

The seven sins in acquisitions...

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1. Risk Transference: Attributing acquiring company risk characteristics to the target firm.
2. Debt subsidies: Subsidizing target firm stockholders for the strengths of the acquiring firm.
3. Auto-pilot Control: The “20% control premium” and other myth...
4. Elusive Synergy: Misidentifying and mis-valuing synergy.
5. Its all relative: Transaction multiples, exit multiples...
6. Verdict first, trial afterwards: Price first, valuation to follow
7. It's not my fault: Holding no one responsible for delivering results.

Testing sheet

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Test	Passed/Failed	Rationalization
Risk transference		
Debt subsidies		
Control premium		
The value of synergy		
Comparables and Exit Multiples		
Bias		
A successful acquisition strategy		

Lets start with a target firm

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- The target firm has the following income statement:

Revenues	100
Operating Expenses	80
= Operating Income	20
Taxes	8
= After-tax OI	12

- Assume that this firm will generate this operating income forever (with no growth) and that the cost of equity for this firm is 20%. The firm has no debt outstanding. What is the value of this firm?

Test 1: Risk Transference...

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- Assume that as an acquiring firm, you are in a much safer business and have a cost of equity of 10%.
What is the value of the target firm to you?

Lesson 1: Don't transfer your risk characteristics to the target firm

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- The cost of equity used for an investment should reflect the risk of the investment and not the risk characteristics of the investor who raised the funds.
- Risky businesses cannot become safe just because the buyer of these businesses is in a safe business.

Test 2: Cheap debt?

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- Assume as an acquirer that you have access to cheap debt (at 4%) and that you plan to fund half the acquisition with debt. How much would you be willing to pay for the target firm?

Lesson 2: Render unto the target firm that which is the target firm's but not a penny more..

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- As an acquiring firm, it is entirely possible that you can borrow much more than the target firm can on its own and at a much lower rate. If you build these characteristics into the valuation of the target firm, you are essentially transferring wealth from your firm's stockholder to the target firm's stockholders.
- When valuing a target firm, use a cost of capital that reflects the debt capacity and the cost of debt that would apply to the firm.

Test 3: Control Premiums

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- Assume that you are now told that it is conventional to pay a 20% premium for control in acquisitions (backed up by Mergerstat). How much would you be willing to pay for the target firm?

- Would your answer change if I told you that you can run the target firm better and that if you do, you will be able to generate a 30% pre-tax operating margin (rather than the 20% margin that is currently being earned).

- What if the target firm were perfectly run?

Lesson 3: Beware of rules of thumb...

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- Valuation is cluttered with rules of thumb. After painstakingly valuing a target firm, using your best estimates, you will be often be told that
 - ▣ It is common practice to add arbitrary premiums for brand name, quality of management, control etc...
 - ▣ These premiums will be often be backed up by data, studies and services. What they will not reveal is the enormous sampling bias in the studies and the standard errors in the estimates.
 - ▣ If you have done your valuation right, those premiums should already be incorporated in your estimated value. Paying a premium will be double counting.

Test 4: Synergy....

