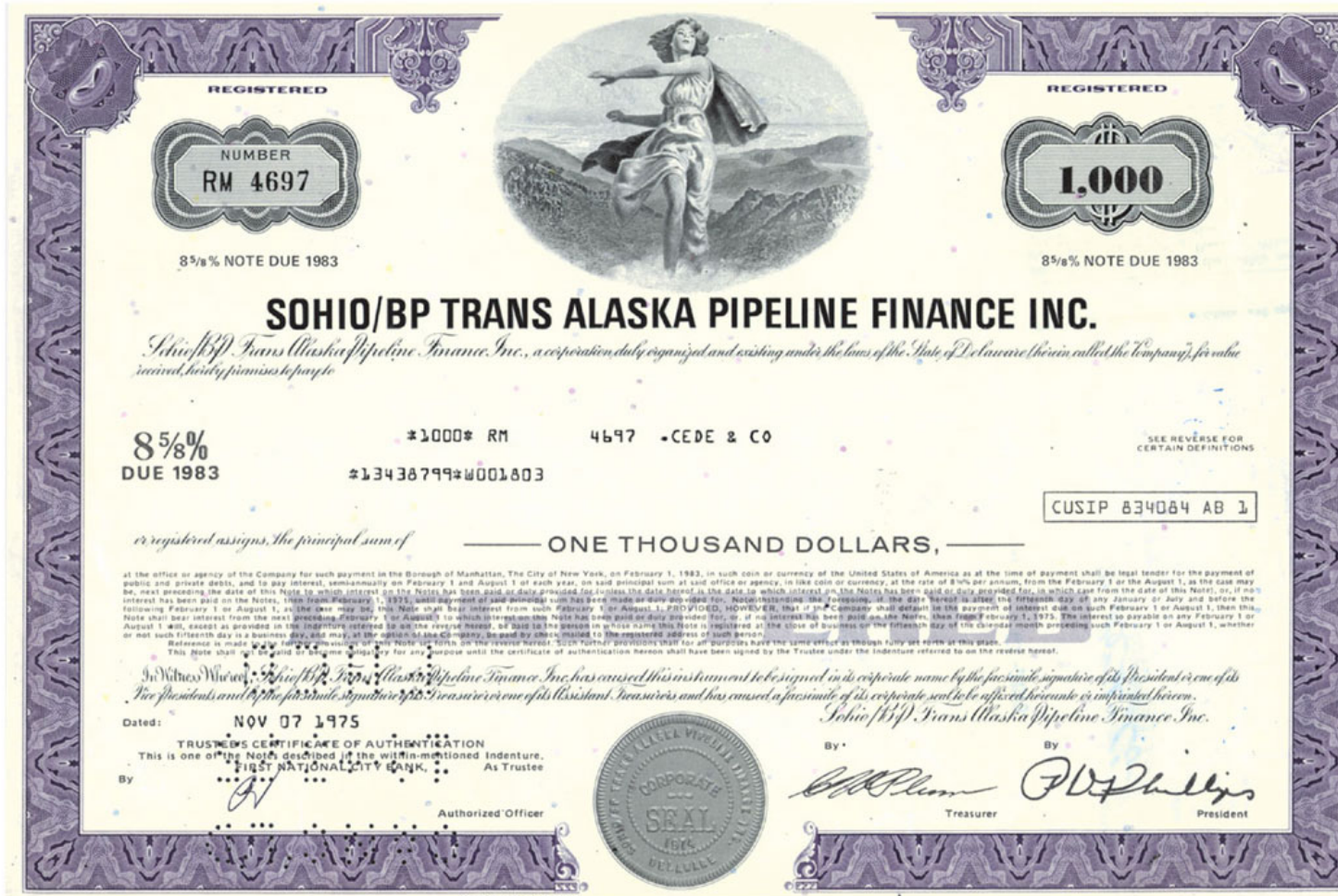


Figure 10.1 Sohio/BP Corporate Bond



# Characteristics of Corporate Bonds

- Registered Bonds: payments are made to the registered owner
  - Replaced “bearer” bonds with attached coupons
  - IRS can track interest income this way
- Restrictive Covenants
  - May limit dividends, new debt, ratios, etc.
  - Mitigate conflict with shareholder interests



# Characteristics of Corporate Bonds

- Call provisions: the possibility of early redemption by the issuer
  - The issuer profits from this → has to pay a higher yield
  - Sinking fund: paying off the portion of the bond issue each year
  - Gives flexibility wrt capital structure or new projects forbidden by restrictive covenants
- Convertibility to stocks
  - Allows the bondholders to share in the firm's good fortunes
  - Implies a lower yield



# Characteristics of Corporate Bonds

- Financial Guarantees (for timely payment of interest and principal)
  - Usually purchased by the issuer from large insurance companies.
  - The credit rating of the insurer replaces the issuer's rating



# Types of Corporate Bonds

- Secured Bonds: with collateral
  - Mortgage bonds: real estate
  - Equipment trust certificates: smth else

