

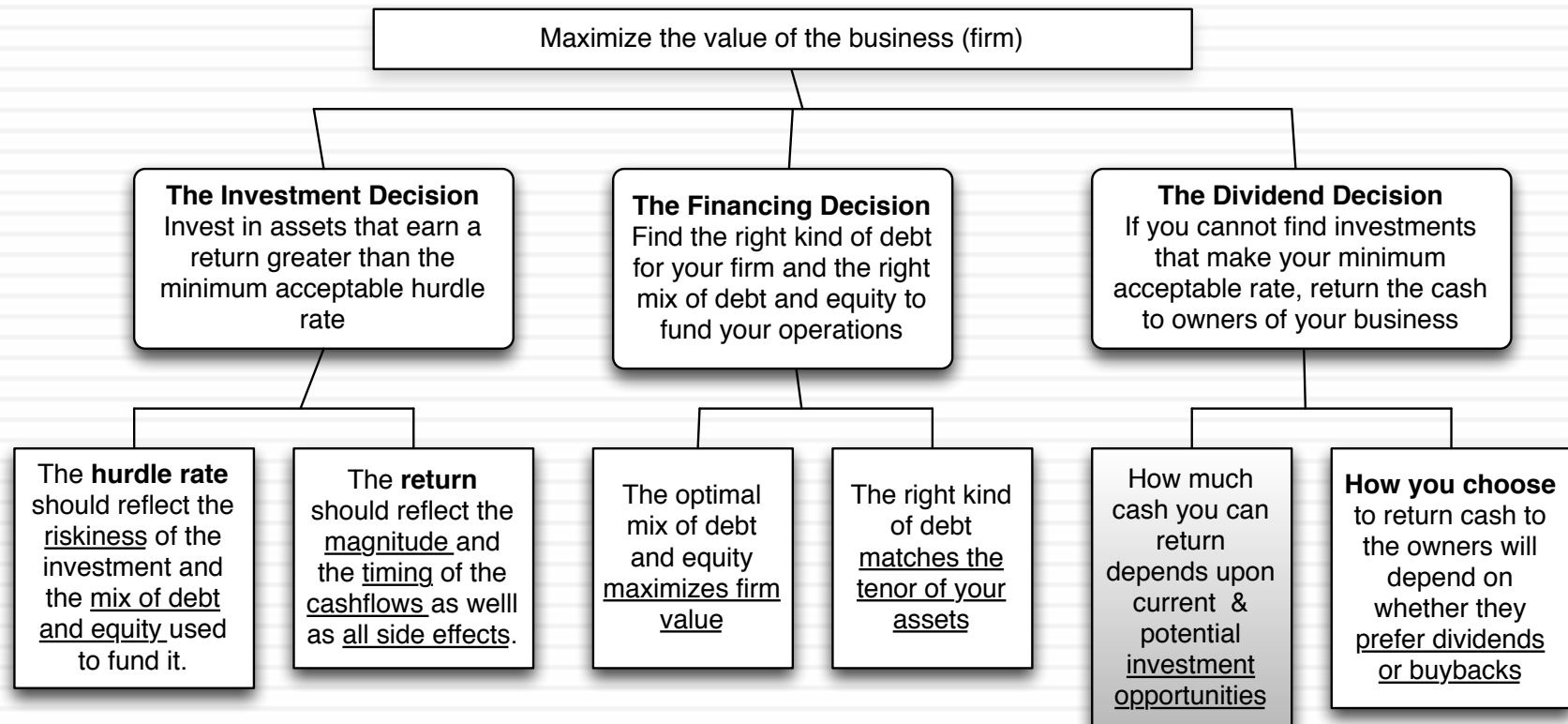


RETURNING CASH TO THE OWNERS: DIVIDEND POLICY

“Companies don’t have cash. They hold cash for their stockholders.”

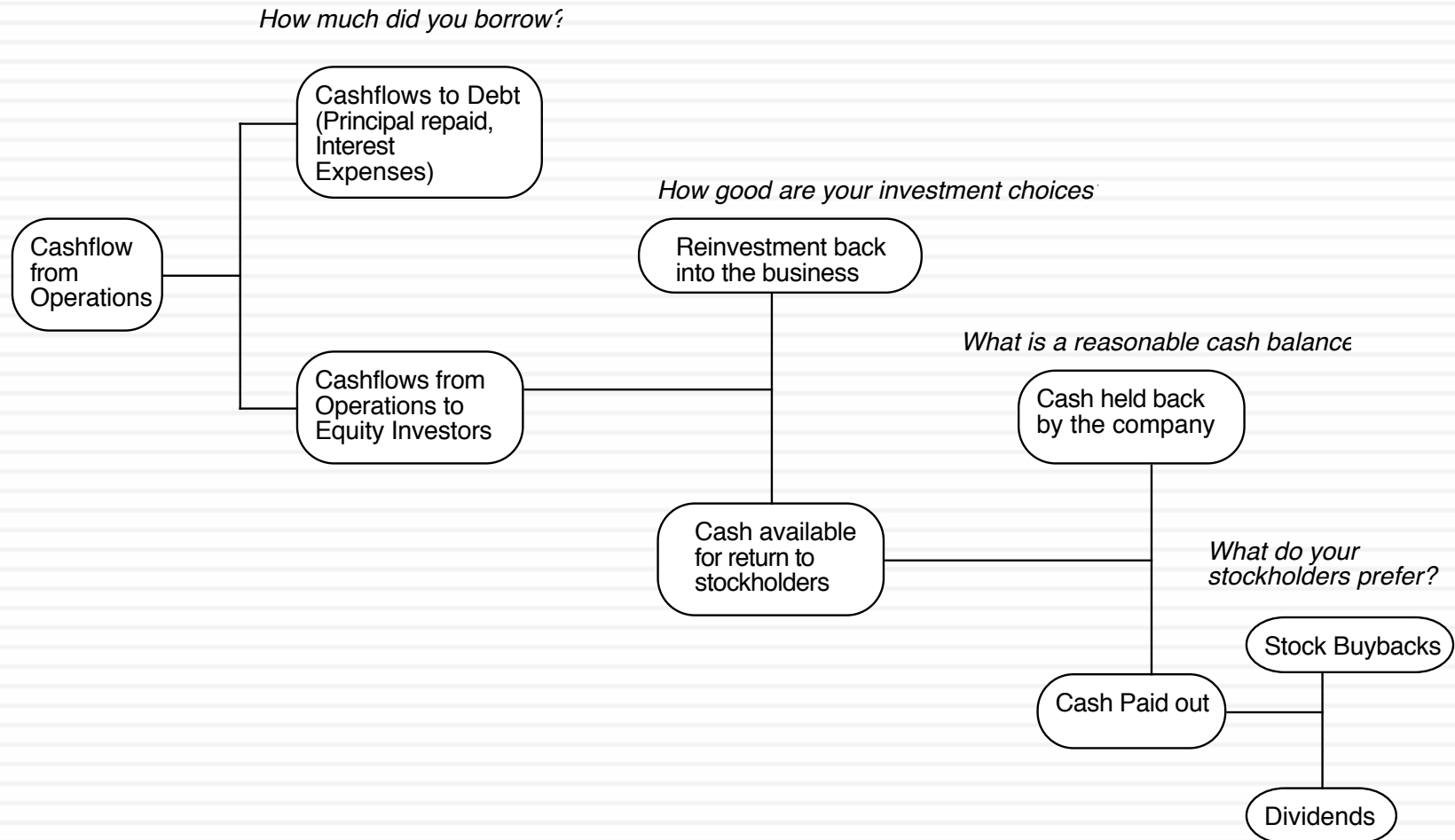
First Principles

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Steps to the Dividend Decision...