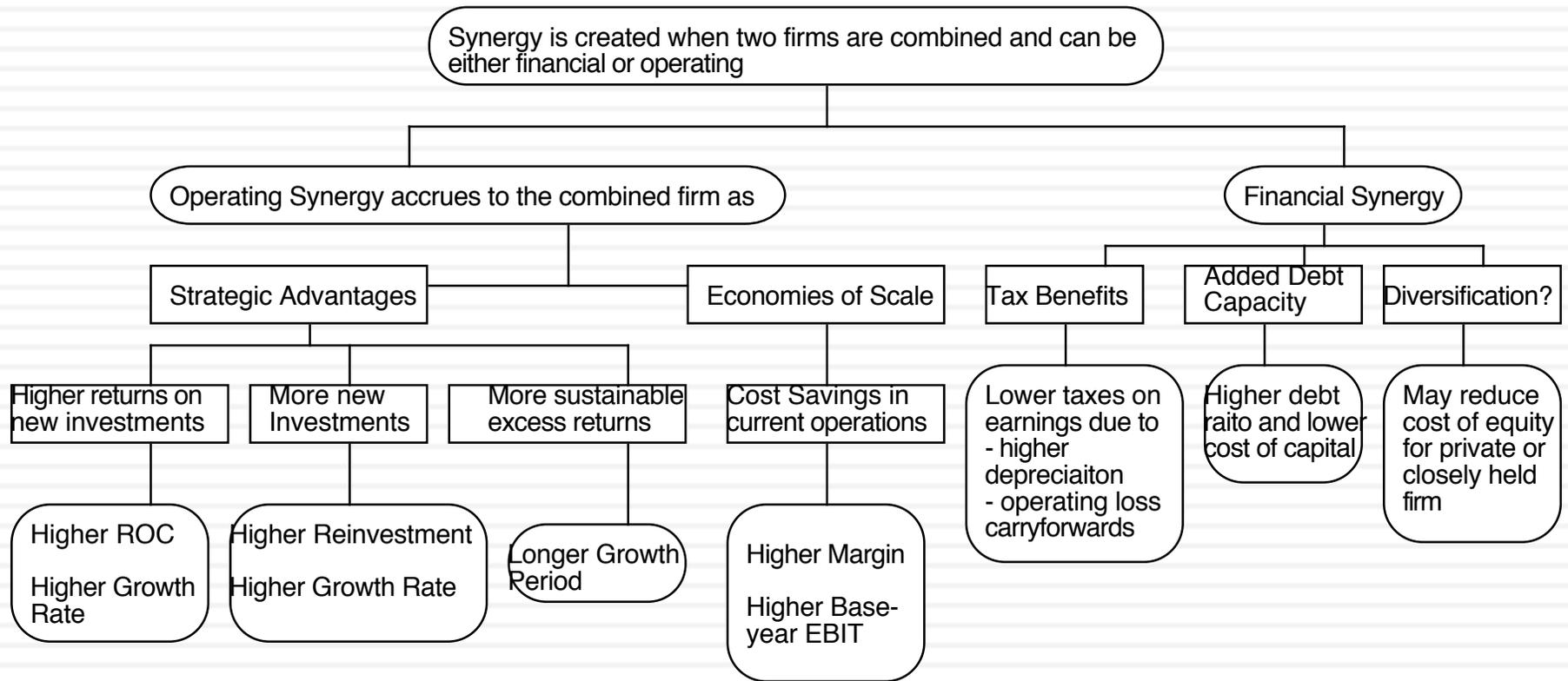
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- Assume that you are told that the combined firm will be less risky than the two individual firms and that it should have a lower cost of capital (and a higher value). Is this likely?

- Assume now that you are told that there are potential growth and cost savings synergies in the acquisition. Would that increase the value of the target firm?

- Should you pay this as a premium?

The Value of Synergy



Valuing Synergy

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- (1) the firms involved in the merger are valued independently, by discounting expected cash flows to each firm at the weighted average cost of capital for that firm.
- (2) the value of the combined firm, with no synergy, is obtained by adding the values obtained for each firm in the first step.
- (3) The effects of synergy are built into expected growth rates and cashflows, and the combined firm is re-valued with synergy.

$$\text{Value of Synergy} = \text{Value of the combined firm, with synergy} - \text{Value of the combined firm, without synergy}$$

Synergy - Example 1

Higher growth and cost savings

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	P&G	Gillette	Piglet: No Synergy	Piglet: Synergy	
Free Cashflow to Equity	\$5,864.74	\$1,547.50	\$7,412.24	\$7,569.73	Annual operating expenses reduced by \$250 million
Growth rate for first 5 years	12%	10%	11.58%	12.50%	Slightly higher growth rate
Growth rate after five years	4%	4%	4.00%	4.00%	
Beta	0.90	0.80	0.88	0.88	
Cost of Equity	7.90%	7.50%	7.81%	7.81%	Value of synergy
Value of Equity	\$221,292	\$59,878	\$281,170	\$298,355	\$17,185

Synergy: Example 3

Tax Benefits?

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- Assume that you are Best Buy, the electronics retailer, and that you would like to enter the hardware component of the market. You have been approached by investment bankers for Zenith, which while still a recognized brand name, is on its last legs financially. The firm has net operating losses of \$ 2 billion. If your tax rate is 36%, estimate the tax benefits from this acquisition.
- If Best Buy had only \$500 million in taxable income, how would you compute the tax benefits?
- If the market value of Zenith is \$800 million, would you pay this tax benefit as a premium on the market value?

