CORPORATE FINANCE: SPRING 2016

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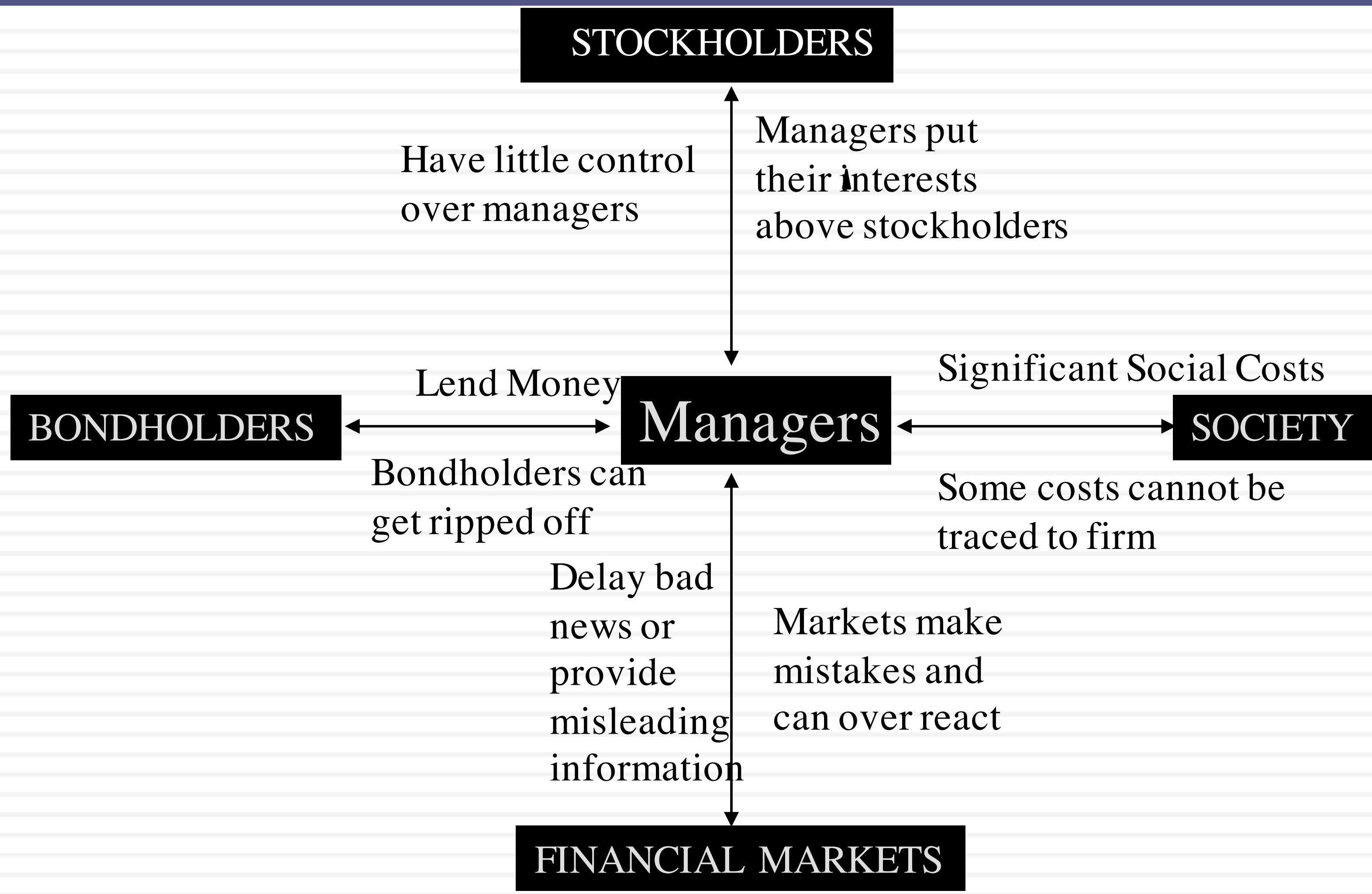
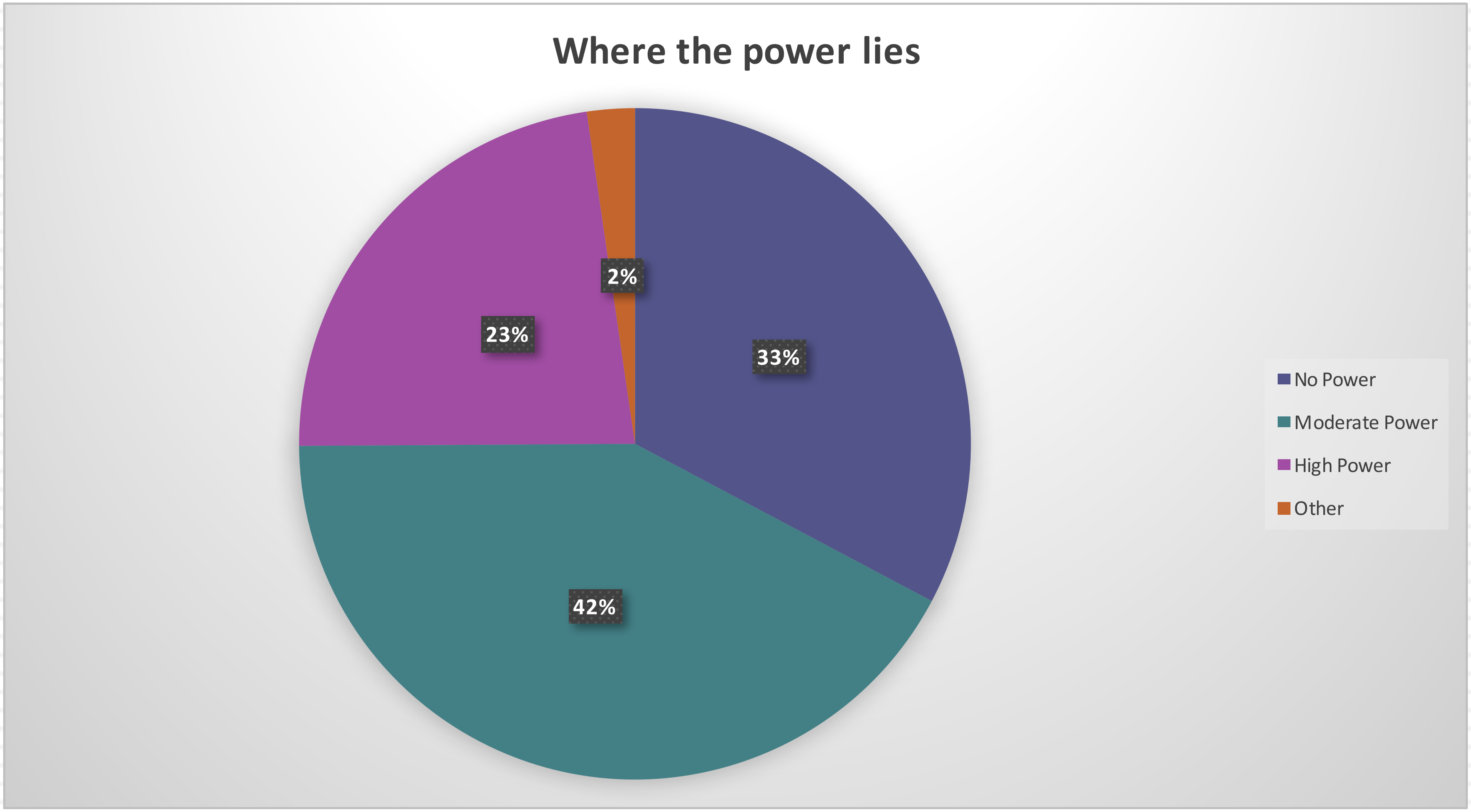
Ponderous Thoughts, or maybe not

1. There are few facts and lots of opinions.
   a. Even the givens (cash & risk free rate) are not.
   b. With accounting and market numbers, all bets are off.
2. The real world is a messy place.
   a. Money making firms can become money losers
   b. Companies can be restructured/ given facelifts
3. Models don’t compute values and optimal paths. You do.
4. Change is the only constant. Everything changes all the time.

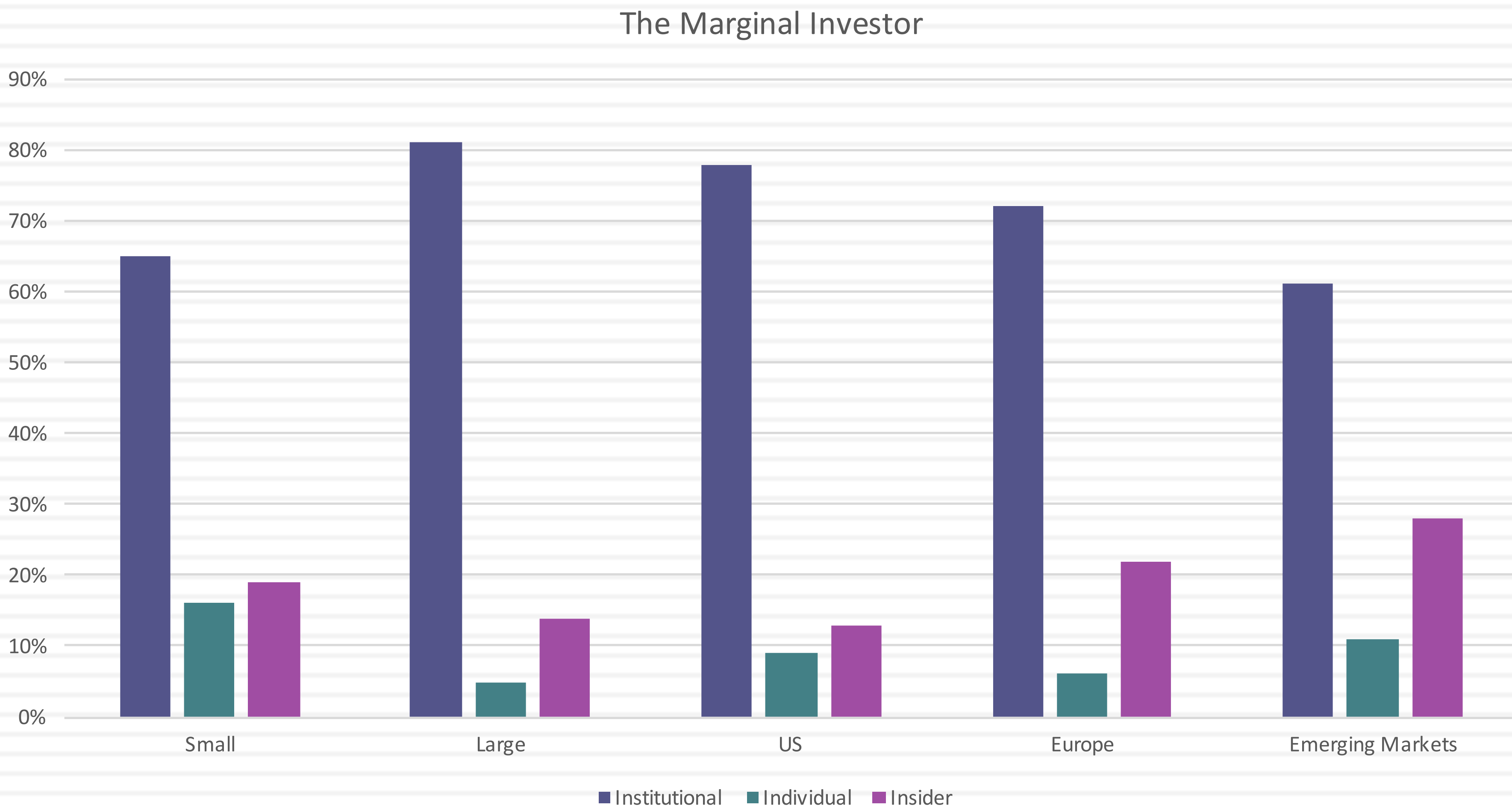
The Breakdown in the Classical Objective Function



