Test 5: Comparables and Exit Multiples

- Now assume that you are told that an analysis of other acquisitions reveals that acquirers have been willing to pay 5 times EBIT.. Given that your target firm has EBIT of $ 20 million, would you be willing to pay $ 100 million for the acquisition?

- What if I estimate the terminal value using an exit multiple of 5 times EBIT?

- As an additional input, your investment banker tells you that the acquisition is accretive. (Your PE ratio is 20 whereas the PE ratio of the target is only 10… Therefore, you will get a jump in earnings per share after the acquisition…)

Biased samples = Poor results

- Biased samples yield biased results. Basing what you pay on what other acquirers have paid is a recipe for disaster. After all, we know that acquirer, on average, pay too much for acquisitions. By matching their prices, we risk replicating their mistakes.
- Even when we use the pricing metrics of other firms in the sector, we may be basing the prices we pay on firms that are not truly comparable.
- When we use exit multiples, we are assuming that what the market is paying for comparable companies today is what it will continue to pay in the future.

Lesson 5: Don't be a lemming…

- All too often, acquisitions are justified by using one of the following two arguments:
  - Everyone else in your sector is doing acquisitions. You have to do the same to survive.
  - The value of a target firm is based upon what others have paid on acquisitions, which may be much higher than what your estimate of value for the firm is.
- With the right set of comparable firms, you can justify almost any price.
- EPS accretion is a meaningless measure. After all, buying an company with a PE lower than yours will lead mathematically to EPS accretion.

Test 6: The CEO really wants to do this… or there are competitive pressures…

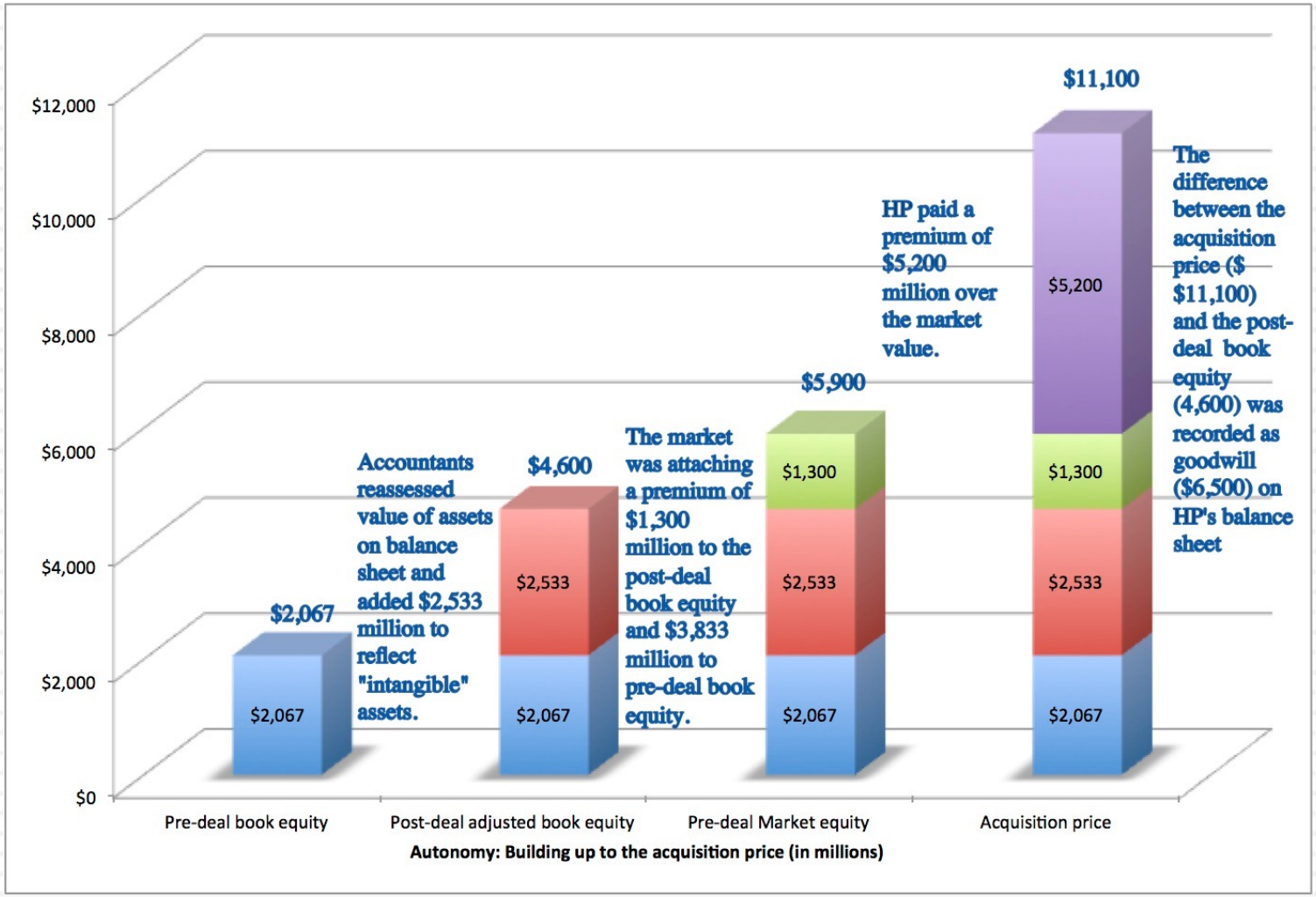
- Now assume that you know that the CEO of the acquiring firm really, really wants to do this acquisition and that the investment bankers on both sides have produced fairness opinions that indicate that the firm is worth $ 100 million. Would you be willing to go along?

- Now assume that you are told that your competitors are all doing acquisitions and that if you don't do them, you will be at a disadvantage? Would you be willing to go along?

Lesson 6: Don't let egos or investment bankers get the better of common sense…

- If you define your objective in a bidding war as winning the auction at any cost, you will win. But beware the winner's curse!
- The premiums paid on acquisitions often have nothing to do with synergy, control or strategic considerations (though they may be provided as the reasons). They may just reflect the egos of the CEOs of the acquiring firms. There is evidence that "over confident" CEOs are more likely to make acquisitions and that they leave a trail across the firms that they run.
- Pre-emptive or defensive acquisitions, where you over pay, either because everyone else is overpaying or because you are afraid that you will be left behind if you don't acquire are dangerous. If the only way you can stay competitive in a business is by making bad investments, it may be best to think about getting out of the business.

