



A Framework for Analyzing Dividend Policy

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First Principles

- Invest in projects that yield a return greater than the minimum acceptable hurdle rate.
 - The hurdle rate should be higher for riskier projects and reflect the financing mix used - owners' funds (equity) or borrowed money (debt)
 - Returns on projects should be measured based on cash flows generated and the timing of these cash flows; they should also consider both positive and negative side effects of these projects.
- Choose a financing mix that minimizes the hurdle rate and matches the assets being financed.
- **If there are not enough investments that earn the hurdle rate, return the cash to stockholders.**
 - **The form of returns - dividends and stock buybacks - will depend upon the stockholders' characteristics.**

Questions to Ask in Dividend Policy Analysis

- How much could the company have paid out during the period under question?
- How much did the the company actually pay out during the period in question?
- How much do I trust the management of this company with excess cash?
 - How well did they make investments during the period in question?
 - How well has my stock performed during the period in question?

A Measure of How Much a Company Could have Afforded to Pay out: FCFE

- The Free Cashflow to Equity (FCFE) is a measure of how much cash is left in the business after non-equity claimholders (debt and preferred stock) have been paid, and after any reinvestment needed to sustain the firm's assets and future growth.

Net Income

+ Depreciation & Amortization

= Cash flows from Operations to Equity Investors

- Preferred Dividends

- Capital Expenditures

- Working Capital Needs

- Principal Repayments

+ Proceeds from New Debt Issues

= Free Cash flow to Equity

Estimating FCFE when Leverage is Stable

Net Income

- (1-) (Capital Expenditures - Depreciation)

- (1-) Working Capital Needs

= Free Cash flow to Equity

= Debt/Capital Ratio

For this firm,

- Proceeds from new debt issues = Principal Repayments + (Capital Expenditures - Depreciation + Working Capital Needs)