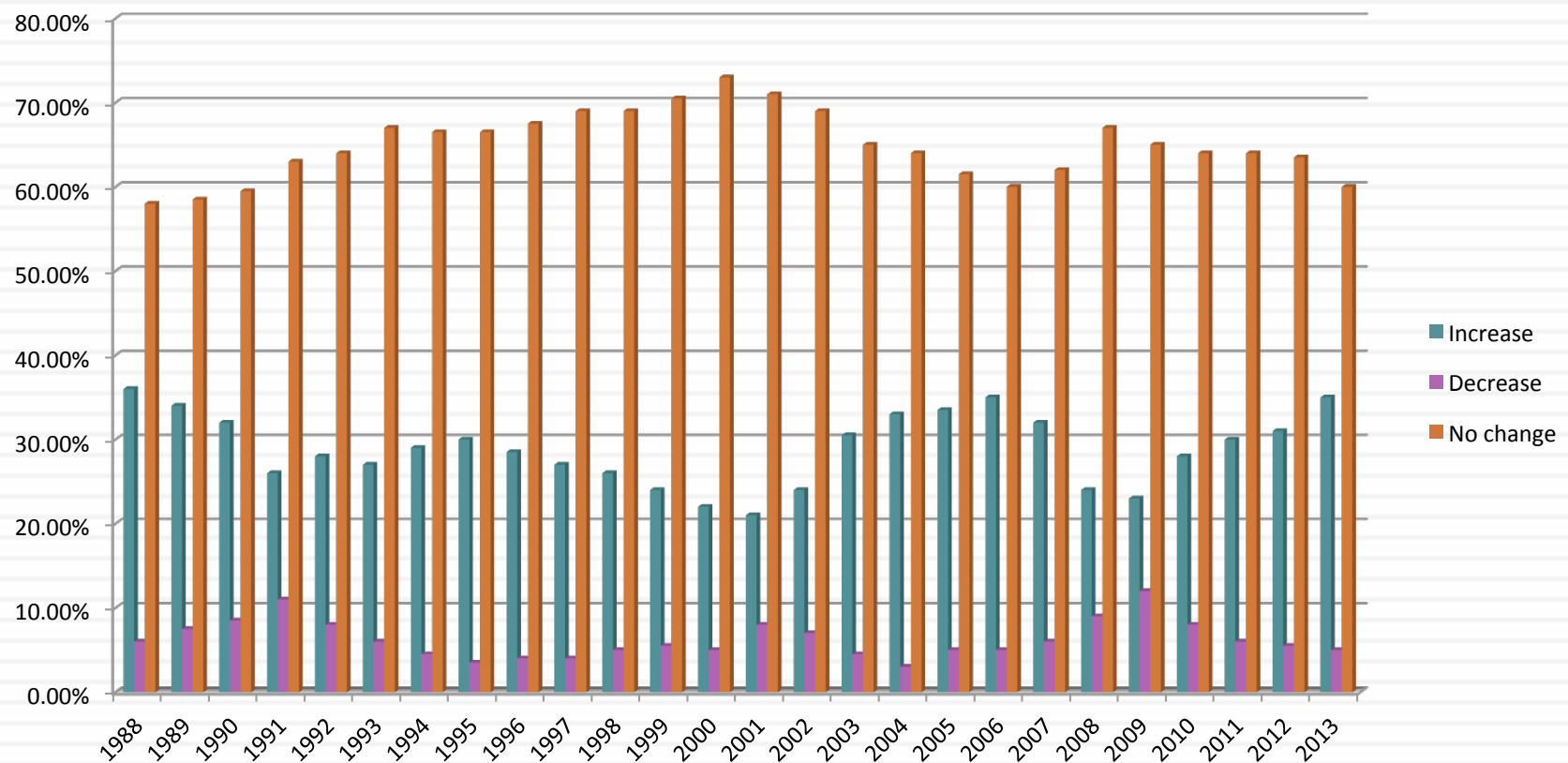
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I. Dividends are sticky

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Dividend Changes at US companies



The last quarter of 2008 put stickiness to the test.. Number of S&P 500 companies that...

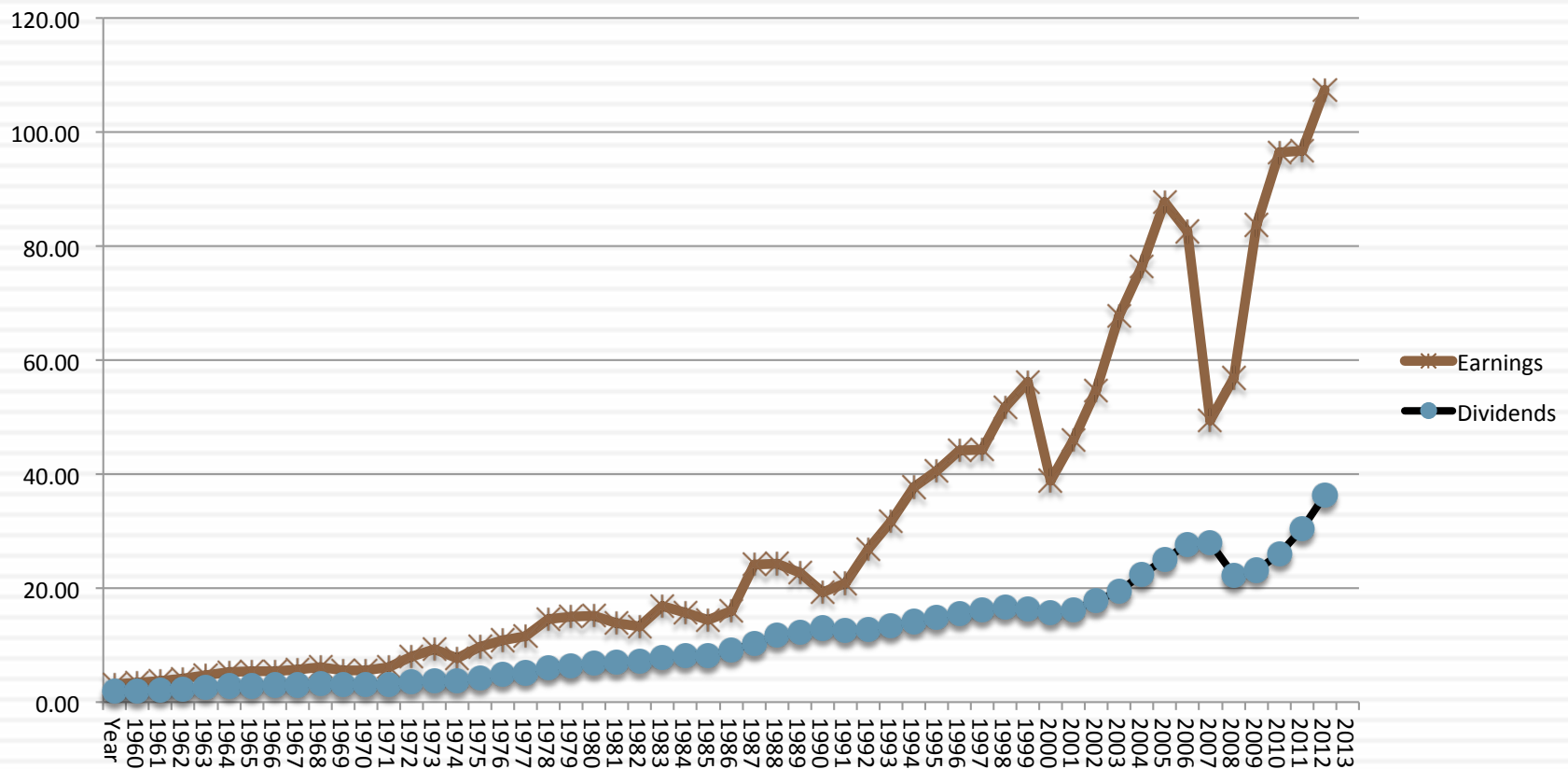
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Quarter	Dividend Increase	Dividend initiated	Dividend decrease	Dividend suspensions
Q1 2007	102	1	1	1
Q2 2007	63	1	1	5
Q3 2007	59	2	2	0
Q4 2007	63	7	4	2
Q1 2008	93	3	7	4
Q2 2008	65	0	9	0
Q3 2008	45	2	6	8
Q4 2008	32	0	17	10

II. Dividends tend to follow earnings

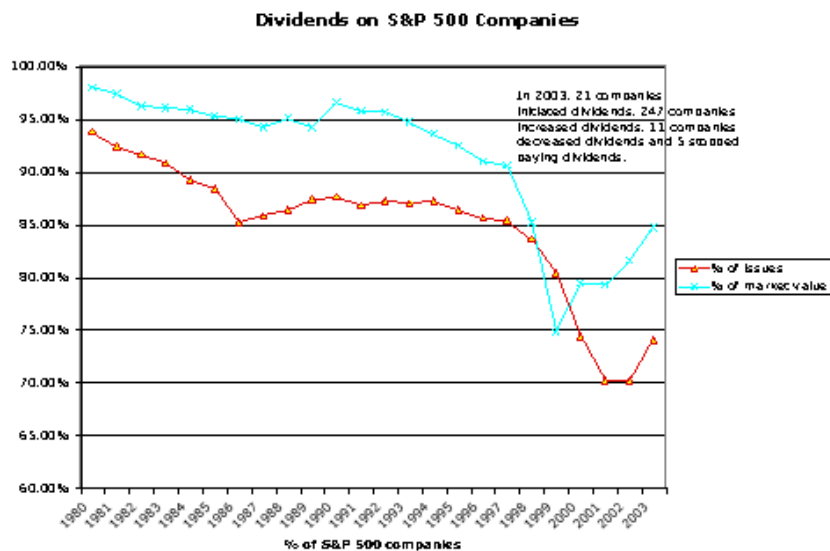
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S&P 500: Dividends and Earnings - 1960 to 2013