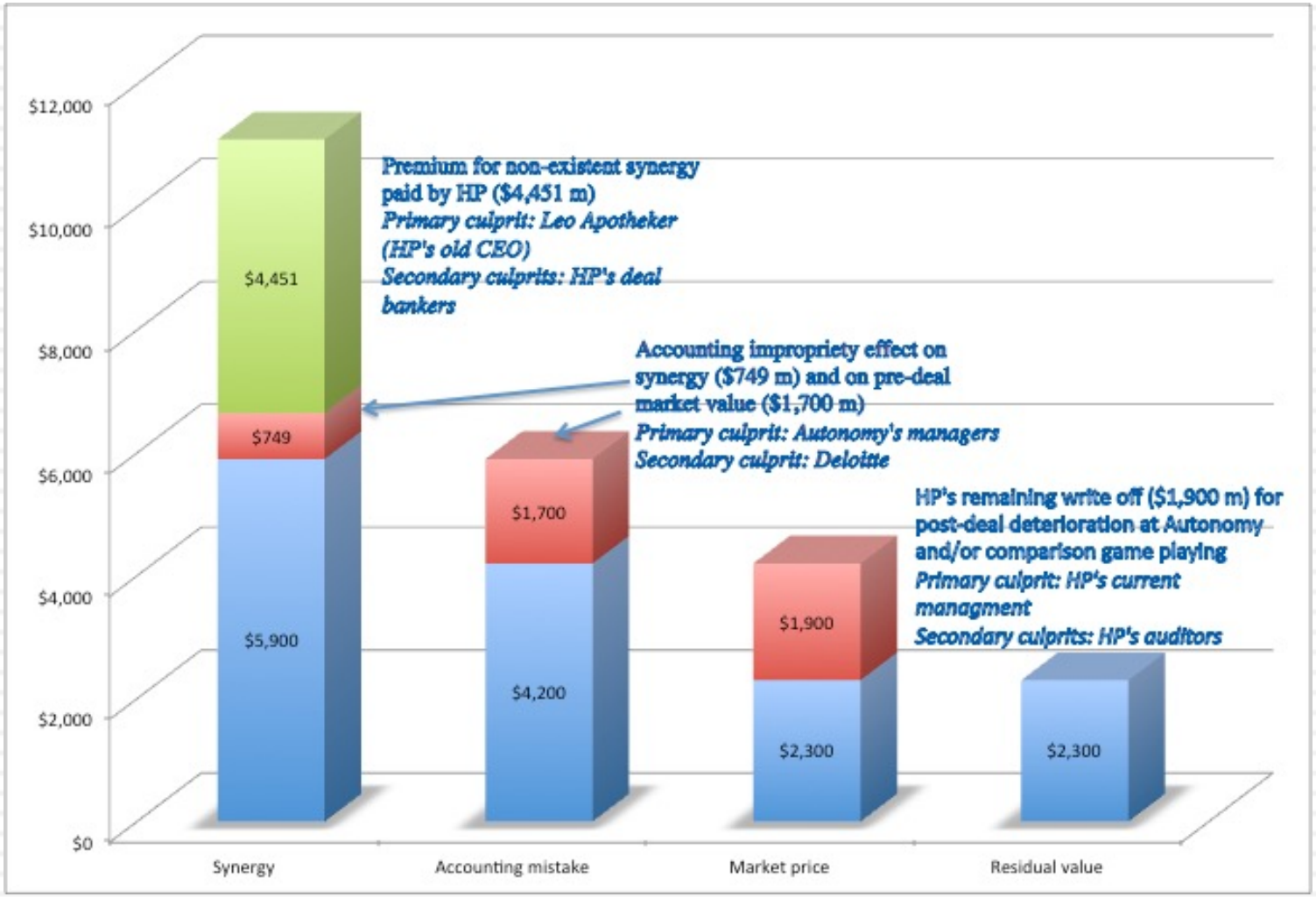
To illustrate: A bad deal is made, and justified by accountants & bankers!



The CEO steps in… and digs a hole…

- Leo Apotheker was the CEO of HP at the time of the deal, brought in to replace Mark Hurd, the previous CEO who was forced to resign because of a "sex" scandal.
- In the face of almost universal feeling that HP had paid too much for Autonomy, Mr. Apotheker addressing a conference at the time of the deal: "We have a **pretty rigorous process inside H.P.** that we follow for **all our acquisitions**, which is a **D.C.F.-based model**," he said, in a reference to discounted cash flow, a standard valuation methodology. "And we try to take a **very conservative view**."
- Apotheker added, "Just to make sure everybody understands, Autonomy will be, on Day 1, **accretive to H.P**….. "**Just take it from us**. We did that analysis at **great length, in great detail**, and we feel that we paid a **very fair price** for Autonomy. And it will give a **great return to our shareholders**.

A year later… HP admits a mistake…and explains it…

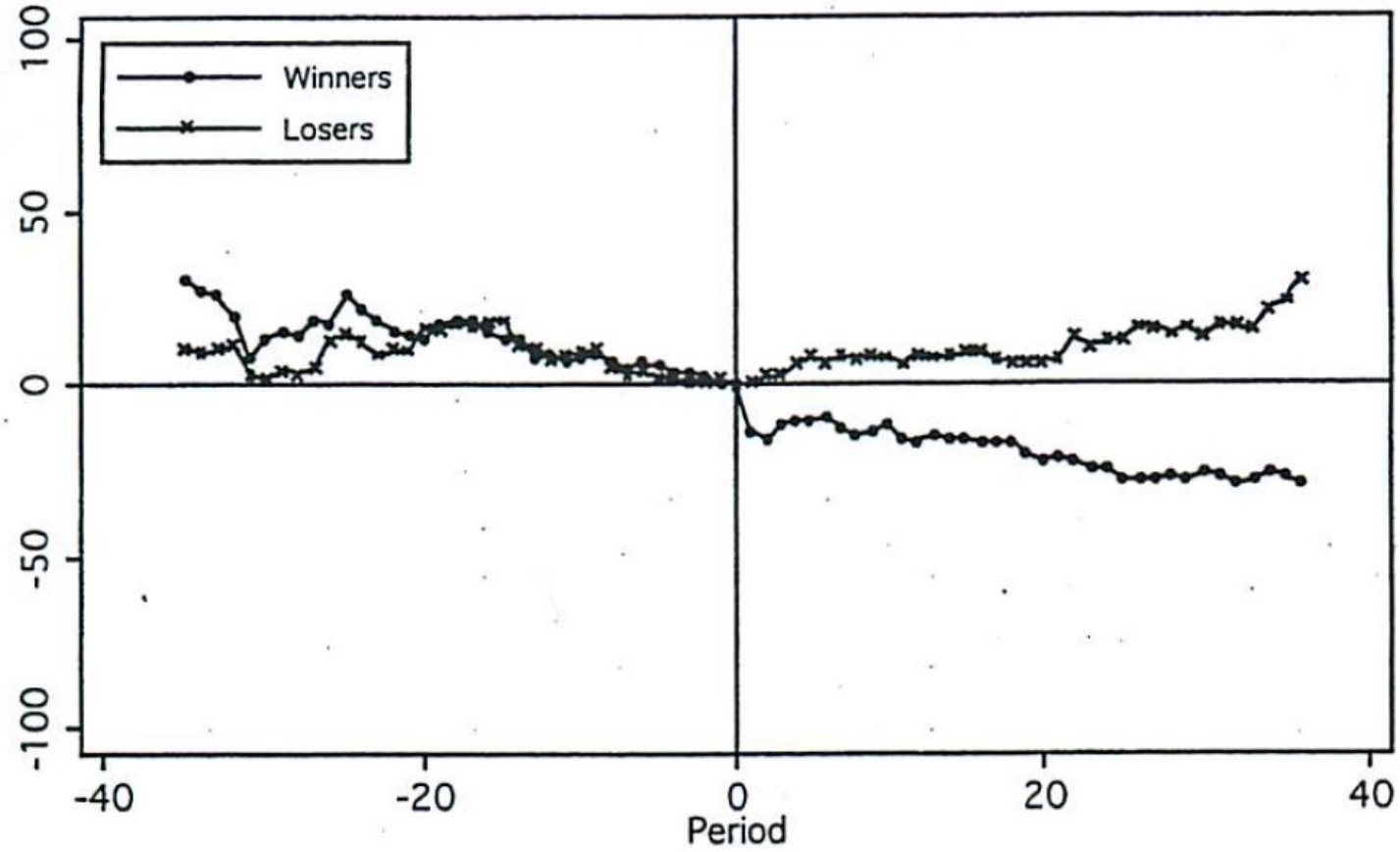


Test 7: Is it hopeless?

- The odds seem to be clearly weighted against success in acquisitions. If you were to create a strategy to grow, based upon acquisitions, which of the following offers your best chance of success?