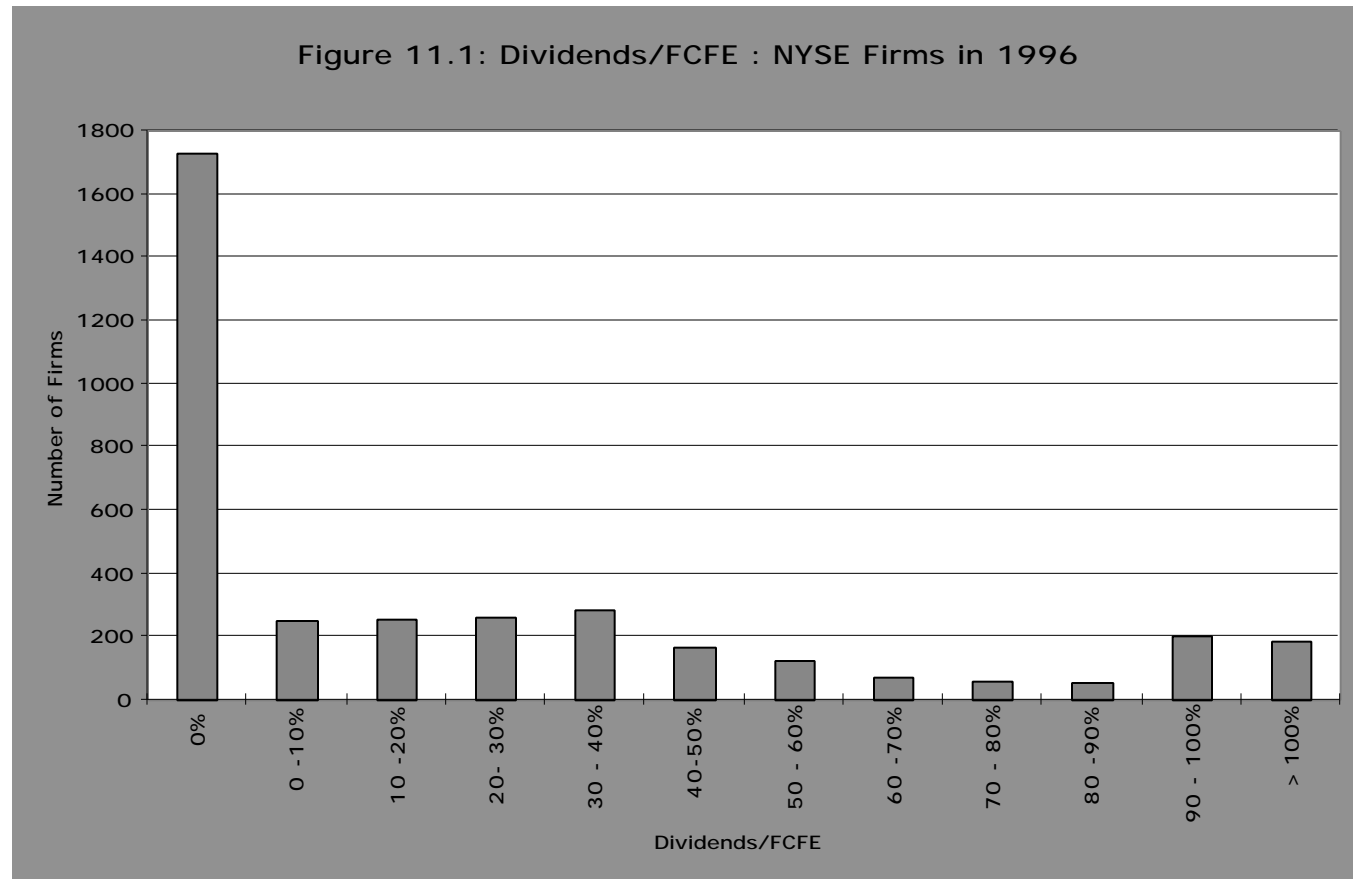
An Example: FCFE Calculation

- Consider the following inputs for Microsoft in 1996. In 1996, Microsoft's FCFE was:
 - Net Income = \$2,176 Million
 - Capital Expenditures = \$494 Million
 - Depreciation = \$ 480 Million
 - Change in Non-Cash Working Capital = \$ 35 Million
 - Debt Ratio = 0%
- $$\begin{aligned} \text{FCFE} &= \text{Net Income} - (\text{Cap ex} - \text{Depr}) (1-\text{DR}) - \text{Chg WC} (!-\text{DR}) \\ &= \$ 2,176 \quad - (494 - 480) (1-0) \quad - \$ 35 (1-0) \\ &= \$ 2,127 \text{ Million} \end{aligned}$$

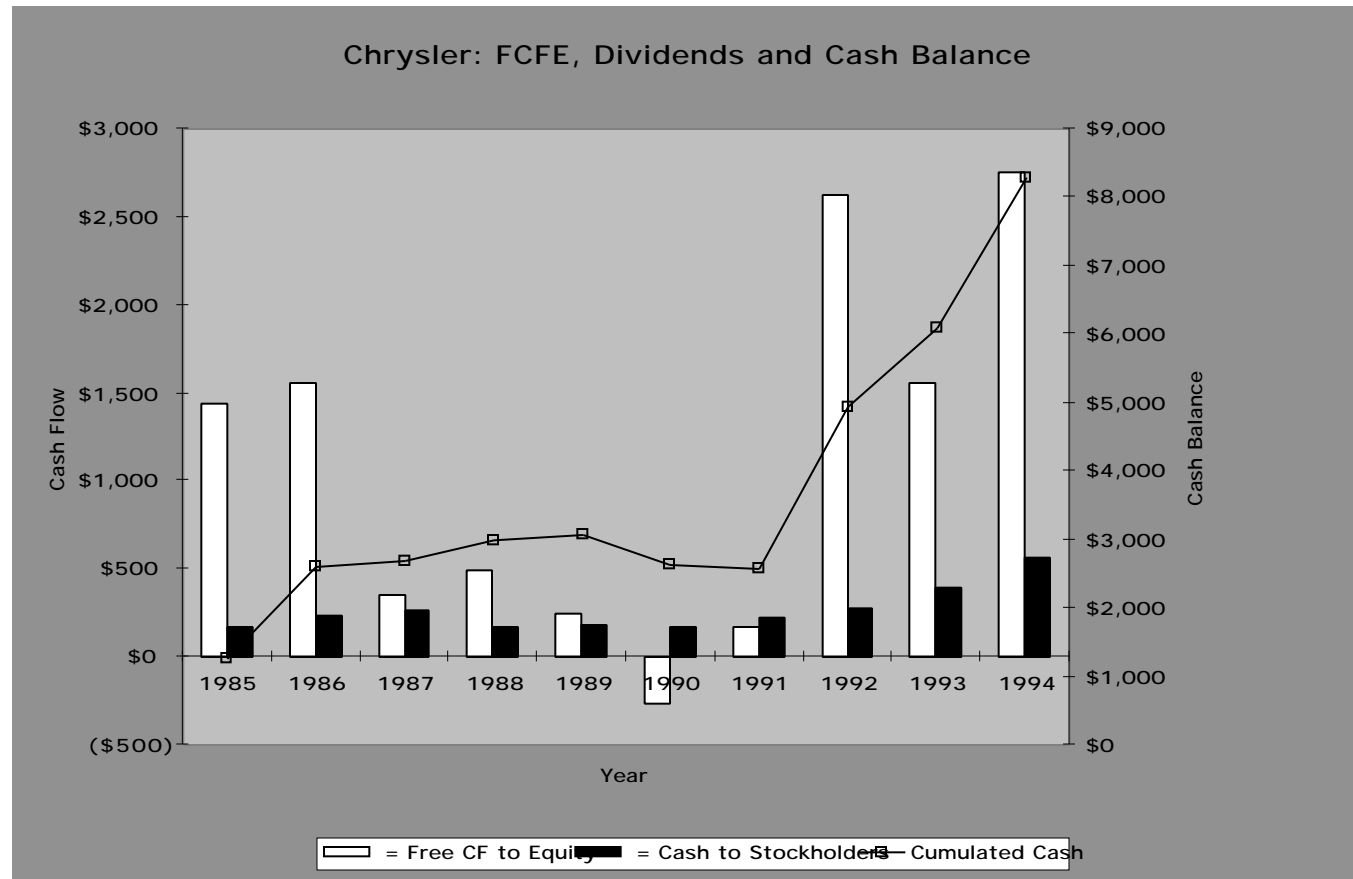
Microsoft: Dividends?