III. Are affected by tax laws...

In 2003



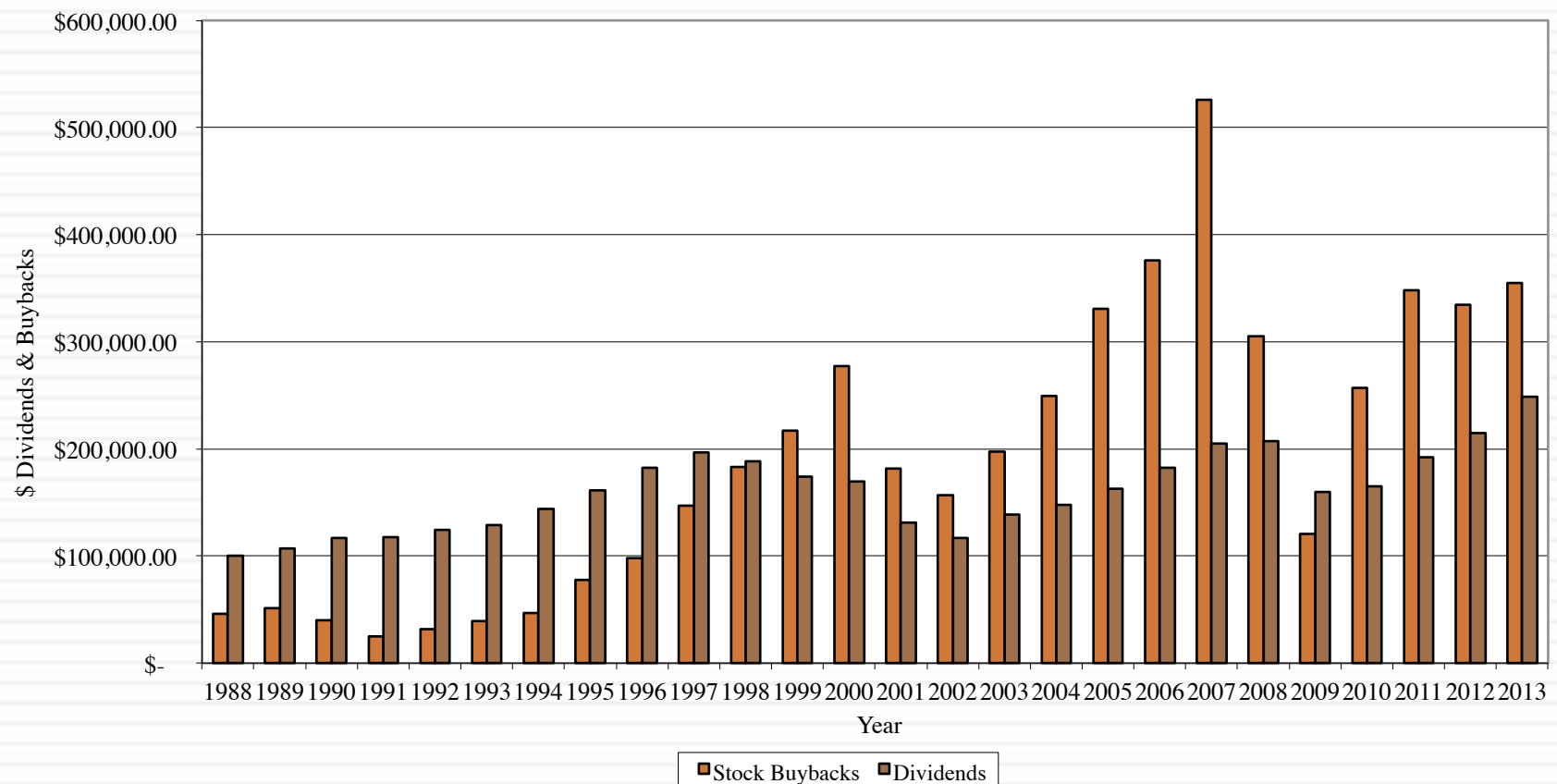
In the last quarter of 2012

- As the possibility of tax rates reverting back to pre-2003 levels rose, 233 companies paid out \$31 billion in dividends.
- Of these companies, 101 had insider holdings in excess of 20% of the outstanding stock.

IV. More and more firms are buying back stock, rather than pay dividends...

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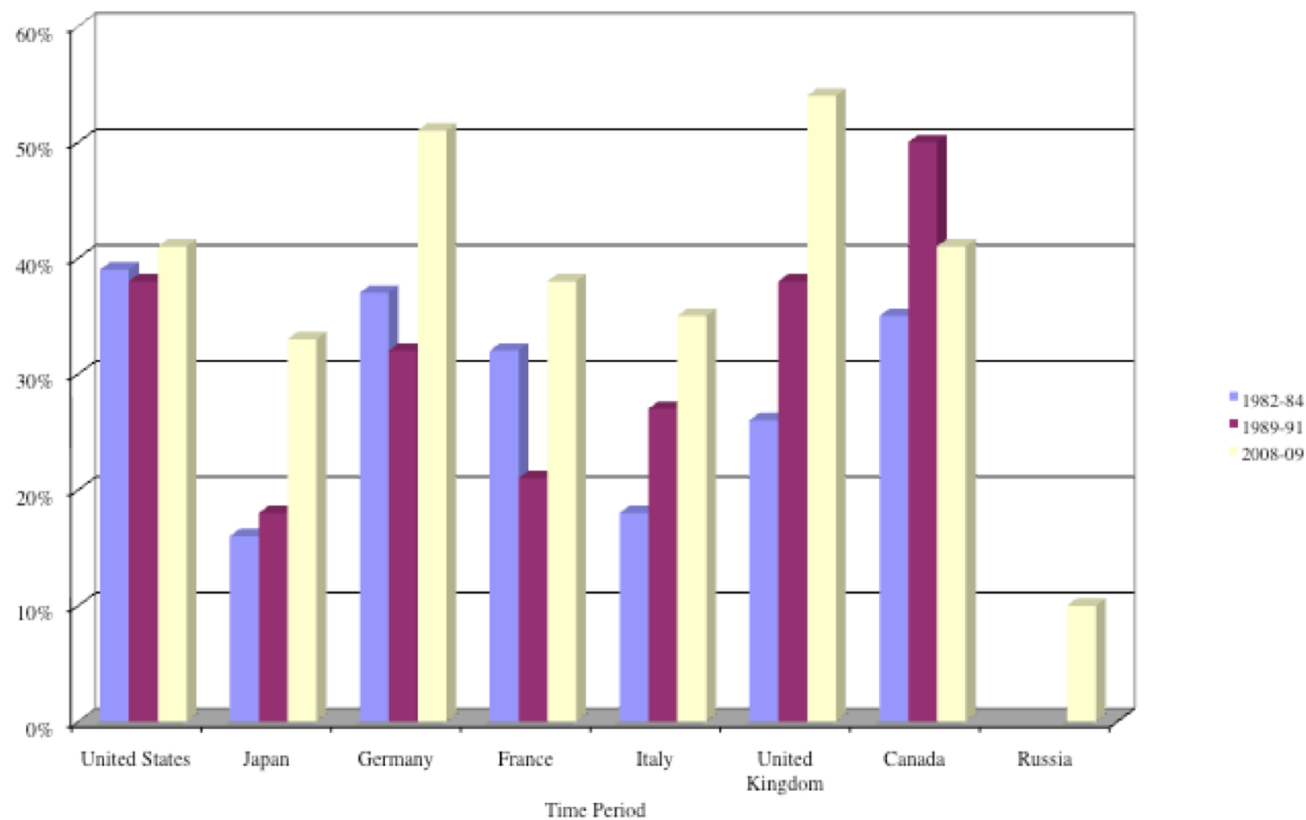
Stock Buybacks and Dividends: Aggregate for US Firms - 1989-2013



V. And there are differences across countries...

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Figure 10.9: Dividend Payout Ratios - G7 Countries



Measures of Dividend Policy

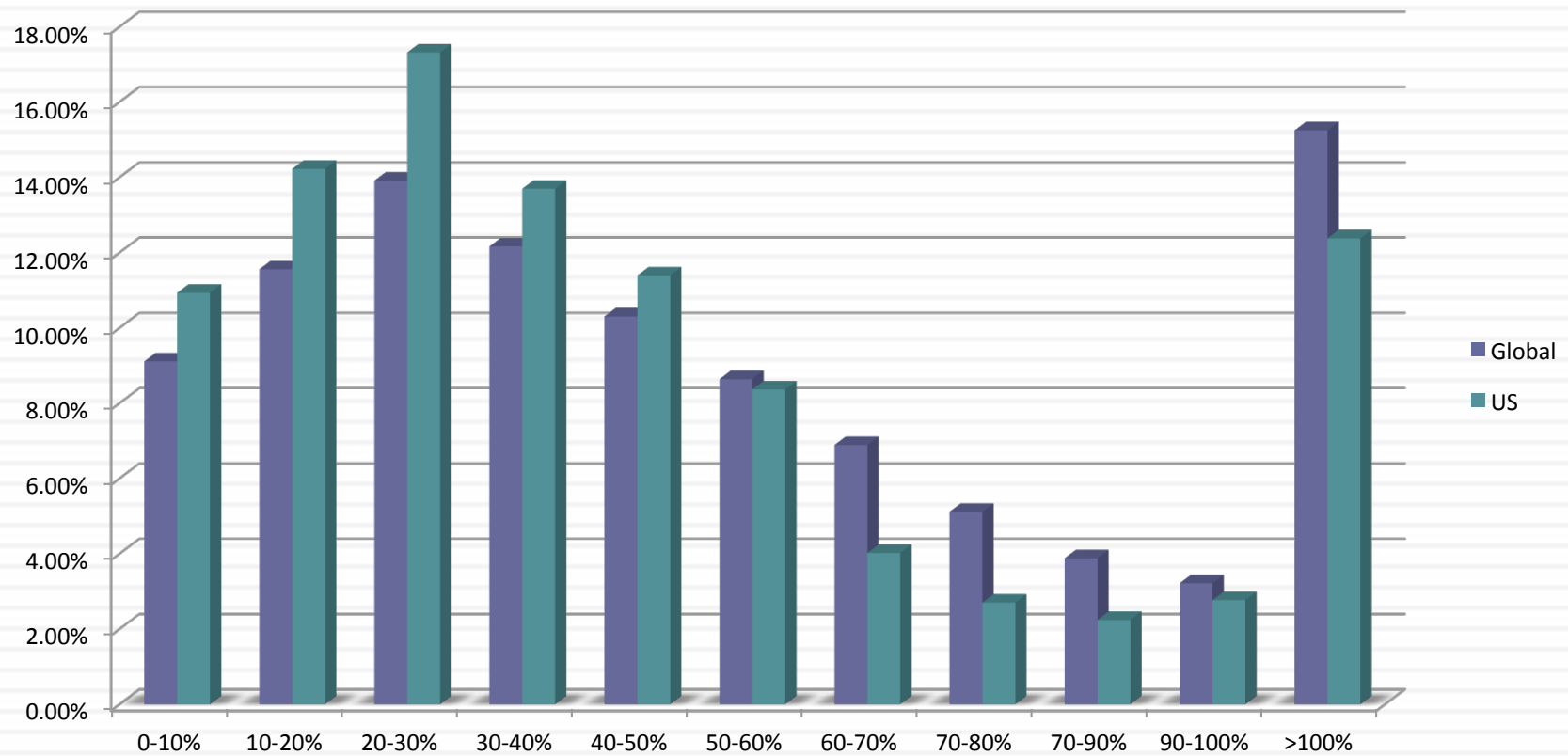
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- Dividend Payout = Dividends/ Net Income
 - Measures the percentage of earnings that the company pays in dividends
 - If the net income is negative, the payout ratio cannot be computed.
- Dividend Yield = Dividends per share/ Stock price
 - Measures the return that an investor can make from dividends alone
 - Becomes part of the expected return on the investment.