This	Or this
Sole Bidder	Bidding War
Public target	Private target
Pay with cash	Pay with stock
Small target	Large target
Cost synergies	Growth synergies

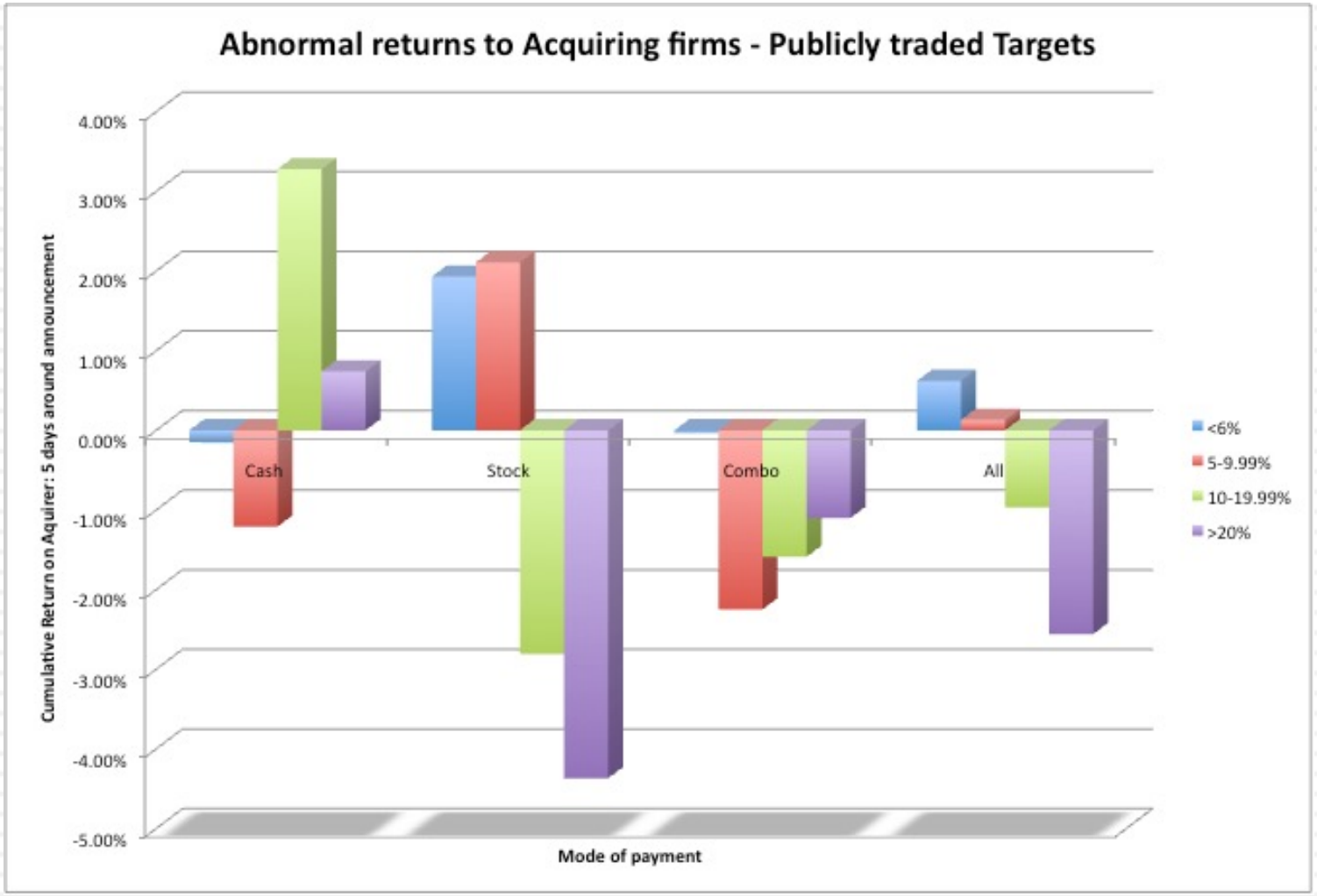
Better to lose a bidding war than to win one…



(a) Market-adjusted CARs

Returns in the 40 months before & after bidding war
Source: Malmendier, Moretti & Peters (2011)

Better off buying small rather than large targets… with cash rather than stock

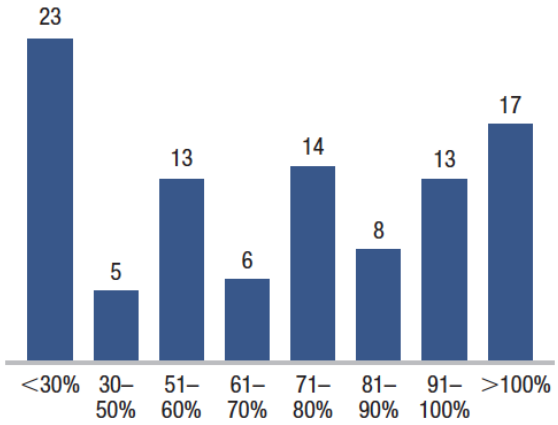


And focusing on private firms and subsidiaries, rather than public firms…

Growth vs Cost Synergies

Top-line trouble: 70 percent of mergers failed to achieve expected revenue synergies

Mergers achieving stated percentage of expected revenue synergies, percent $N = 77$



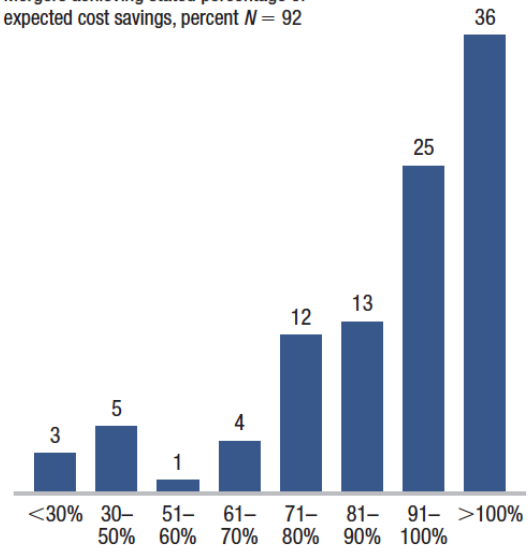
Typical sources of estimation error

- Ignoring or underestimating customer losses (typically 2% to 5%) that result from the integration
- Assuming growth or share targets out of line with overall market growth and competitive dynamics (no "outside view" calibration)

Source: McKinsey (2002) Postmerger Management Practice client survey; client case studies

Cost-synergy estimation is better, but there are patterns emerging in the errors

Mergers achieving stated percentage of expected cost savings, percent $N = 92$



Typical sources of estimation error

- Underestimating one-time costs
- Using benchmarks from noncomparable situations
- Not sanity-checking management estimates against precedent transactions
- Failing to ground estimates in bottom-up analysis (e.g., location-by-location review of overlaps

Source: McKinsey (2002) Postmerger Management Practice client survey; client case studies

Synergy: Odds of success

- Studies that have focused on synergies have concluded that you are far more likely to deliver cost synergies than growth synergies.
- Synergies that are concrete and planned for at the time of the merger are more likely to be delivered than fuzzy synergies.
- Synergy is much more likely to show up when someone is held responsible for delivering the synergy.
- You are more likely to get a share of the synergy gains in an acquisition when you are a single bidder than if you are one of multiple bidders.

