Financial Management, 15.414

Prof. Jonathan Lewellen

MOT Program, Summer 2003

Preliminaries

Reading

- Brealey and Myers, *Principles of Corporate Finance*
- Class notes
- Reading packet + handouts

Web pages

- Course server
- Data: wrds.wharton.upenn.edu

Preliminaries

Teaching assistant

- Recitations: Monday, Wednesday

Grades

- Assignments (45%) and final exam (40%)
- Class participation (15%)
- Add'l practice problems on syllabus (not graded)

Today

Introduction

Overview of the course

Introduction

Corporate finance

- **Investment policy**
  How the firm spends its money (real and financial assets)

- **Financing and payout policy**
  How the firm obtains funds (debt, equity, …) and dispurses of excess cash

Balance sheet view of the firm

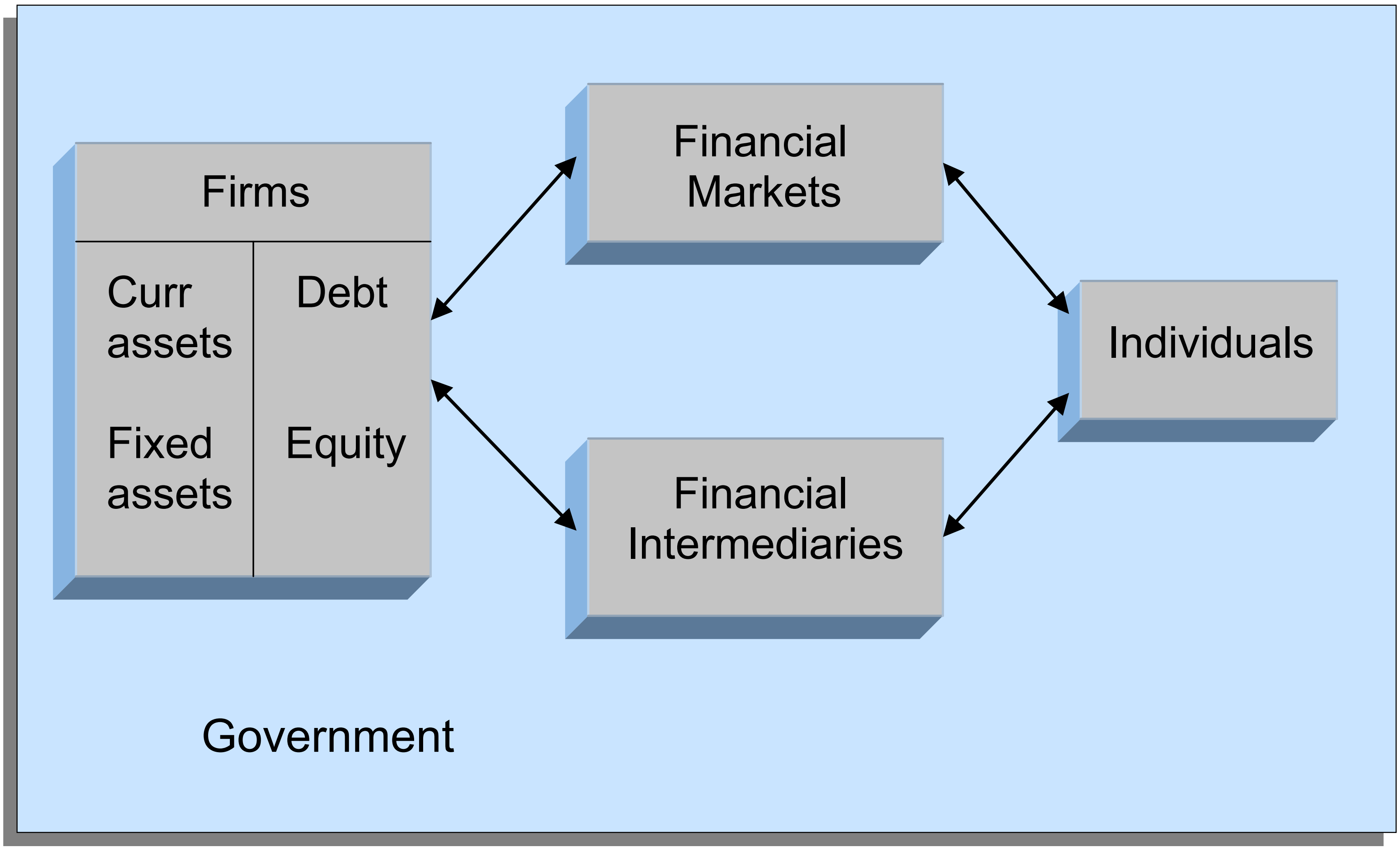
Assets	Liabilities and Equity
Current Assets	**Current Liabilities**
	Long-Term Debt
Fixed Assets 1. Tangible fixed assets 2. Intangible fixed assets	**Shareholders' Equity**

