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%
- FCFE = Net Income - (Cap ex - Depr) (1-DR) - Chg WC (!-DR)

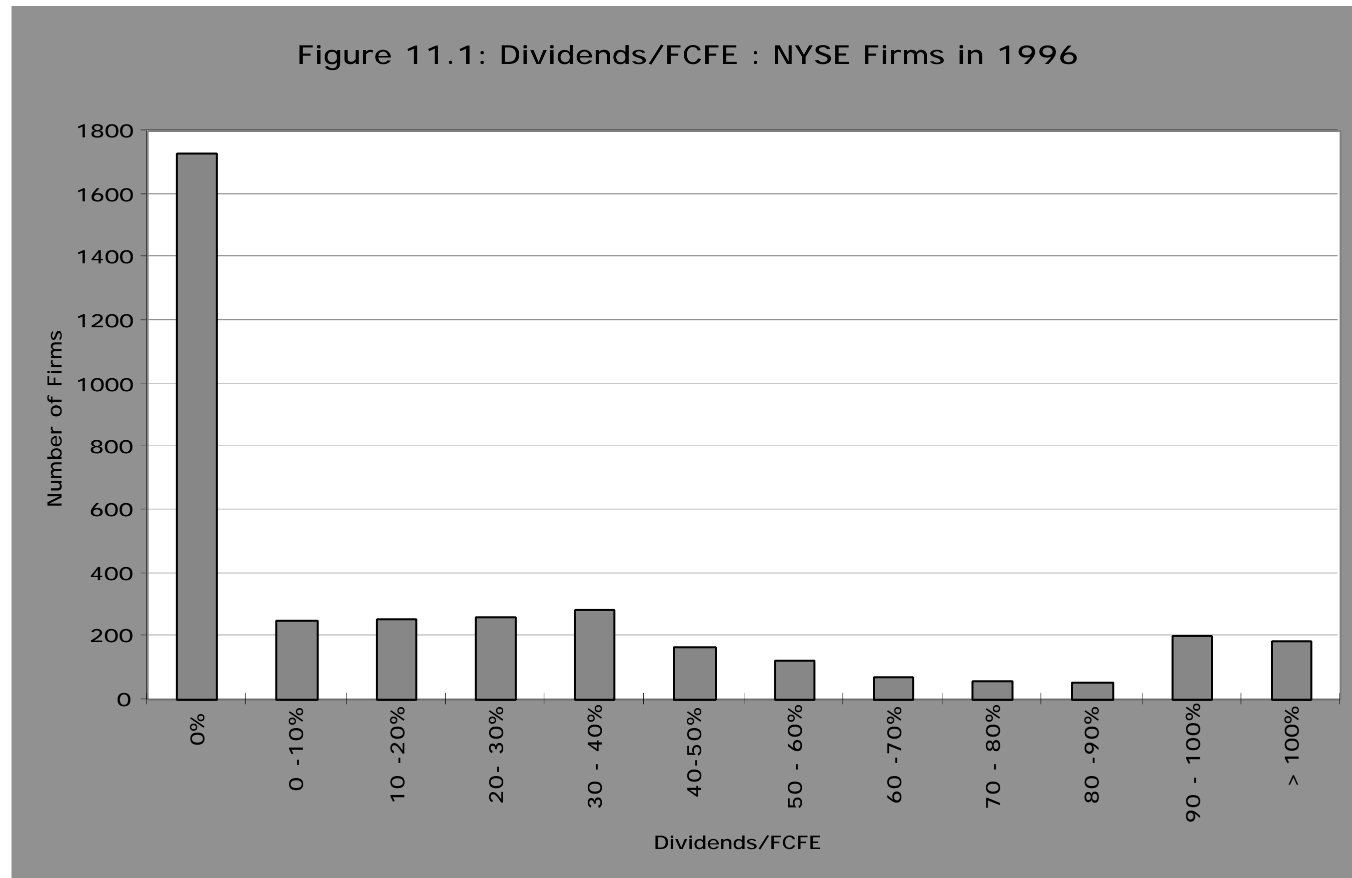
  = $ 2,176 - (494 - 480) (1-0) - $ 35 (1-0)