Dividend Payout Ratios

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Dividend Payout Ratios in 2014



Dividend Yields: January 2013

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Dividend Yields in 2014

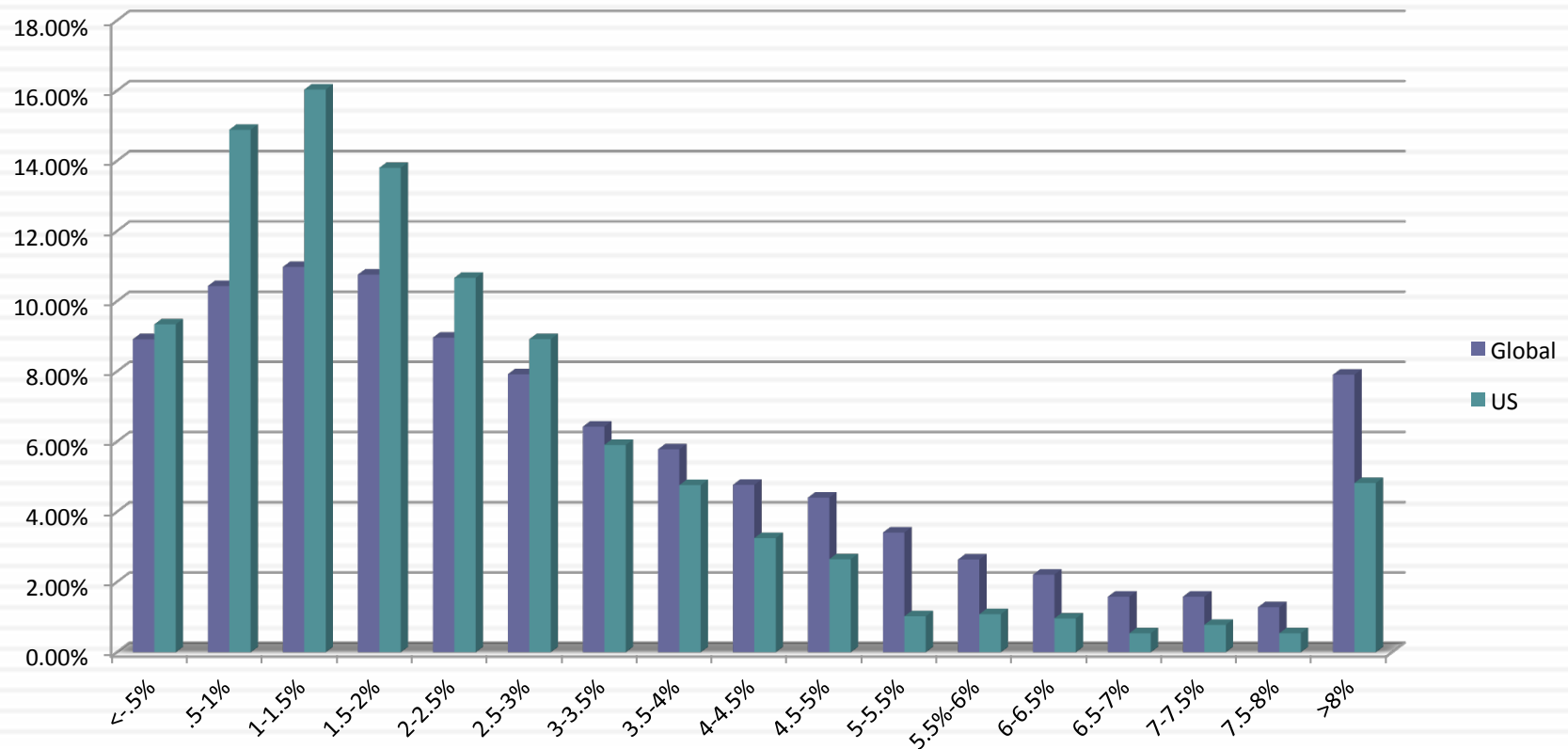
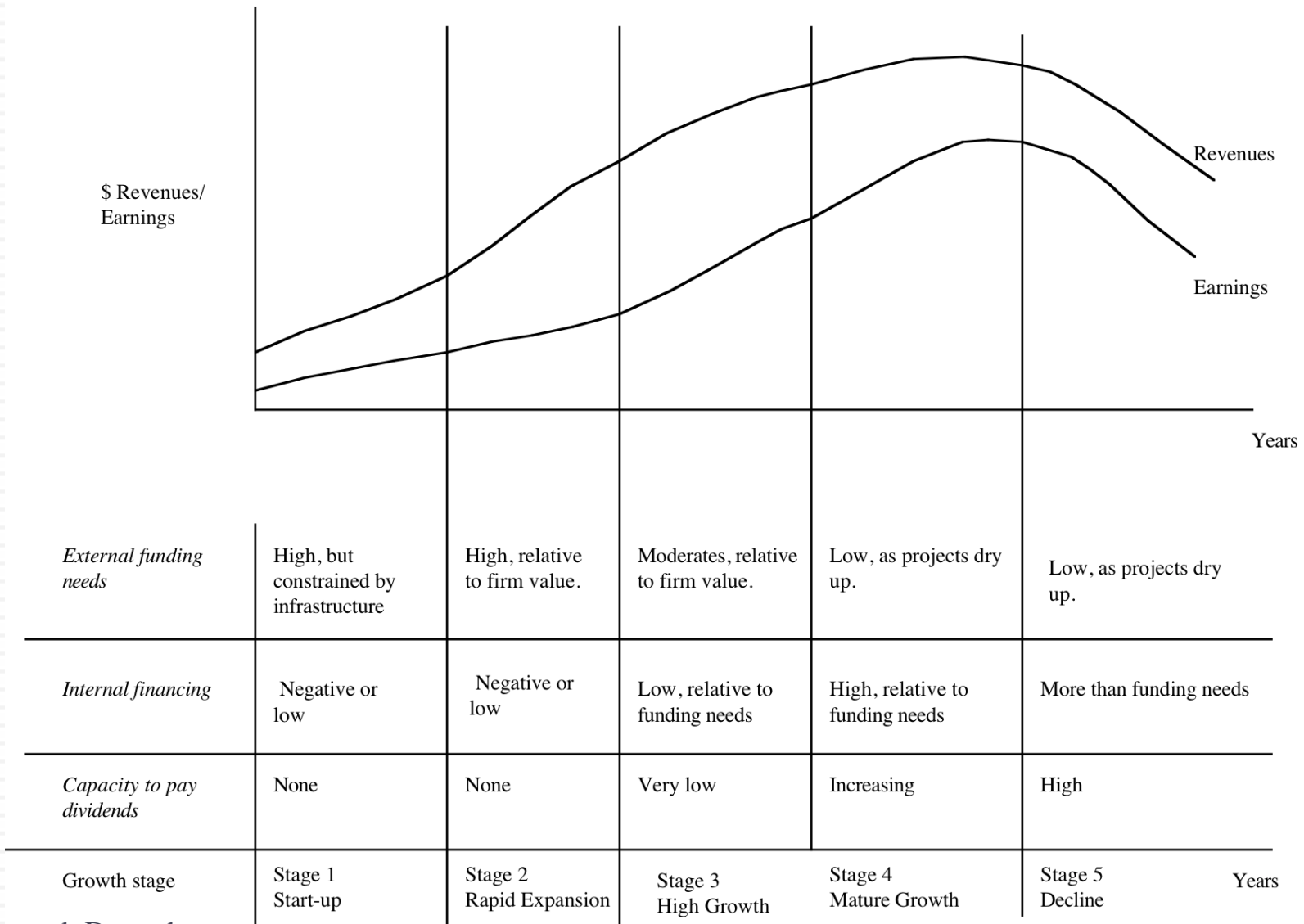