Introduction

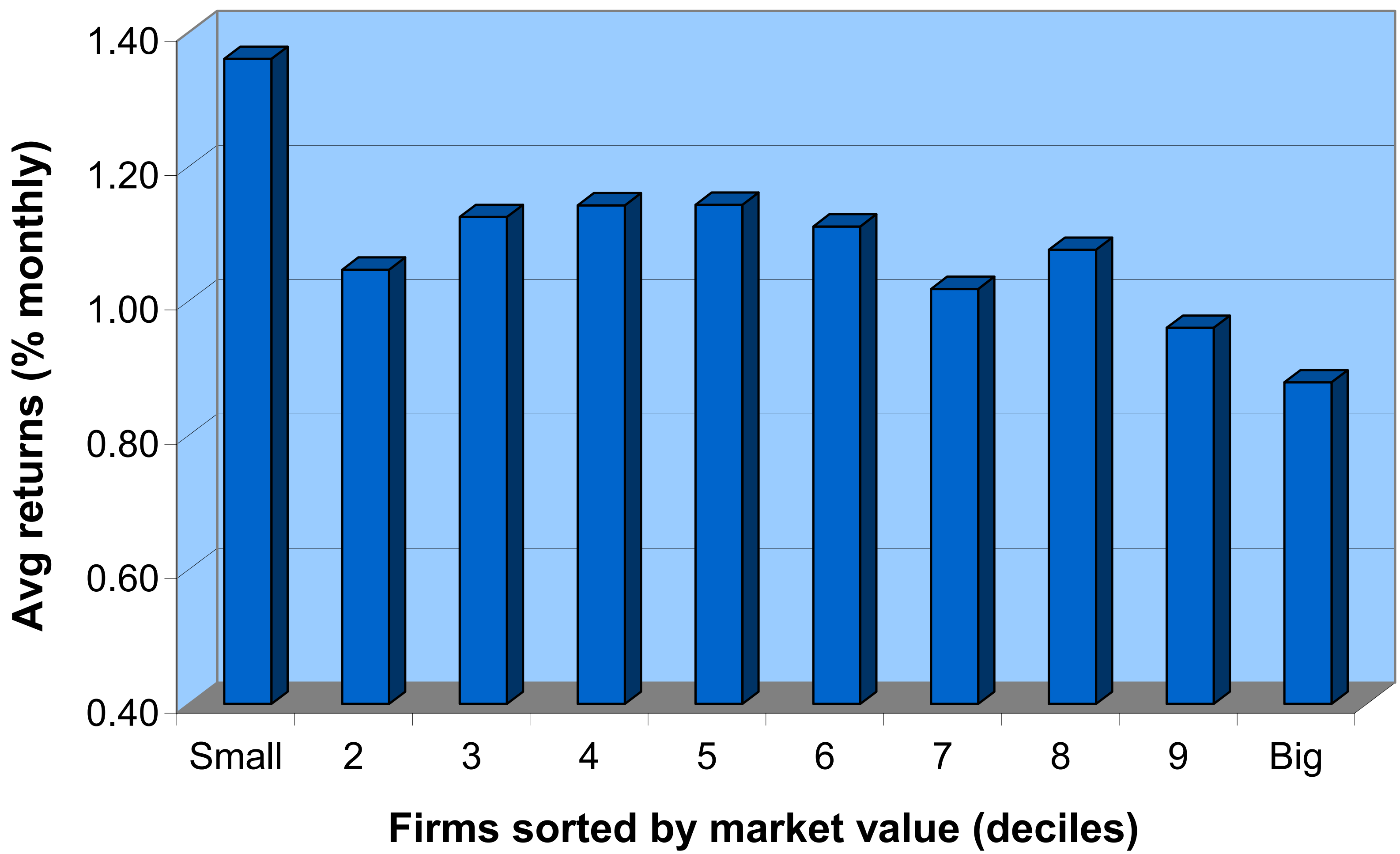
But we also need to understand …

- **Capital markets**
  How securities (stocks, bonds, options, …) are traded
  Pricing
  Risk and return
  Market efficiency
  International markets

