

# Corporate Scandals and the Market Response of Dividend Payout Changes

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# Outline

- I. Introduction & Motivation
- II. Dividend Payout Policy and Valuation Review
- III. A. Dividend Payout Changes and Returns  
B. Dividend Payout Changes and Returns Again  
C. Dividend Payout Changes & Corporate Scandals
- IV. Conclusion

# I. Introduction & Motivation

## A. Purpose of Paper

(1) We were intrigued by all of the scandals occurring during the early part of this decade.

(Enron, WorldCom, Mercury Finance, Centennial Tech. Et al.)

(2) How are investors to tell lemon CEOs from good CEOs? Signing forms? Unlikely, not credible ...  
Dividends?

# I. Introduction & Motivation

## A. Purpose of Paper

(3) Wanted to use it as a catalyst to perform an additional test for the agency theory of Jensen (1986) versus the signalling theory of Miller & Rock (1985).

(4) We wanted to present an analysis of how stock markets reacted to the series of corporate scandals that occurred in 2001 and 2002.

Original title: “Can Dividends Solve the Crisis of Trust?”

# I. Introduction & Motivation

## B. Findings of Paper

(1) The effect of dividend payout changes on stock returns was stronger after 2000 than before 2000.

(2) After 2000, the effect of payout changes was strongest in the information technology sector.

(3) The effect of payout changes on stock returns was **strongest** in an industry at the time when the scandals occurred.

# I. Introduction & Motivation

## B. Findings of Paper

(4) Generally paper supports the agency theory of dividends described by Jensen.

That is, by increasing the dividend payout rate, the company ties its hands from being frivolous or irresponsible with excess cash by making bad investments and investors reward these companies by pushing their share prices up especially during the period after the scandal period.

## II. Dividend Policy and Valuation

### A. Theories of Dividend Policy & Stock Price

- M&M Theory, Tax Preference Theory, and Bird-in-Hand Theory – not as relevant for our work
- Signalling Theory – Miller and Rock (1985), John and Williams (1985).
- Agency Theory – Easterbrook (1984), Jensen (1986)

## II. Dividend Policy and Valuation

### A. Theories of Dividend Policy & Stock Price

#### Signalling Theory

“Insiders” can signal information about a firm to outsiders” through dividend policy.

Models that show that “firms with higher favorable inside information will optimally pay higher dividends and receive higher prices for their stock...”



## II. Dividend Policy and Valuation

### A. Theories of Dividend Policy & Stock Price

#### Agency Theory

Free Cash Flow Hypothesis (Jensen, 1986).

Managers with too much cash flow may invest in  $NPV < 0$  projects (too much cash chasing too few projects).

Payment of dividends may be one way to reduce potential abuses or conflicts of interest.

Empirical Evidence: Mixed and hard to differentiate between two theories (see references or paper)

## II. Dividend Policy and Valuation

### B. A Crisis of Trust and Corporate Scandals

- Borrowing from the FCF Hypothesis of Jensen and combining it with credibility.
- In equilibrium, there will be a relationship between credibility in a firm's management and valuation.
- If public perception of management credibility decreases, investor's react with lower valuation (e.g. lower P/E).
- Low credible management = (manipulate earnings, fraud, overinvestment, et al.).

# III. Payout and Returns

## A. Payout & Returns over Time

- Tons of studies document a relationship between payout ratios and returns, however did the relationship change after 2000?
- Data Use: Compustat and we include only dividend paying, profitable firms in the sample (by prior year's record).
- Data Period: 1980-2003
- Analysis: 1984-2003

# III. Payout and Returns

## A. Payout & Returns over Time

- We estimate a cross-sectional regression:

$$\begin{aligned} \log(R_{i,t}) = & \beta_1 \log(E_{i,t}) + \beta_2 \log(E_{i,t-1}) + \beta_3 M_{i,t-1} \\ & + \beta_4 S_{i,t-1} + \beta_5 B_{i,t-1} + \beta_6 \log(D_{i,t}) \\ & + \beta_7 \log(D_{i,t-1}) + \text{Year Dummies} + \varepsilon_{i,t} \quad (1) \end{aligned}$$