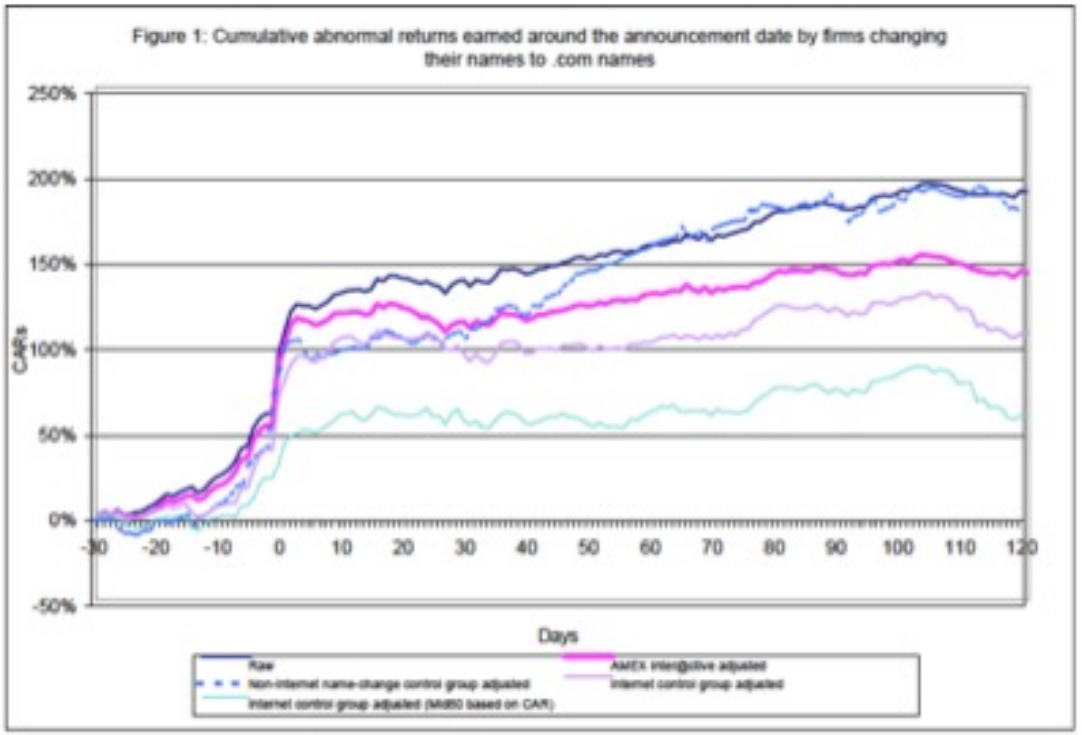
Lesson 7: For acquisitions to create value, you have to stay disciplined..

1. If you have a successful acquisition strategy, stay focused on that strategy. Don't let size or hubris drive you to "expand" the strategy.
2. Realistic plans for delivering synergy and control have to be put in place before the merger is completed. By realistic, we have to mean that the magnitude of the benefits have to be reachable and not pipe dreams and that the time frame should reflect the reality that it takes a while for two organizations to work as one.
3. The best thing to do in a bidding war is to drop out.
4. Someone (preferably the person pushing hardest for the merger) should be held to account for delivering the benefits.
5. The compensation for investment bankers and others involved in the deal should be tied to how well the deal works rather than for getting the deal done.

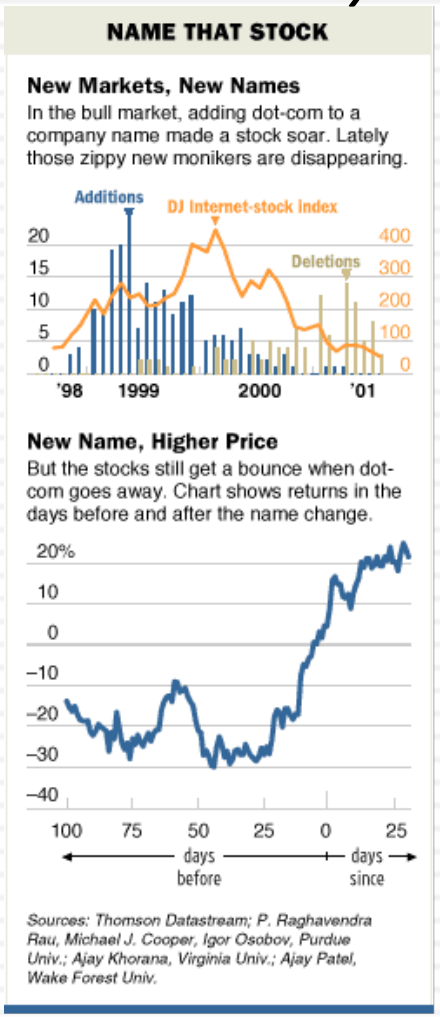
VALUE ENHANCEMENT AND THE EXPECTED VALUE OF CONTROL: BACK TO BASICS

Price Enhancement versus Value Enhancement

The market gives…



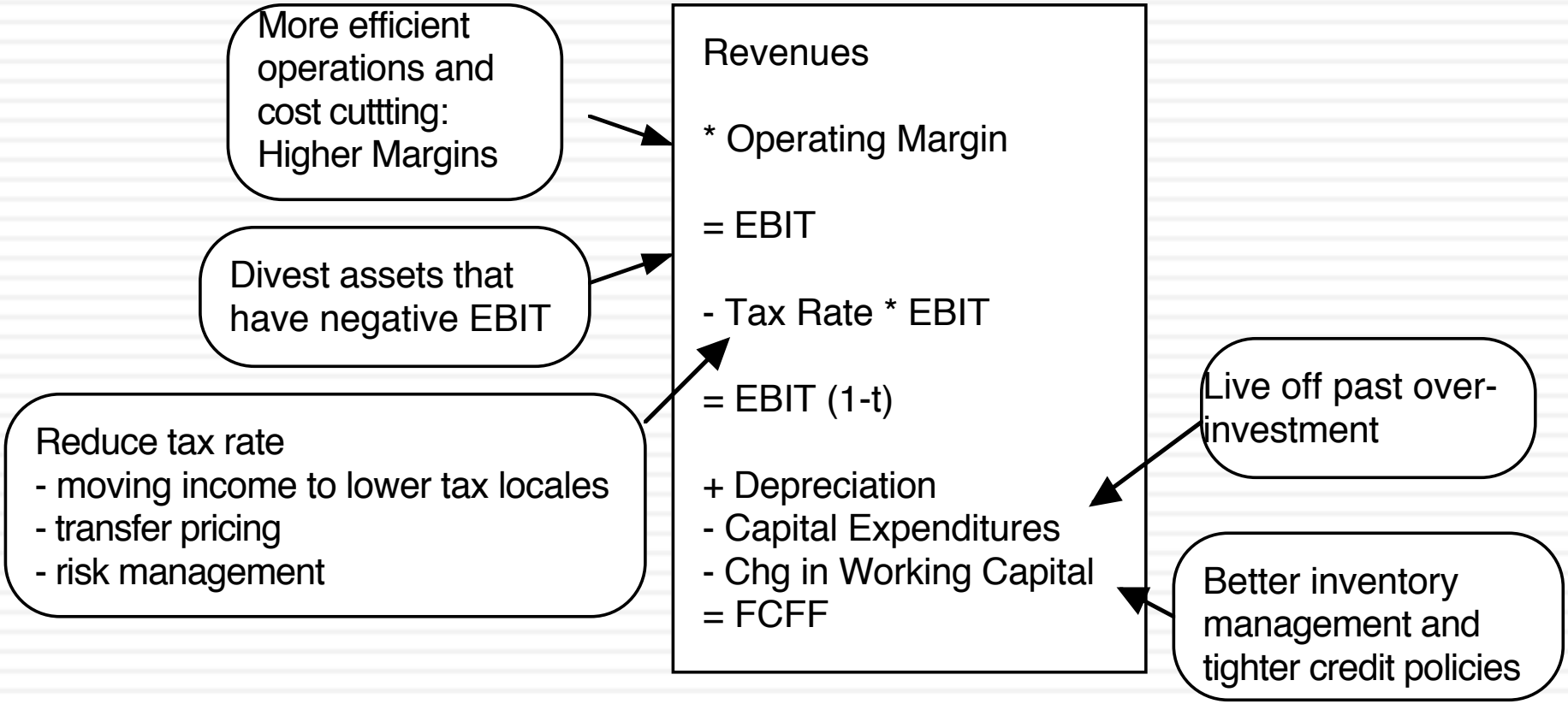
And takes away….