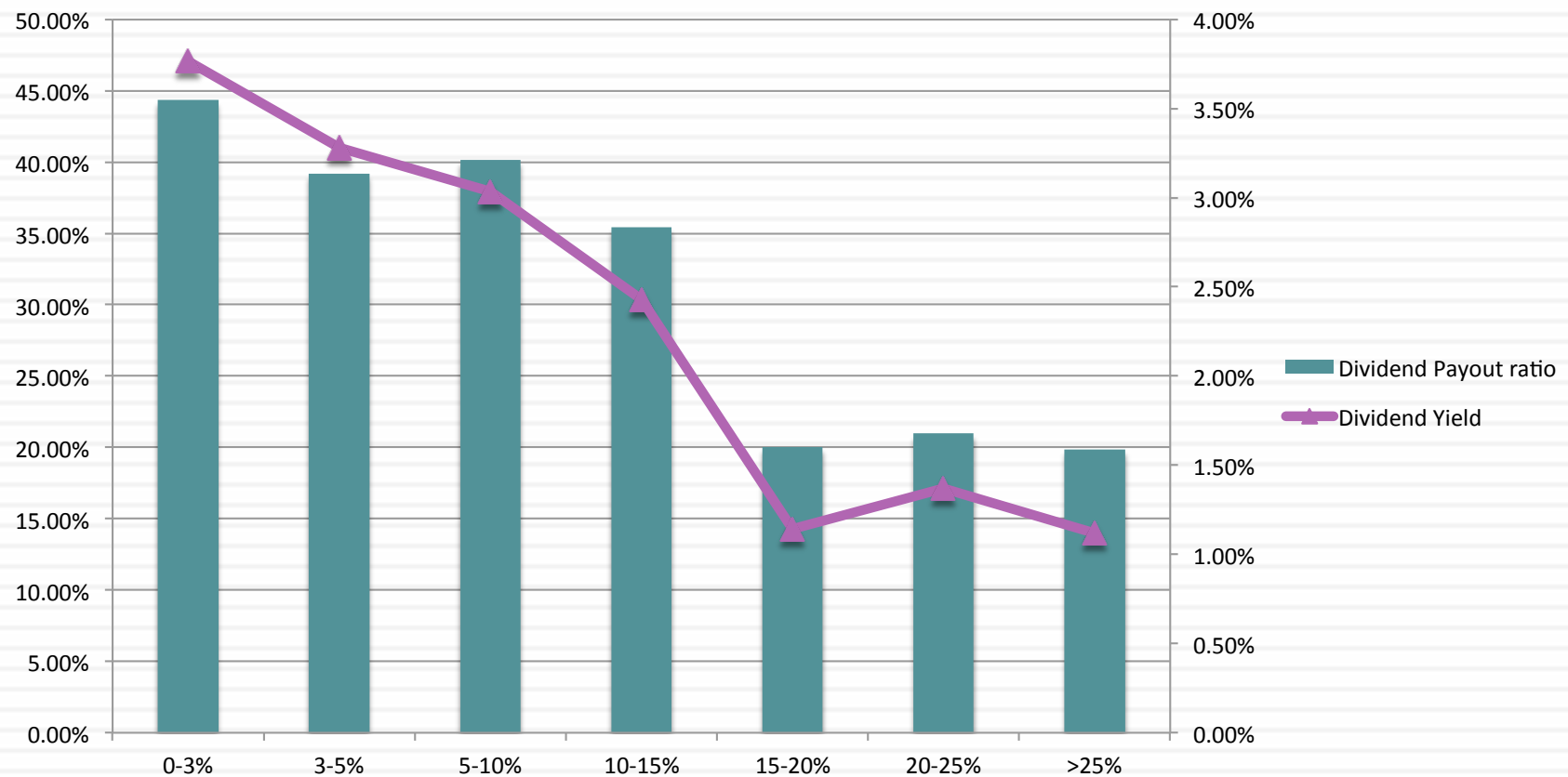
Figure 10.7: Life Cycle Analysis of Dividend Policy



Dividend Yields and Payout Ratios: Growth Classes

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Dividend Yields and Payout Ratios: By Growth Class



Dividend Policy: Disney, Vale, Tata Motors, Baidu and Deutsche Bank

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	Disney	Vale	Tata Motors	Baidu	Deutsche Bank
Dividend Yield - Last 12 months	1.09%	6.56%	1.31%	0.00%	1.96%
Dividend Payout ratio - Last 12 months	21.58%	113.45%	16.09%	0.00%	362.63%
Dividend Yield - 2008-2012	1.17%	4.01%	1.82%	0.00%	3.14%
Dividend Payout - 2008-2012	17.11%	37.69%	15.53%	0.00%	37.39%

Three Schools Of Thought On Dividends

1. If there are no tax disadvantages associated with dividends & companies can issue stock, at no issuance cost, to raise equity, whenever needed

Dividends do not matter, and dividend policy does not affect value.

2. If dividends create a tax disadvantage for investors (relative to capital gains)

Dividends are bad, and increasing dividends will reduce value

3. If dividends create a tax advantage for investors (relative to capital gains) and/or stockholders like dividends

Dividends are good, and increasing dividends will increase value

The balanced viewpoint

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- If a company has excess cash, and few good investment opportunities ($NPV > 0$), returning money to stockholders (dividends or stock repurchases) is good.
- If a company does not have excess cash, and/or has several good investment opportunities ($NPV > 0$), returning money to stockholders (dividends or stock repurchases) is bad.

The Dividends don't matter school

The Miller Modigliani Hypothesis

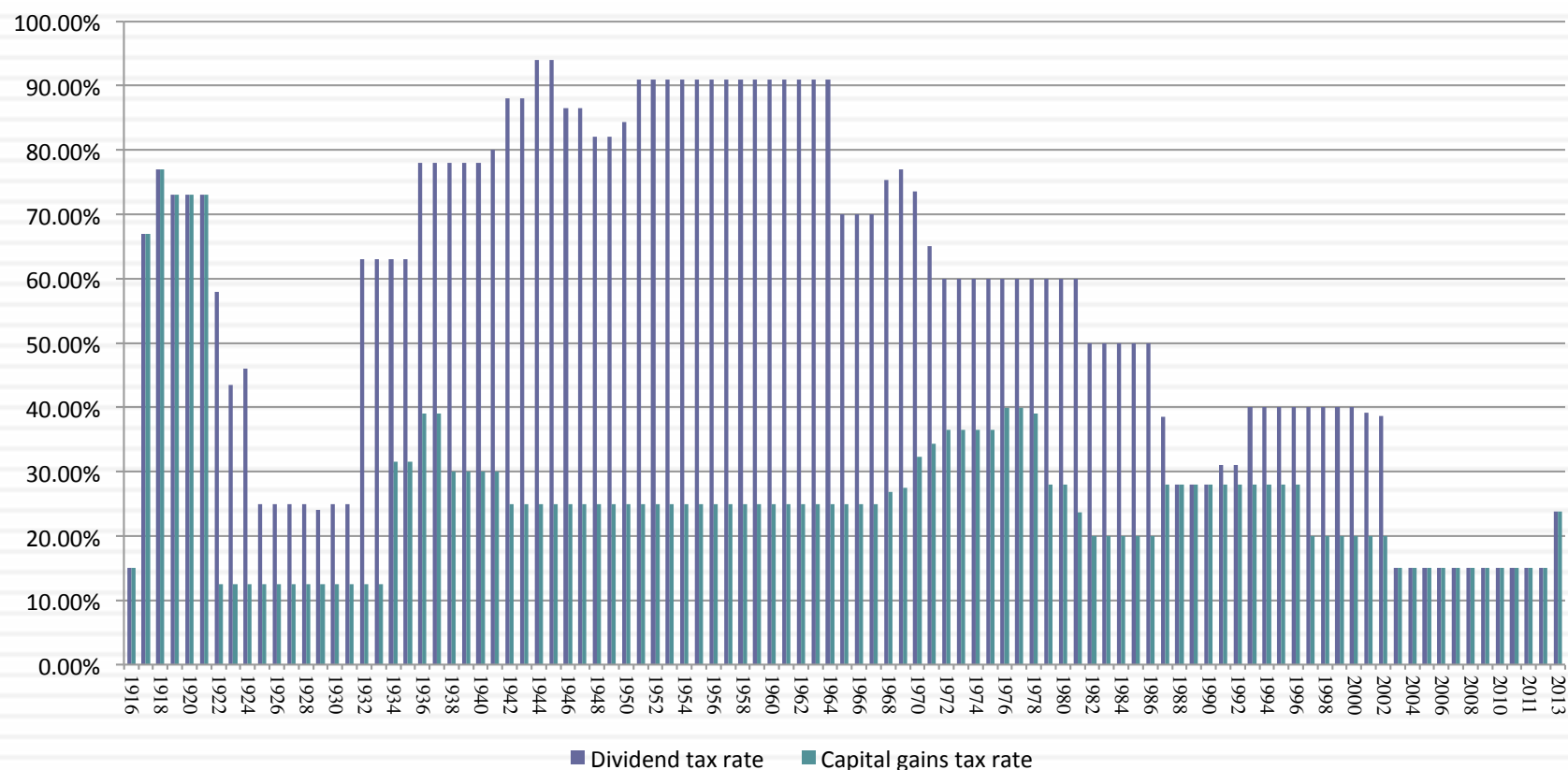
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- The Miller-Modigliani Hypothesis: Dividends do not affect value
- Basis:
 - If a firm's investment policies (and hence cash flows) don't change, the value of the firm cannot change as it changes dividends.
 - If a firm pays more in dividends, it will have to issue new equity to fund the same projects. By doing so, it will reduce expected price appreciation on the stock but it will be offset by a higher dividend yield.
 - If we ignore personal taxes, investors have to be indifferent to receiving either dividends or capital gains.
- Underlying Assumptions:
 - (a) There are no tax differences to investors between dividends and capital gains.
 - (b) If companies pay too much in cash, they can issue new stock, with no flotation costs or signaling consequences, to replace this cash.
 - (c) If companies pay too little in dividends, they do not use the excess cash for bad projects or acquisitions.

II. The Dividends are “bad” school: And the evidence to back them up...

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Tax rates on dividends and capital gains- US



What do investors in your stock think about dividends? Clues on the ex-dividend day!

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- Assume that you are the owner of a stock that is approaching an ex-dividend day and you know that dollar dividend with certainty. In addition, assume that you have owned the stock for several years.