- By this estimation, Microsoft could have paid \$ 2,127 Million in dividends/stock buybacks in 1996. They paid no dividends and bought back no stock. Where will the \$2,127 million show up in Microsoft's balance sheet?

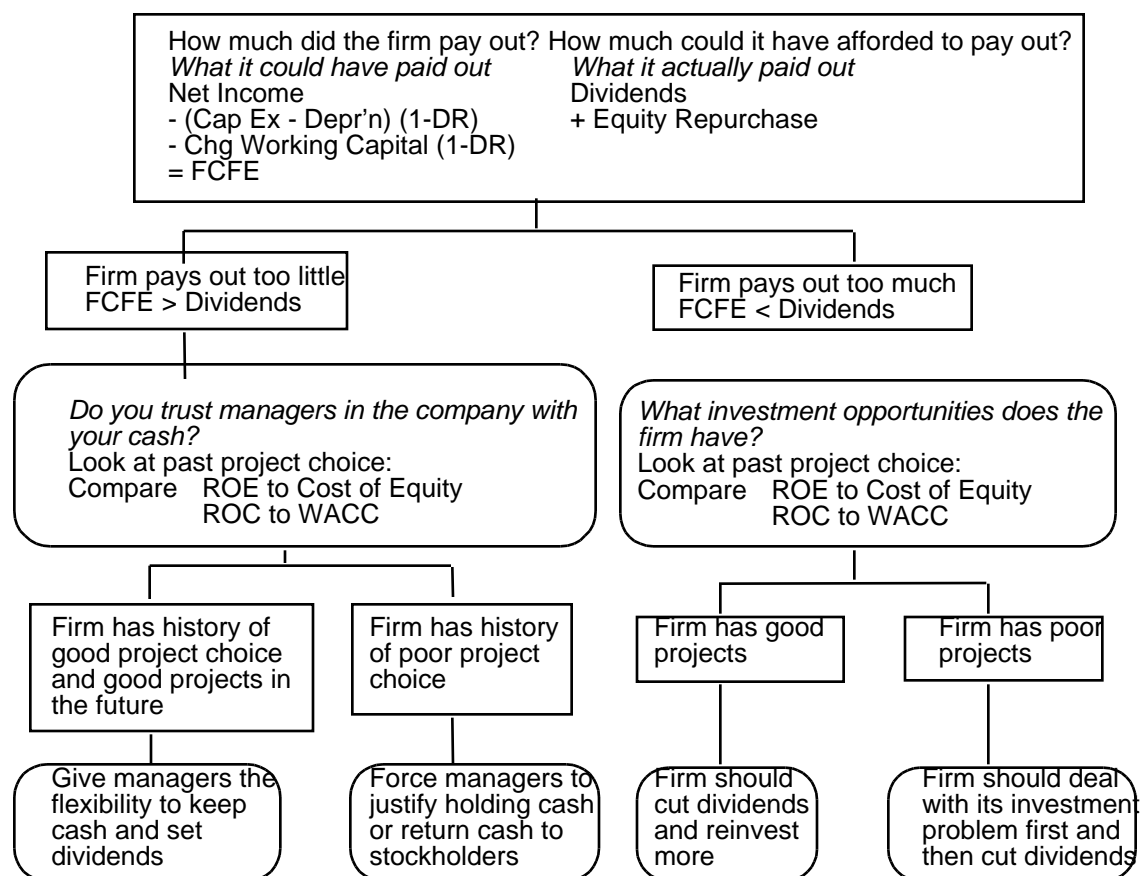
Dividends versus FCFE: U.S.