# Types of Corporate Bonds

- Unsecured Bonds
  - Debentures
    - Indenture: contract stating the borrower's obligations
    - Lower priority than secured bonds
  - Subordinated debentures
    - Even lower priority
  - Variable-rate bonds
    - Rate tied to some market rate (e.g., LIBOR + 1%)





## Mini-case 2: Junk Bonds

- Debt rated below investment grade (BBB)
  - Higher risk of default → higher yields
  - Often, trusts and insurance companies are not permitted to invest in such bonds
- High-yield debt has become one of the largest segments of the bond market
  - Annual issuance volume: \$150 bln in the US, Euro30 bln in Europe
- **Is it an example of successful financial innovation or yet another mousetrap for unsophisticated investors?**



# Initial Situation

- **Drexel Burnham Lambert:** one of the investment banks in the US
- **Mike Milken:** head of the non-investment-grade bond department since 1973
- Until late 1970s:
  - All new bonds sold publicly to large groups of investors were investment-grade
    - There were a few companies that got into trouble, and their bonds became junk
  - Companies with low ratings raised new money by borrowing from banks or via private placements (not registered at SEC)



# Early Developments

- By 1977, Drexel controlled 25% of the market of high-yield bonds
  - The only market-maker, offering liquidity to its clients
  - Started from the secondary placements
  - Then focused on underwriting primary offerings
- By 1983 over a third of all corporate bond issues were non-investment grade
  - Usually publicly issued bonds carry lower interest rates than private placements
    - Because they are more easily resold
  - Usually they had fewer restrictive covenants



# Milken Promoted:

- New high-interest bonds for companies not previously thought creditworthy
  - Indeed, round 50 companies that originally issued high-yield debt were subsequently upgraded to investment grade by the credit-rating agencies
- Bonds issued to finance the hostile takeovers of corporations whose value could be increased
  - **LBO** (leveraged buy-out): a small company buys a larger and older company using high leverage from the junk bonds
  - **MBO** (management buy-out): when managers buy its own company



# 1980s: The Peak

- Many long-term investors included high-yield bonds to their portfolios
  - Insurance companies, saving&loan (S&L) banks
- Boom of LBOs
  - Many large companies were bought out and became private
  - Later restructured and often sold in parts
- Drexel became the most profitable investment firm on Wall Street
  - E.g., in 1986 earning over \$4 bln in fees
  - Over \$1 bln for Milken



# The End

- 1988: virtual frenzy of new bond issues
- 1989: politicians blamed junk bonds for the economic troubles
  - Many defaults by junk bond issuers, esp LBO companies
  - Huge losses by banks
    - Drexel too went bankrupt
    - The S&L crisis (driven by losses on junk bonds, real estate and oil) – saved from the bankruptcy by the government bailout
  - Corporate raiders made assaults on the largest corporations
  - New legislation to discourage hostile takeovers
  - The market for newly issued junk bonds disappeared for a year



# The End

- Milken charged for racketeering and fraud, use of inside information, and market manipulation
  - Pleaded guilty for 6 minor charges
  - Paid \$900 mln in fines and settlements
  - Banned for life from the securities industry
  - Served about 22 months in jail
  - Upon release, still had net worth of over \$1 bln
  - Later, advised investment transactions and had to settle with SEC



# Junk Bonds in Perspective

- Made it possible to issue public debt for most (small) companies
- Gave high average returns to investors
- Companies that were taken over via LBO did increase efficiency
- However, huge damage to the reputation of financial markets
  - Insider trading
  - Market manipulation due to monopoly position





# Investment Risks

- Return from holding a bond = Change in price +  
Accrued Interest
- Interest rate risk
  - Prices and returns are more volatile for long-term bonds, which have a higher duration
    - Weighted maturity of the payments / Elasticity of the price to the interest rate
  - No interest-rate risk for any bond whose maturity equals holding period



# Investment Risks

- Reinvestment risk
  - Occurs if hold series of short bonds over long holding period
  - The rate at which you reinvest is uncertain
- Risk of default
  - Usually measured by credit rating
  - Lately, also by internal bank models

# Corporate Bonds: Debt Ratings

**TABLE 2** *Debt Ratings*

Standard and Poor's	Moody's	Average Interest Rate* (%)	Definition
AAA	Aaa	6.00	Best quality and highest rating. Capacity to pay interest and repay principal is extremely strong. Smallest degree of investment risk.
AA	Aa	6.35	High quality. Very strong capacity to pay interest and repay principal and differs from AAA/Aaa in a small degree.
A	A	6.49	Strong capacity to pay interest and repay principal. Possess many favorable investment attributes and are considered upper-medium-grade obligations. Somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions.
BBB	Baa	6.72	Medium-grade obligations. Neither highly protected nor poorly secured. Adequate capacity to pay interest and repay principal. May lack long-term reliability and protective elements to secure interest and principal payments.
BB	Ba		Moderate ability to pay interest and repay principal. Have speculative elements and future cannot be considered well assured. Adverse business, economic, and financial conditions could lead to inability to meet financial obligations.