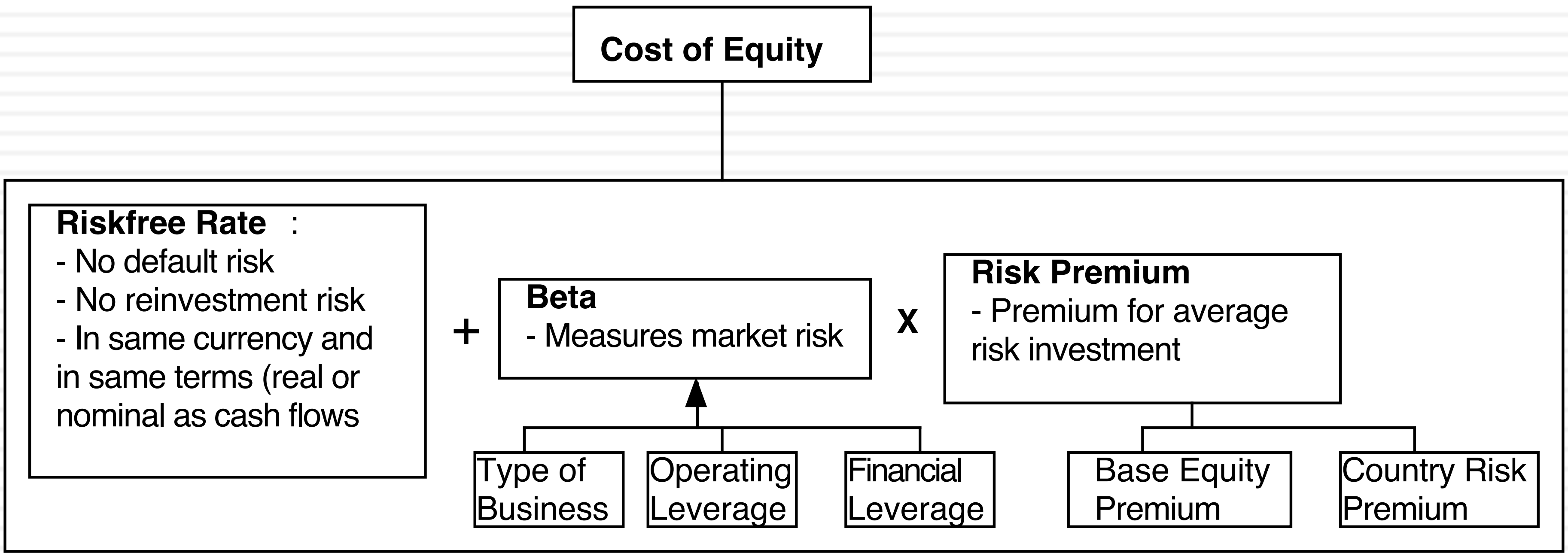
I. Where does the power lie?



II. Who is your marginal investor? From Spring 2015

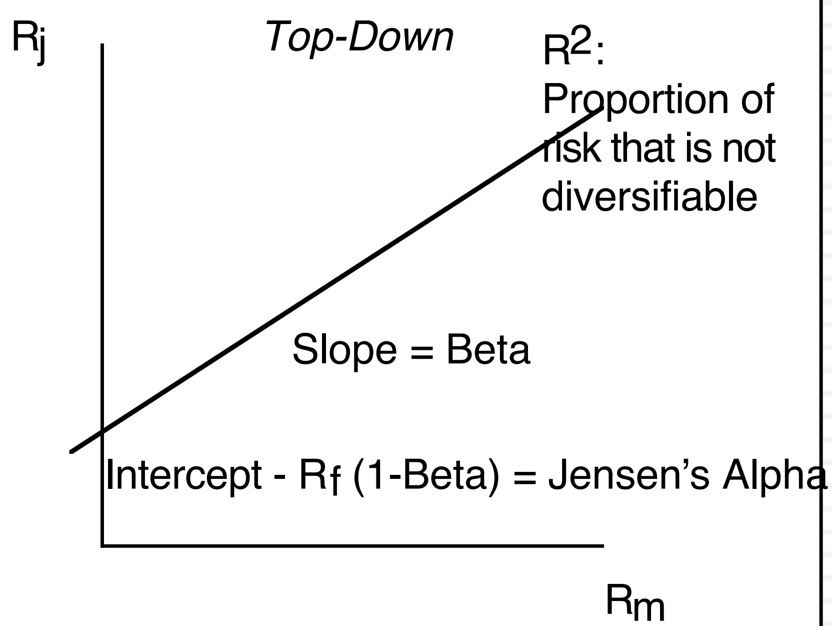


III. Risk Profiles and Costs of Equity



Beta: The Standard Approach

Beta of Equity

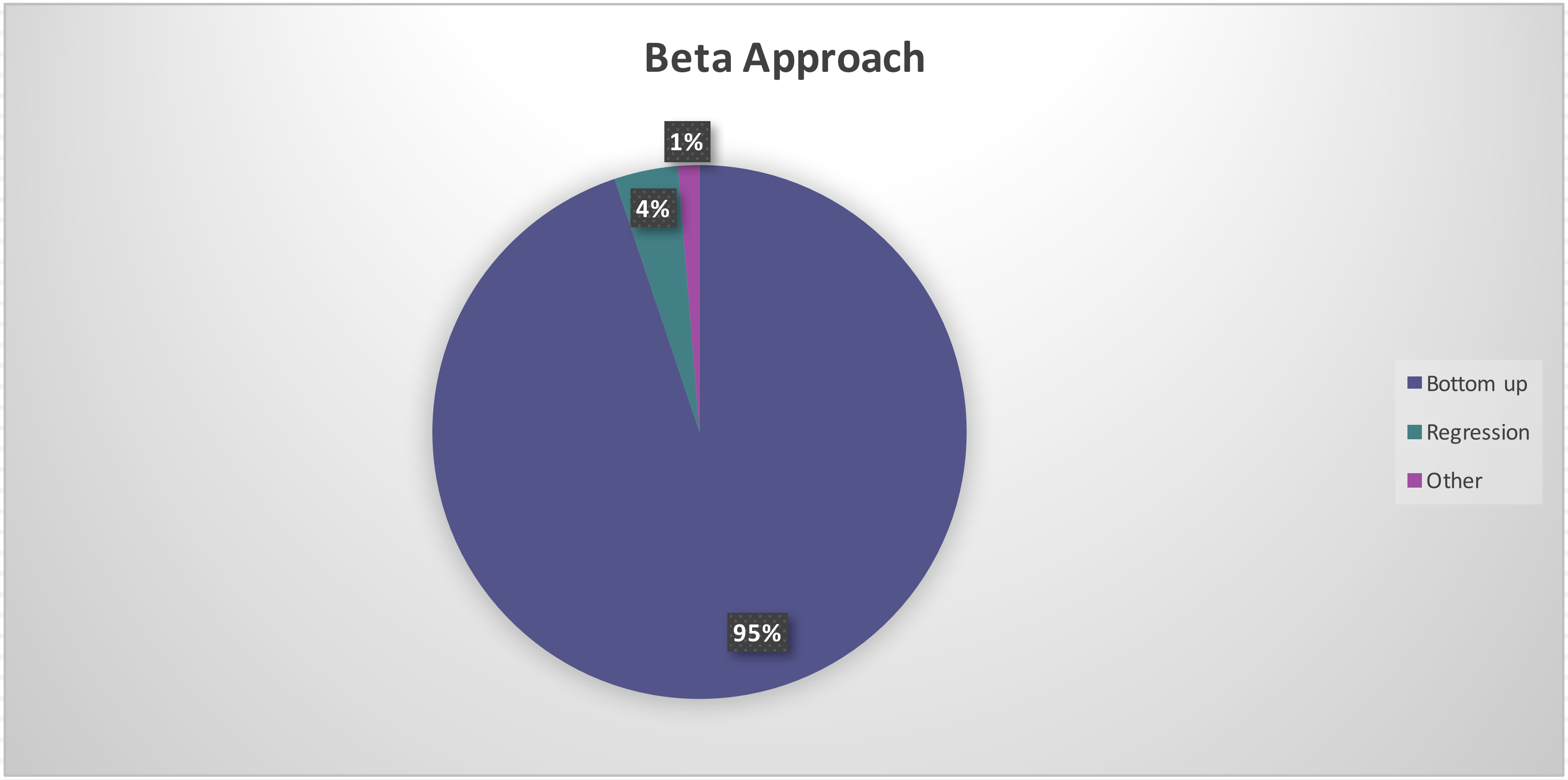


Bottom-up

1. Identify businesses that firm is in.
2. Take weighted average of the unlevered betas of other firms in the business
3. Compute the levered beta using the firm's current debt to equity ratio:

$\beta_l = \beta_u$ [1 + (1-tax rate) (Debt/Equity)]