The Consequences of Failing to pay FCFE



A Practical Framework for Analyzing Dividend Policy



A Dividend Matrix

FCFE - Dividends

ROC - WACC	<i>Significant pressure on managers to pay cash out</i>	<i>Cash Surplus</i>	<i>Maximum Flexibility in Dividend Policy</i>
	Poor Projects		Good Projects
	<i>Investment and Dividend problems; cut dividends but also check project choice</i>	<i>Cash Deficit</i>	<i>Reduce cash payout to stockholders</i>

Disney: An analysis of FCFE from 1992-1996

Year	Net Income	(Cap Ex- Depr) (1- Debt Ratio)	Chg in WC (1-Debt Ratio)	FCFE
1992	\$817	\$173	(\$81)	\$725
1993	\$889	\$328	\$160	\$402
1994	\$1,110	\$469	\$498	\$143
1995	\$1,380	\$325	\$206	\$849
1996*	\$1,214	\$466	(\$470)	\$1,218
Avge	\$1,082	\$352	\$63	\$667

(The numbers for 1996 are reported without the Capital Cities Acquisition)

The debt ratio used to estimate the free cash flow to equity was estimated as follows = $\text{Net Debt Issues} / (\text{Net Cap Ex} + \text{Change in Non-cash WC})$

Disney's Dividends and Buybacks from 1992 to 1996

Year	FCFE	Dividends + Stock Buybacks
1992	\$725	\$105
1993	\$402	\$160
1994	\$143	\$724
1995	\$849	\$529
1996	\$1,218	\$733
Average	\$667	\$450