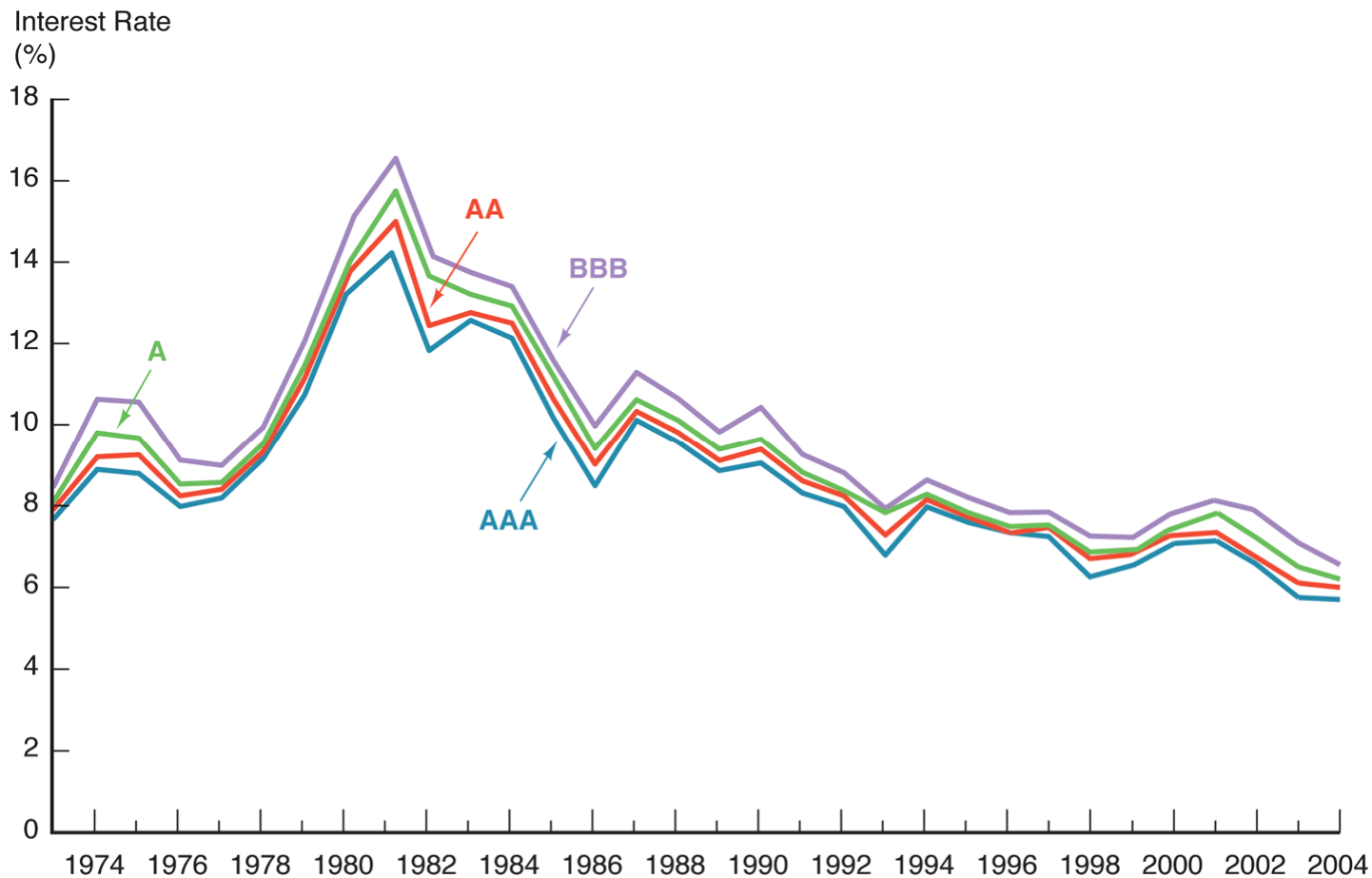
# Corporate Bonds: Debt Ratings

B	B	Lack characteristics of desirable investment. Assurance of interest and principal payments over long period of time may be small. Adverse conditions likely to impair ability to meet financial obligations.
CCC	Caa	Poor standing. Identifiable vulnerability to default and dependent on favorable business, economic, and financial conditions to meet timely payment of interest and repayment of principal.
CC	Ca	Represent obligations that are speculative to a high degree. Issues often default and have other marked shortcomings.
C	C	Lowest-rated class of bonds. Have extremely poor prospects of attaining any real investment standard. May be used to cover a situation where bankruptcy petition has been filed, but debt service payments are continued.
CI		Reserved for income bonds on which no interest is being paid.
D		Payment default.
NR		No public rating has been requested.
(+) or (-)		Ratings from AA to CCC may be modified by the addition of a plus or minus sign to show relative standing within the major rating categories.

\*Average interest rates are reported in the *Bulletin* only for the top four risk categories.