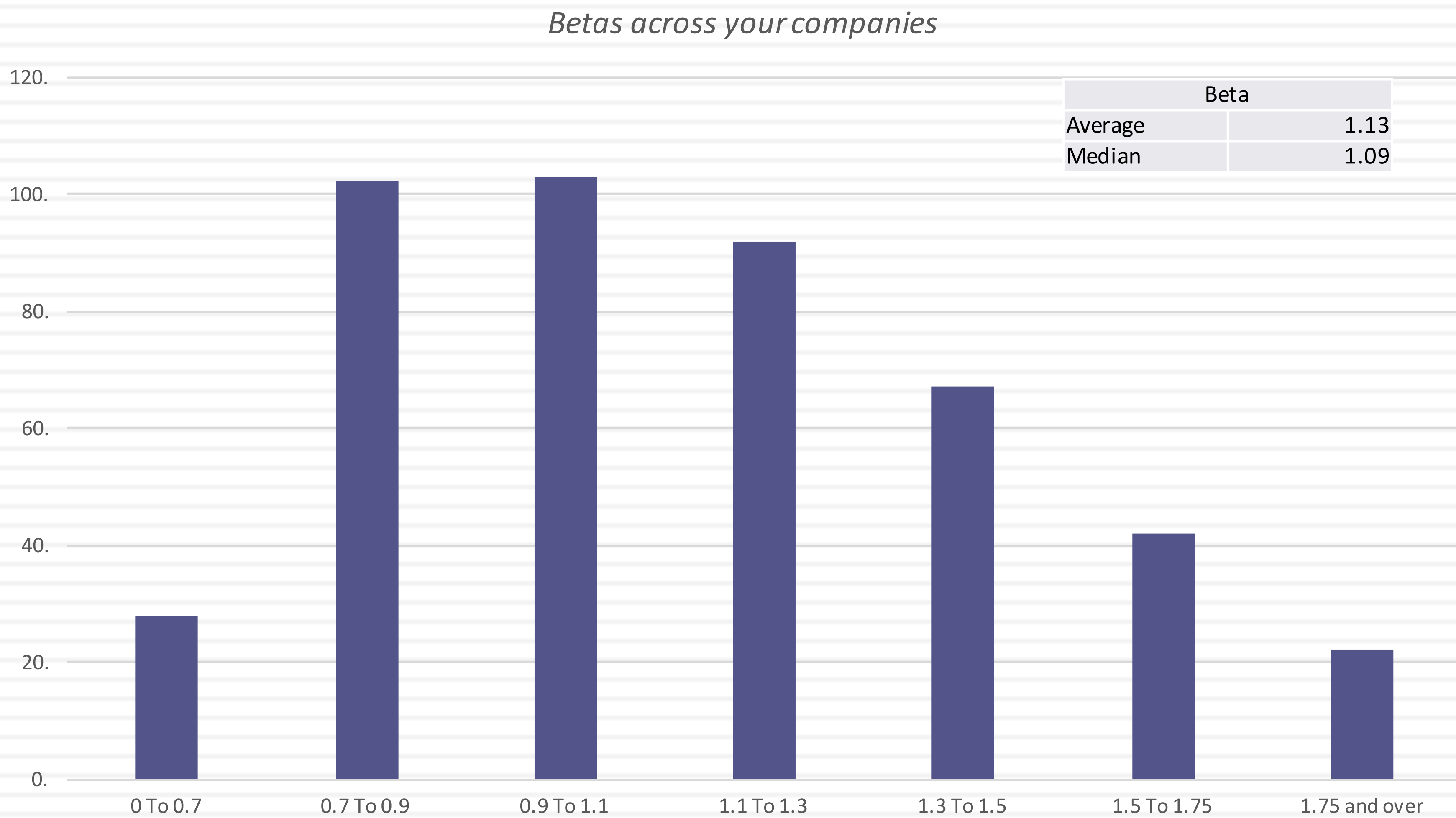
Your choice on beta approach



Typical reasons

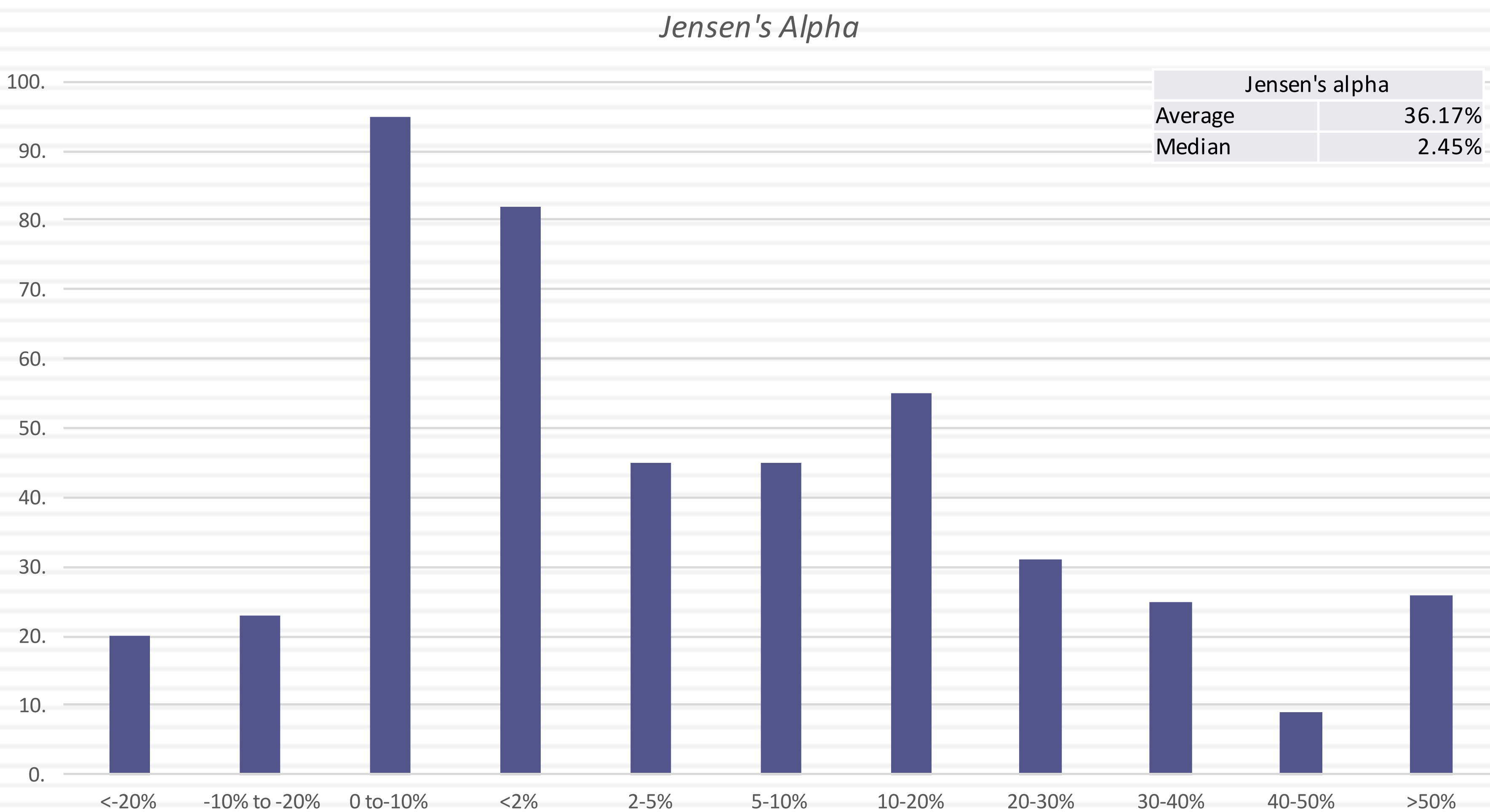
1. My company is unique. I cannot find comparable firms.
2. My company is in only one line of business
3. My bottom-up beta is too different from my regression beta