The Paths to Value Creation

- Using the DCF framework, there are four basic ways in which the value of a firm can be enhanced:
  - The cash flows from existing assets to the firm can be increased, by either
    - increasing after-tax earnings from assets in place or
    - reducing reinvestment needs (net capital expenditures or working capital)
  - The expected growth rate in these cash flows can be increased by either
    - Increasing the rate of reinvestment in the firm
    - Improving the return on capital on those reinvestments
  - The length of the high growth period can be extended to allow for more years of high growth.
  - The cost of capital can be reduced by
    - Reducing the operating risk in investments/assets
    - Changing the financial mix
    - Changing the financing composition

Value Creation 1: Increase Cash Flows from Assets in Place

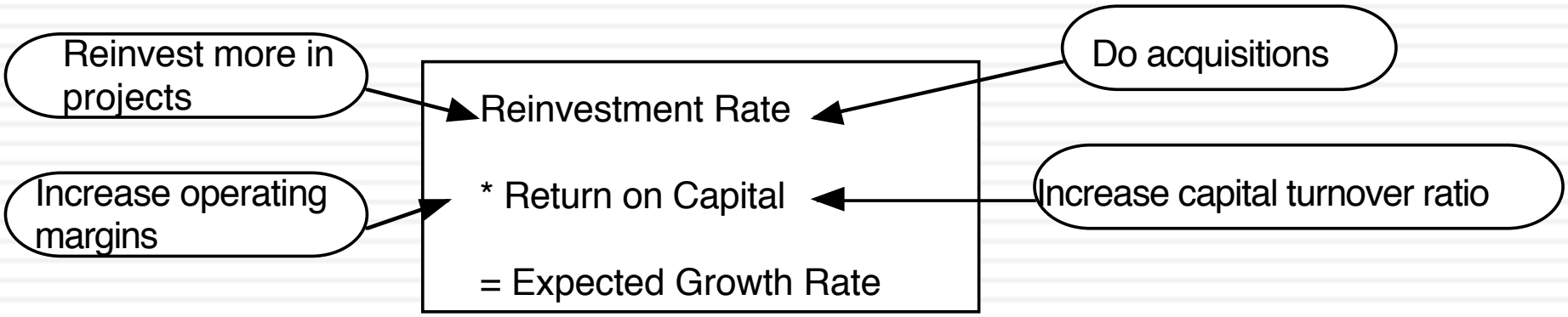


Value Creation 2: Increase Value from Expected Growth

Pricing Strategies

Price Leader versus Volume Leader Strategies

*Return on Capital = Operating Margin * Capital Turnover Ratio*



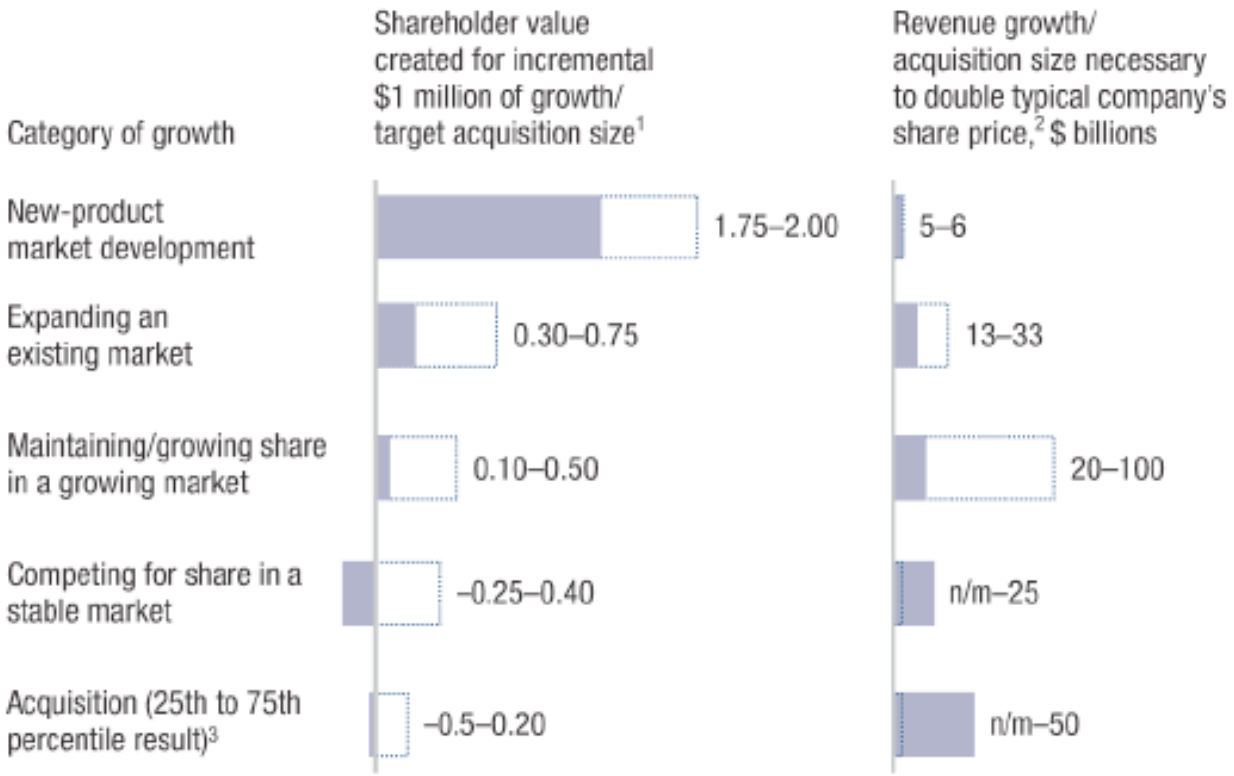
Game theory

How will your competitors react to your moves?

How will you react to your competitors' moves?

Value Creating Growth… Evaluating the Alternatives..