Source: *Federal Reserve Bulletin*, Table 1.35, Lines 27–30. August 2004.

# Corporate Bonds: Interest Rates



**Figure 10.5** Corporate Bond Interest Rates, 1973–2004 (End of year)

# The local Russian bond market

- Rapidly growing
  - December 2006: the record issuance volume of RUR70 bln
- Mostly medium-term bonds
  - A few companies issued long-term bonds
  - E.g., the first issue of 30y OFZ bonds in 15/2/2006 at 6.99%
- Often, premature redemption option for the investors (оферта)



# The local Russian bond market

- Rates slightly above inflation
  - Excessive money liquidity
- Declining term structure of interest rates
  - Inflation goes down

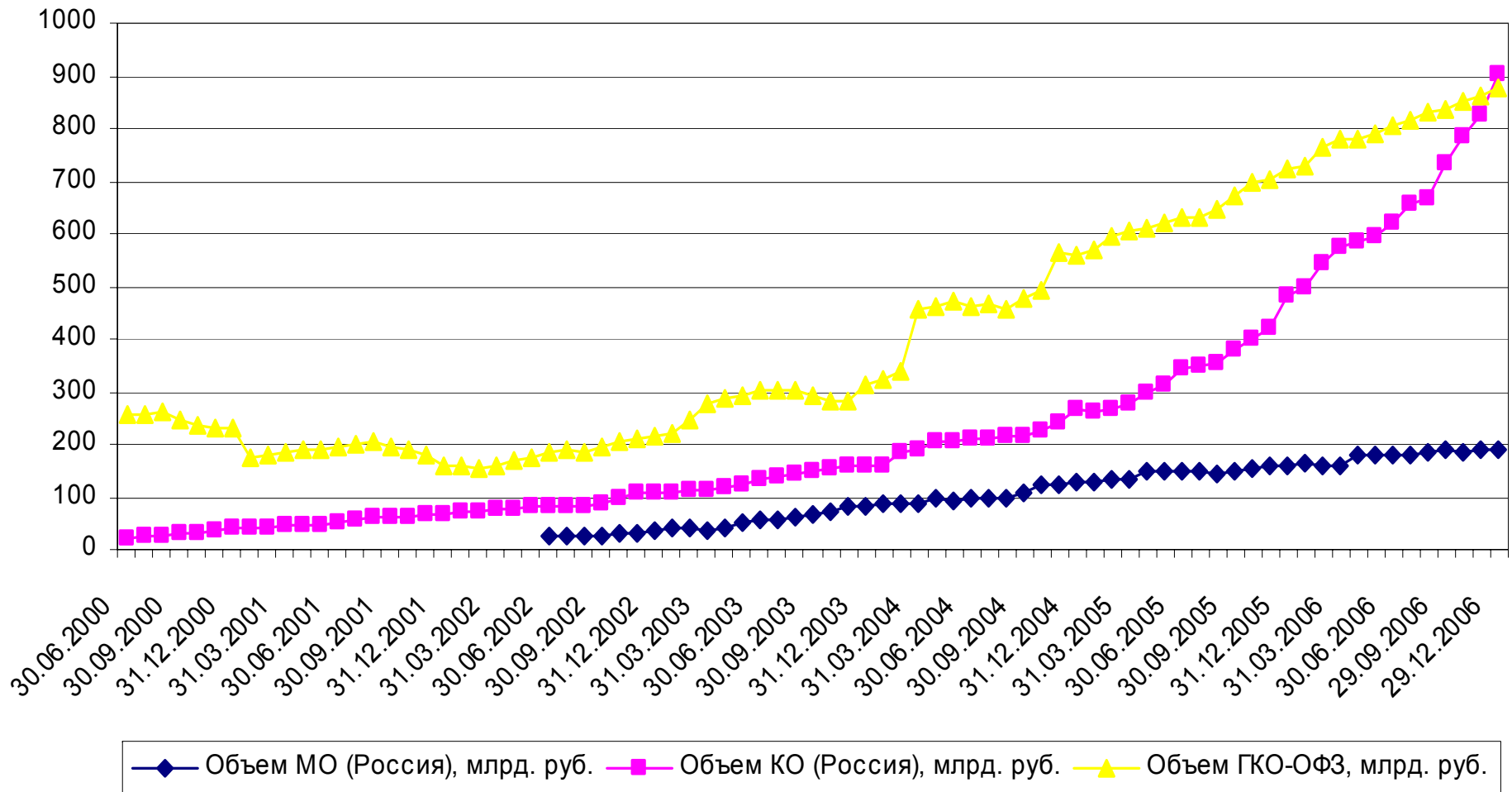


# The local Russian bond market

- No defaults yet
  - The closest case: Московский хлебокомбинат
  - Bad for the statistics
- Liquidity concentrated in blue chips
  - Moscow government, Gazprom, Lukoil