Lesson 4: Don't pay for buzz words

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- Through time, acquirers have always found ways of justifying paying for premiums over estimated value by using buzz words - synergy in the 1980s, strategic considerations in the 1990s and real options in this decade.
- While all of these can have value, the onus should be on those pushing for the acquisitions to show that they do and not on those pushing against them to show that they do not.

Test 5: Comparables and Exit Multiples

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- 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

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- 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...

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- All too often, acquisitions are justified by using one of the following two arguments:
 - ▣ Every one 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...

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- 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?

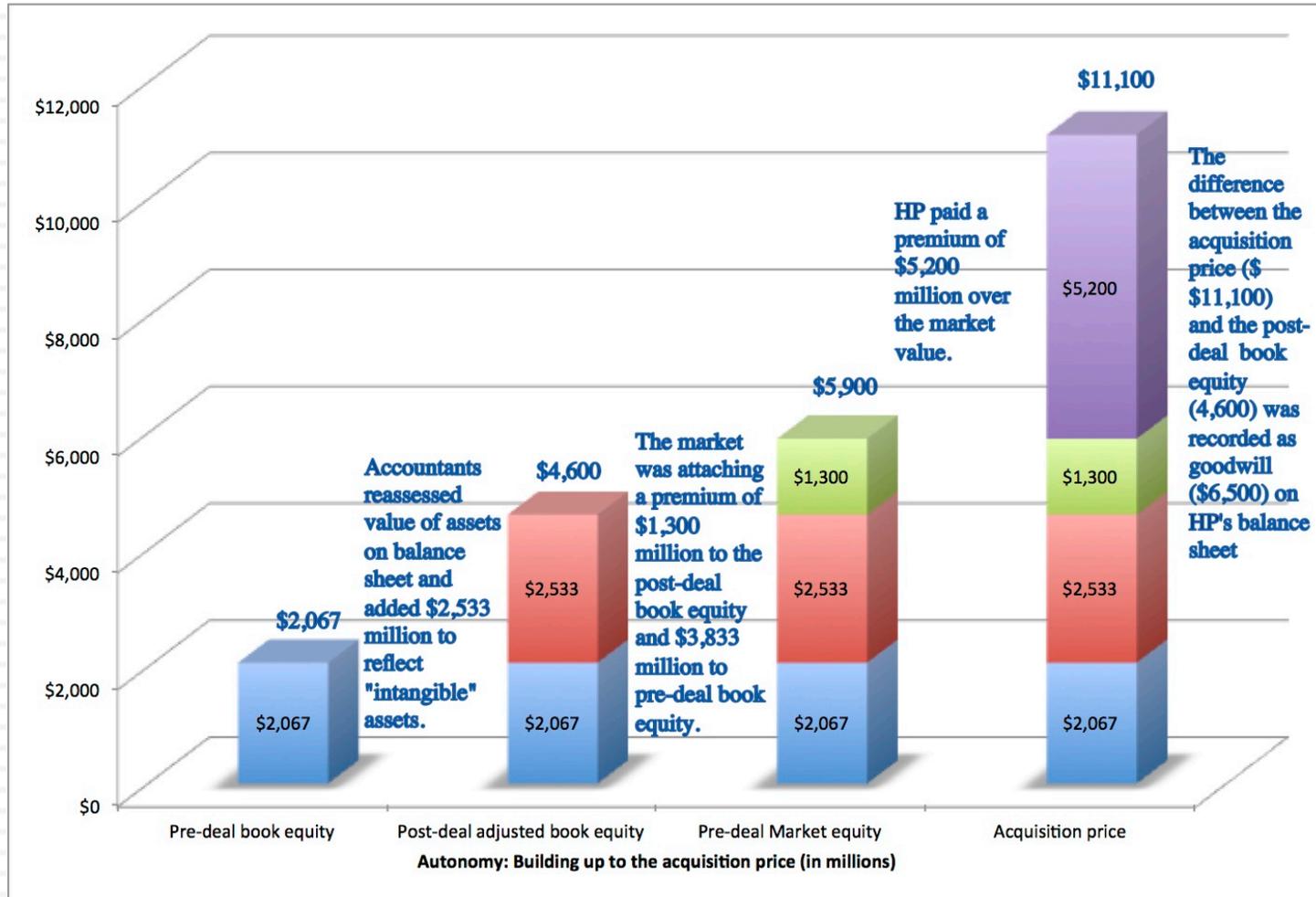
- Now assume that you are told that your competitors are all doing acquisitions and that if you don't do them, you will be at a disadvantage? Would you be willing to go along?