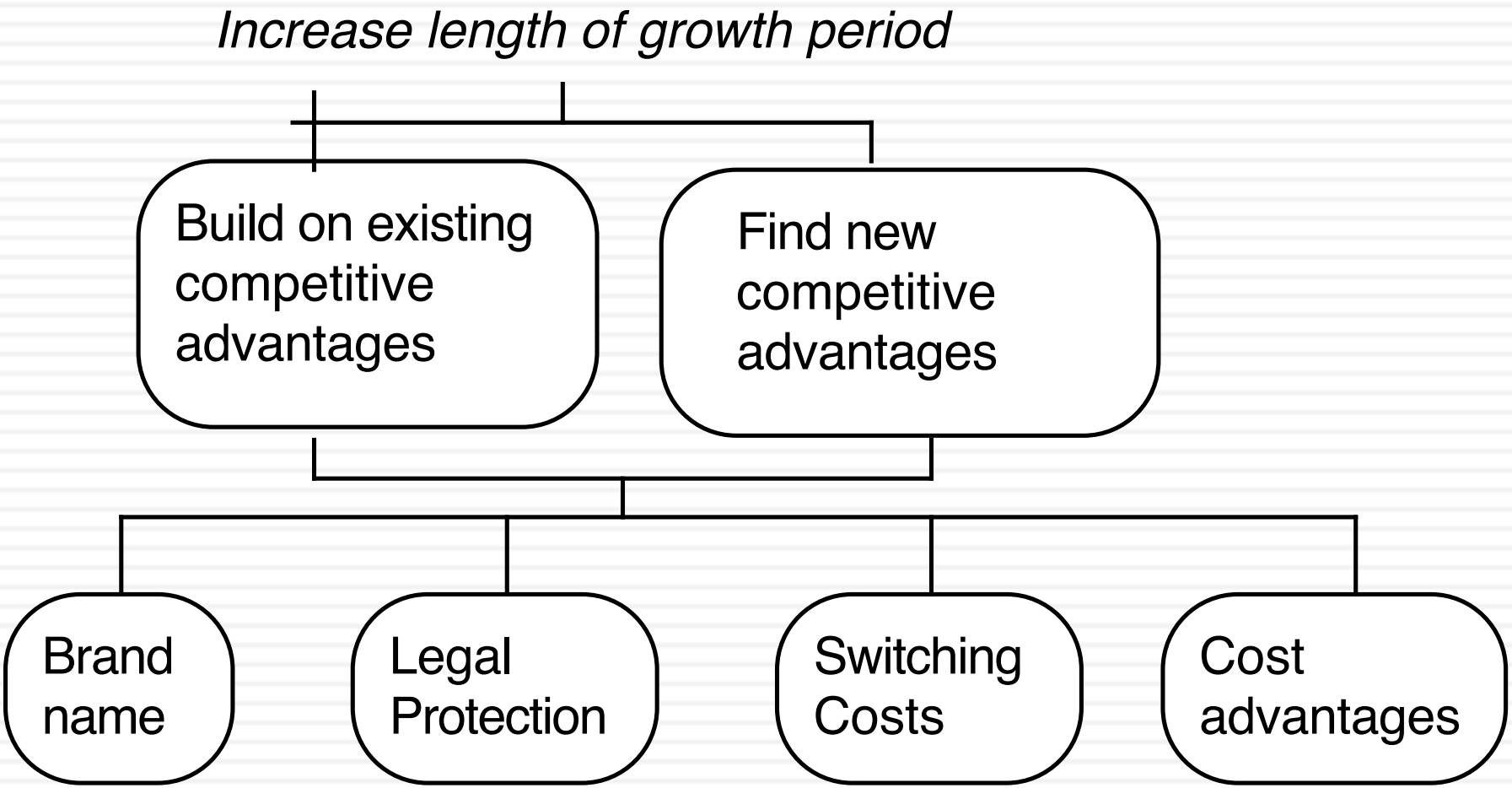
Modes of organic growth vary in value creation intensity—consumer goods industry



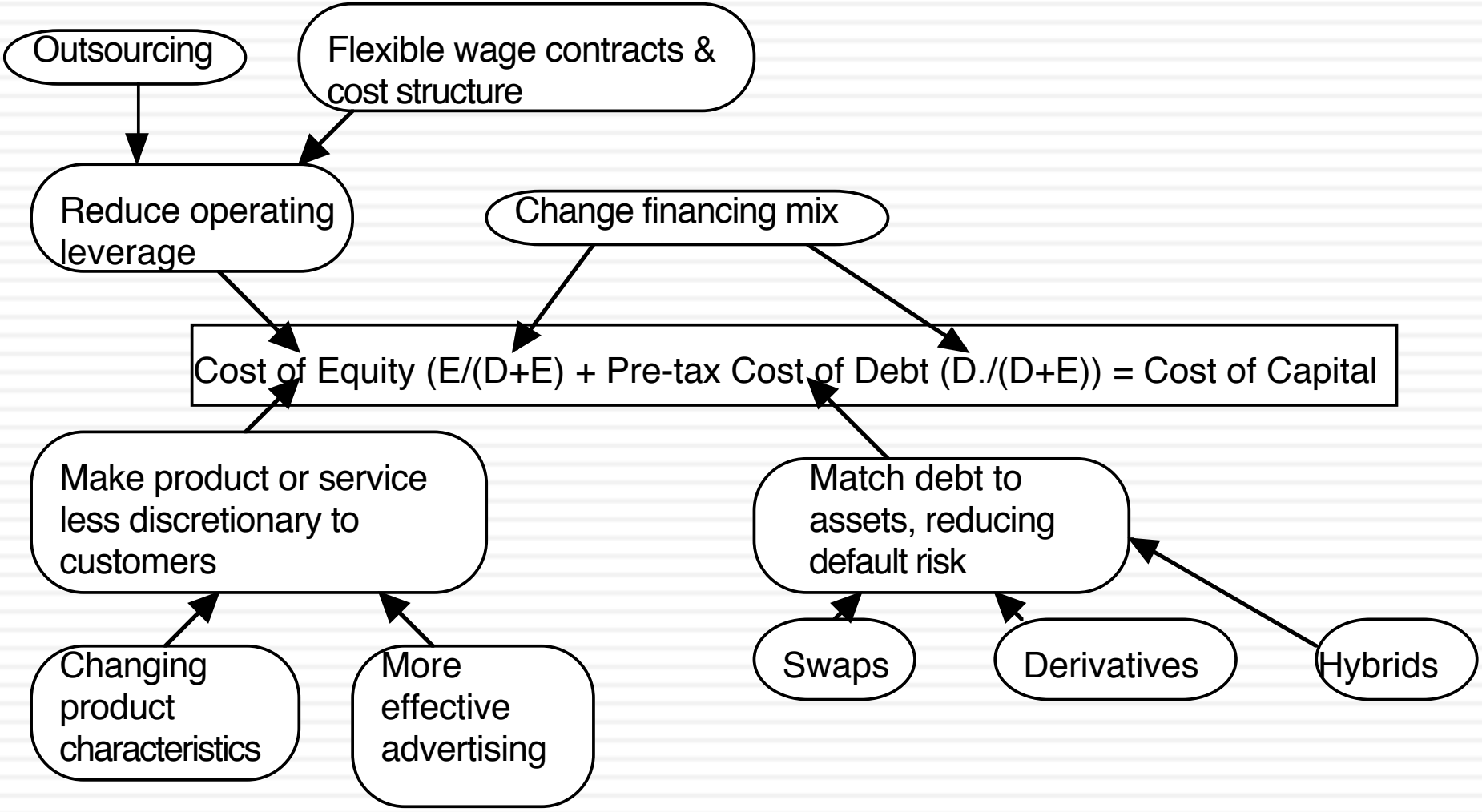
Sometimes, growing less is the answer… Excess Returns in 2023..

Sub Group	count	Median Value		% with ROE>COE	Median Value		% with ROC>WACC	% with ROIC<WACC	% with ROIC greater than WACC by >5%	% with ROIC less than WACC by >5%
		ROE	Cost of Equity		ROIC	Cost of Capital				
Africa and Middle East	1,836	8.14%	13.93%	33.22%	5.81%	11.70%	29.96%	70.04%	20.00%	47.01%
Australia & NZ	1,747	-9.04%	10.51%	22.36%	-5.36%	10.43%	25.72%	74.28%	18.88%	41.88%
Canada	2,722	-12.09%	10.54%	17.13%	-7.99%	10.44%	19.96%	80.04%	14.54%	41.19%
China	6,955	7.15%	12.14%	27.96%	4.64%	11.00%	27.25%	72.75%	17.32%	43.20%
EU & Environs	5,243	8.46%	12.11%	36.99%	6.66%	10.66%	37.74%	62.26%	27.09%	50.17%
Eastern Europe & Russia	287	7.85%	13.31%	32.87%	4.96%	11.61%	28.83%	71.17%	20.27%	43.94%
India	3,574	8.37%	14.31%	34.00%	6.29%	12.85%	29.63%	70.37%	19.71%	42.87%
Japan	3,787	7.06%	12.51%	23.75%	5.93%	10.79%	30.83%	69.17%	19.87%	50.36%
Latin America & Caribbean	821	10.13%	16.17%	32.21%	9.30%	12.50%	40.90%	59.10%	26.45%	52.00%
Small Asia	8,792	7.09%	13.31%	27.71%	4.77%	11.35%	24.71%	75.29%	15.10%	41.29%
UK	1,052	5.76%	12.32%	33.22%	6.56%	10.95%	41.53%	58.47%	31.36%	52.28%
United States	5,593	3.51%	11.37%	35.20%	7.44%	10.10%	46.89%	53.11%	37.53%	51.67%
Global	42,409	6.64%	12.31%	29.49%	5.19%	10.86%	30.64%	69.36%	20.86%	51.68%