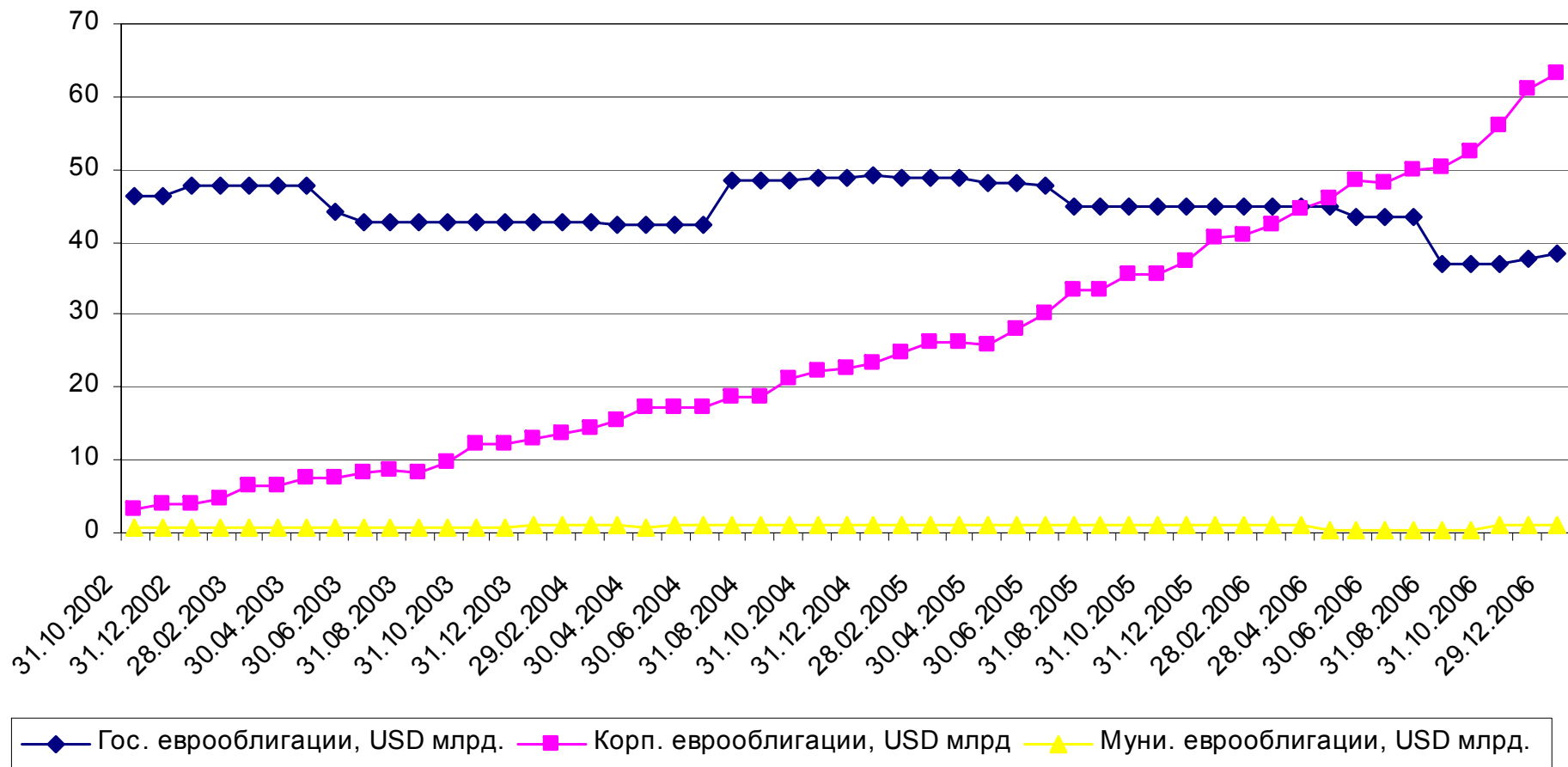
# The local Russian bond market



# The Russian eurobond market

- Issued by the government, state and private ‘blue chip’ companies, and banks
  - June 2005: record 6.25% rate for 30y bonds by VTB
  - November 2006: record issuance volume of \$750 mln by Evraz (10y, \$8.5%)
  - Gazprom, Sberbank, Alrosa, Sistema, etc.

# The Russian eurobond market





# The Russian eurobond market

- Rapidly growing, as many companies
  - Become transparent
  - Have sound position
  - Need foreign currency denominated debt for their intl operations
- Several banks sold ruble-denominated bonds outside Russia
  - E.g., ING securitized loans to RZhD and RBR

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## Discussion topic

What hinders the development of the bond market in Russia?



# Key Factors

- Risks
  - Political
  - Corporate governance
  - Liquidity
- Legislation
  - What happens in case of bankruptcy?