  = $ 2,127 Million

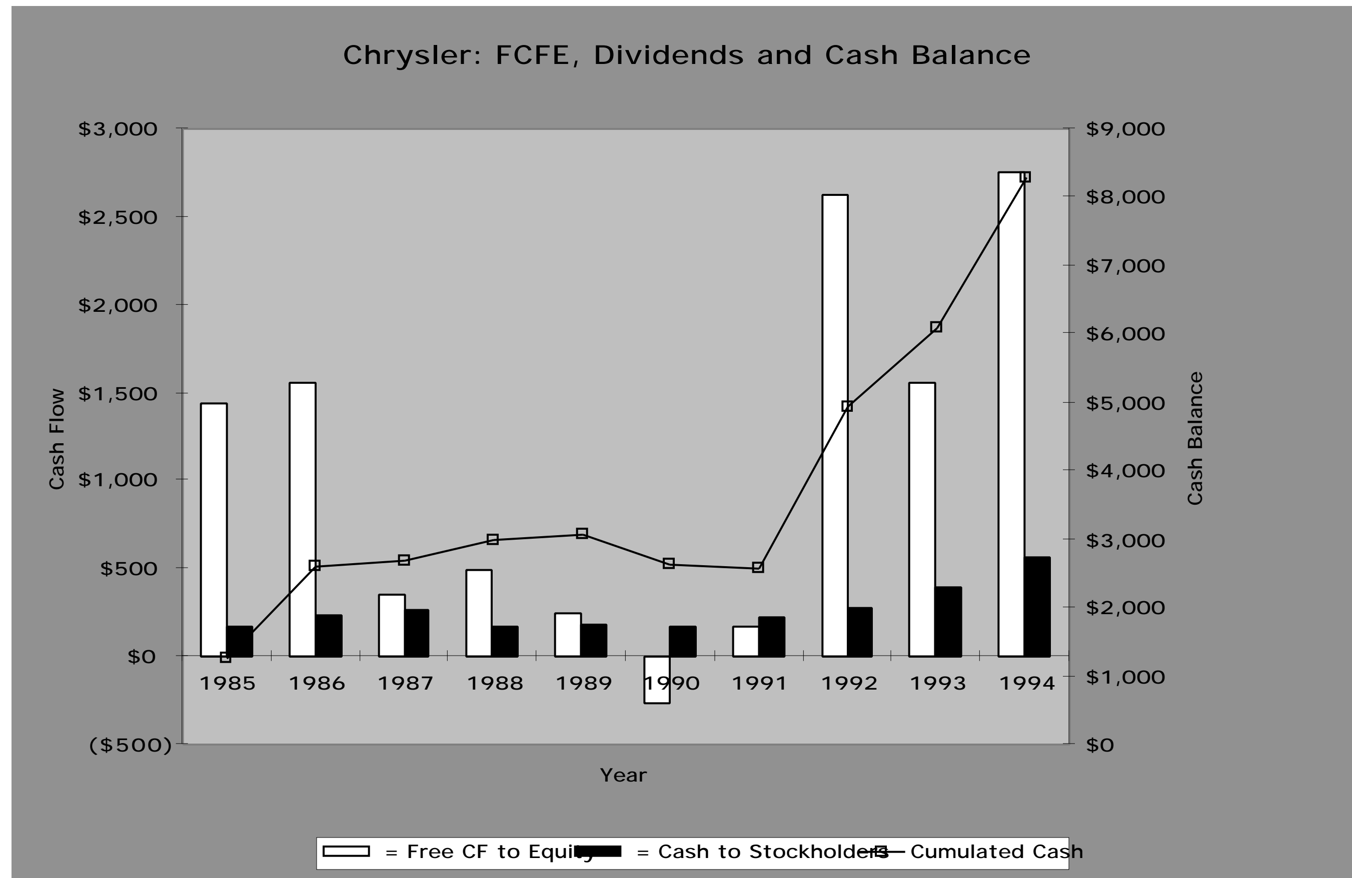
Microsoft: Dividends?

- 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?