where

E = earnings

D = dividends

M, S, and B = Fama-French factors

*Note:*  $\log(D/E)$  can be inferred from parameters

# III. Payout and Returns

## A. Payout & Returns over Time

### Results

Table 2. Cross-sectional regression – single-stage regression

Period	Obs	$\log E(t)$	$\log E(t-1)$	$M(t-1)$	$S(t-1)$	$B(t-1)$	$\log D(t)$	$\log D(t-1)$	$\log D(t) - \log D(t-1)$	R-squared
1984–2003	30 349	0.0480	-0.0665	-0.0298	-0.0200	0.0212	0.0990	-0.1034		19.00%
		(0.0025)	(0.0026)	(0.0030)	(0.0021)	(0.0022)	(0.0050)	(0.0047)		
1984–1990	10 007	0.0466	-0.0687	-0.0279	-0.0188	0.0200			0.1027	18.99%
		(0.0024)	(0.0024)	(0.0029)	(0.0020)	(0.0021)			(0.0047)	
1984–1990	10 007	0.0591	-0.0794	-0.0523	-0.0275	0.0240	0.0961	-0.0978		25.22%
		(0.0042)	(0.0046)	(0.0054)	(0.0030)	(0.0034)	(0.0081)	(0.0077)		
1991–2000	15 751	0.0585	-0.0803	-0.0517	-0.0271	0.0235			0.0973	25.22%
		(0.0041)	(0.0041)	(0.0053)	(0.0029)	(0.0033)			(0.0076)	
1991–2000	15 751	0.0530	-0.0755	-0.0080	-0.0147	0.0126	0.0972	-0.1043		19.04%
		(0.0035)	(0.0036)	(0.0040)	(0.0029)	(0.0029)	(0.0073)	(0.0069)		
2001–2003	4 591	0.0507	-0.0789	-0.0051	-0.0126	0.0109			0.1040	19.04%
		(0.0034)	(0.0034)	(0.0038)	(0.0028)	(0.0028)			(0.0069)	
2001–2003	4 591	0.0078	-0.0138	-0.0948	-0.0343	0.1248	0.1125	-0.1113		10.94%
		(0.0064)	(0.0068)	(0.0091)	(0.0083)	(0.0128)	(0.0122)	(0.0117)		
2001–2003	4 591	0.0081	-0.0133	-0.0954	-0.0346	0.1251			0.1116	10.94%
		(0.0063)	(0.0066)	(0.0087)	(0.0082)	(0.0127)			(0.0116)	

Notes: The dependent variable is  $\log R(t)$ . The numbers inside parentheses represent the standard error. 'Obs' indicates the number of observations.

# III. Payout and Returns

## A. Payout & Returns over Time

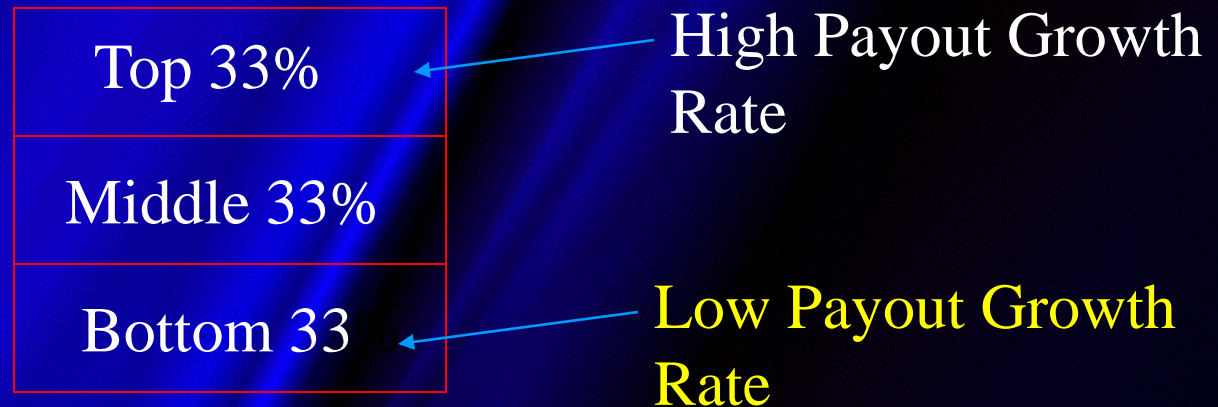
### Results

- (1) Dividend growth rate increased by 10%, then returns increase by average of 1%
- (2) For the post scandal period, the coefficient is higher by 1.4% and 0.76%.
- (3) 1990s bull market accompanies by huge capital expenditures and investors worried about over-investment – after boom ended – investors became more sensitive and role of dividends as safeguard became more effective (agency theory).