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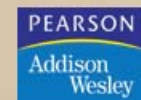
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## Class 2

### Stock Markets

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# Evolution of the forms of business organization

- Sole proprietorship
- Partnership
- Corporation
- Evaluate by
  - The life of the entity
  - The ability to raise capital
  - The owners' liability





# Modern Corporation

- Advantages
  - Limited liability
    - 1811: general act of incorporation in NY
  - Easy transfer of ownership
  - Unlimited life
  - Ability to raise large amounts of money



# Modern Corporation

- Disadvantages
  - Start-up can be costly
  - Earnings subject to double taxation
  - The agency problem
    - Separation of control and ownership
    - The leverage effect of debt



# Equity vs Debt

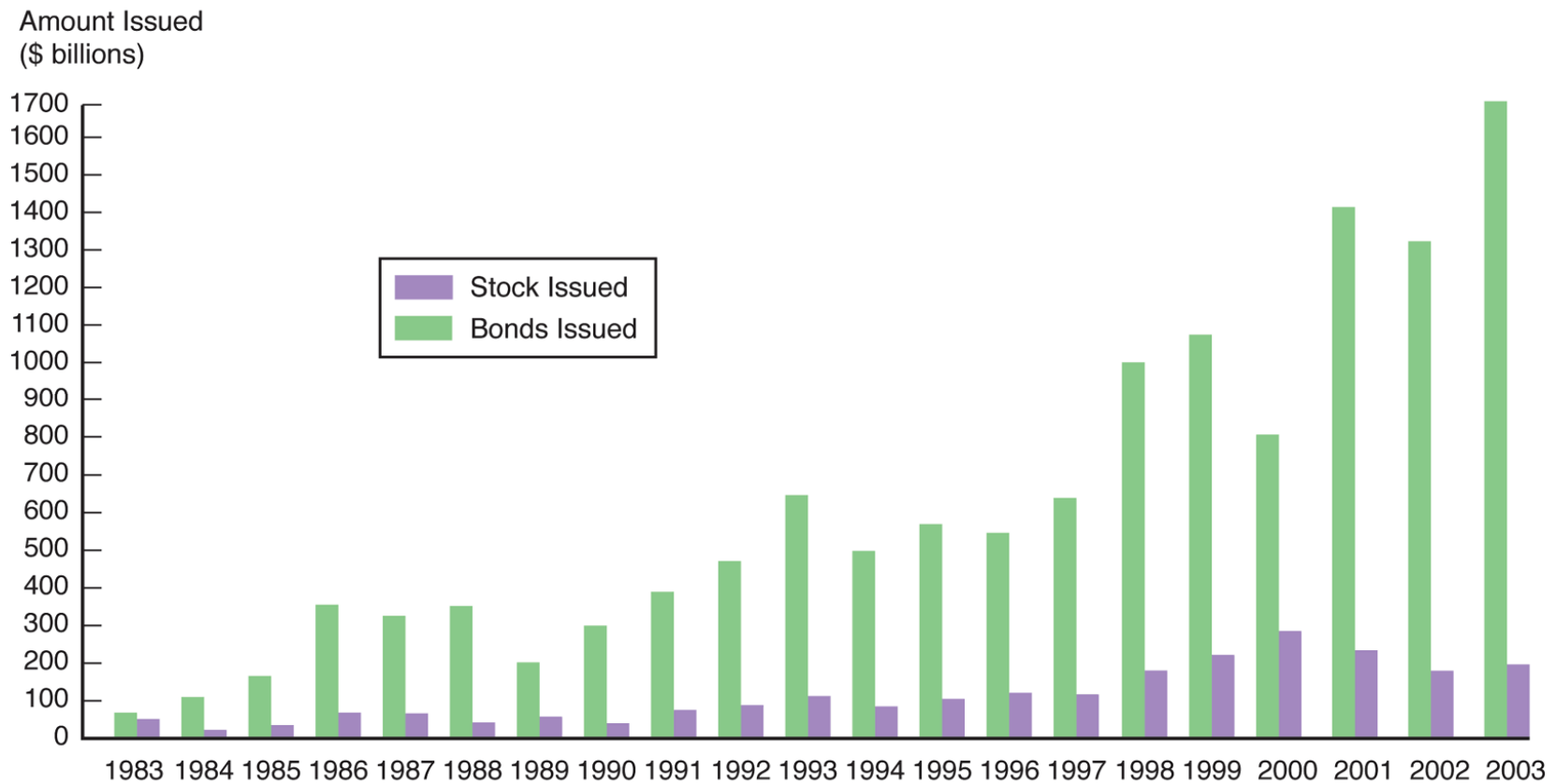
- Shareholders (common stocks)
  - Control rights (e.g., elect directors)
  - Limited liability
  - Residual claim on assets (after paying up liabilities)
  - Dividends (fully taxable)
- Debtholders
  - Fixed contractual claim against the corporation
  - No voting power unless the debt is not paid
  - Interest on debt is tax-deductible



# Equity vs Debt

- How do companies finance their long-term investment?
  - The issued volumes of new debt are much larger.
  - Even in the late 1990s, the boom years for new equity offerings, new debt issuances still outpaced equity by over 5:1.