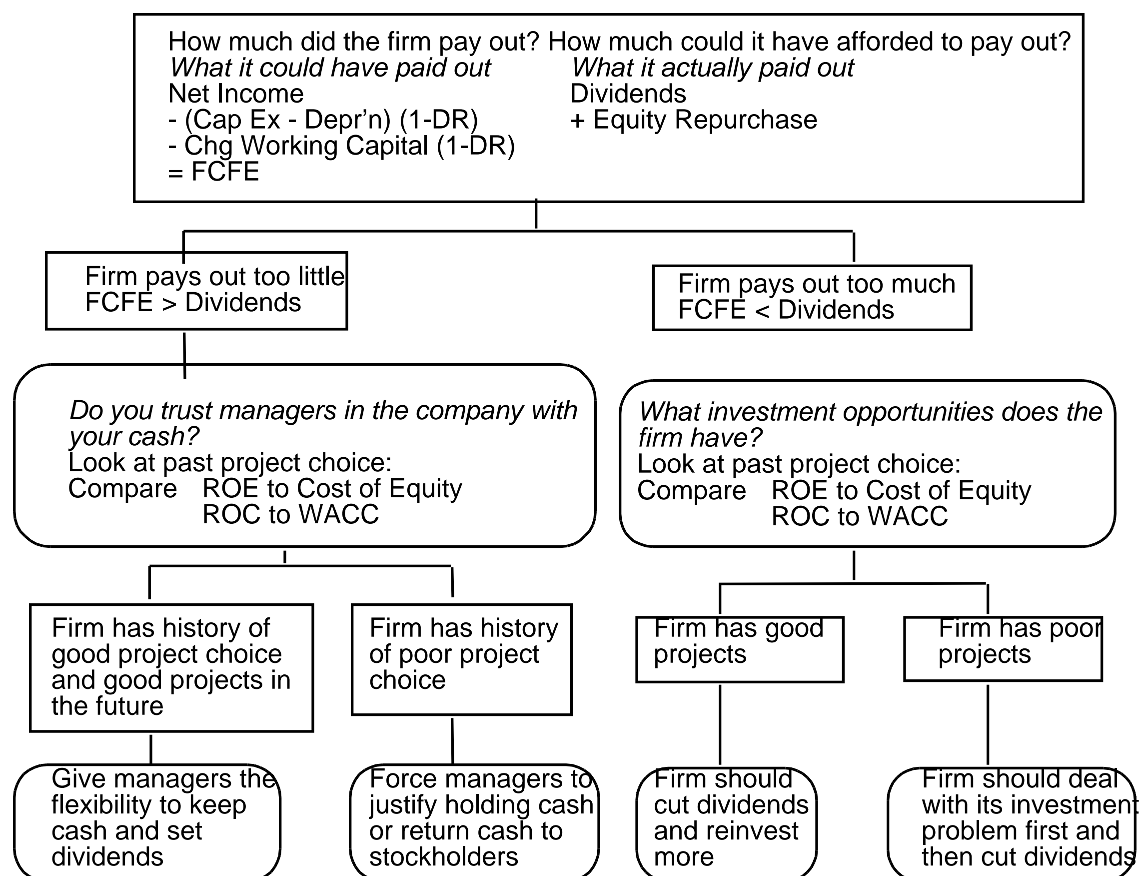
Dividends versus FCFE: U.S.



The Consequences of Failing to pay FCFE



A Practical Framework for Analyzing Dividend Policy



A Dividend Matrix

FCFE - Dividends

ROC - WACC

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

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 = Net Debt Issues/(Net Cap Ex + 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?