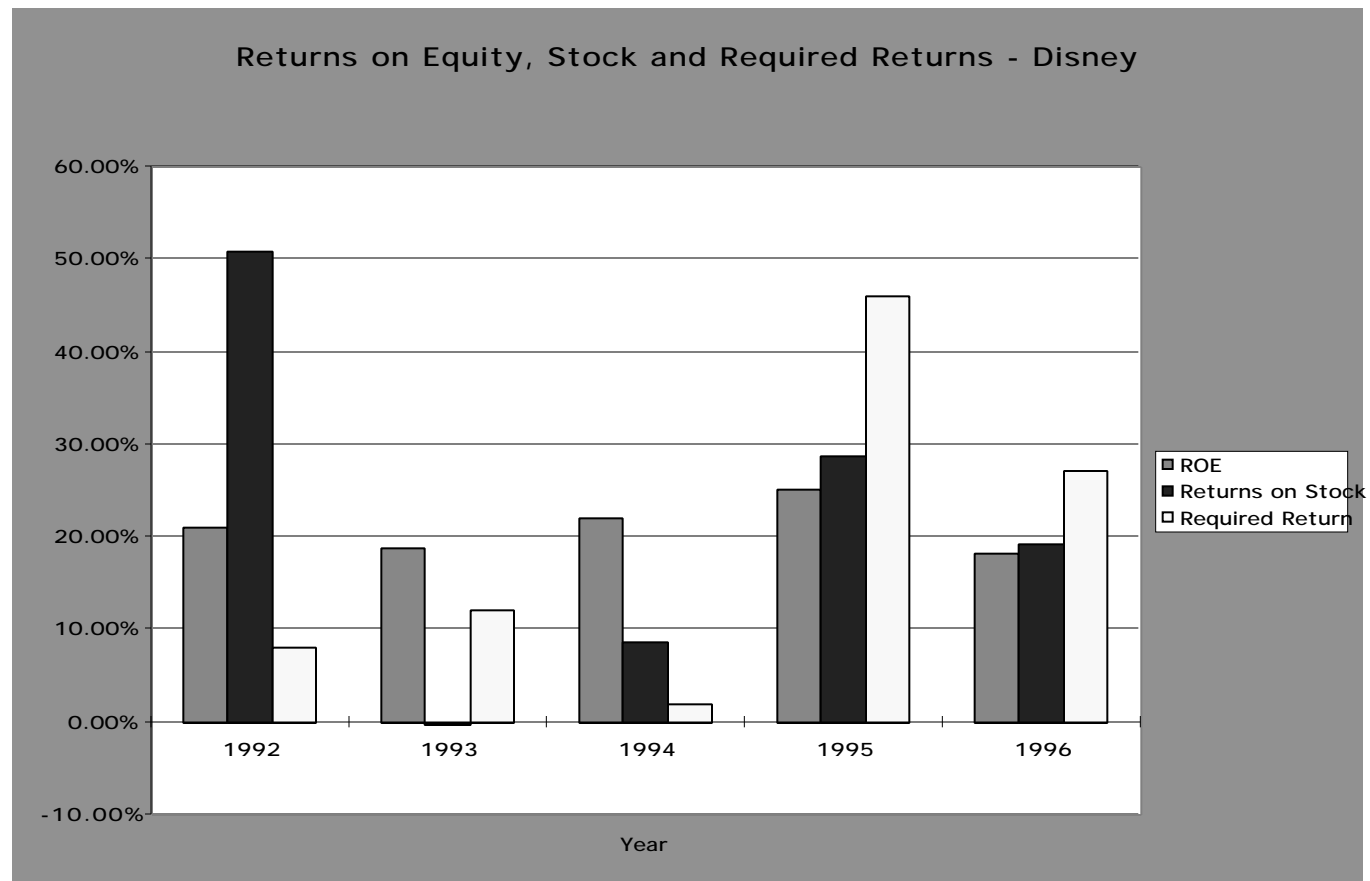
Disney: Dividends versus FCFE

- Disney paid out \$ 217 million less in dividends (and stock buybacks) than it could afford to pay out. How much cash do you think Disney accumulated during the period?

Can you trust Disney's management?

- During the period 1992-1996, Disney had
 - an average return on equity of 21.07% on projects taken
 - earned an average return on 21.43% for its stockholders
 - a cost of equity of 19.09%
- Disney has taken good projects and earned above-market returns for its stockholders during the period.
- If you were a Disney stockholder, would you be comfortable with Disney's dividend policy?
 - Yes
 - No

Disney: Return Performance Trends



The Bottom Line on Disney Dividends

- Disney could have afforded to pay more in dividends during the period of the analysis.
- It chose not to, and used the cash for the ABC acquisition.
- The excess returns that Disney earned on its projects and its stock over the period provide it with some dividend flexibility. The trend in these returns, however, suggests that this flexibility will be rapidly depleted.
- The flexibility will clearly not survive if the ABC acquisition does not work out.

Aracruz: Dividends and FCFE: 1994-1996

	<i>1994</i>	<i>1995</i>	<i>1996</i>
Net Income	BR248.21	BR326.42	BR47.00
- (Cap. Exp - Depr)*(1-DR)	BR174.76	BR197.20	BR14.96
- Working Capital*(1-DR)	(BR47.74)	BR15.67	(BR23.80)
= Free CF to Equity	BR121.19	BR113.55	BR55.84
Dividends	BR80.40	BR113.00	BR27.00
+ Equity Repurchases	BR 0.00	BR 0.00	BR 0.00
= Cash to Stockholders	BR80.40	BR113.00	BR27.00

Aracruz: Investment Record

	<i>1994</i>	<i>1995</i>	<i>1996</i>
<i>Project Performance Measures</i>			
ROE	19.98%	16.78%	2.06%
Required rate of return	3.32%	28.03%	17.78%
Difference	16.66%	-11.25%	-15.72%
<i>Stock Performance Measure</i>			
Returns on stock	50.82%	-0.28%	8.65%
Required rate of return	3.32%	28.03%	17.78%
Difference	47.50%	-28.31%	-9.13%

Aracruz: Its your call..