P = Price at which you bought the stock a “while” back

P_b = Price before the stock goes ex-dividend

P_a = Price after the stock goes ex-dividend

D = Dividends declared on stock

t_o, t_{cg} = Taxes paid on ordinary income and capital gains respectively

Cashflows from Selling around Ex-Dividend Day

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- The cash flows from selling before ex-dividend day are:

$$P_b - (P_b - P) t_{cg}$$

- The cash flows from selling after ex-dividend day are:

$$P_a - (P_a - P) t_{cg} + D(1-t_o)$$

- Since the average investor should be indifferent between selling before the ex-dividend day and selling after the ex-dividend day -

$$P_b - (P_b - P) t_{cg} = P_a - (P_a - P) t_{cg} + D(1-t_o)$$

- Some basic algebra leads us to the following:

$$\frac{P_b - P_a}{D} = \frac{1 - t_o}{1 - t_{cg}}$$

Intuitive Implications

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- The relationship between the price change on the ex-dividend day and the dollar dividend will be determined by the difference between the tax rate on dividends and the tax rate on capital gains for the typical investor in the stock.

<i>Tax Rates</i>	<i>Ex-dividend day behavior</i>
If dividends and capital gains are taxed equally	Price change = Dividend
If dividends are taxed at a higher rate than capital gains	Price change < Dividend
If dividends are taxed at a lower rate than capital gains	Price change > Dividend

The empirical evidence...

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1966-1969

- Ordinary tax rate = 70%
- Capital gains rate = 28%
- Price change as % of Dividend = 78%

1981-1985

- Ordinary tax rate = 50%
- Capital gains rate = 20%
- Price change as % of Dividend = 85%

1986-1990

- Ordinary tax rate = 28%
- Capital gains rate = 28%
- Price change as % of Dividend = 90%

Dividend Arbitrage

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- Assume that you are a tax exempt investor, and that you know that the price drop on the ex-dividend day is only 90% of the dividend. How would you exploit this differential?
 - a. Invest in the stock for the long term
 - b. Sell short the day before the ex-dividend day, buy on the ex-dividend day
 - c. Buy just before the ex-dividend day, and sell after.
 - d. _____

Example of dividend capture strategy with tax factors

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- XYZ company is selling for \$50 at close of trading May 3. On May 4, XYZ goes ex-dividend; the dividend amount is \$1. The price drop (from past examination of the data) is only 90% of the dividend amount.
- The transactions needed by a tax-exempt U.S. pension fund for the arbitrage are as follows:
 - 1. Buy 1 million shares of XYZ stock cum-dividend at \$50/share.
 - 2. Wait till stock goes ex-dividend; Sell stock for \$49.10/share ($50 - 1 \times 0.90$)
 - 3. Collect dividend on stock.
- Net profit = - 50 million + 49.10 million + 1 million = \$0.10 million

Two bad reasons for paying dividends

1. The bird in the hand fallacy

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- Argument: Dividends now are more certain than capital gains later. Hence dividends are more valuable than capital gains. Stocks that pay dividends will therefore be more highly valued than stocks that do not.
- Counter: The appropriate comparison should be between dividends today and price appreciation today. The stock price drops on the ex-dividend day.

2. We have excess cash this year...

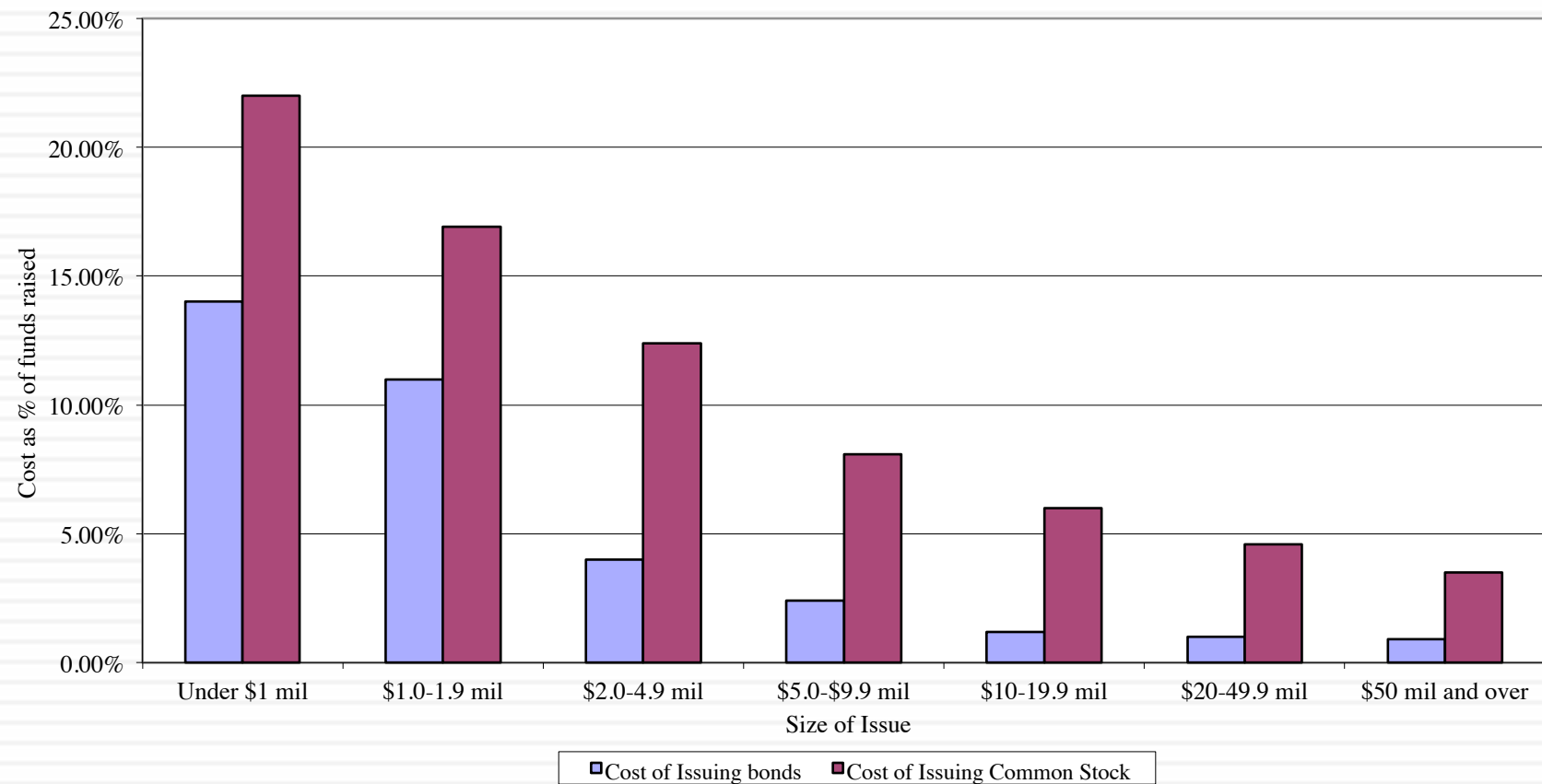
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- Argument: The firm has excess cash on its hands this year, no investment projects this year and wants to give the money back to stockholders.
- Counter: So why not just repurchase stock? If this is a one-time phenomenon, the firm has to consider future financing needs. The cost of raising new financing in future years, especially by issuing new equity, can be staggering.

The Cost of Raising Capital

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Figure 10.12: Issuance Costs for Stocks and Bonds



Three “good” reasons for paying dividends...

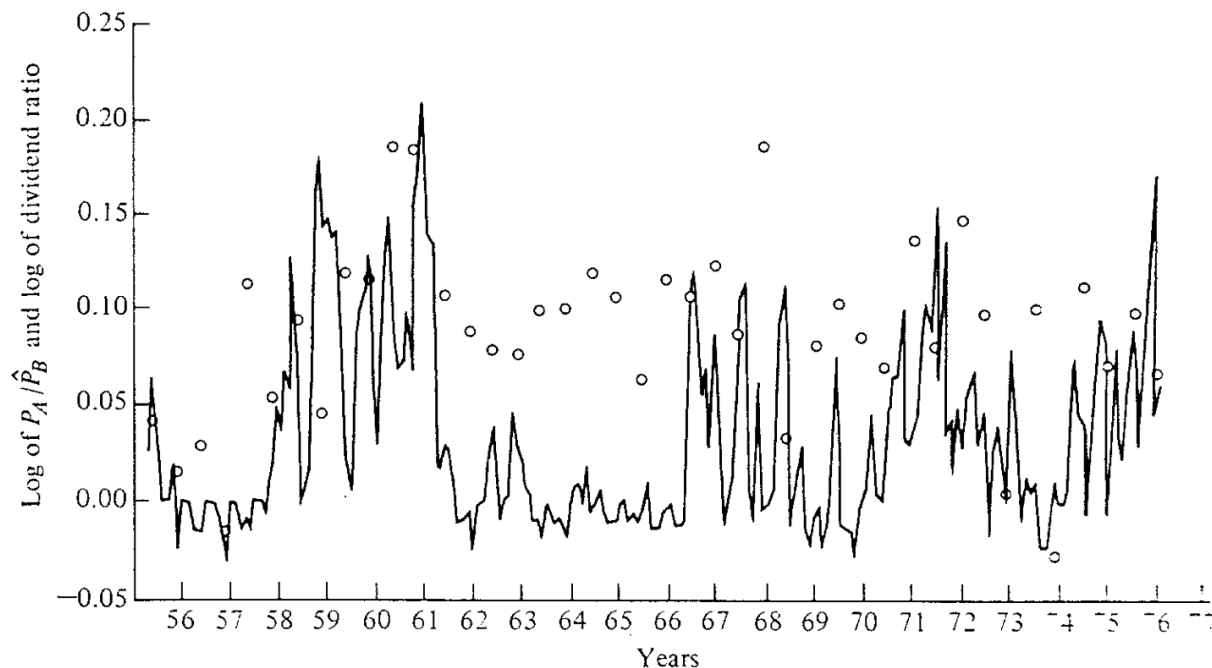
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- Clientele Effect: The investors in your company like dividends.
- The Signalling Story: Dividends can be signals to the market that you believe that you have good cash flow prospects in the future.
- The Wealth Appropriation Story: Dividends are one way of transferring wealth from lenders to equity investors (this is good for equity investors but bad for lenders)