# III. Payout and Returns

## B. Payout Across Industries

- Definition: Industries according to 2-digit GICS codes.
- For each industry, create three portfolios ranked by payout growth rate at end of 2000.



# III. Payout and Returns

## B. Payout Across Industries

- Computed equal-weight monthly returns of portfolios and rebalanced monthly if a firm dropped out.
- Otherwise portfolios recreated at end of June 2001 and June 2002 entirely.
- We are interested in difference of returns between high payout growth portfolio and low payout portfolio, that is:
- $XR = \text{return of high payout portfolio} - \text{low payout portfolio}$ . Call this the zero-investment portfolio.



# III. Payout and Returns

## B. Payout Across Industries Results

Table 4. Average monthly returns by industry

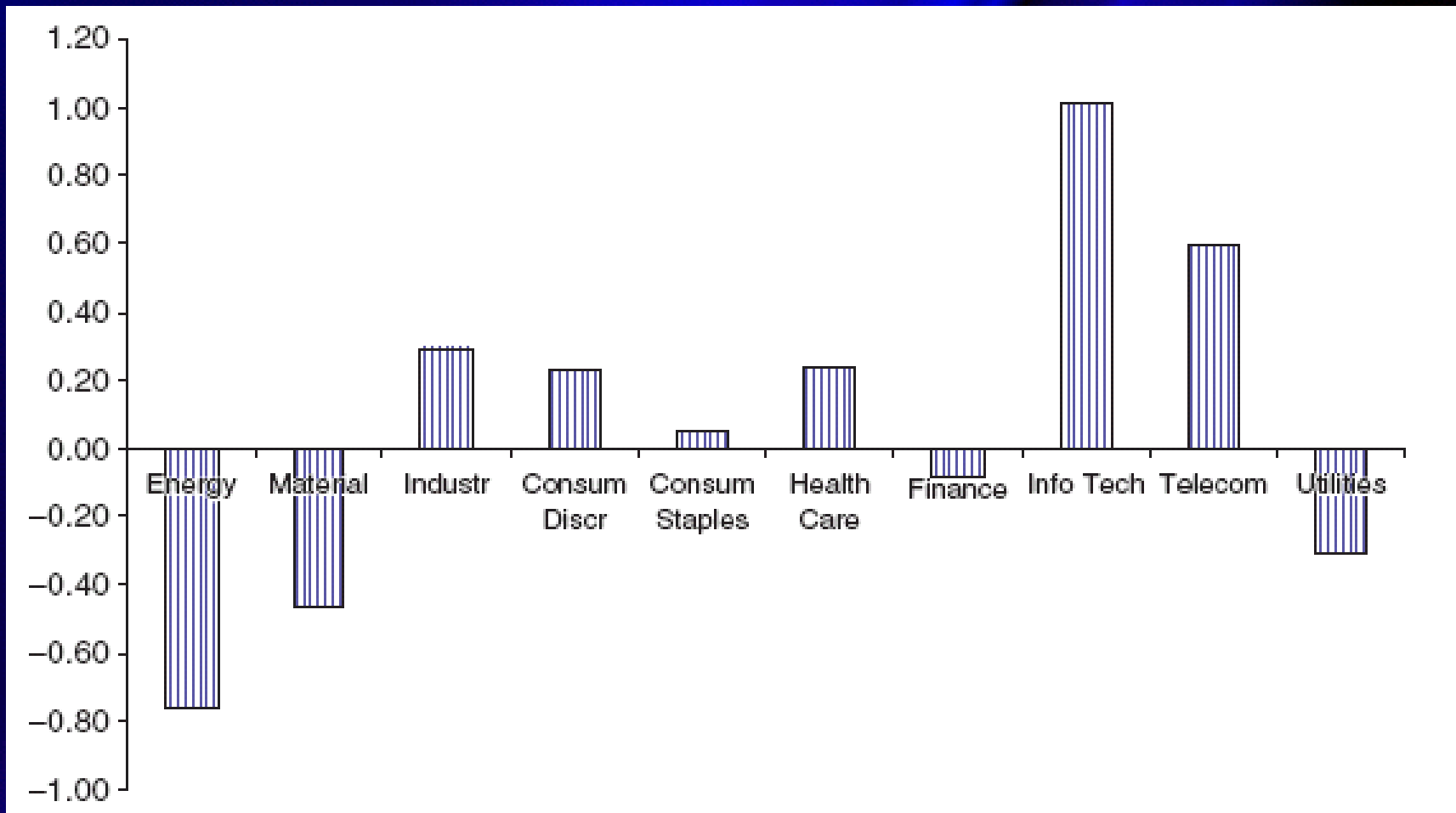
Sectors	Returns of:			Risk-adjusted returns of:		
	High payout growth portfolios (1)	Low payout growth portfolios (2)	Zero-investment portfolios (1)-(2)	High payout growth portfolios (3)	Low payout growth portfolios (4)	Zero-investment portfolios (3)-(4)
Energy	1.0230	1.8594	-0.8364	-0.1272	0.6373	-0.7645
Material	0.5961	1.3125	-0.7163	-0.1692	0.2926	-0.4617
Industrial	1.0528	1.0099	0.0429	0.0881	-0.2026	0.2907
Consumer discretion	0.9817	1.2637	-0.2820	0.0298	-0.1973	0.2271
Consumer staples	1.3717	1.3455	0.0263	0.2201	0.1750	0.0451
Healthcare	1.2769	1.2939	-0.0170	0.4259	0.1928	0.2331
Finance	1.9348	2.0588	-0.1240	0.7214	0.8066	-0.0852
Info-tech	-0.0012	-1.0120	1.0108	-0.6349	-1.6437	1.0088
Telecom	0.0169	0.2334	-0.2165	0.0332	-0.5583	0.5914
Utilities	0.5451	1.1036	-0.5585	-0.3703	-0.0610	-0.3094