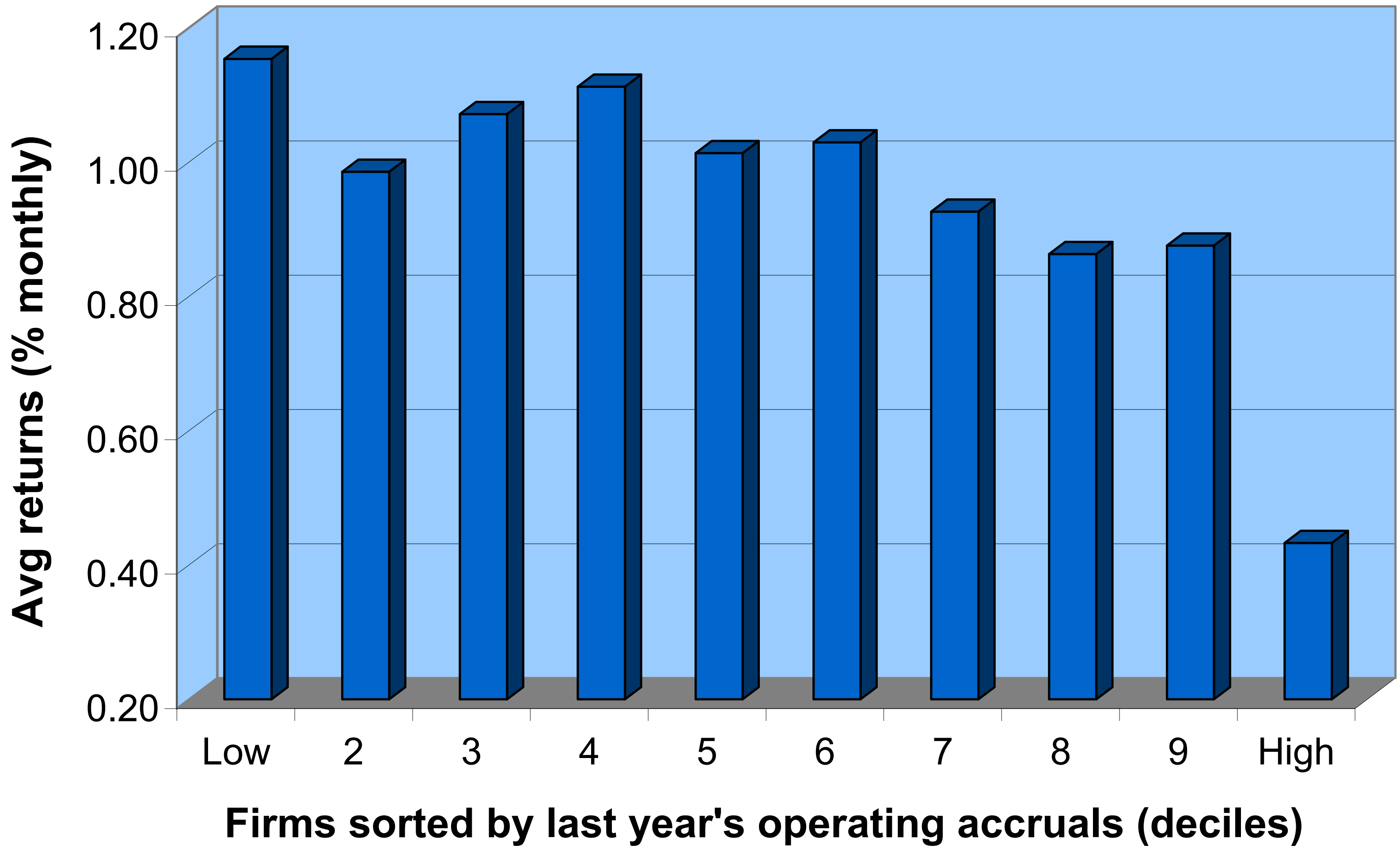
Financial markets



Size and stock returns



Accruals and stock returns



Introduction

Finance is really about *value*

- Firms
- Projects and real investments
- Securities

Central question

How can we create value through investment and financing decisions?

Merck

Medco acquisition (1993)

- **Strategic considerations**
  Positioning
  Does the acquisition generate competitive advantages?

  Sustainability
  Are the competitive advantages sustainable through time?

- **Financial considerations**
  Investment
  Does the acquisition generate value for Merck?

  Financing
  What is the best way to finance it?

Types of questions

Investment decisions

- At the end of 2001, GM had $18.6 billion in cash. Should it invest in new projects or return the cash to shareholders? If it decides to return the cash, should it declare a dividend or repurchase stock? If it decides to invest, what is the most valuable investment? What are the risks?