# Equity vs Debt



**Figure 10.6** Bonds and Stocks Issued, 1983–2003



# Preferred Stocks: A Hybrid Instrument

- Preference over common stock in cash rights:
  - in the payments of dividends
  - in the assets in case of bankruptcy
- No voting rights, unless no dividends 6 quarters in a row
- Is it really debt in disguise?
  - Fixed dividend: usually, **cumulative** (carried forward if not paid)
- Stated liquidating value



# Preferred Stocks: A Hybrid Instrument

- Call provision: can be converted to common shares
- US: Corporations get 80% tax exemption on dividends
  - But not on debt interest
  - Most preferred stock in the U.S. is held by corporate investors
- Control premium:
  - Difference between the prices of voting and non-voting stocks
  - Especially large in countries with low level of corporate governance



# Buying foreign stocks

- Useful for diversification
  - However, the purchase may be complicated if the shares are not traded in your country
- American depository receipts (ADRs):
  - U.S. banks buy foreign shares and issue receipts against the shares in U.S. markets
  - Allow foreign firms to trade on U.S. exchanges
- Global depository receipts (GDRs):
  - In London, Frankfurt, Warsaw, etc.
- Russian depository receipts (RDRs)





# Indices

- Aggregate picture of a particular market segment
  - Should be replicable by investors
  - Benchmark to evaluate portfolio performance
- Computation
  - Index return = equal or market-cap weighted sum of individual stock returns
    - The latter is the same as growth in total market capitalization
    - Dow Jones: wrong way to compute the index (average price of several stocks)
  - Free-float adjustment: exclude strategic stakes



# Most popular indices

- US:
  - Dow Jones Industrial Average, the S&P 500, and the NASDAQ composite
- International:
  - MSCI: only investable stocks (available to foreign investors), dollar-denominated
  - E.g., MSCI Developed / Emerging / Country indices



# Most popular indices

- Russia
  - Equity: RTSI (in \$), MICEX10 (in rubles)
    - Recently introduced free-float-adjusted weights
    - Industry indices, RenCap IPO
  - Bonds: Cbonds (local corporate bonds), EMBI+ Russia (Eurobonds), RCBI (by MICEX)

# Indices of particular segments

- Equity indices:
  - Large-cap vs Mid-cap vs. Small-cap
    - Small companies are characterized by higher risk and return
    - E.g., S&P500 vs. S&P MidCap 400 vs. S&P SmallCap 600
  - Value vs growth
    - Value stocks (low P/E, high B/M) are less risky
    - E.g., S&P500 Citigroup Value, S&P MidCap 400 Citigroup Growth
- Fixed income indices
  - Short-term vs long-term
  - High vs low credit rating



# How to value stocks?

- The DCF approach
  - The One-Period Valuation Model
  - The Generalized Dividend Valuation Model
    - The Gordon growth model
  - Errors in Valuation
    - Problems with estimating cash flows / growth / risk
- The relative valuation approach
  - Comparing the multipliers (e.g., P/E)

# Stocks: Investment Risks

Return from holding a stock =  
Change in price + Dividend

- No default risk
- Market risk
  - If the stock is less sensitive to the overall market movements, it is considered less risky and has a lower expected return in equilibrium

# Stocks: Investment Risks

- Macroeconomic risks
  - E.g., change in the industrial growth, oil price, inflation, etc.
- Risks from the company characteristics (micro level)
  - E.g., size: small stocks earn a premium
- Specifics of trading
  - E.g., liquidity: illiquid stocks should compensate this by a higher return
- Individual risk
  - Not valued according to the asset pricing models (e.g. CAPM)
  - Because can be reduced by diversification

Financial Markets +  
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fifth edition



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## Discussion topic

What explains  
high volatility of  
Russian stocks?

Source:

[Goriaev&Zabotkin \(2006\)](#)



# Specifics of Russian stock market

- Leading country in the Soviet block
  - Longest history of the planned economy
- Had to create the market from the scratch, in the midst of the painful transition
- Is it a success story?
  - Now one of the largest emerging markets,...
  - Due to both extensive and intensive growth
  - Yet highly concentrated and volatile