Beta Distribution

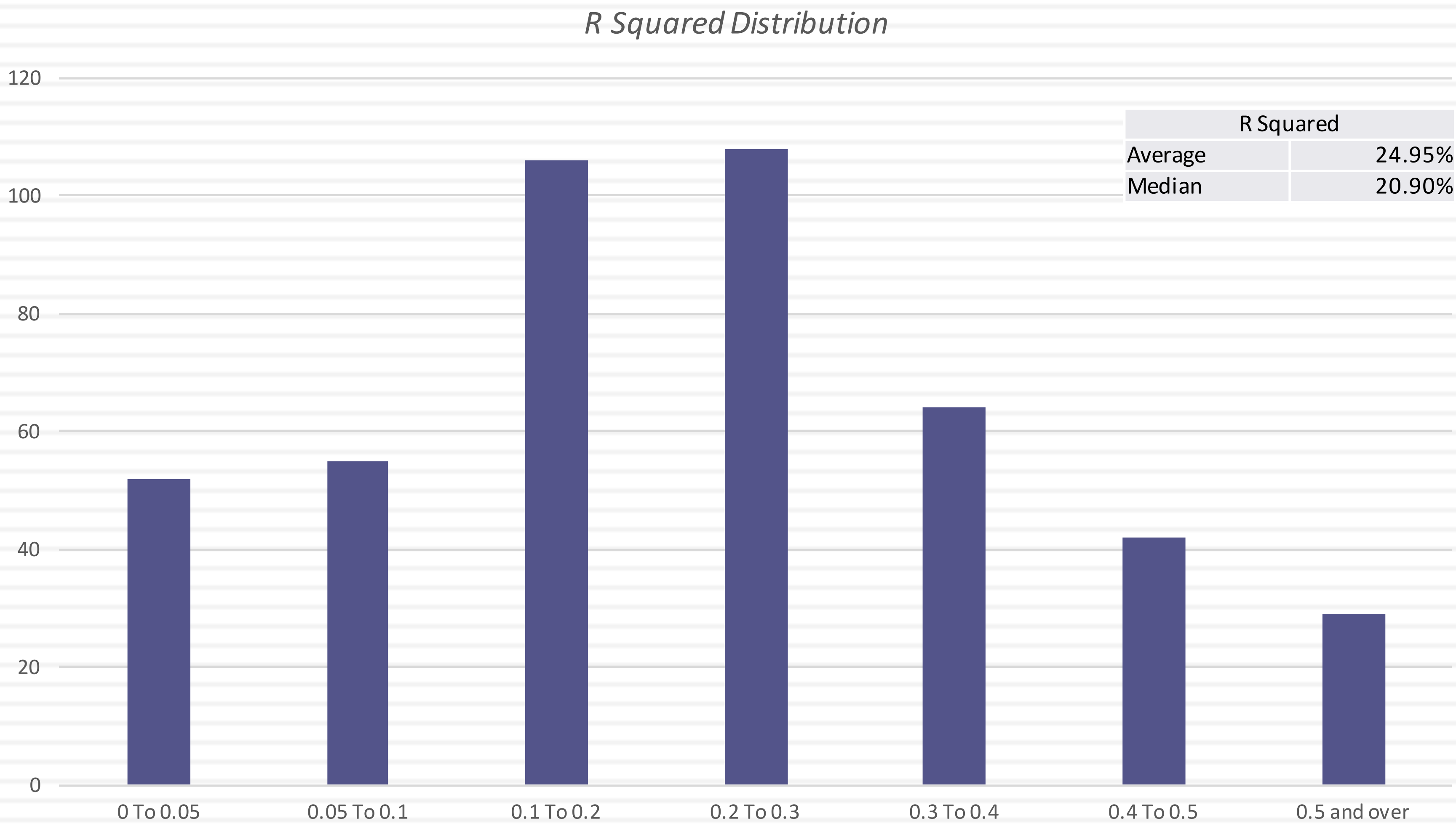


Beta	
Average	1.13
Median	1.09

Jensen’s Alpha Distribution

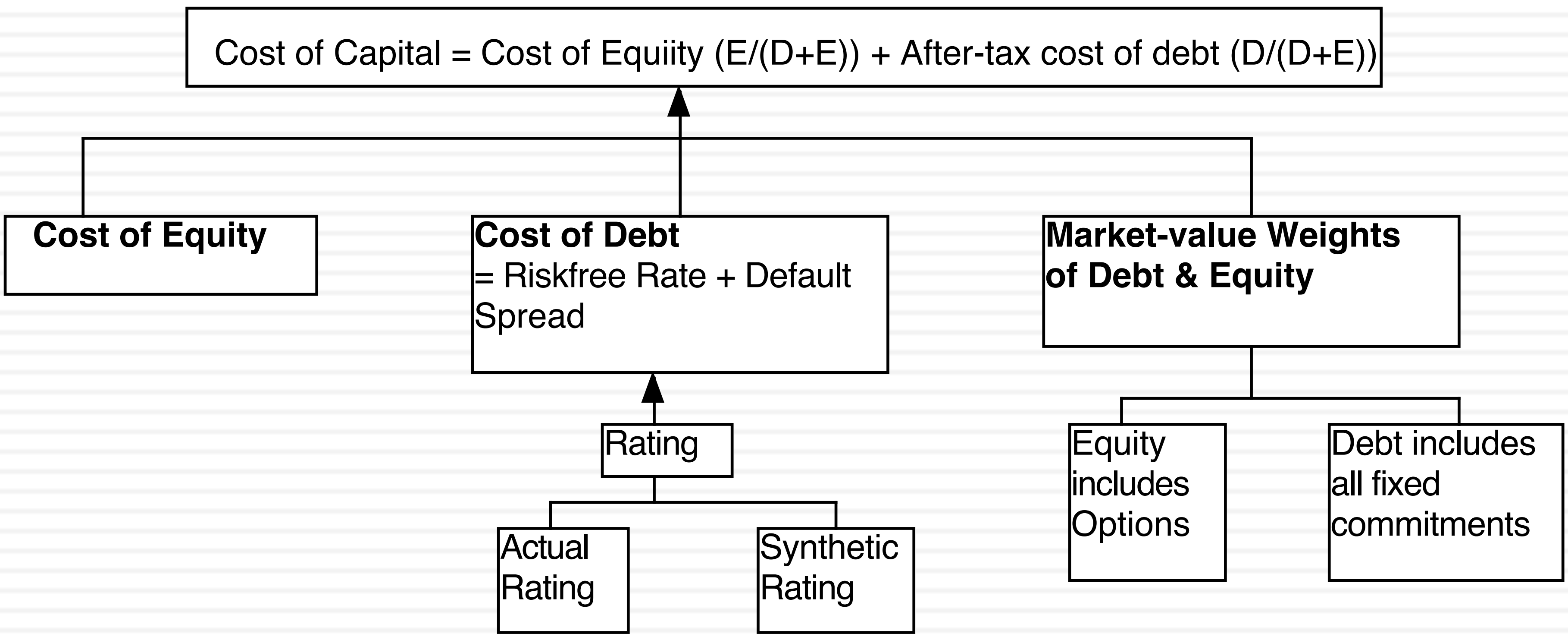


R Squared



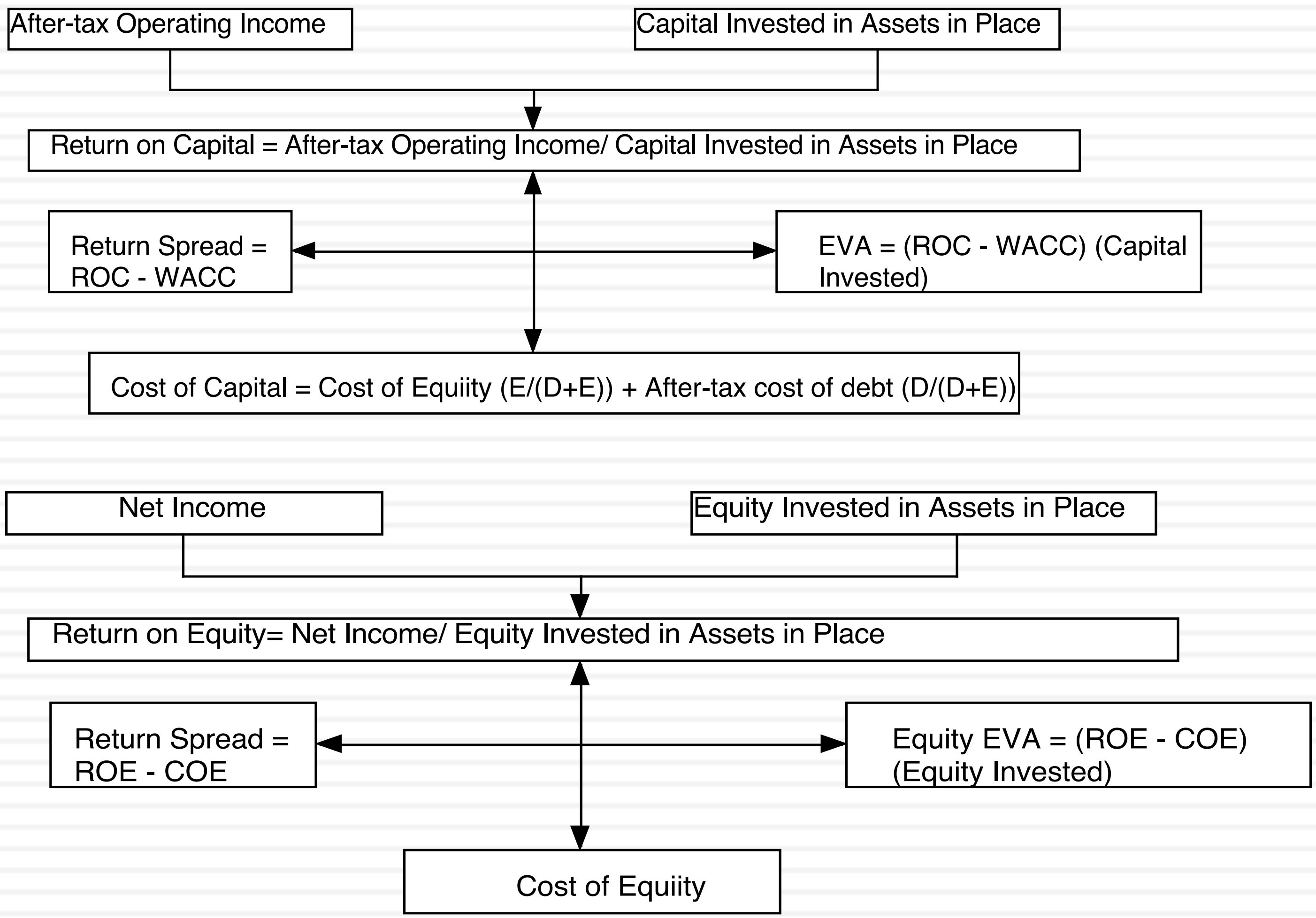
R Squared	
Average	24.95%
Median	20.90%

Cost of Capital



Distribution of Current Market Value Debt Ratios

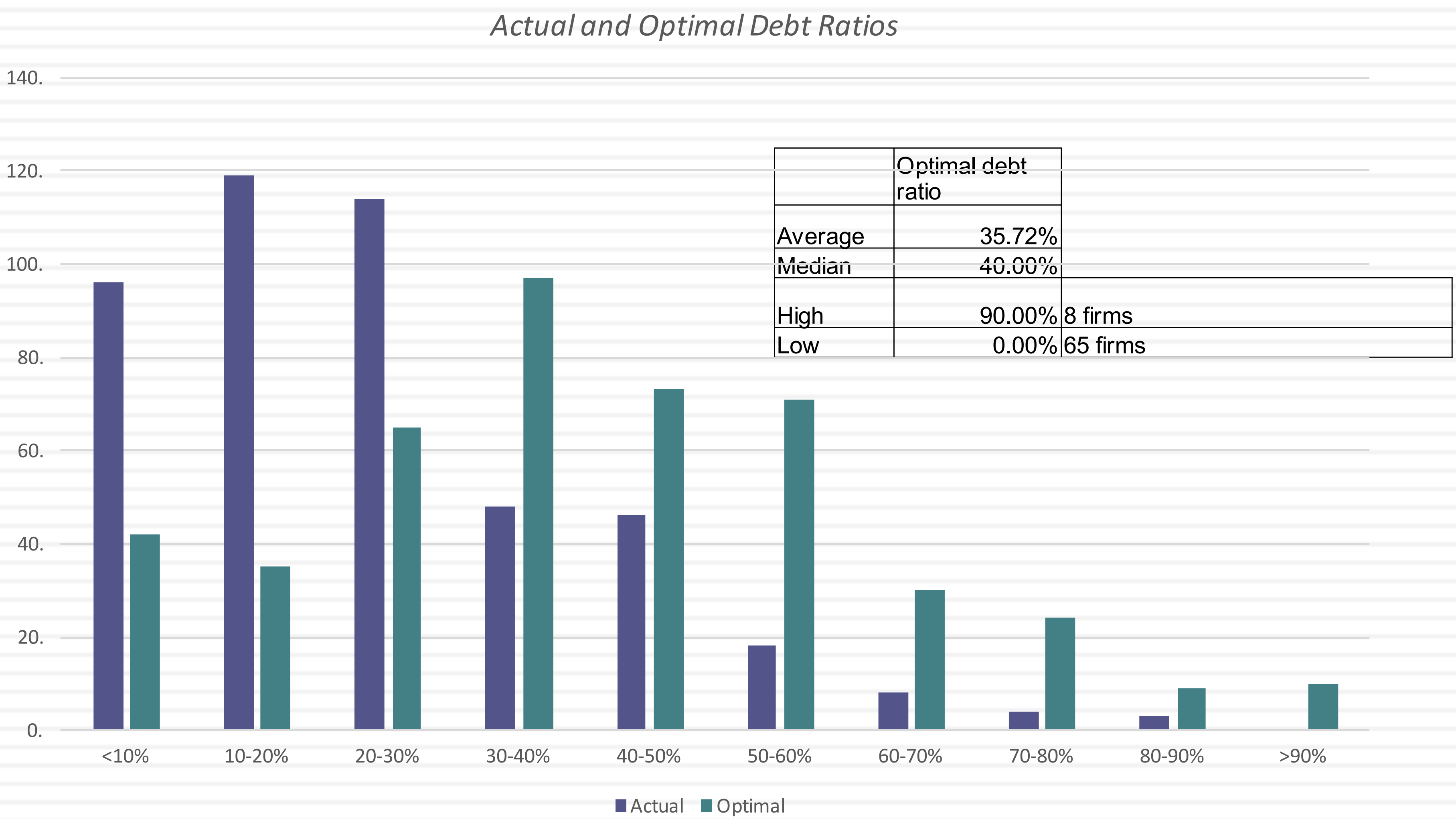
IV. The Quality of Investments: The Firm View