General Dynamics

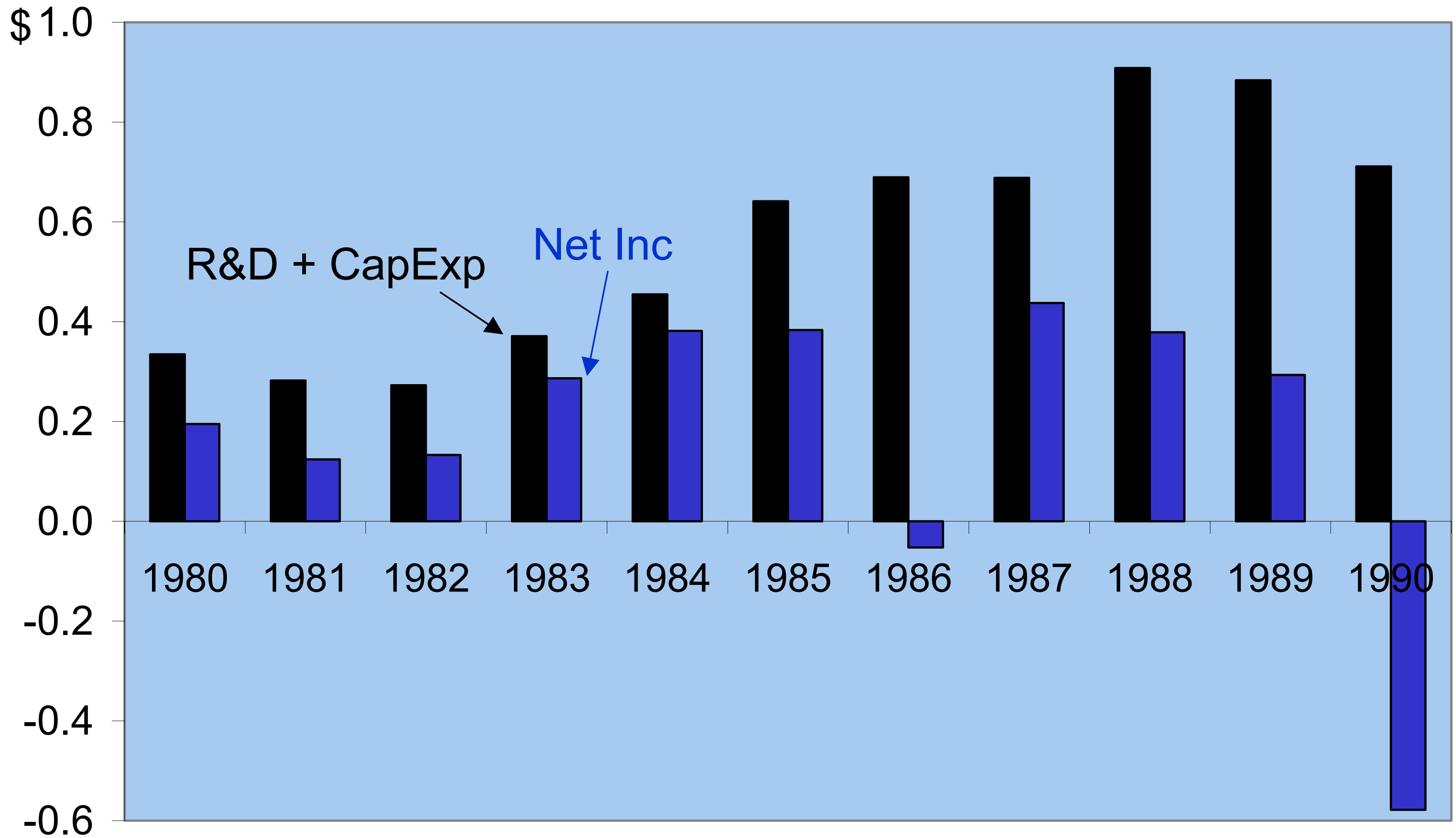
1980s were generally good

- Strong sales growth ($4.7 billion to $10.2 billion)
- Reasonable profitability
- R&D and capital investment