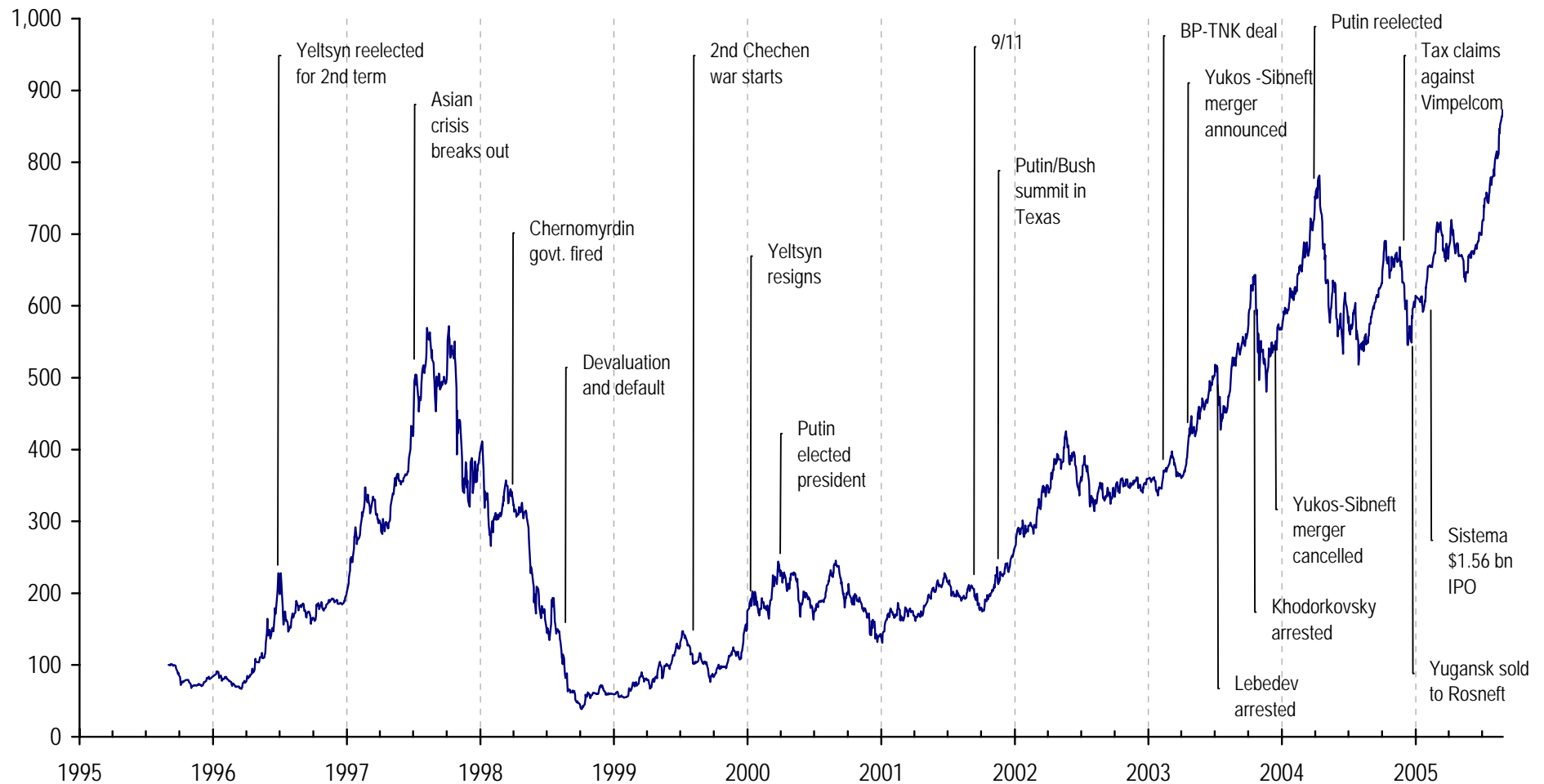
# Evolution of the market: time line

- 1994: mass privatization
- 1995: creation of the RTS, a dealership market
  - 1/9/1995: launch of the RTS index
- 1997: start of the MICEX, an order-driven market
- 1998: financial crisis
- 2000: Putin coming to power
- 2003: (beginning of) the Yukos affair
- 2005-6: rapid market growth, boom of IPOs

# Current position (as of end 2005)

- One of the largest emerging markets
  - Total market capitalization: over \$600 billion
  - Avg monthly turnover: \$12 bln
  - # listed stocks: 234 in RTS, 134 in MICEX
    - 75 stocks have depositary receipt programs
- Yet concentrated and not very liquid
  - # traded stocks: ~40 in RTS, ~80 in MICEX
  - 6 of the 10 largest companies are from the oil&gas sector

# RTS index as a mirror of Russia's major events





# Major risk factors

- Political risk
  - Yeltsin's era: binary perception that Russia would relapse into Soviet times or move to a market system
- Macroeconomic factors
  - August 1998: ruble devaluation and default
- Corporate governance
  - Poor disclosure, asset stripping, abuses of minority shareholders
  - but also accumulation of (super-)majority stakes



# Major risk factors

- Political risk vs. corporate governance
  - 2000: pact between Putin and oligarchs
    - Incentives to improve corporate governance
  - 1/2002: new Law on Joint Stock Companies
- Macroeconomic stability
- Structural reforms



# Major risk factors

- Political risk: Yukos case
  - Eventually, did not lead to expropriation of the companies by the state
  - Though signaled the tougher government policy
- Impact of the oil price
  - Esp visible after improvement in corporate governance
- Global equity markets



# Conclusions

- Interaction between financial infrastructure and economic / political / legal / regulatory environment in the country
- Time-varying impact of risk factors
  - Corporate governance
  - Political risk
  - Macroeconomic factors: global equity markets performance, oil prices, and exchange rates