Return Spreads

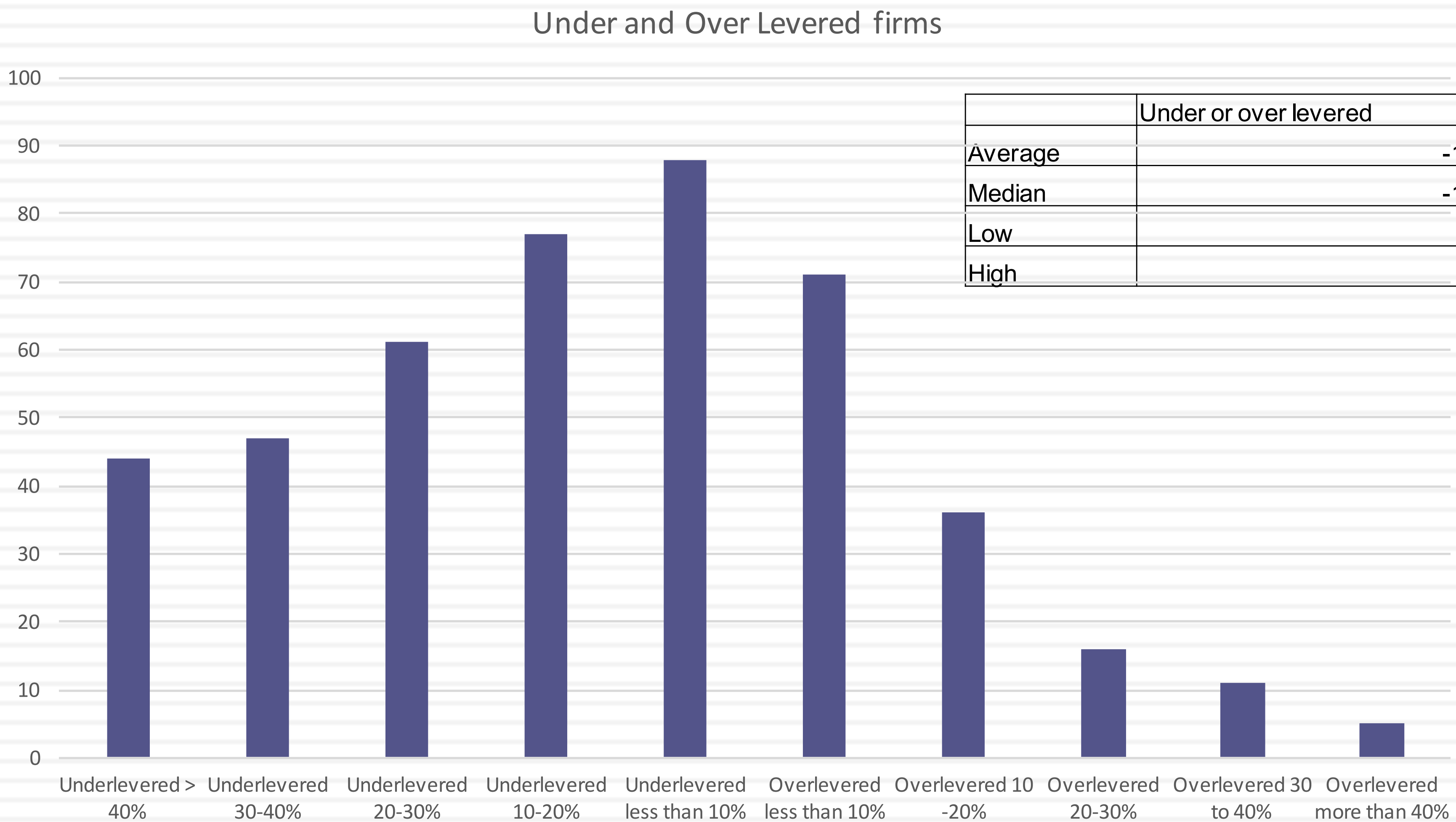
	ROE -COE	ROC - WACC
Average	13.01%	12.98%
Median	8.90%	6.04%

VI. The Optimal Financing Mix



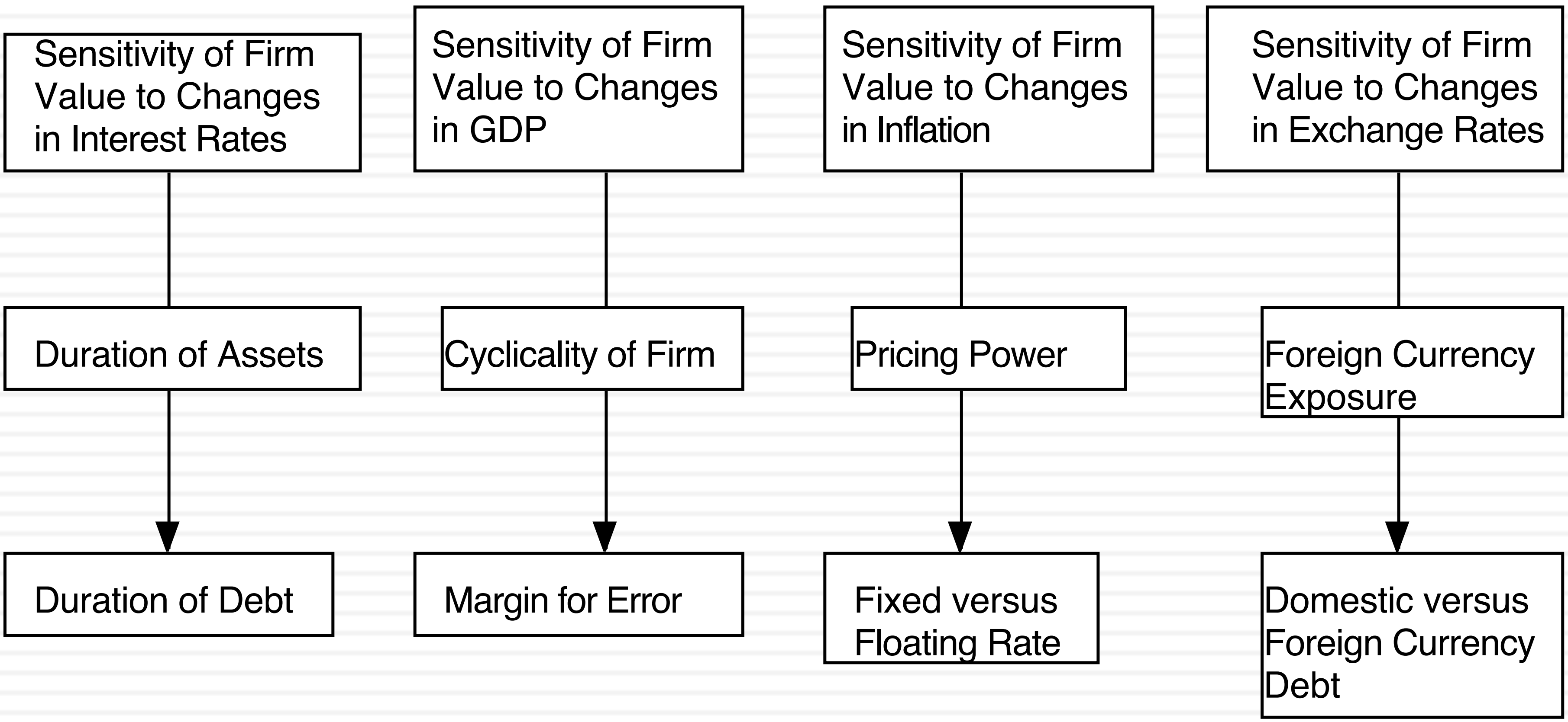
	Optimal debt ratio	
Average	35.72%	
Median	40.00%	
High	90.00%	8 firms
Low	0.00%	65 firms

Under versus Over Levered Firms



	Under or over levered
Average	-11.80%
Median	-10.08%
Low	-90%
High	+68%

VIII. The Right Kind of Financing



IX. Measuring Potential Dividends

Begin with the net income (which is after interest expenses and taxes)

Add back the non-cash charges such as depreciation & amortization

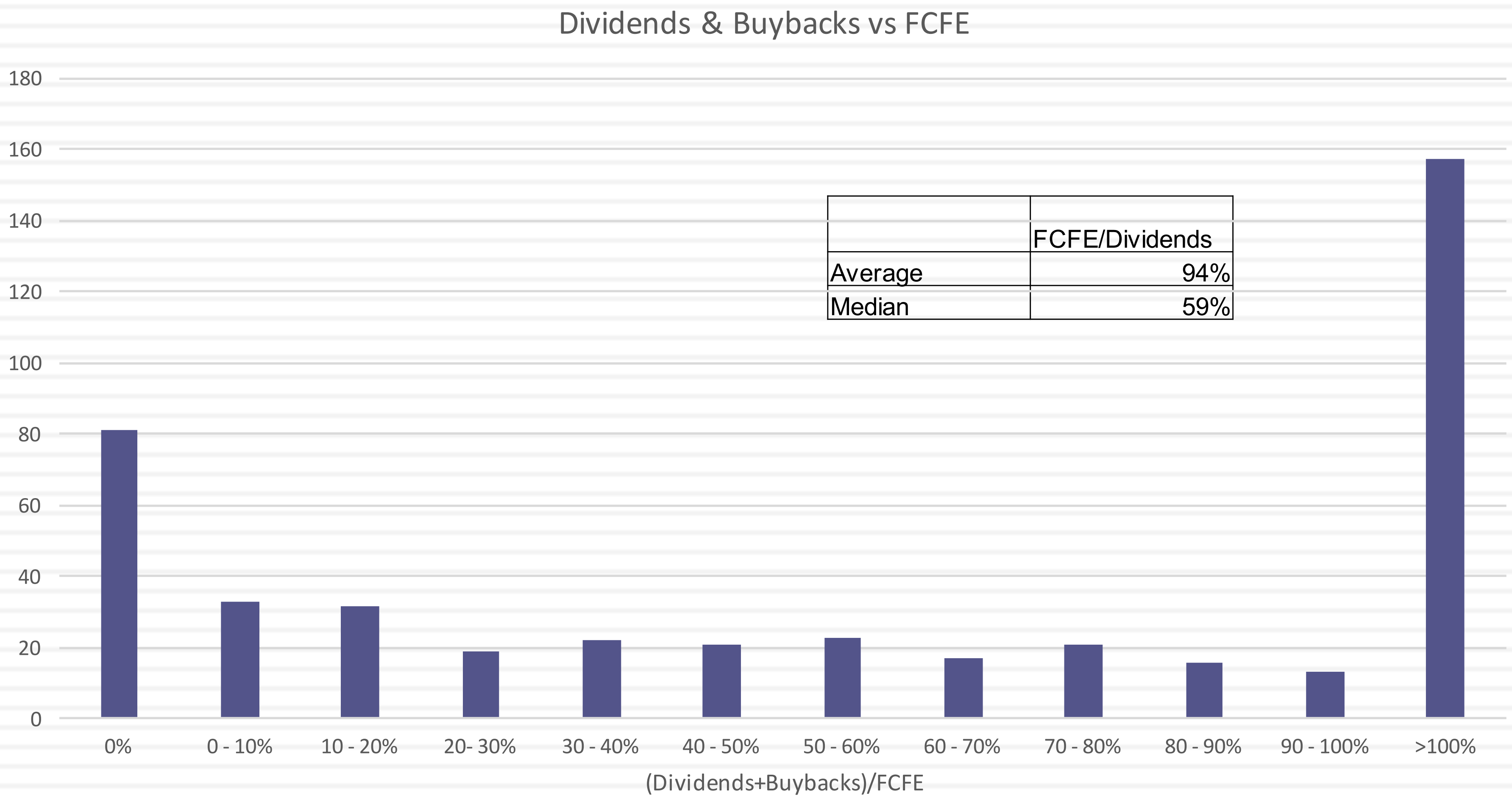
Subtract out reinvestment needs
- Capital expenditures
- Investments in Non-cash Working Capital (Change)