Notes: The reported numbers are the average of monthly equal-weighted portfolio returns from July 2000 to June 2003. All numbers are in percentages.

# III. Payout and Returns

## B. Payout Across Industries

### Results



# III. Payout and Returns

## B. Payout Across Industries

- Info. Technology industry had highest change in sensitivity to payout growth ratio.
- Makes sense as prior to 2000, investors were not concerned about the high “burn rates” of companies, but after scandals and collapses, were much more concerned with how cash was spent.
- Thus, we feel agency theory might explain these results.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

- We would expect corporate scandals to increase the reward to high dividend payout rates according to a Jensen agency theory.
- We adopt the “event” study approach. The first corporate scandal in an industry is classified as the “event”.
- We identify the month of a corporate scandal by using *Forbes Corporate Scandal Sheet*. It identifies 22 corporate scandals from June 2000 – July 2002.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

- Three of our 10 industries did not have scandals during the period (see list on next slide).
- We ignore the 3 industries with no scandals, and as before form three portfolios of high payout growth, low payout growth, and medium payout growth for each industry.
- This creates 21 portfolios.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

Table 5. Event calendar

	Sectors									
	Energy	Material	Industrial	Consumer discretion	Consumer staples	Healthcare	Finance	Info-tech	Telecom	Utilities
	First corporate scandal:									
	Halliburton (May 02)	None	Arthur Anderson (Nov 01)	Adelphia (Apr 02)	None	Merck (Jul 02)	None	Xerox (Jun 00)	Quest Comm (Feb 02)	Enron (Oct 01)
Dec 99								$t-6$		
Jan 00								$t-5$		
Feb 00								$t-4$		
Mar 00								$t-3$		
Apr 00								$t-2$		
May 00								$t-1$		
Jun 00								$t$		
Jul 00								$t+1$		
Aug 00								$t+2$		
Sep 00								$t+3$		
Oct 00								$t+4$		
Nov 00								$t+5$		
Dec 00								$t+6$		
~										
Apr 01										$t-6$
May 01			$t-6$							$t-5$
Jun 01			$t-5$							$t-4$
Jul 01			$t-4$							$t-3$
Aug 01			$t-3$							$t-2$
Sep 01			$t-2$						$t-6$	$t-1$
Oct 01			$t-1$	$t-6$					$t-5$	$t-1$
Nov 01	$t-6$		$t$	$t-5$					$t-4$	$t$
Dec 01	$t-5$		$t+1$	$t-4$					$t-3$	$t+1$
Jan 02	$t-4$		$t+2$	$t-3$		$t-6$			$t-2$	$t+2$
Feb 02	$t-3$		$t+3$	$t-2$		$t-5$			$t-1$	$t+3$
Mar 02	$t-2$		$t+4$	$t-1$		$t-4$			$t$	$t+4$
Apr 02	$t-1$		$t+5$	$t$		$t-3$			$t+1$	$t+5$
May 02	$t$		$t+6$	$t+1$		$t-2$			$t+2$	$t+6$
Jun 02	$t+1$			$t+2$		$t-1$			$t+3$	
Jul 02	$t+2$			$t+3$		$t$			$t+4$	
Aug 02	$t+3$			$t+4$		$t+1$			$t+5$	
Sep 02	$t+4$			$t+5$		$t+2$			$t+6$	
Oct 02	$t+5$			$t+6$		$t+3$				
Nov 02	$t+6$					$t+4$				
Dec 02						$t+5$				
Jan 03						$t+6$				