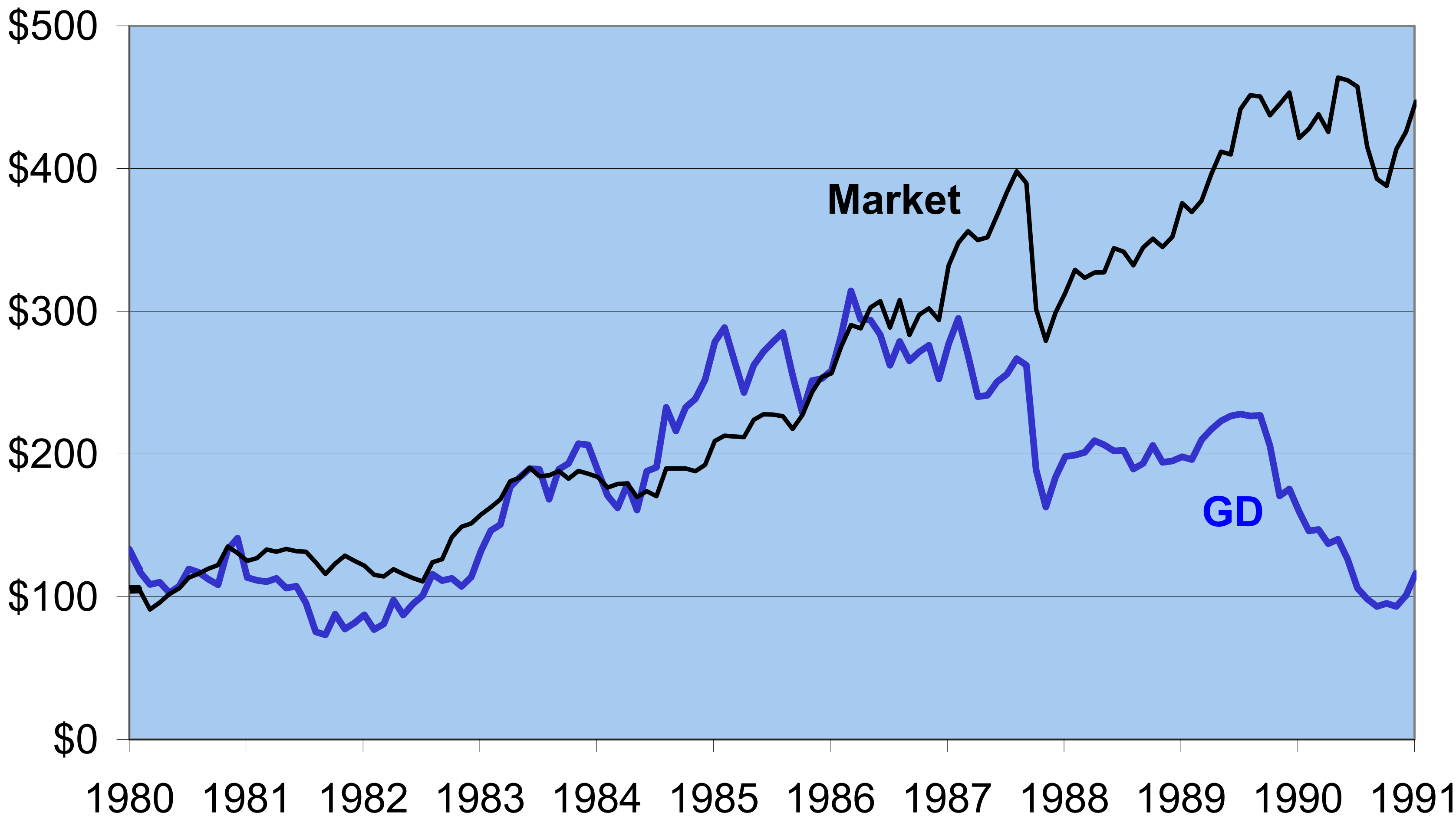
Beginning of 1990

- End of the Cold War
- Likely decline in defense spending
- Strategy??

General Dynamics



Value of $100 invested Jan. '80



General Dynamics

Investment, 1980 – 1990

R&D + capital expenditures	$3.7 billion
If invested at 10%	$5.5 billion
Ending market value	$1.0 billion
Value destroyed	$4.5 billion