1. The Clientele Effect

The “strange case” of Citizen’s Utility

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Class A
shares pay
cash
dividend

Class B
shares offer
the same
amount as a
stock
dividend &
can be
converted to
class A
shares

Evidence from Canadian firms

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Company	Premium for cash dividend shares
Consolidated Bathurst	+ 19.30%
Donfasco	+ 13.30%
Dome Petroleum	+ 0.30%
Imperial Oil	+12.10%
Newfoundland Light & Power	+ 1.80%
Royal Trustco	+ 17.30%
Stelco	+ 2.70%
TransAlta	+1.10%
Average across companies	+ 7.54%

A clientele based explanation

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- Basis: Investors may form clienteles based upon their tax brackets. Investors in high tax brackets may invest in stocks which do not pay dividends and those in low tax brackets may invest in dividend paying stocks.
- Evidence: A study of 914 investors' portfolios was carried out to see if their portfolio positions were affected by their tax brackets. The study found that
 - (a) Older investors were more likely to hold high dividend stocks and
 - (b) Poorer investors tended to hold high dividend stocks

Results from Regression: Clientele Effect

$$\text{Dividend Yield}_t = a + b \beta_t + c \text{Age}_t + d \text{Income}_t + e \text{Differential Tax Rate}_t + \varepsilon_t$$

Variable	Coefficient	Implies
Constant	4.22%	
Beta Coefficient	-2.145	Higher beta stocks pay lower dividends.
Age/100	3.131	Firms with older investors pay higher dividends.
Income/1000	-3.726	Firms with wealthier investors pay lower dividends.
Differential Tax Rate	-2.849	If ordinary income is taxed at a higher rate than capital gains, the firm pays less dividends.

Dividend Policy and Clientele

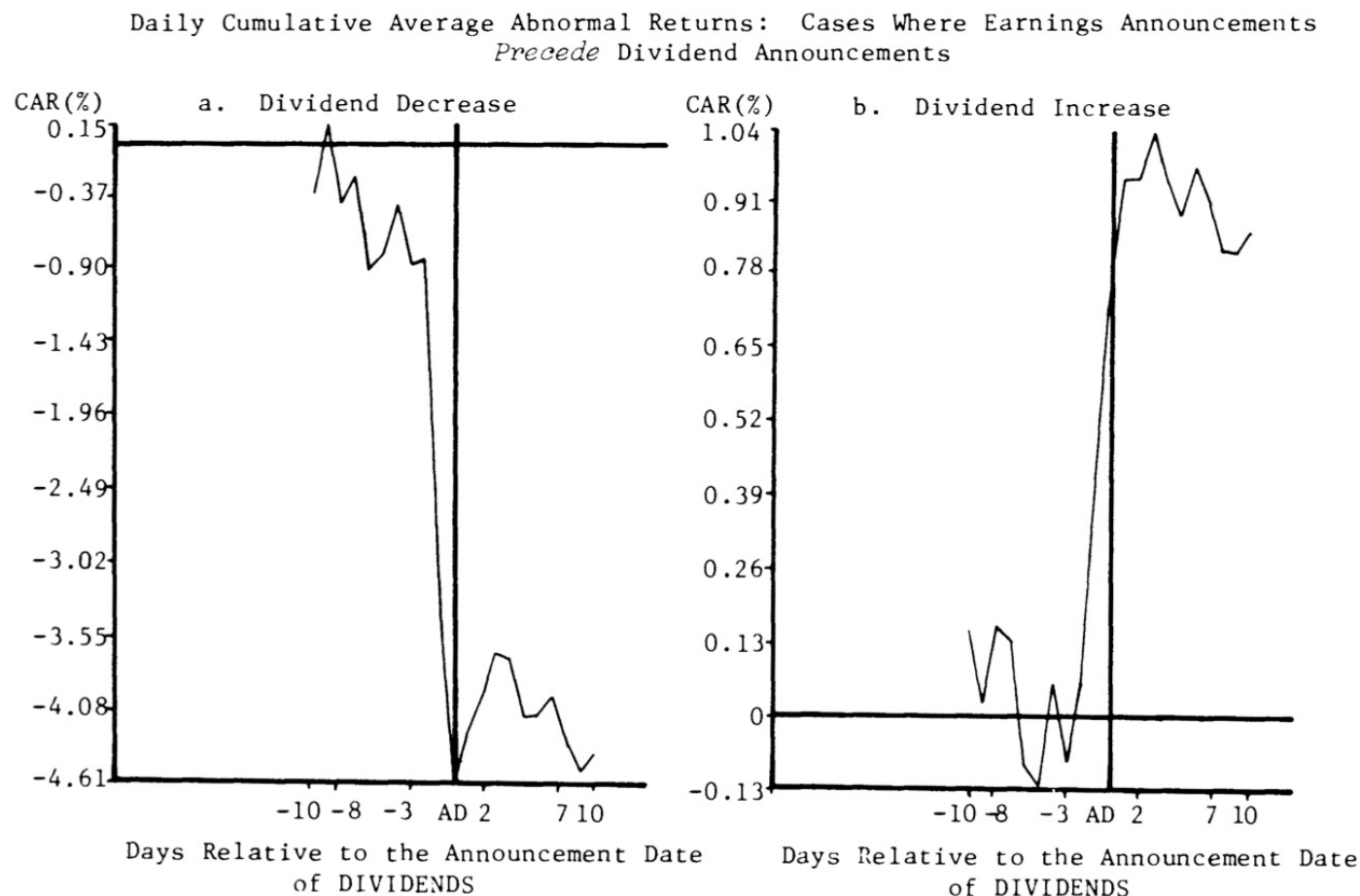
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- Assume that you run a phone company, and that you have historically paid large dividends. You are now planning to enter the telecommunications and media markets. Which of the following paths are you most likely to follow?
 - a. Courageously announce to your stockholders that you plan to cut dividends and invest in the new markets.
 - b. Continue to pay the dividends that you used to, and defer investment in the new markets.
 - c. Continue to pay the dividends that you used to, make the investments in the new markets, and issue new stock to cover the shortfall
 - d. Other

2. Dividends send a signal”

Increases in dividends are good news..