# III. Payout and Returns

## C. Corporate Scandals & Payouts

- Of the 21 portfolios, we create two pooled portfolios of the high and low payout growth portfolios across industries.
- We calculate equal-weighted portfolio returns.
- We create a zero investment portfolio which is the difference between high payout growth and low payout growth firms. This will measure the impact of scandals.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

Table 6. Monthly returns around the event month

Period	Returns of:			Risk-adjusted returns of:		
	High payout growth portfolio (1)	Low payout growth portfolio (2)	Zero-investment portfolio (1)-(2)	High payout growth portfolio (3)	Low payout growth portfolio (4)	Zero-investment portfolio (3)-(4)
$t-6$	2.9934	4.0507	-1.0573	-1.8457	-0.8797	-0.9660
$t-5$	4.1970	3.8369	0.3601	0.6305	0.5240	0.1065
$t-4$	5.9665	3.3197	2.6469	3.2666	0.9439	2.3228
$t-3$	0.6274	1.4391	-0.8116	2.0529	1.6566	0.3963
$t-2$	-2.5071	-2.3206	-0.1865	0.9427	0.6850	0.2578
$t-1$	-0.1027	0.9934	-1.0961	-2.4558	-1.1730	-1.2828
$t$	3.1601	3.0440	0.1160	0.2013	0.1469	0.0544
$t+1$	0.9728	0.1970	0.7759	-0.1356	-0.8296	0.6941
$t+2$	-0.7022	-0.9063	0.2040	1.2443	1.0342	0.2100
$t+3$	-1.6766	-2.9878	1.3112	0.7951	-0.6884	1.4836
$t+4$	2.2323	0.1765	2.0558	0.8353	-0.9238	1.7591
$t+5$	-3.0899	-0.9762	-2.1136	-0.6143	1.5503	-2.1647
$t+6$	0.5847	1.5847	-1.0000	-1.4151	-1.3440	-0.0711

Notes: The reported numbers are equal-weighted portfolio returns for respective months. All numbers are in percentages.