Subtract out payments to non-equity investors
- Principal Repayments
- Preferred Stock Dividends

Add any cash inflows from new debt
- New Debt Issues

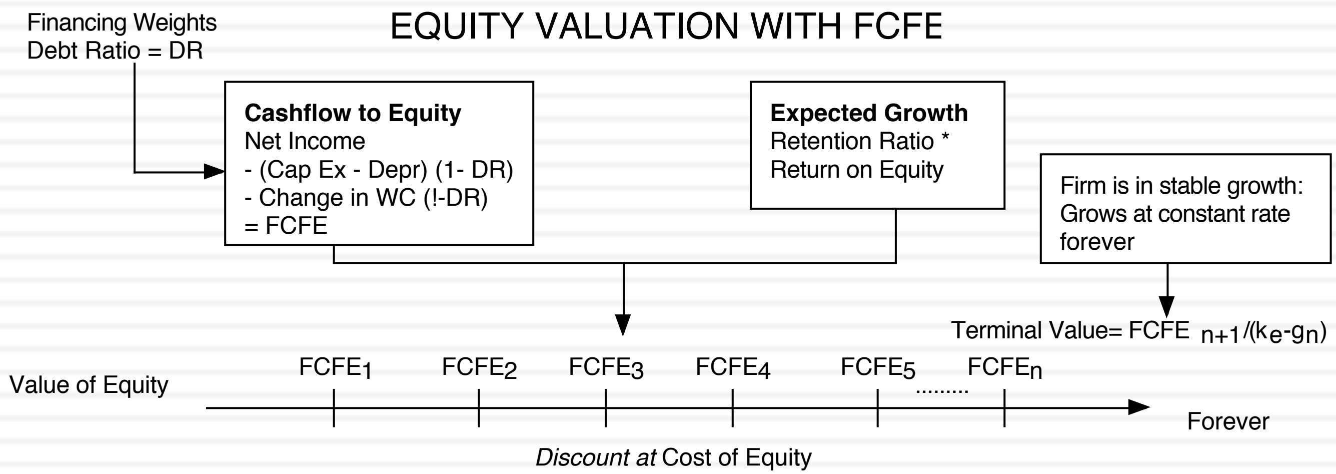
To get to the Cash that is available for return to Owners

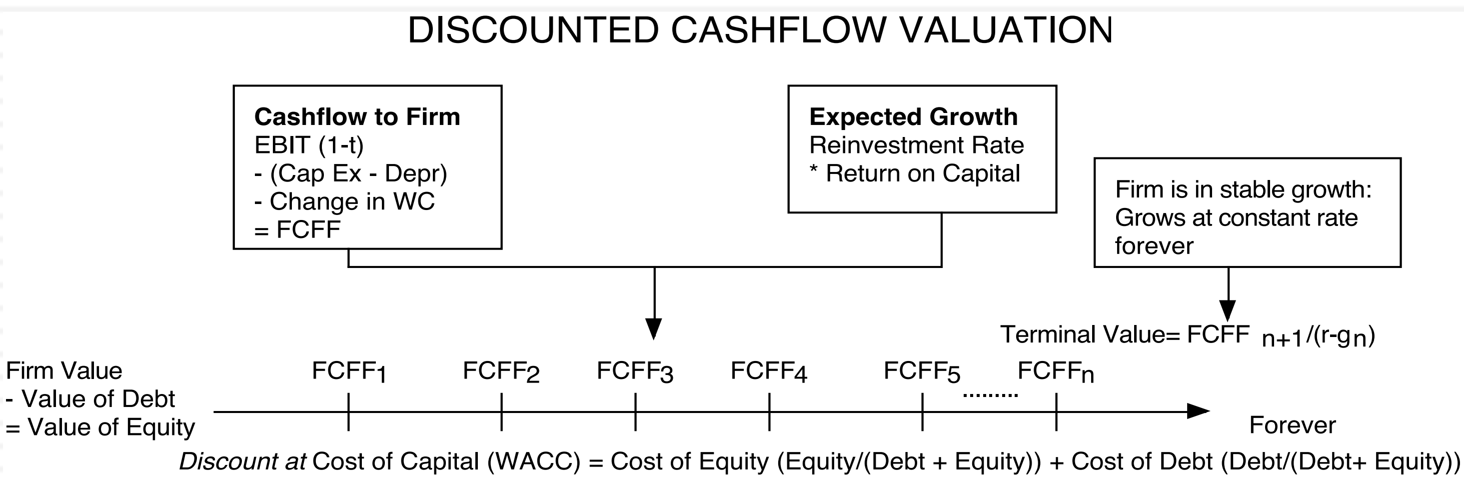
Dividends versus FCFE



	FCFE/Dividends
Average	94%
Median	59%

X. Valuation:
Match up cashflows and discount rates…





Getting to equity value per share

Approach used	To get to equity value per share
Discount dividends per share at the cost of equity	Present value is value of equity per share
Discount aggregate FCFE at the cost of equity	Present value is value of aggregate equity. Subtract the value of equity options given to managers and divide by number of shares.
Discount aggregate FCFF at the cost of capital	PV = Value of operating assets + Cash & Near Cash investments + Value of minority cross holdings -Debt outstanding = Value of equity -Value of equity options =Value of equity in common stock / Number of shares

Disney: Inputs to Valuation

	High Growth Phase	*Transition Phase*	*Stable Growth Phase*
Length of Period	5 years	5 years	Forever after 10 years
Tax Rate	31.02% (Effective) 36.1% (Marginal)	31.02% (Effective) 36.1% (Marginal)	31.02% (Effective) 36.1% (Marginal)
Return on Capital	12.61%	Declines linearly to 10%	Stable ROC of 10%
Reinvestment Rate	53.93% (based on normalized acquisition costs)	Declines gradually to 25% as ROC and growth rates drop:	25% of after-tax operating income. Reinvestment rate = g/ ROC = 2.5/10=25%
Expected Growth Rate in EBIT	ROC * Reinvestment Rate = 0.1261*.5393 = .068 or 6.8%	Linear decline to Stable Growth Rate of 2.5%	2.5%
Debt/Capital Ratio	11.5%	Rises linearly to 20.0%	20%
Risk Parameters	Beta = 1.0013, k_e = 8.52%% Pre-tax Cost of Debt = 3.75% Cost of capital = 7.81%	Beta changes to 1.00; Cost of debt stays at 3.75% Cost of capital declines gradually to 7.29%	Beta = 1.00; k_e = 8.51% Cost of debt stays at 3.75% Cost of capital = 7.29%

Disney - November 2013

Current Cashflow to Firm
EBIT(1-t)= 10,032(1-.31)= 6,920
- (Cap Ex - Deprecn) 3,629
- Chg Working capital 103
= FCFF 3,188
Reinvestment Rate = 3,732/6920
=53.93%
Return on capital = 12.61%

Reinvestment Rate
53.93%

Return on Capital
12.61%

Expected Growth
.5393*.1261=.068 or 6.8%

Stable Growth
g = 2.75%; Beta = 1.00;
Debt %= 20%; k(debt)=3.75
Cost of capital =7.29%
Tax rate=36.1%; ROC= 10%;
Reinvestment Rate=2.5/10=25%

Terminal Value$_{10}$= 7,980/(.0729-.025) = 165,323

First 5 years

Growth declines gradually to 2.75%

	1	2	3	4	5	6	7	8	9	10
EBIT * (1 - tax rate)	$7,391	$7,893	$8,430	$9,003	$9,615	$10,187	$10,704	$11,156	$11,531	$11,819
- Reinvestment	$3,985	$4,256	$4,546	$4,855	$5,185	$4,904	$4,534	$4,080	$3,550	$2,955
FCFF	$3,405	$3,637	$3,884	$4,148	$4,430	$5,283	$6,170	$7,076	$7,981	$8,864

Term Yr
10,639
2,660
7,980

Op. Assets 125,477
+ Cash: 3,931
+ Non op inv 2,849
- Debt 15,961
- Minority Int 2,721
=Equity 113,575
-Options 972
Value/Share $ 62.56