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

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- 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

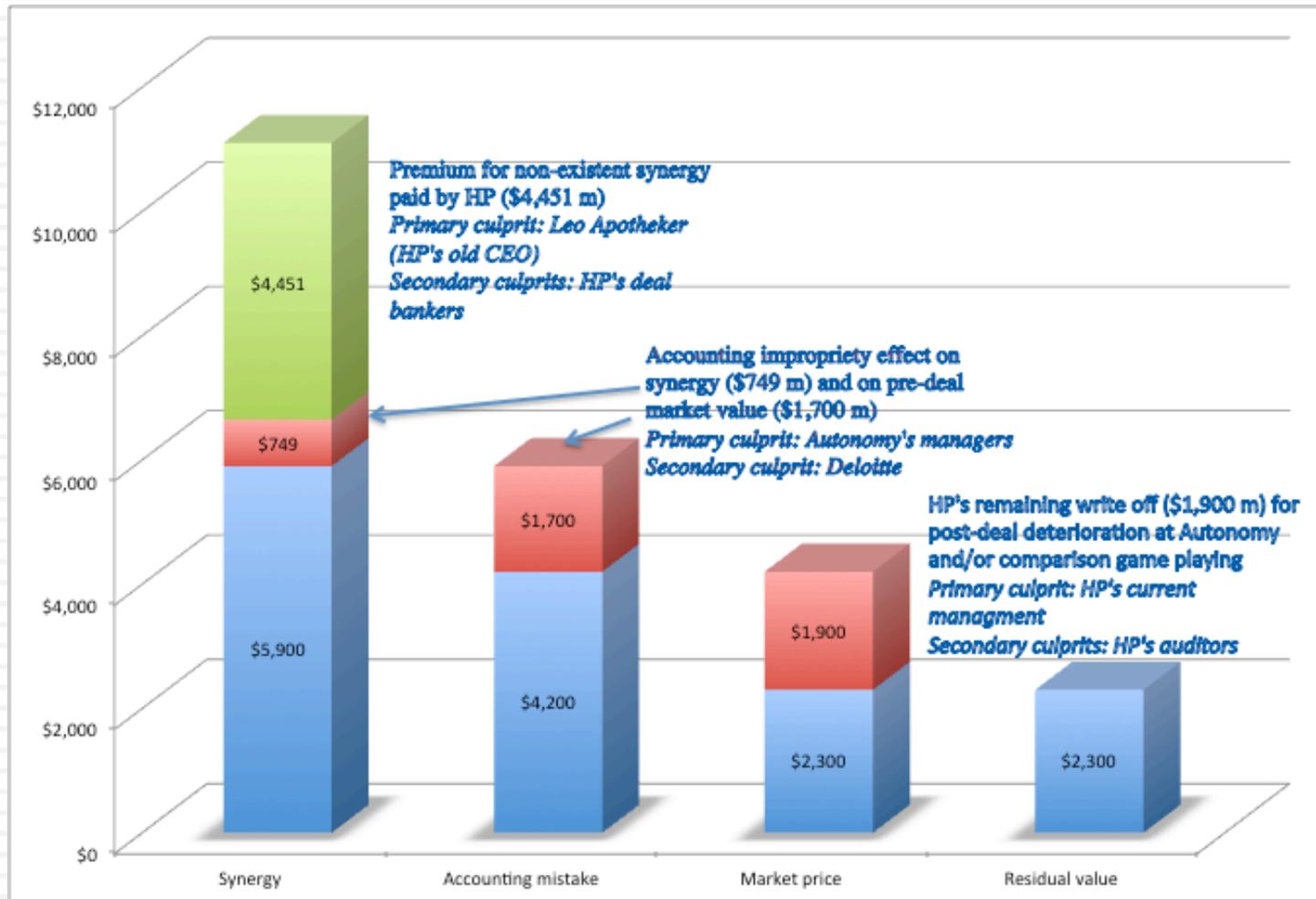


The CEO steps in... and digs a hole...

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- 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?