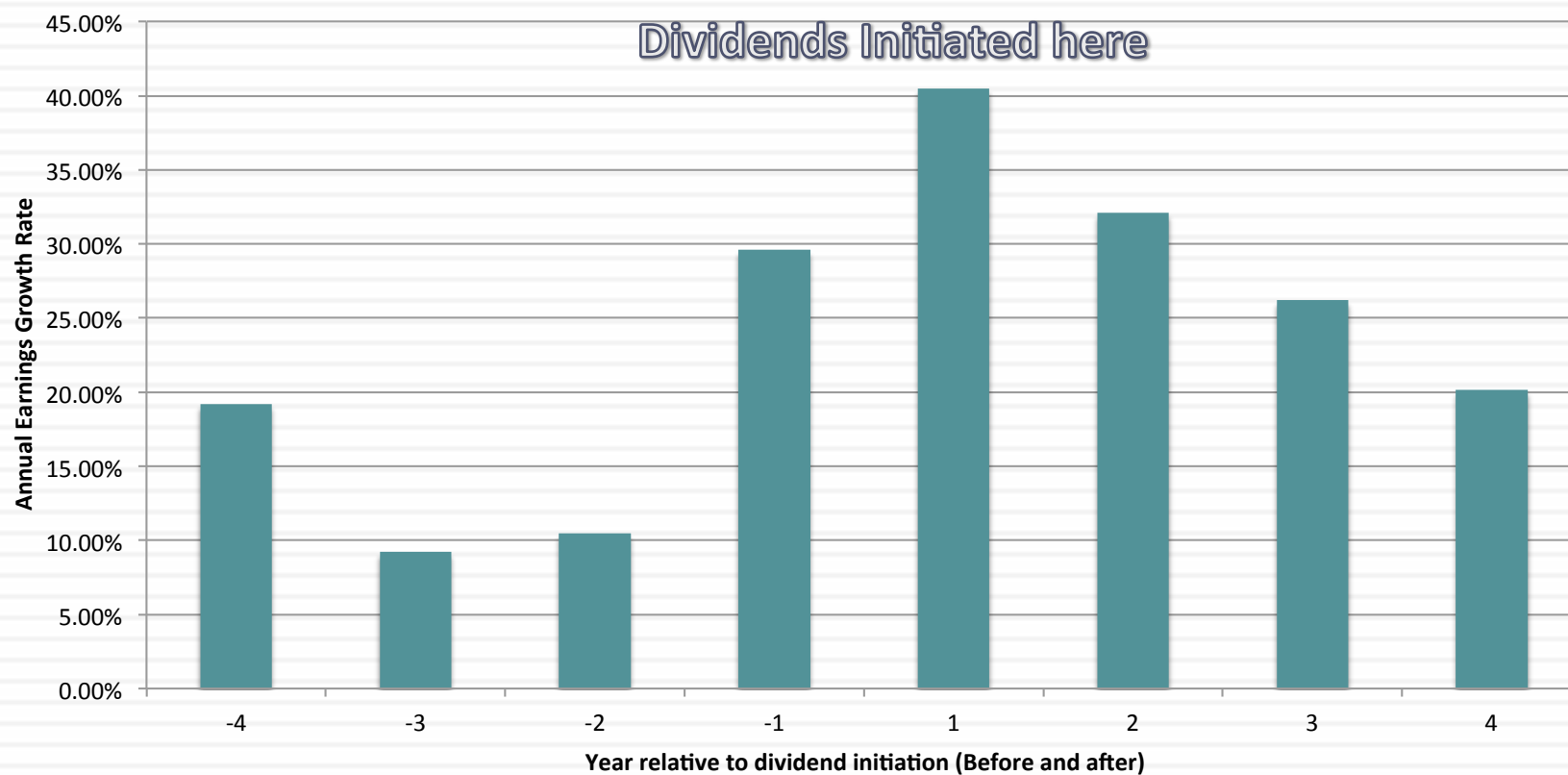
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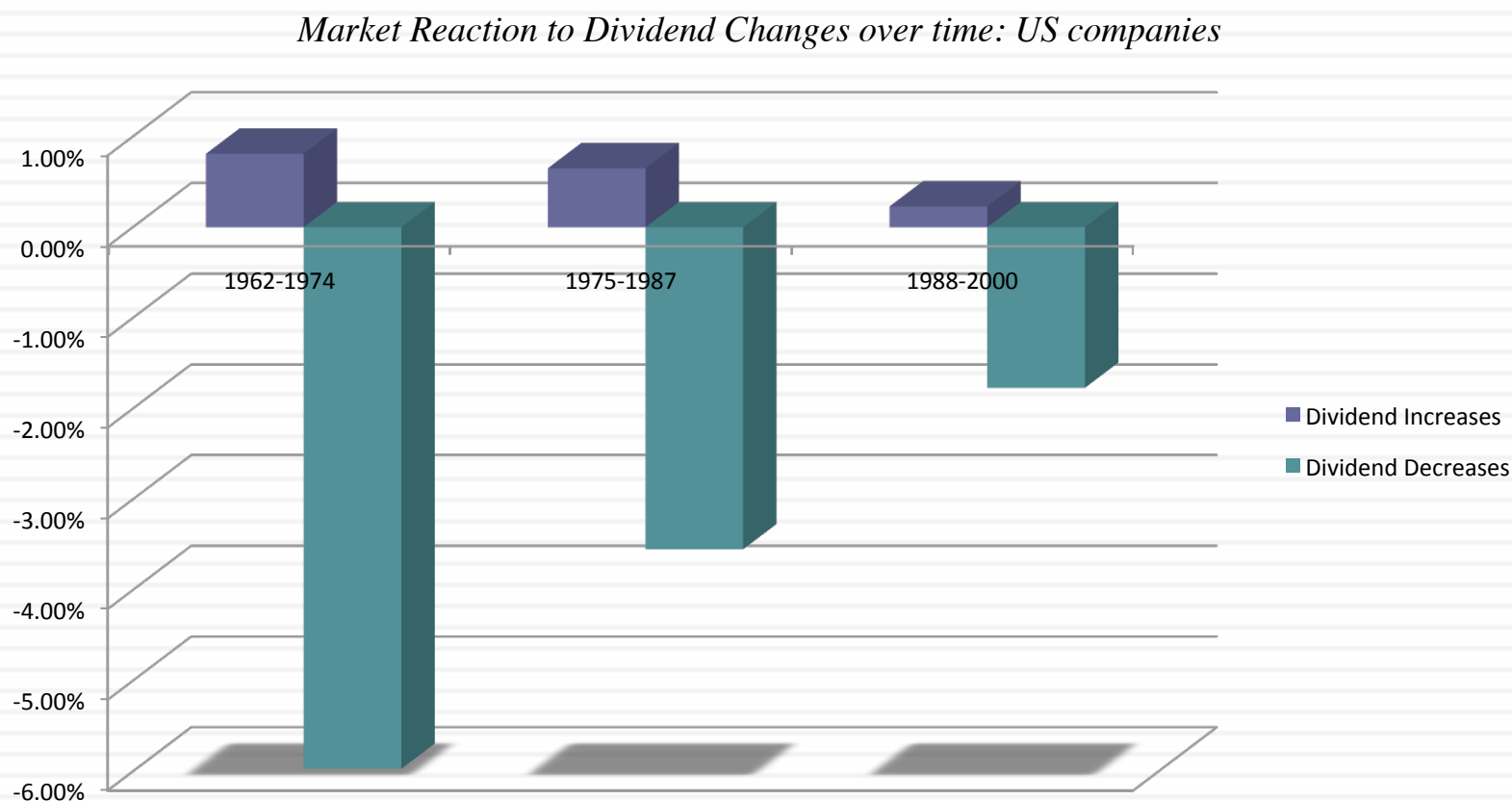
But higher or new dividends may signal bad news (not good)

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Dividend Initiations and Earnings Growth

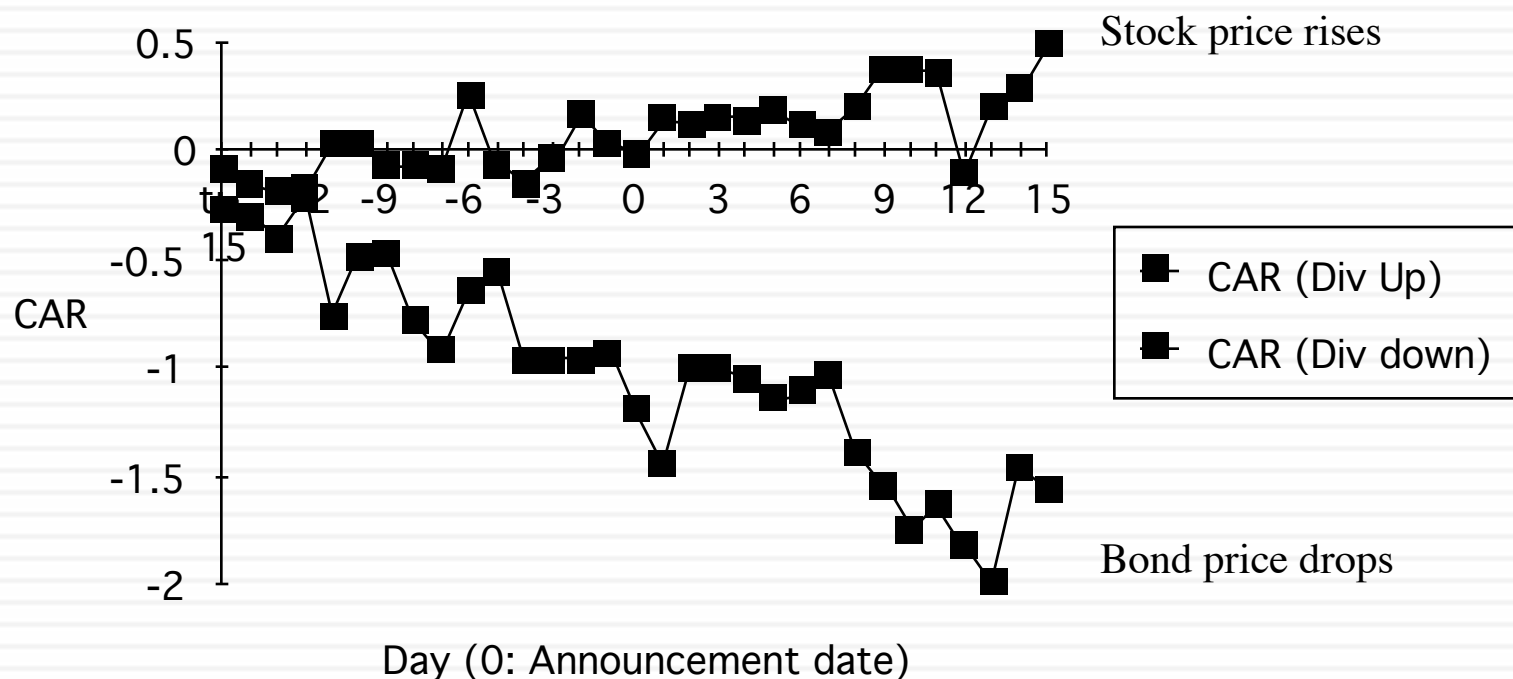


Both dividend increases and decreases are becoming less informative...



3. Dividend increases may be good for stocks... but bad for bonds..

EXCESS RETURNS ON STOCKS AND BONDS AROUND DIVIDEND CHANGES



What managers believe about dividends...

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<i>Statement of Management Beliefs</i>	<i>Agree</i>	<i>No Opinion</i>	<i>Disagree</i>
1. A firm's dividend payout ratio affects the price of the stock.	61%	33%	6%
2. Dividend payments provide a signaling device of future prospects.	52%	41%	7%
3. The market uses dividend announcements as information for assessing firm value.	43%	51%	6%
4. Investors have different perceptions of the relative riskiness of dividends and retained earnings.	56%	42%	2%
5. Investors are basically indifferent with regard to returns from dividends and capital gains.	6%	30%	64%
6. A stockholder is attracted to firms that have dividend policies appropriate to the stockholder's tax environment.	44%	49%	7%
7. Management should be responsive to shareholders' preferences regarding dividends.	41%	49%	10%

First Principles

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