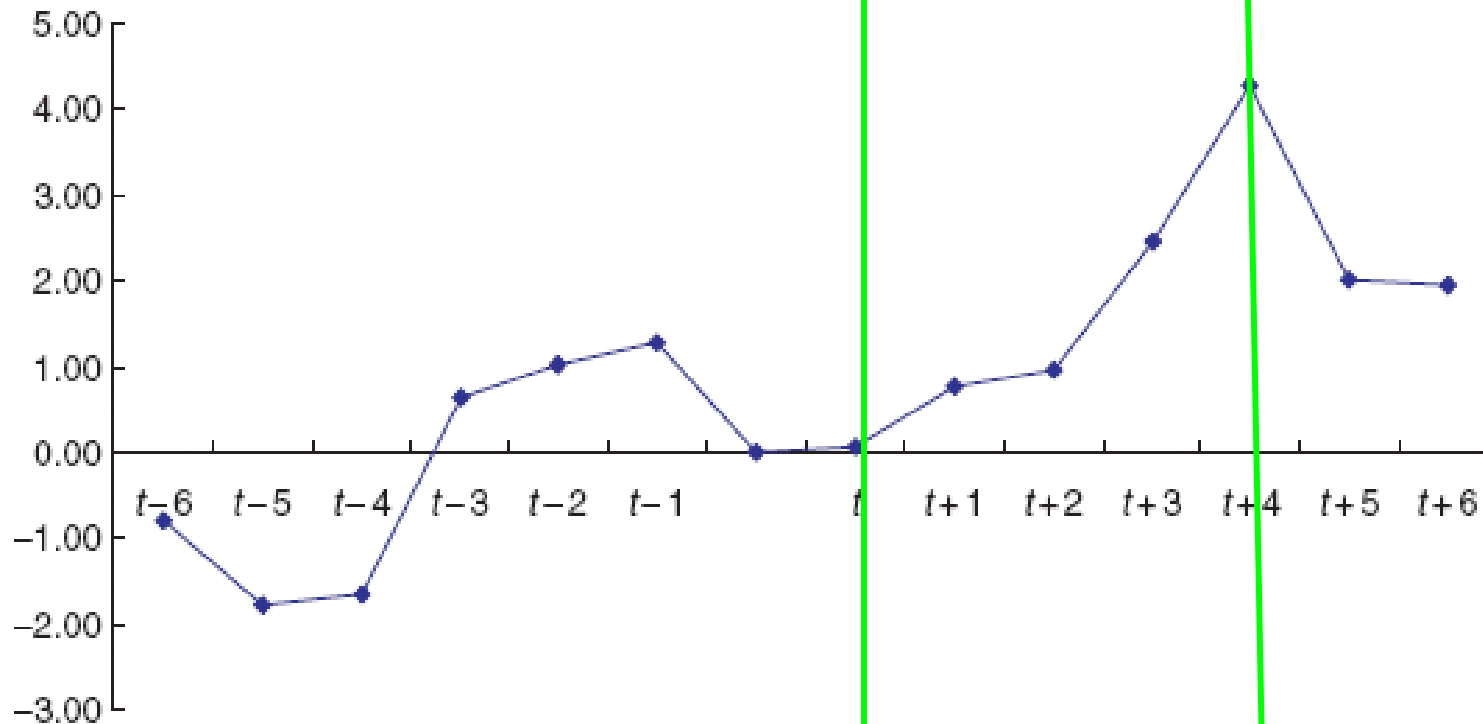
# III. Payout and Returns

## C. Corporate Scandals & Payouts

- We test whether the post-event returns are distributed similarly to the pre-event returns and reject this hypothesis.
- Thus, the post-event pattern is not something related to the property of stock returns, but rather seems to be related to the event itself.
- After the event, high payout growth rate firms have higher returns than low payout growth firms  
(see figure on next slide).

# III. Payout and Returns

## C. Corporate Scandals & Payouts



**Fig. 2. Cumulative abnormal returns of zero-investment portfolio around the event month**

*Notes:* Risk-adjusted cumulative abnormal returns of zero-investment portfolios created over the event calendar.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

- An Agency Explanation:

- Scandal occurs

- Investors punish scandal-based firm by lowering valuation

- In order to avoid mistake again, lower value of firms likely to have agency problems using dividend payout rates as proxy for less agency problems.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

- A Signalling Explanation:

- Scandal occurs

- Investors don't trust earnings numbers

- More faith in dividends signalling the content of future earnings and thus, reward dividend-paying firms.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

- Which one is right?
- We think, agency theory wins. A corporate scandal is a situation where investors lose trust with managers of firms. Thus, in some sense, any signalling by managers may be meaningless – trust is gone.
- Thus, what matters to investors is that firms have less free cash flows, since they do not trust the managers.
- Firms that payout high dividends will have less free cash flows.

# III. Payout and Returns

## C. Corporate Scandals & Payouts

- Also, we showed that growth in the payout rates mattered more in the 1990s than 1980s. The 90s represented a period of substantial increase in capital expenditures by corporations – thus, investor worry of this free cash flow problem may have been why the valued dividend payout more...
- It's hard to reconcile this with signalling theory.

# IV. Conclusion

- Internet Bubble → Overinvestment
- Corporate Scandals → Managers manipulated financial statements --- cheating investors for their own profit
- **How did investors react to this?**
  - Increased valuation of high payout growth firms after 2000 more than prior to 2000.
  - Investors most highly rewarded the high payout growth firms in the information technology sector – that is, where the internet bubble had largest effect.
  - Investors rewarded the high payout growth firms at the time when, and the industry in which, the corporate scandals took place.

## IV. Conclusion

- Finally, when investors are concerned about a company's management's dedication to maximize shareholder value, a proper dividend policy may help alleviate the concern – if such changes are not too costly.
- It would help alleviate credibility risk in times of a crisis of trust.



# IV. Conclusion

- Thank you very much.

Comments?