Earnings in 1990 = –$578 million

Investment in 1990 = $711 million

General Dynamics

1991 – 1993

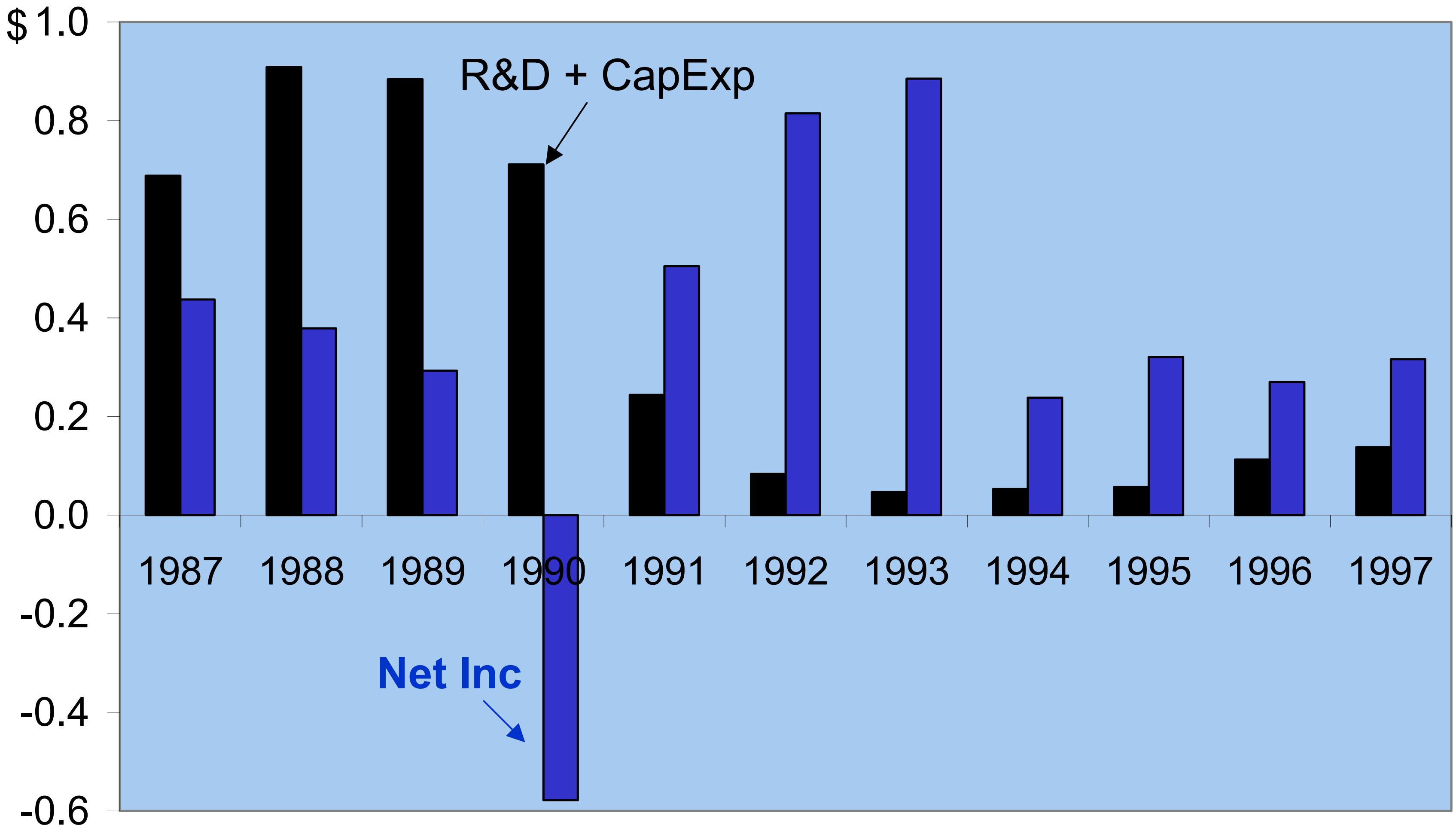
- **William Anders, CEO**

- **Divestitures and layoffs**
  Sales, \$10.2 to \$3.2 billion
  Employees, 54,050 to 26,800 (cont. operations)

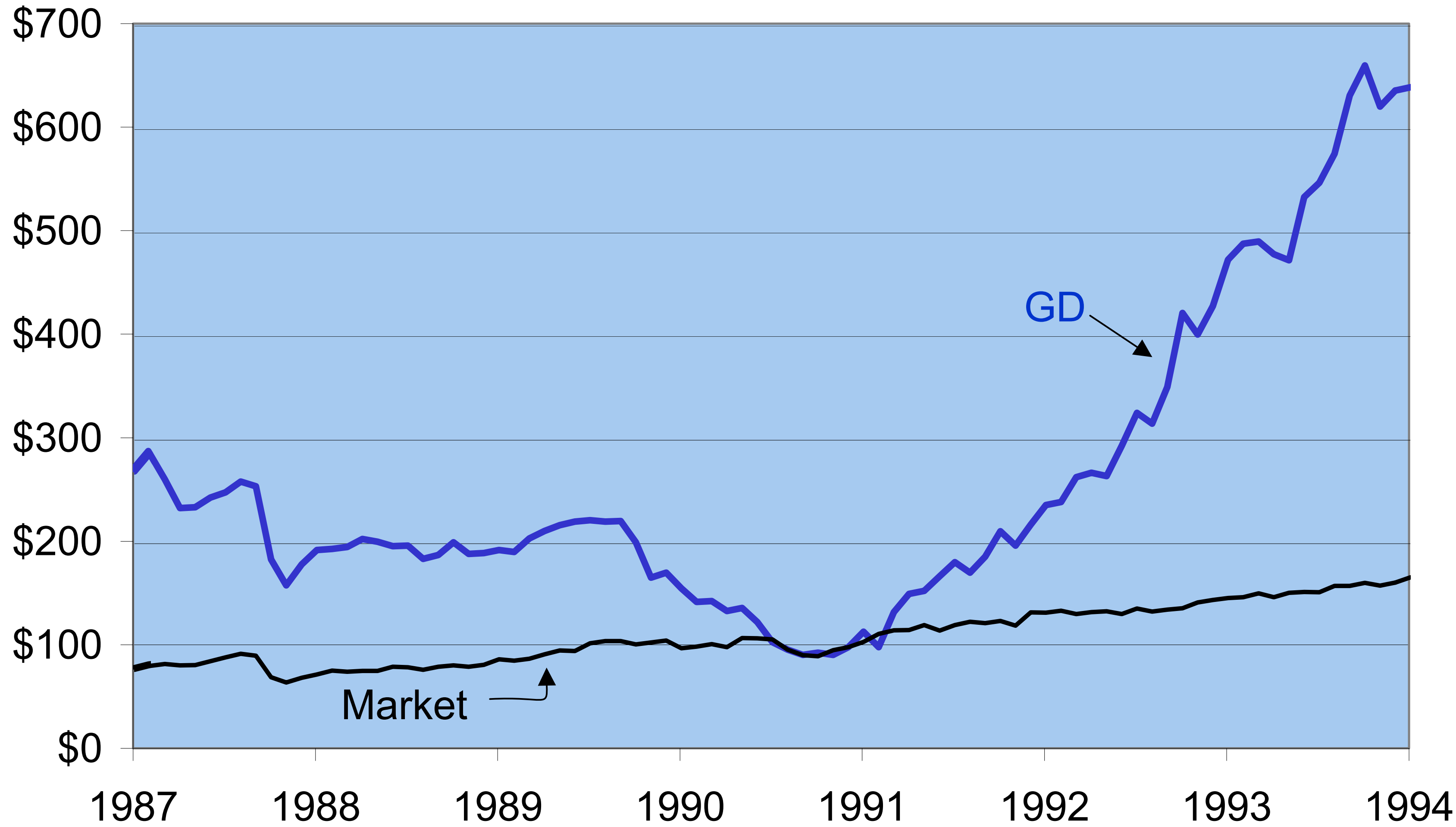
- **Investment cuts**
  R&D, \$390 to \$33 million
  Cap exp, \$321 to \$14 million

- **Cash payouts**
  \$3.4 billion to shareholders

GD: 1987 – 1997


$ 1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
R&D + CapExp
Net Inc
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997

Value of $100 invested Jan. '91



Types of questions

Financing decisions

- In 1998, IBM announced that it would repurchase $2.5 billion in stock. Its price jumped 7% after the announcement. Why? How would the market have reacted if IBM increased dividends instead? Suppose Intel made the same announcement. Would we expect the same price response?