Cost of Capital (WACC) = 8.52% (0.885) + 2.40% (0.115) = 7.81%

Cost of capital declines gradually to 7.29%

In November 2013, Disney was trading at $67.71/share

Cost of Equity
8.52%

Cost of Debt
(2.75%+1.00%)(1-.361)
= 2.40%
Based on actual A rating

Weights
E = 88.5% D = 11.5%

Riskfree Rate:
Riskfree rate = 2.75%

+

Beta
1.0013

X

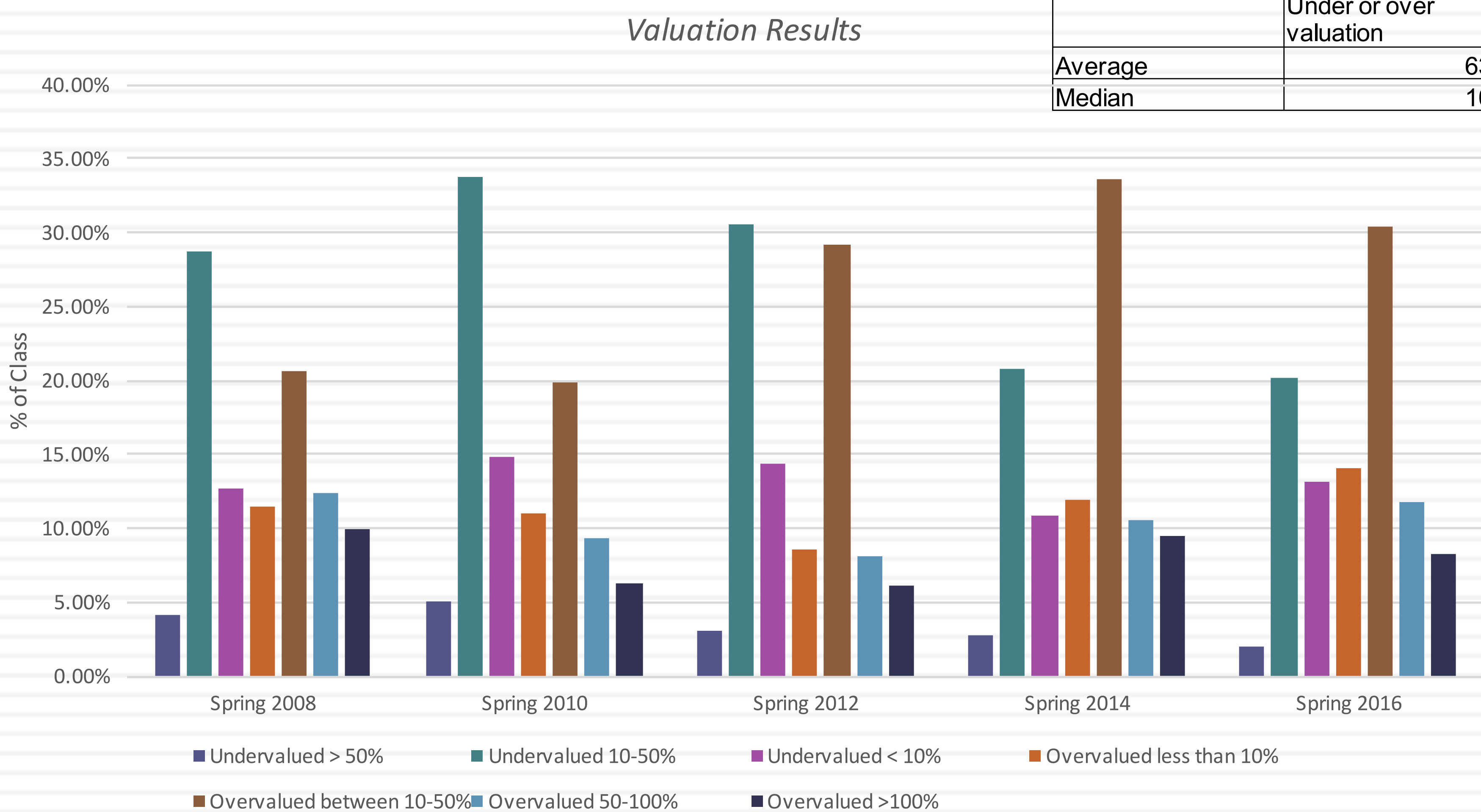
ERP for operations
5.76%

Unlevered Beta for Sectors: 0.9239

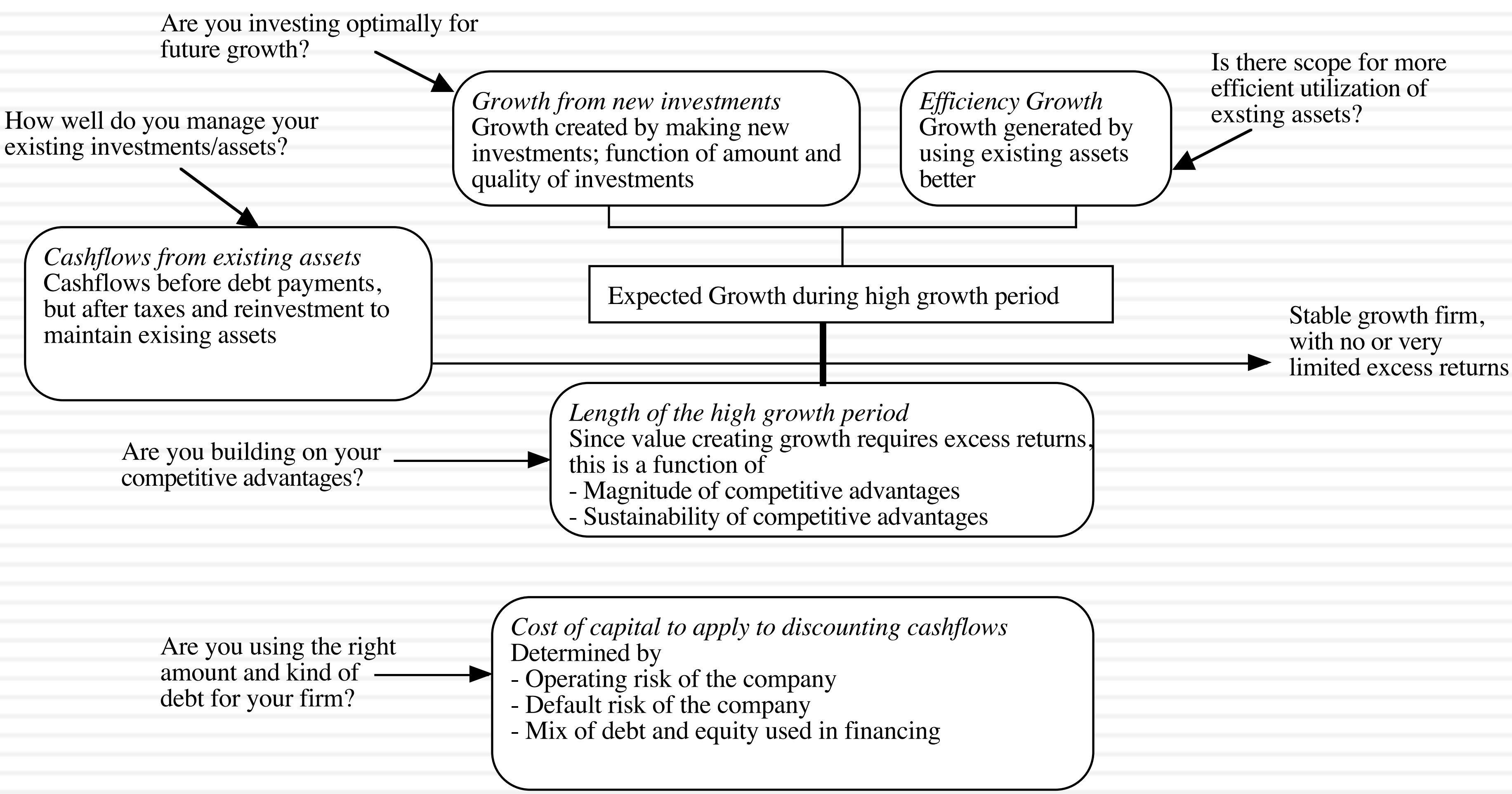
D/E=13.10%

Value versus Price

	Under or over valuation
Average	63%
Median	10%



Ways of changing value…



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Expected Growth
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Stable Growth
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10,639
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Cost of capital declines gradually to 7.29%

Cost of Equity
8.52%

Cost of Debt
(2.75%+1.00%)(1-.361)
= 2.40%
Based on actual A rating

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Riskfree Rate:
Riskfree rate = 2.75%

+

Beta
1.0013

X

ERP for operations
5.76%

Unlevered Beta for Sectors: 0.9239

D/E=13.10%

Disney (Restructured)- November 2013

Current Cashflow to Firm
EBIT(1-t)= 10,032(1-.31)= 6,920
- (Cap Ex - Deprecn) 3,629
- Chg Working capital 103
= FCFF 3,188
Reinvestment Rate = 3,732/6920
=53.93%
Return on capital = 12.61%

Reinvestment Rate
50.00%

More selective acquisitions & payoff from gaming

Return on Capital
14.00%

Expected Growth
.50* .14 = .07 or 7%

Stable Growth
g = 2.75%; Beta = 1.20;
Debt %= 40%; k(debt)=3.75%
Cost of capital =6.76%
Tax rate=36.1%; ROC= 10%;
Reinvestment Rate=2.5/10=25%

Terminal Value_{10}= 9,206/(.0676-.025) = 216,262

First 5 years

Growth declines gradually to 2.75%

	1	2	3	4	5	6	7	8	9	10
EBIT * (1 - tax rate)	$7,404	$7,923	$8,477	$9,071	$9,706	$10,298	$10,833	$11,299	$11,683	$11,975
- Reinvestment	$3,702	$3,961	$4,239	$4,535	$4,853	$4,634	$4,333	$3,955	$3,505	$2,994
Free Cashflow to Firm	$3,702	$3,961	$4,239	$4,535	$4,853	$5,664	$6,500	$7,344	$8,178	$8,981

Term Yr
12,275
3,069
9,206

Op. Assets 147,704
+ Cash: 3,931
+ Non op inv 2,849
- Debt 15,961
- Minority Int 2,721
=Equity 135,802
-Options 972
Value/Share $ 74.91

Cost of Capital (WACC) = 8.52% (0.60) + 2.40%(0.40) = 7.16%

Cost of capital declines gradually to 6.76%

Cost of Equity
10.34%

Cost of Debt
(2.75%+1.00%)(1-.361)
= 2.40%
Based on synthetic A rating

Weights
E = 60% D = 40%

In November 2013, Disney was trading at $67.71/share

Move to optimal debt ratio, with higher beta.

Riskfree Rate:
Riskfree rate = 2.75%

+

Beta
1.3175

X

ERP for operations
5.76%

Unlevered Beta for Sectors: 0.9239

D/E=66.67%

So, how do you explain the price? Its all relative..