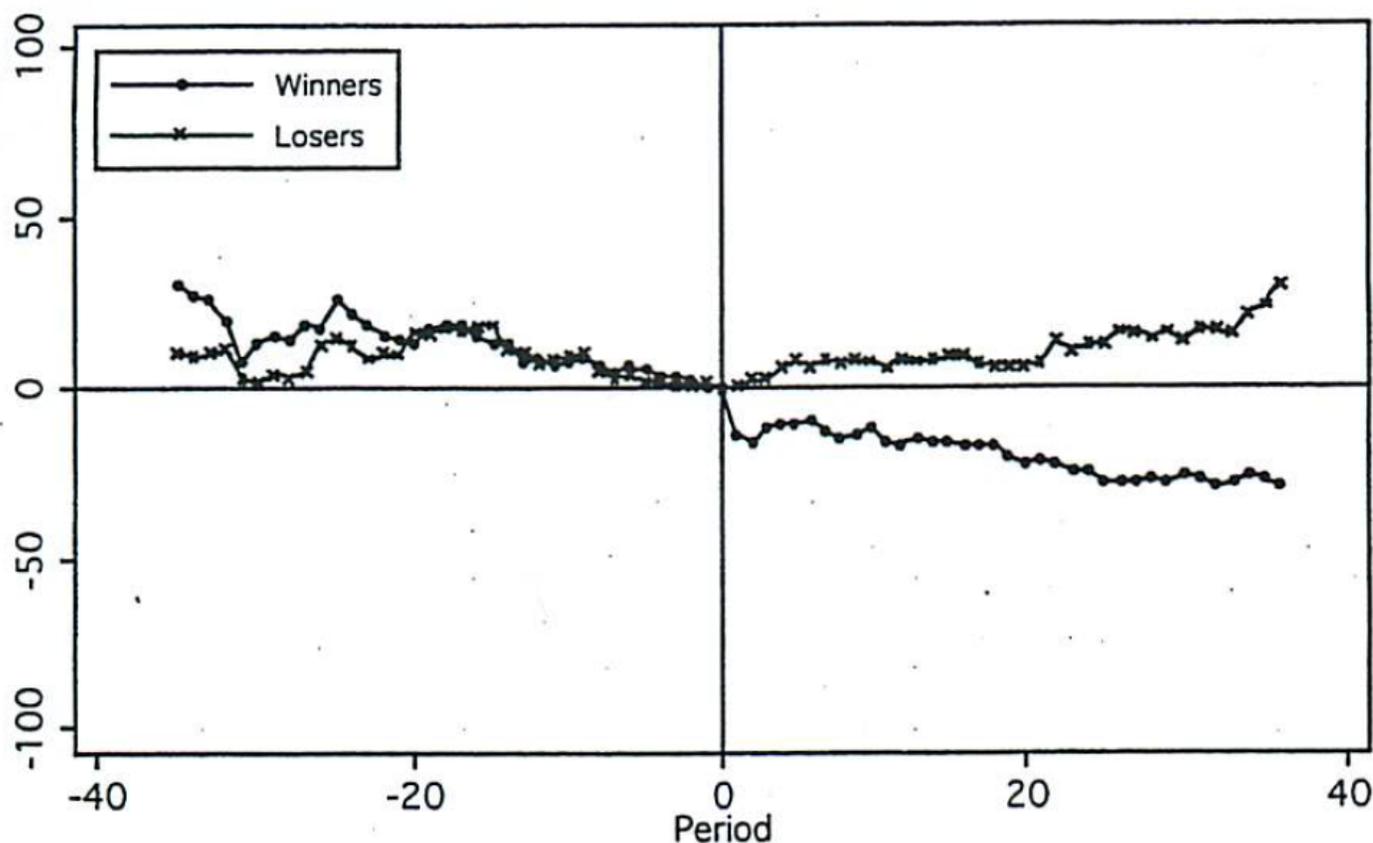
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- The odds seem to be clearly weighted against success in acquisitions. If you were to create a strategy to grow, based upon acquisitions, which of the following offers your best chance of success?

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...