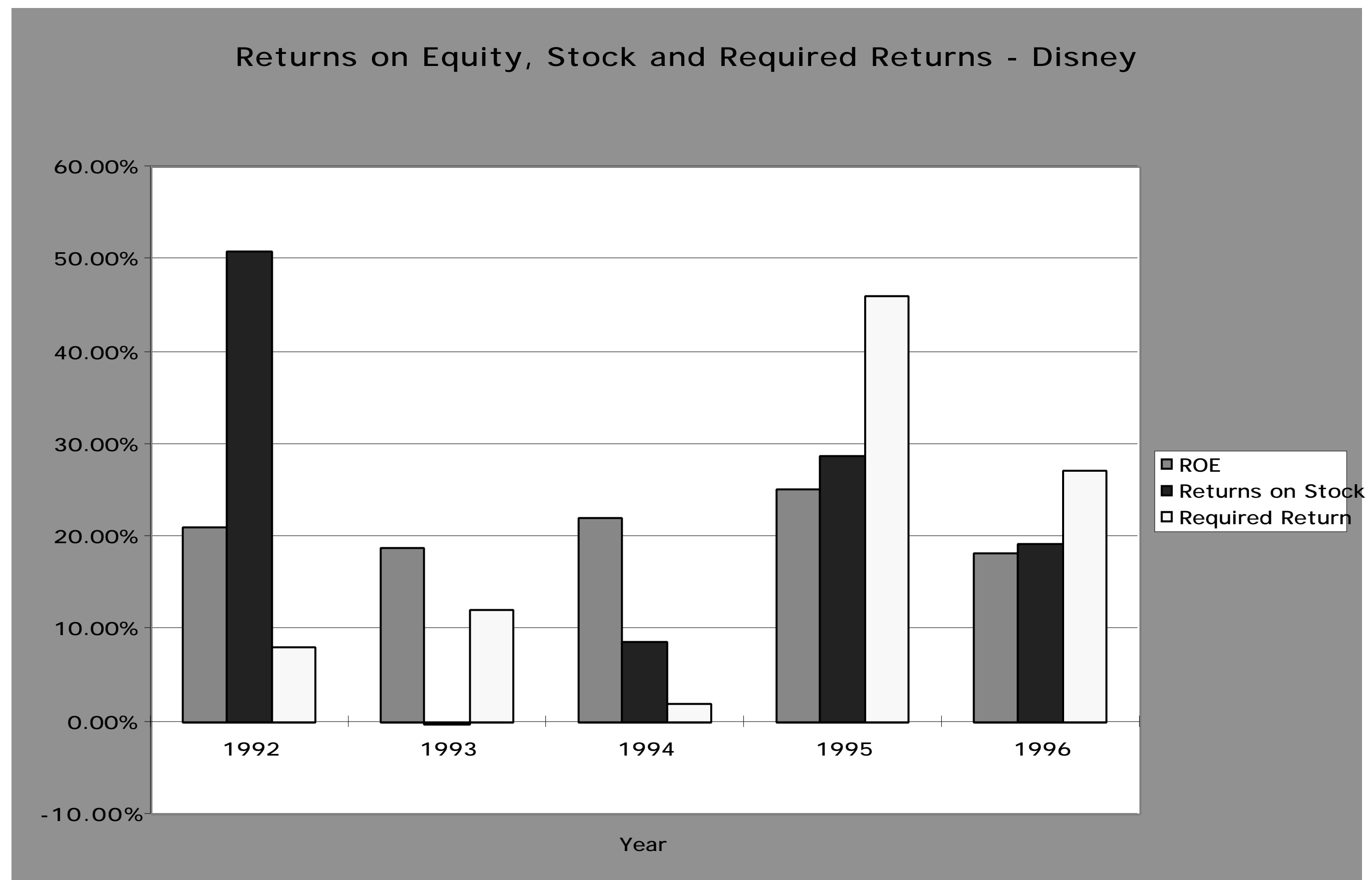
Can you trust Disney's management?

- 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

	1994	*1995*	*1996*
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

	1994	*1995*	*1996*
Project Performance Measures			
ROE	19.98%	16.78%	2.06%
Required rate of return	3.32%	28.03%	17.78%
Difference	16.66%	-11.25%	-15.72%
Stock Performance Measure			
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
Dividend Ratios										
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%
Performance Ratios										
1. Accounting Measure										
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

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

BP: Just Desserts!

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

By MATTHEW L. WALD

The giant British oil company bet on rising oil prices.

The Limited: Summary of Dividend Policy: 1983-1992

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

Growth Firms and Dividends

- High growth firms are sometimes advised to initiate dividends because its 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?

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