Company Name	*Ticker Symbol*	*PE*	*Expected Growth Rate*	*PEG*
Point 360	PTSX	10.62	5.00%	2.12
Fox Entmt Group Inc	FOX	22.03	14.46%	1.52
Belo Corp. 'A'	BLC	25.65	16.00%	1.60
Hearst-Argyle Television Inc	HTV	26.72	12.90%	2.07
Journal Communications Inc.	JRN	27.94	10.00%	2.79
Saga Communic. 'A'	SGA	28.42	19.00%	1.50
Viacom Inc. 'B'	VIA/B	29.38	13.50%	2.18
Pixar	PIXR	29.80	16.50%	1.81
Disney (Walt)	DIS	29.87	12.00%	2.49
Westwood One	WON	32.59	19.50%	1.67
World Wrestling Ent.	WWE	33.52	20.00%	1.68
Cox Radio 'A' Inc	CXR	33.76	18.70%	1.81
Beasley Broadcast Group Inc	BBGI	34.06	15.23%	2.24
Entercom Comm. Corp	ETM	36.11	15.43%	2.34
Liberty Corp.	LC	37.54	19.50%	1.92
Ballantyne of Omaha Inc	BTNE	55.17	17.10%	3.23
Regent Communications Inc	RGCI	57.84	22.67%	2.55
Emmis Communications	EMMS	74.89	16.50%	4.54
Cumulus Media Inc	CMLS	94.35	23.30%	4.05
Univision Communic.	UVN	122.76	24.50%	5.01
Salem Communications Corp	SALM	145.67	28.75%	5.07
Average for sector		47.08	17.17%	2.74

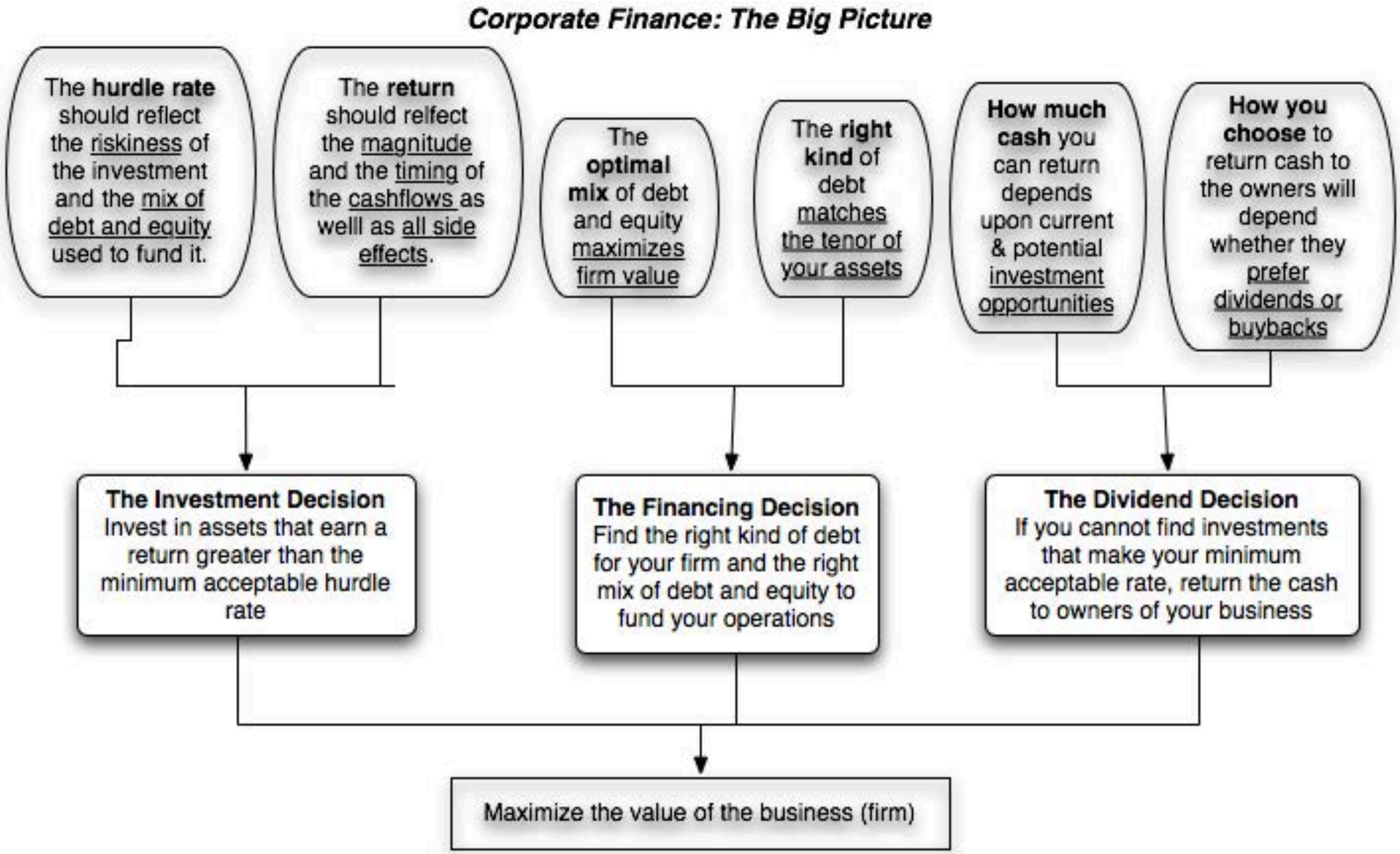
Most undervalued stocks!!

Company	Value/share	Price/Share	% Under valued
Sony	$10,676.88	$2,563.50	-75.99%
Live Nation	$78.07	$23.43	-69.99%
Adidas AG	$71.71	$28.56	-60.17%
GoPro	$24.78	$10.46	-57.79%
Bayer	$229.74	$97.77	-57.44%
Sotheby’s	$34.67	$15.30	-55.87%
JetBlue	$39.90	$19.00	-52.38%
GoPro	$23.94	$12.64	-47.20%
MSG Networks	$31.75	$17.09	-46.17%
GNC	$68.76	$37.17	-45.95%
Ralph Lauren	$158.92	$90.11	-43.30%
Enbridge Energy Partners, LP.	$38.03	$21.71	-42.91%

The Triple Whammy: Under levered, Cash Build-up and Under valued?

	Investment Performance		Capital Structure		Dividend Policy		Valuation	
Company	ROE - COE	ROC - WACC	Current Debt ratio	Optimal Debt Ratio	Dividends	FCFE	Value/share	Price/Share
Bayer	10.24%	4.63%	21.85%	80.00%	8600	17490.5	$229.74	$97.77
MSG Networks	-20.29%	-1.33%	73.02%	90.00%	0	$351.80	$31.75	$17.09
Ralph Lauren	8.57%	28.20%	29.28%	50.00%	639.8	742.4	$158.92	$90.11
Walmart	17.16%	10.61%	38.40%	70.00%	10,947	11708	$110.13	$68.49
Apple Inc	40.90%	29.30%	12.90%	80.00%	$11,561	$61,509	$147.52	$92.74
Trinity	9.78%	7.76%	67.58%	80.00%	517.4	1452.2	$27.45	$17.64
Wyndham Worldwide	54.85%	4.55%	38.33%	50.00%	$770.00	$2,014.00	$116.29	$76.17
Ralph Lauren	4.38%%	3.77%%	23.48%	80.00%	$149.99	$660	$131.21	$90.02
Toyota Motor Corporation	3.85%	1.20%	52.30%	70.00%	¥1,599,860	¥5,224,332	¥15,728	¥10,851
FitBit	21.05%	23.53%	3.20%	40.00%	0	34.26	$19.60	$13.62
Village Super Market Inc.	4.13%	4.85%	25.41%	60.00%	$14.61	$27.55	$35.28	$24.68
Apple	28.86%	4.25%	16.27%	40%	3,574	202,905.95	$129.17	$94.30
Sciclone	11.59%	28.81%	0.00%	20.00%	0	19.58	$17.94	$13.20
S&W	18.10%	13.34%	13.43%	70.00%	$0.0	$567.3	$30.29	$22.43
Michael Kors	32.67%	49.69%	13.00%	50.00%	99.55	384.07	$67.91	$50.87
Gap Inc	25.27%	6.00%	45.05%	70.00%	1570.4	2301.2	$30.30	$22.74
Goodyear	-0.82%	-0.75%	48.13%	70.00%	186	1331	$36.90	$28.19
Tyson	5.82%	9.30%	28.87%	50.00%	$288.17	$1,011.83	$82.15	$64.08
Herbalife	-174.84%	47.86%	23.42%	50%	374.1	3,608.5	$81.10	$63.62
Apple	34.80%	29.58%	10.80%	70%	14224	25133	$113.96	$92.72
Chipotle	22.70%	5.53%	19.16%	50.00%	193.704	311.938	$528.78	$433.50
Chipotle	17.78%	26.75%	17.66%	30%	$0.00	$326.77	$526.55	$433.93
Ralph Lauren	22.87%	12.32%	26.30%	90.00%	$158	$611	$112.85	$93.05
Lululemon	25.13%	36.46%	6.41%	20%	0.0	1,050.2	$75.90	$62.81
CVS Health	7.21%	0.51%	31%	50%	$1,092.80	$3,481	$124.57	$103.90
Southwest	31.34%	17.36%	16.70%	60.00%	1021.67	1320	$48.96	$40.91
Microsoft	8.50%	9.00%	8.90%	50.00%	$9,882	$17,289	$59.86	$50.39
Verisign	37.00%	53.80%	16.00%	30.00%	0	696.8	$101.02	$85.19
Lululemon	8.47%	8.11%	5.50%	30%	$0.00	$142.68	$73.58	$62.81
CSX Corporation	8.00%	3.80%	29.73%	60.00%	686	921	$30.47	$26.17
Starz	128.15%	76.86%	27.48%	70%	$504.46	$942.46	$30.00	$25.86
Delta	14.24%	6.98%	34.80%	70.00%	$812.4	$1,729.0	$48.54	$42.04
IMAX	6.53%	11.68%	2.12%	20.00%	0	76.65	$36.81	$32.80
Lululemon	15.40%	15.51%	7.15%	25.00%	0	141.2	$70.40	$62.81

First Principles



Objectives of this class

- If you get the big picture, the details will come (sooner or later)
- Tools are useful but only in the larger context of answering bigger questions.
- Corporate finance is not so bad !!!

And don't forget your CFEs…

1. This course was mentally challenging/intellectually stimulating.

1 2 3 4 5 6 7

No-brainer! Brilliant insights!

2. This course was demanding of my time.

1 2 3 4 5 6 7

What work? Haven't slept all semester.

3. This course provided me with tools and information that I will find useful in the future.

1 2 3 4 5 6 7

Only in prison Completely relevant

4. Overall evaluation of the course

1 2 3 4 5 6 7

Horrible! (I want my money back) Stupendous!

5. The instructor was organized and well prepared for class.

1 2 3 4 5 6 7

Had trouble finding dassroom Scarily efficient!

6. The instructor communicated his/her ideas and material well.

1 2 3 4 5 6 7

Garbled gobbledygook! Should have own TV show

7. The instructor was enthusiastic about his/her subject matter.

1 2 3 4 5 6 7

Dead man talking! I am a convert

8. Overall evaluation of the instructor

2 3 4 5 6 7

Dog! Star!