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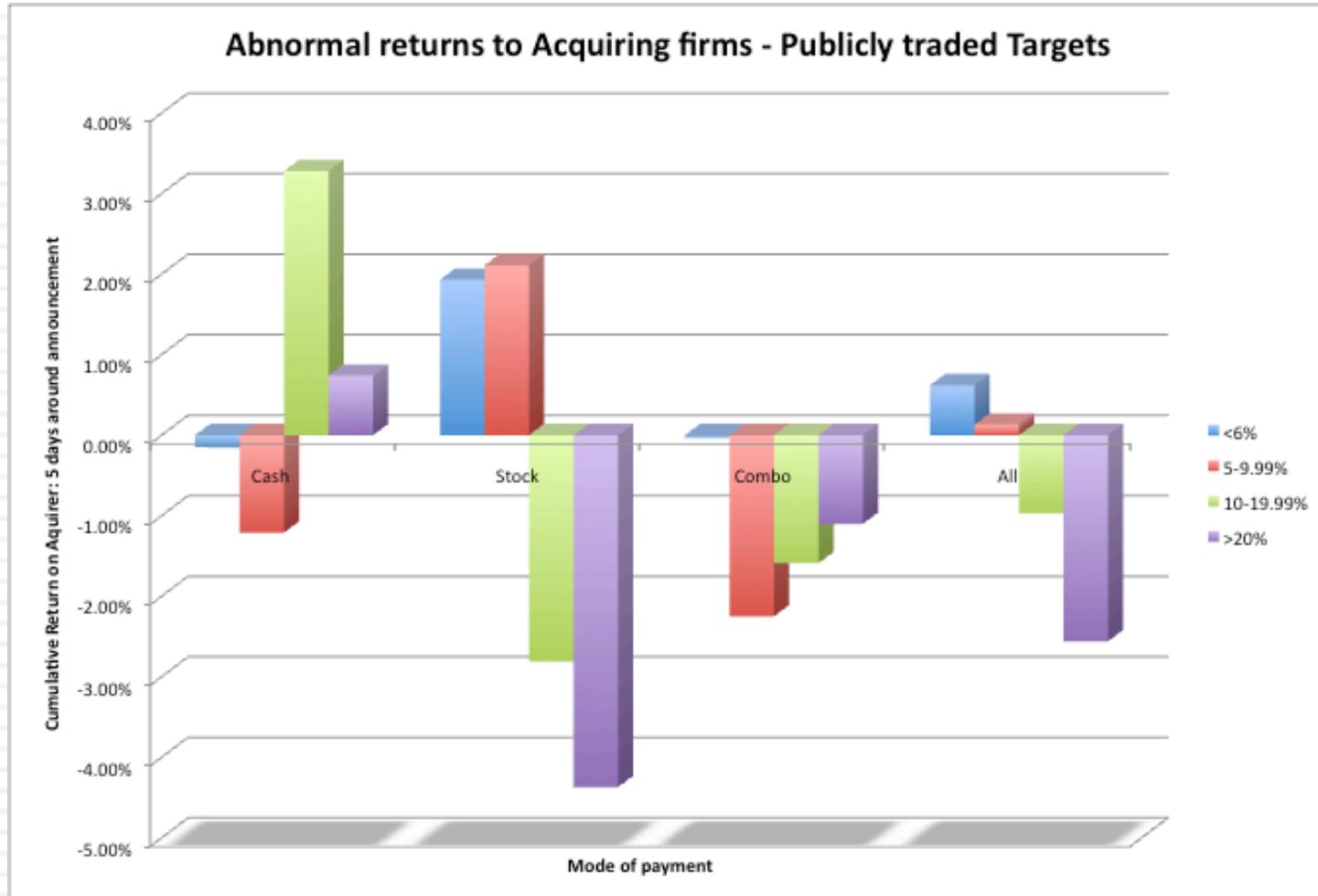