III. Building Competitive Advantages: Increase length of the growth period



Value Creation 4: Reduce Cost of Capital



SAP: Status Quo

Avg Reinvestment rate = 36.94%

Reinvestment Rate 57.42%

Return on Capital 19.93%

Current Cashflow to Firm
EBIT(1-t) : 1414
- Nt CpX 831
- Chg WC - 19
= FCFF 602
Reinvestment Rate = 812/1414 =57.42%

Expected Growth in EBIT (1-t)
.5742*.1993=.1144
11.44%

Stable Growth
g = 3.41%; Beta = 1.00;
Debt Ratio= 20%
Cost of capital = 6.62%
ROC= 6.62%; Tax rate=35%
Reinvestment Rate=51.54%

Terminal Value$_{10}$ = 1717/(.0662-.0341) = 53546

First 5 years

Growth decreases gradually to 3.41%

Year	1	2	3	4	5	6	7	8	9	10	Term Yr
EBIT	2,483	2,767	3,083	3,436	3,829	4,206	4,552	4,854	5,097	5,271	5451
EBIT(1-t)	1,576	1,756	1,957	2,181	2,430	2,669	2,889	3,080	3,235	3,345	3543
- Reinvestm	905	1,008	1,124	1,252	1,395	1,501	1,591	1,660	1,705	1,724	1826
= FCFF	671	748	833	929	1,035	1,168	1,298	1,420	1,530	1,621	1717

Op. Assets	31,615
+ Cash:	3,018
- Debt	558
- Pension Lian	305
- Minor. Int.	55
=Equity	34,656
-Options	180
Value/Share	106.12

Cost of Capital (WACC) = 8.77% (0.986) + 2.39% (0.014) = 8.68%

Debt ratio increases to 20%
Beta decreases to 1.00

On May 5, 2005, SAP was trading at 122 Euros/share

Cost of Equity
8.77%

Cost of Debt
(3.41%+..35%)(1-.3654)
= 2.39%

Weights
E = 98.6% D = 1.4%

Riskfree Rate:
Euro riskfree rate = 3.41%

+

Beta
1.26

x

Risk Premium
4.25%

Unlevered Beta for Sectors: 1.25

Mature risk premium 4%

Country Equity Prem 0.25%

SAP : Optimal Capital Structure

Debt Ratio	Beta	Cost of Equity	Bond Rating	Interest rate on debt	Tax Rate	Cost of Debt (after-tax)	WACC	Firm Value (G)
0%	1.25	8.72%	AAA	3.76%	36.54%	2.39%	8.72%	$39,088
10%	1.34	9.09%	AAA	3.76%	36.54%	2.39%	8.42%	$41,480
20%	1.45	9.56%	A	4.26%	36.54%	2.70%	8.19%	$43,567
30%	1.59	10.16%	A-	4.41%	36.54%	2.80%	7.95%	$45,900
40%	1.78	10.96%	CCC	11.41%	36.54%	7.24%	9.47%	$34,043
50%	2.22	12.85%	C	15.41%	22.08%	12.01%	12.43%	$22,444
60%	2.78	15.21%	C	15.41%	18.40%	12.58%	13.63%	$19,650
70%	3.70	19.15%	C	15.41%	15.77%	12.98%	14.83%	$17,444
80%	5.55	27.01%	C	15.41%	13.80%	13.28%	16.03%	$15,658
90%	11.11	50.62%	C	15.41%	12.26%	13.52%	17.23%	$14,181

SAP: Restructured

Avg Reinvestment rate = 36.94%

Reinvestment Rate 70%

Current Cashflow to Firm
EBIT(1-t) : 1414
- Nt CpX 831
- Chg WC - 19
= FCFF 602
Reinvestment Rate = 812/1414 =57.42%

Reinvest more in emerging markets

Expected Growth in EBIT (1-t)
.70*.1993=.1144
13.99%

Return on Capital 19.93%

Stable Growth
g = 3.41%; Beta = 1.00;
Debt Ratio= 30%
Cost of capital = 6.27%
ROC= 6.27%; Tax rate=35%
Reinvestment Rate=54.38%

Terminal Value$_{10}$ = 1898/(.0627-.0341) = 66367

First 5 years

Growth decreases gradually to 3.41%

Year	1	2	3	4	5	6	7	8	9	10	Term Yr
EBIT	2,543	2,898	3,304	3,766	4,293	4,802	5,271	5,673	5,987	6,191	6402
EBIT(1-t)	1,614	1,839	2,097	2,390	2,724	3,047	3,345	3,600	3,799	3,929	4161
- Reinvest	1,130	1,288	1,468	1,673	1,907	2,011	2,074	2,089	2,052	1,965	2263
= FCFF	484	552	629	717	817	1,036	1,271	1,512	1,747	1,963	1898

Op. Assets	38045
+ Cash:	3,018
- Debt	558
- Pension Lian	305
- Minor. Int.	55
=Equity	40157
-Options	180
Value/Share	126.51

Cost of Capital (WACC) = 10.57% (0.70) + 2.80% (0.30) = 8.24%

Cost of Equity
10.57%

Cost of Debt
(3.41%+1.00%)(1-.3654)
= 2.80%

Weights
E = 70% D = 30%

On May 5, 2005, SAP was trading at 122 Euros/share

Use more debt financing.