- Assume that you are a large stockholder in Aracruz. They have a history of paying less in dividends than they have available in FCFE and have accumulated a cash balance of roughly 1 billion BR (25% of the value of the firm). Would you trust the managers at Aracruz with your cash?
 - Yes
 - No

Mandated Dividend Payouts

- There are many countries where companies are mandated to pay out a certain portion of their earnings as dividends. Given our discussion of FCFE, what types of companies will be hurt the most by these laws?
 - ❑ Large companies making huge profits
 - ❑ Small companies losing money
 - ❑ High growth companies that are losing money
 - ❑ High growth companies that are making money

BP: Dividends- 1983-92

	1	2	3	4	5	6	7	8	9	10
Net Income	\$1,256.00	\$1,626.00	\$2,309.00	\$1,098.00	\$2,076.00	\$2,140.00	\$2,542.00	\$2,946.00	\$712.00	\$947.00
- (Cap. Exp - Depr)*(1-DR)	\$1,499.00	\$1,281.00	\$1,737.50	\$1,600.00	\$580.00	\$1,184.00	\$1,090.50	\$1,975.50	\$1,545.50	\$1,100.00
Working Capital*(1-DR)	\$369.50	(\$286.50)	\$678.50	\$82.00	(\$2,268.00)	(\$984.50)	\$429.50	\$1,047.50	(\$305.00)	(\$415.00)
= Free CF to Equity	(\$612.50)	\$631.50	(\$107.00)	(\$584.00)	\$3,764.00	\$1,940.50	\$1,022.00	(\$77.00)	(\$528.50)	\$262.00
Dividends	\$831.00	\$949.00	\$1,079.00	\$1,314.00	\$1,391.00	\$1,961.00	\$1,746.00	\$1,895.00	\$2,112.00	\$1,685.00
+ Equity Repurchases										
= Cash to Stockholders	\$831.00	\$949.00	\$1,079.00	\$1,314.00	\$1,391.00	\$1,961.00	\$1,746.00	\$1,895.00	\$2,112.00	\$1,685.00
<i>Dividend Ratios</i>										
Payout Ratio	66.16%	58.36%	46.73%	119.67%	67.00%	91.64%	68.69%	64.32%	296.63%	177.93%
Cash Paid as % of FCFE	-135.67%	150.28%	-1008.41%	-225.00%	36.96%	101.06%	170.84%	-2461.04%	-399.62%	643.13%
<i>Performance Ratios</i>										
<i>I. Accounting Measure</i>										
ROE	9.58%	12.14%	19.82%	9.25%	12.43%	15.60%	21.47%	19.93%	4.27%	7.66%
Required rate of return	19.77%	6.99%	27.27%	16.01%	5.28%	14.72%	26.87%	-0.97%	25.86%	7.12%
Difference	-10.18%	5.16%	-7.45%	-6.76%	7.15%	0.88%	-5.39%	20.90%	-21.59%	0.54%

BP: Summary of Dividend Policy

	<i>Summary of calculations</i>			
	<i>Average</i>	<i>Standard Deviation</i>	<i>Maximum</i>	<i>Minimum</i>
<i>Free CF to Equity</i>	\$571.10	\$1,382.29	\$3,764.00	(\$612.50)
<i>Dividends</i>	\$1,496.30	\$448.77	\$2,112.00	\$831.00
<i>Dividends+Repurchases</i>	\$1,496.30	\$448.77	\$2,112.00	\$831.00
<i>Dividend Payout Ratio</i>	84.77%			
<i>Cash Paid as % of FCFE</i>	262.00%			
<i>ROE - Required return</i>	-1.67%	11.49%	20.90%	-21.59%

BP: Just Desserts!

B.P.'s Shares Plummet After Dividend Is Slashed

By MATTHEW L. WALD

British Petroleum said yesterday that it would cut its dividend by 25 percent, take a pretax restructuring charge of \$1.22 billion for the second quarter and lay off 11,200 employees, or 10 percent of its worldwide work force. The news came two weeks after Robert D. Horton, B.P.'s chairman, resigned under pressure from the company's outside directors.