- Your firm needs to raise capital to finance growth. Should you issue debt or equity or obtain a bank loan? How will the stock market react to your decision? If you choose debt, should the bonds be convertible? callable? Long or short maturity? If you choose equity, what are the trade-offs between common and preferred stock?

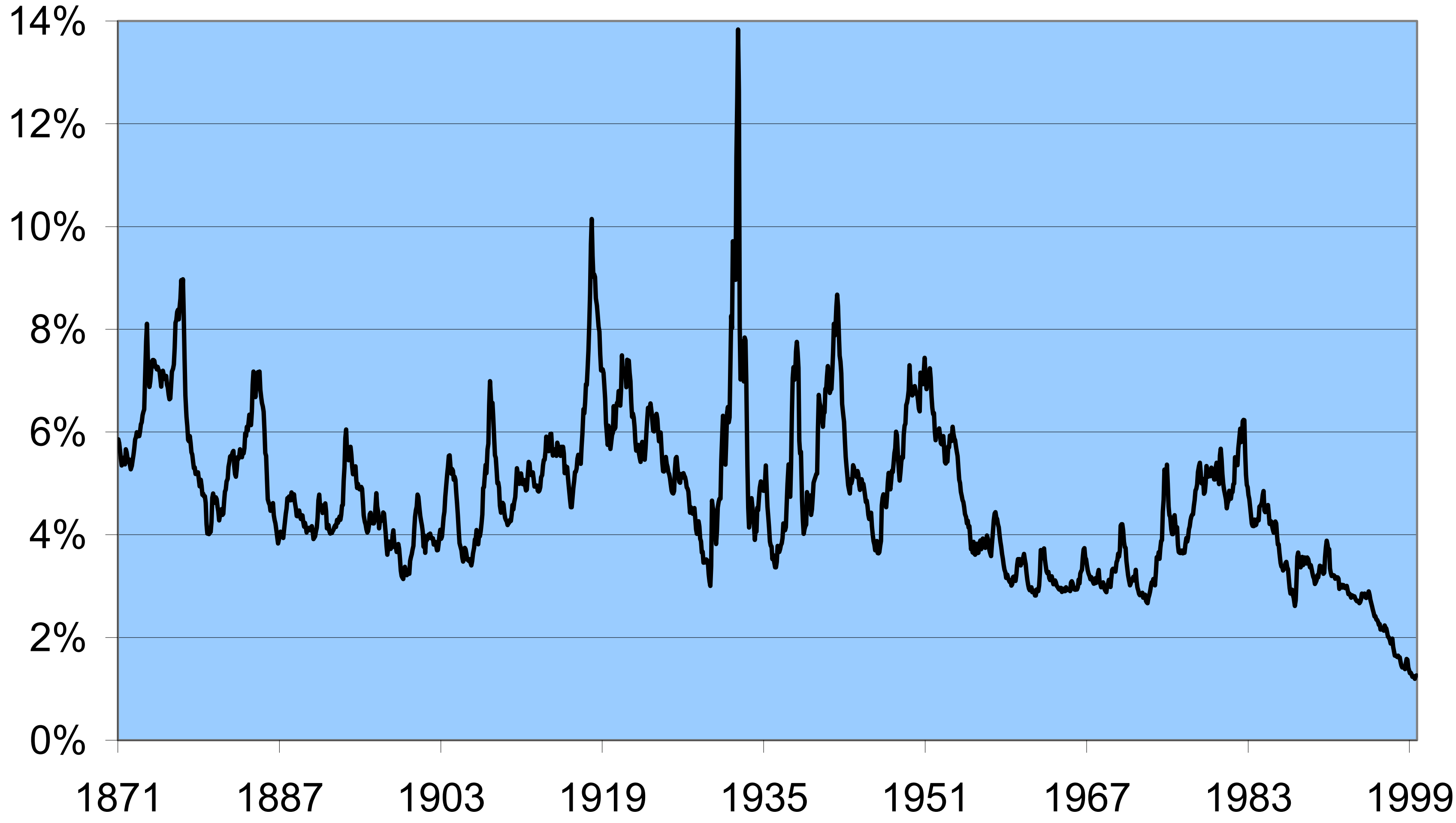
Types of questions

Financial markets

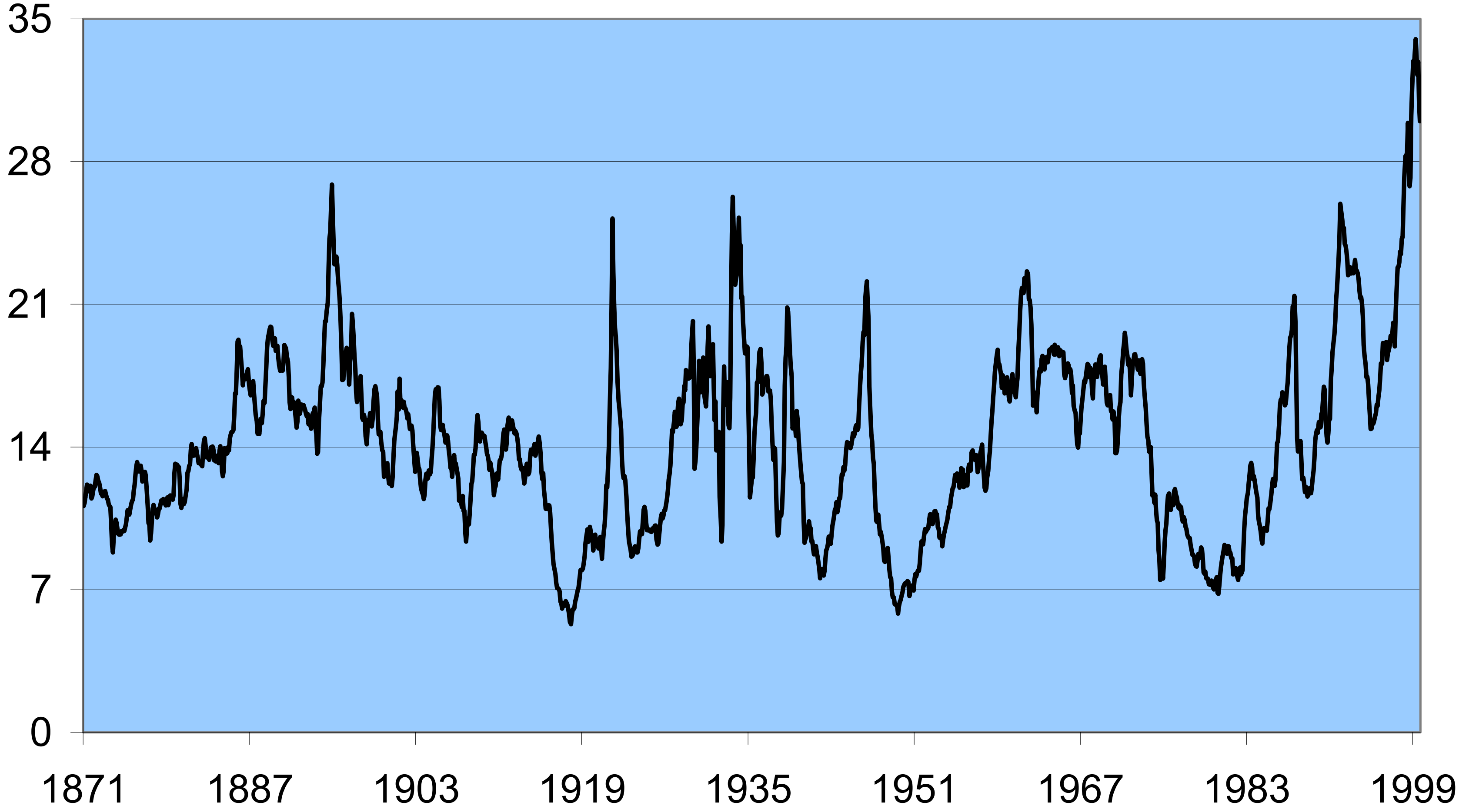
- In the 5 years from Jan. 1995 to Dec. 1999, the U.S. stock market increased in value by 227%. DY on the S&P 500 dropped from 2.90% to 1.17%, and the P/E ratio increased from 14.9 to 32.4. Why? What does this tell us about future returns? How should it affect our financing and investment decisions?

- From 1946 – 1999, small firms returned 17.8% and large firms returned 12.8%. From 1963 – 1999, stocks with low B/M ratios returned 13.8% and those with high B/M ratios returned 19.6%. What explains the differences? How can we measure a stock's risk? What does this mean for financing and investment decisions?

S&P 500 dividend yield, 1871 – 1999



S&P price-earnings ratio, 1871 – 1999



The course

Broad and fairly quick survey

Managerial focus (general managers)

Empirically-oriented

Outline

Part1. Valuation

Basic principles
Capital budgeting and real options
Firm valuation

Part 2. Risk and return

Diversification
Measuring risk: CAPM and APT
Estimating discount rates
Market efficiency

Part 3. Financing and dividend policy

Debt vs. equity
Dividends and stock repurchases

A few powerful themes

i. Value maximization

ii. Cash flows

iii. Risk, return, and diversification

iv. Market efficiency

v. Information asymmetries and signaling