(a) Market-adjusted CARs

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

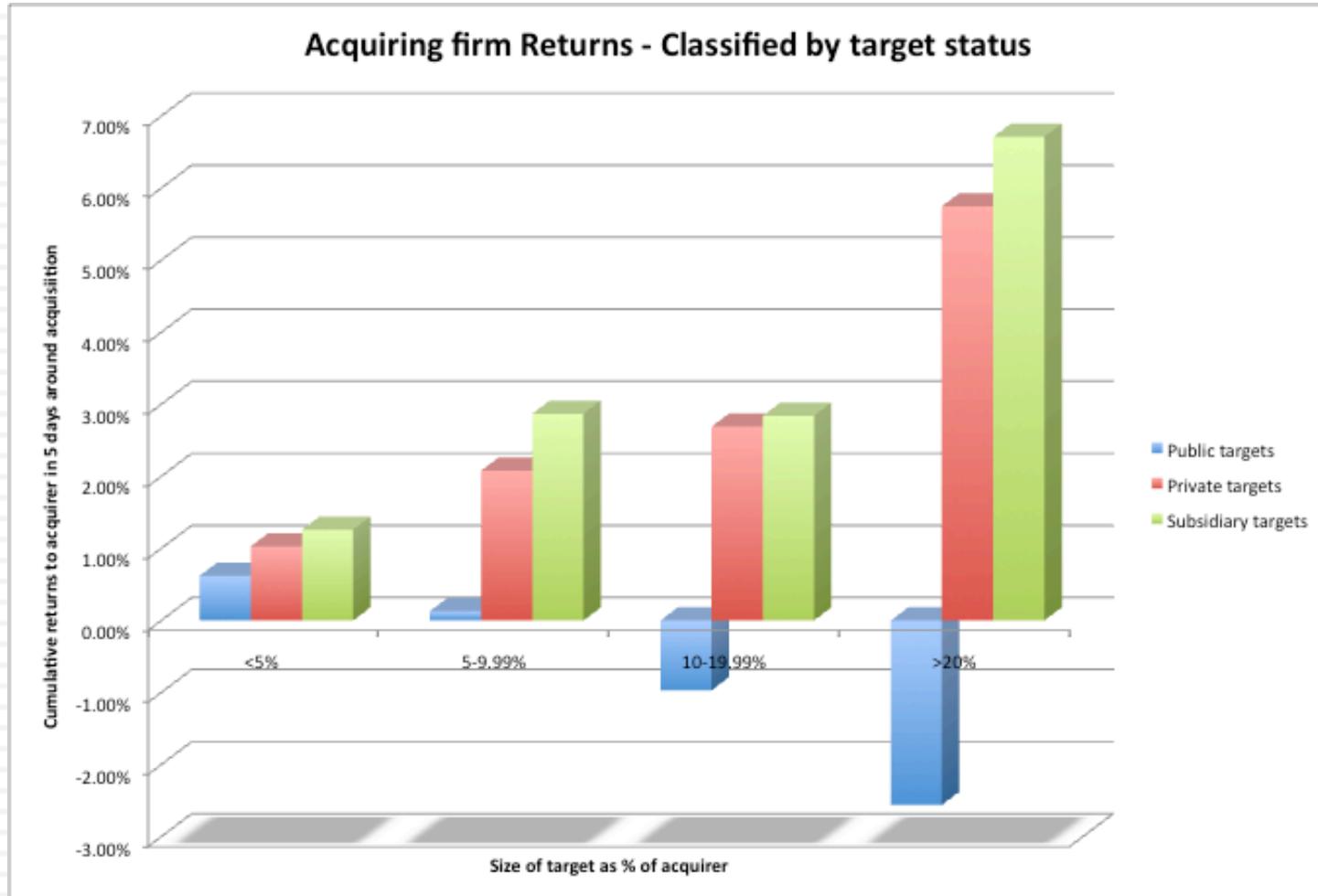
You are better off buying small rather than large targets... with cash rather than stock

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

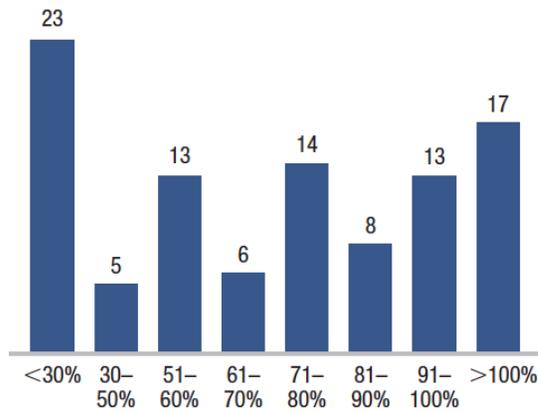
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Growth vs Cost Synergies