Riskfree Rate:
Euro riskfree rate = 3.41%

+

Beta
1.59

x

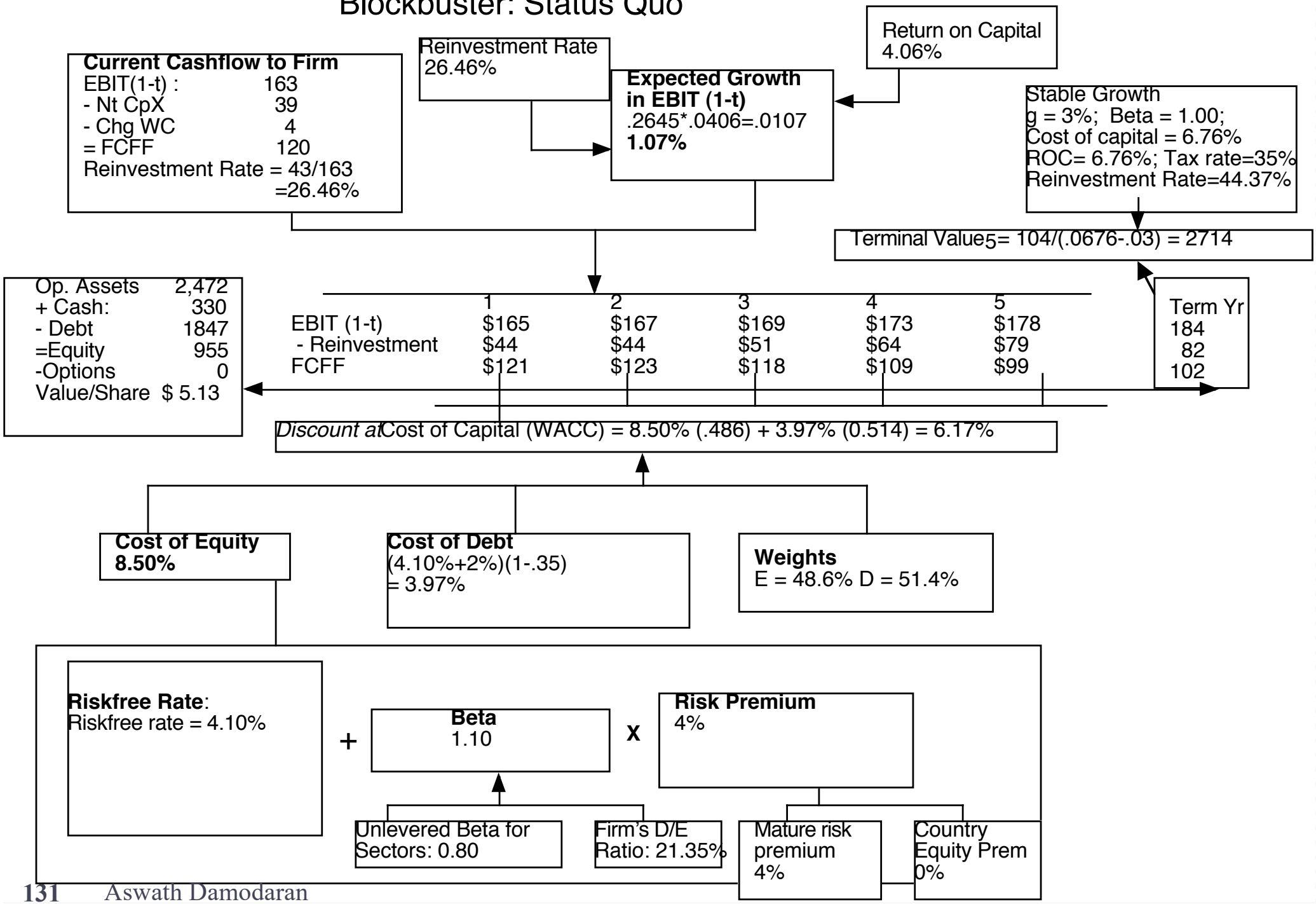
Risk Premium
4.50%

Unlevered Beta for Sectors: 1.25

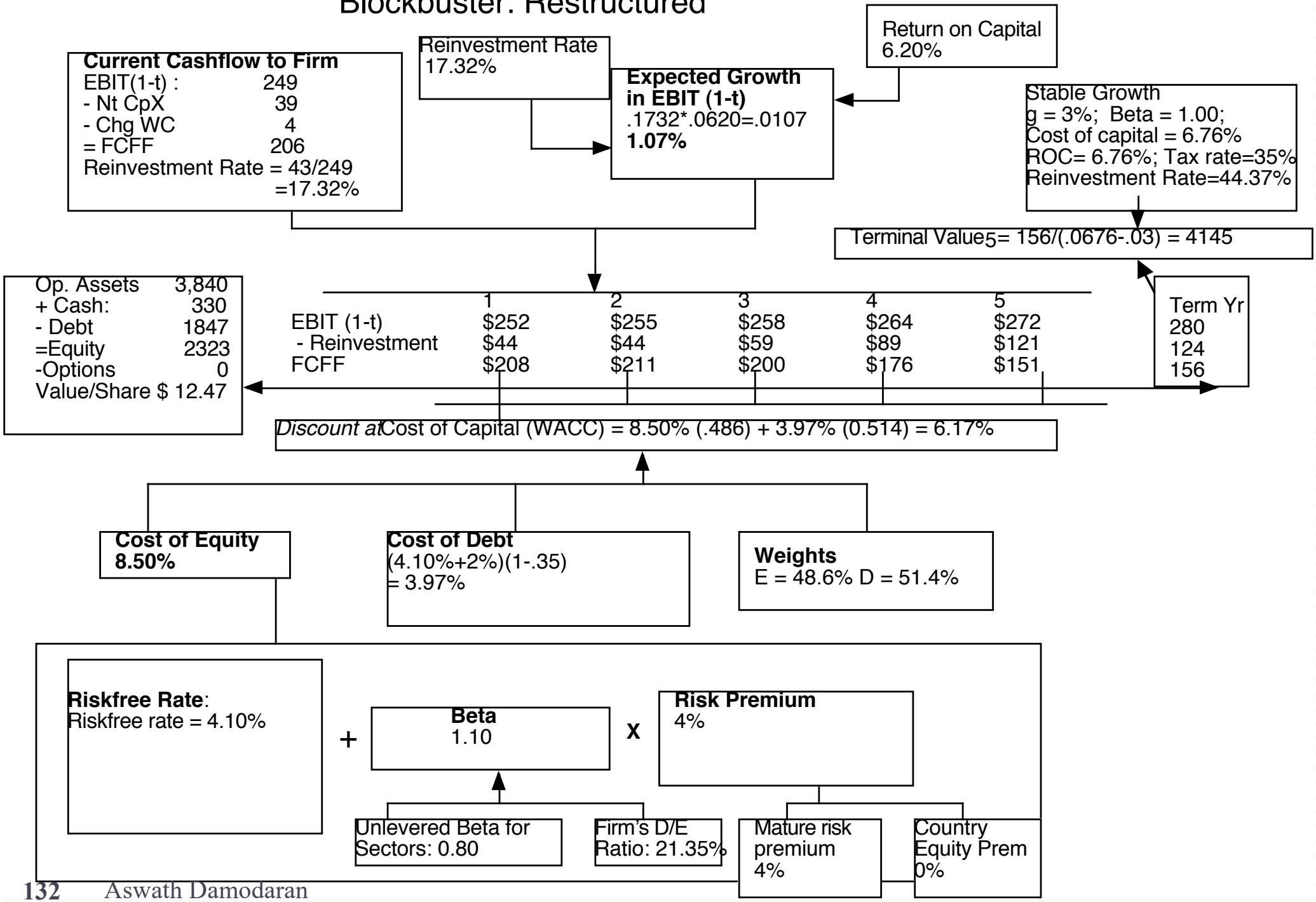
Mature risk premium 4%

Country Equity Prem 0.5%

Blockbuster: Status Quo

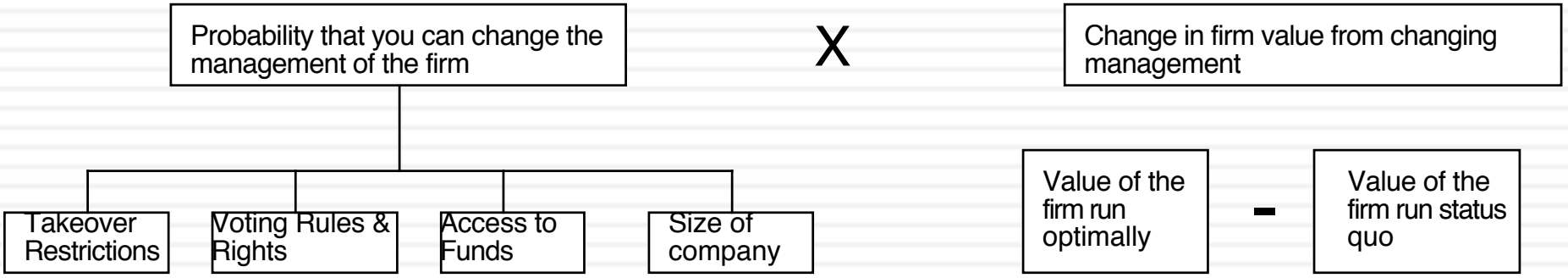


Blockbuster: Restructured



The Expected Value of Control

The Value of Control



Why the probability of management changing shifts over time….

- Corporate governance rules can change over time, as new laws are passed. If the change gives stockholders more power, the likelihood of management changing will increase.
- Activist investing ebbs and flows with market movements (activist investors are more visible in down markets) and often in response to scandals.
- Events such as hostile acquisitions can make investors reassess the likelihood of change by reminding them of the power that they do possess.