Analysts anticipated a dividend cut by the oil company, the world's third largest, but the move announced was at the low end of their expectations. In response, shares of the company's American depository rights, each of which represents 12 shares of the London-based company, dropped \$3.52, or 7.38 percent, to \$45.11. It was the most active issue on the New York Stock Exchange, with \$38 million shares traded.

The Royal Dutch/Shell group also reported a disappointing quarter yesterday, with earnings on a replacement cost basis — excluding gains or losses on inventory holdings — of \$68 million, down 22 percent.

Quiet Recovery Seems Unlikely

Adding to the gloom at B.P., the new chief executive, David A.G. Brown, said the prospects for a quiet recovery were poor. "External trading conditions are expected to remain difficult, particularly for the downstream oil and chemicals businesses, with growth prospects for the world's economies remaining uncertain," he said in a statement. Downstream oil is on industry terms for refining and marketing operations, as distinct from oil production.

Downstream margins in the United States would be hurt later this year, he predicted, when steam air rates

take effect and gasoline must be re-refined to reduce pollution. "In Europe, recovery will depend upon seasonal heating oil demand," Mr. Brown said.

The crude oil market, he predicted, would remain balanced as less (real) oil was allowed to re-enter the market. The company said it was well positioned to take advantage of any

The giant British oil company bet on rising oil prices.

increase in oil prices, but the company's oil production in the United States is declining. B.P. is the largest producer in Alaska.

The market for petrochemicals in Europe remains weak.

B.P.'s second quarter profits, before one-time transactions, declined to \$201 million from \$213 million, taking inventories on a replacement-cost basis. James J. Marchio, an analyst at Sanford C. Bernstein, estimated that after exceptional items, earnings per share fell to 36 cents in the second quarter, compared with 82 cents a year earlier.

Analysts attributed B.P.'s problems to the company's acquisitions in the last few years, and heavy capital expenditures. Summing up the company's recent history, Frank D. Kivonzi of Prudential Securities Research said, "Debt rose, interest expense rose, and profits have gone to hell."

Mr. Marchio, who worked for Standard Oil of Ohio and then B.P.



after B.P. acquired Sella, said, "What you've got is a company that thought oil prices were going to go to 200 and spent like it, in terms of capital." If B.P.'s costs of finding oil are the same as the industry average, he said, then the company has been spending around 10 percent (13 percent to 150 percent of its annual production, which is not a successful strategy if prices do not rise).

In addition, he said, the company had been spending twice as much as its refining and marketing operations

as it was recovering in depreciation. Another analyst at a large stock brokerage house, who spoke on the condition of anonymity, said, "They took all the old 1000-gallon and turned them into modern B.P. stations; they took all the B.P. stations and turned them into ultramodern stations."

The analyst said that while some of the cuts were obvious, some came

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The Limited: Summary of Dividend Policy: 1983-1992

	<i>Summary of calculations</i>			
	<i>Average</i>	<i>Standard Deviation</i>	<i>Maximum</i>	<i>Minimum</i>
<i>Free CF to Equity</i>	(\$34.20)	\$109.74	\$96.89	(\$242.17)
<i>Dividends</i>	\$40.87	\$32.79	\$101.36	\$5.97
<i>Dividends+Repurchases</i>	\$40.87	\$32.79	\$101.36	\$5.97
<i>Dividend Payout Ratio</i>	18.59%			
<i>Cash Paid as % of FCFE</i>	-119.52%			
<i>ROE - Required return</i>	1.69%	19.07%	29.26%	-19.84%

Growth Firms and Dividends

- High growth firms are sometimes advised to initiate dividends because it increases the potential stockholder base for the company (since there are some investors - like pension funds - that cannot buy stocks that do not pay dividends) and, by extension, the stock price. Do you agree with this argument?

- Yes
- No

Why?

First Principles

- Invest in projects that yield a return greater than the minimum acceptable hurdle rate.
 - The hurdle rate should be higher for riskier projects and reflect the financing mix used - owners' funds (equity) or borrowed money (debt)
 - Returns on projects should be measured based on cash flows generated and the timing of these cash flows; they should also consider both positive and negative side effects of these projects.
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