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

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



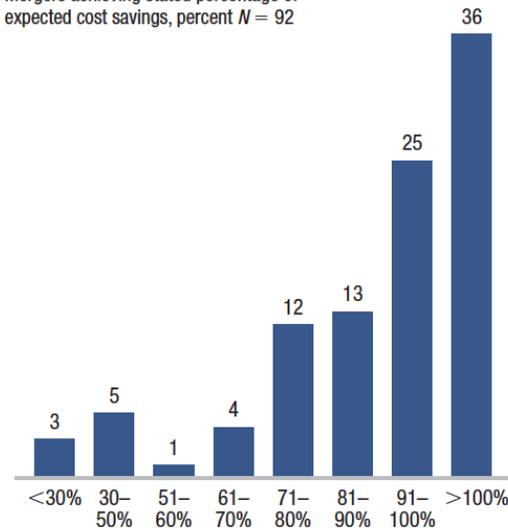
Typical sources of estimation error

- 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

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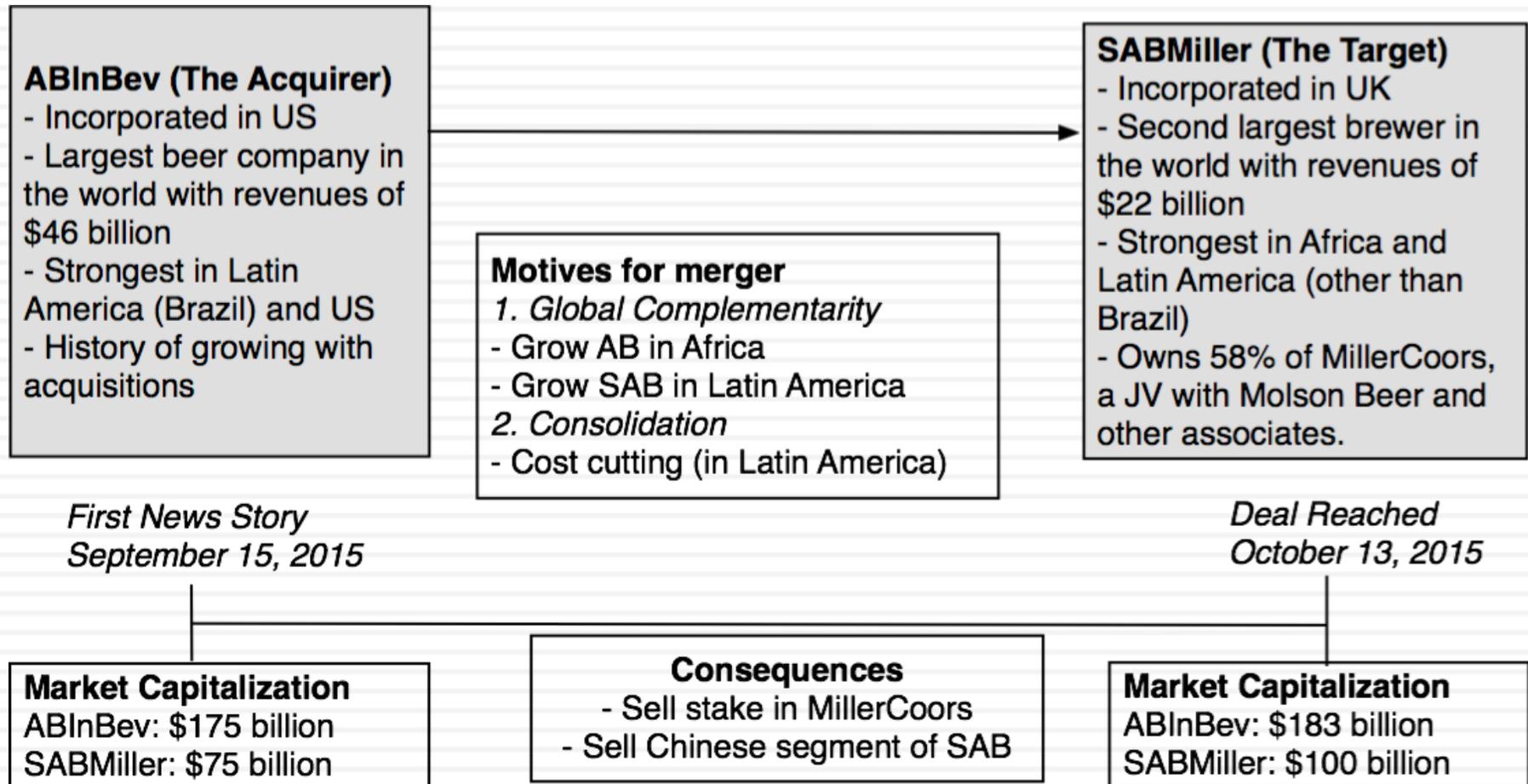
- ❑ Studies that have focused on synergies have concluded that you are far more likely to deliver cost synergies than growth synergies.
- ❑ Synergies that are concrete and planned for at the time of the merger are more likely to be delivered than fuzzy synergies.
- ❑ Synergy is much more likely to show 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..

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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.

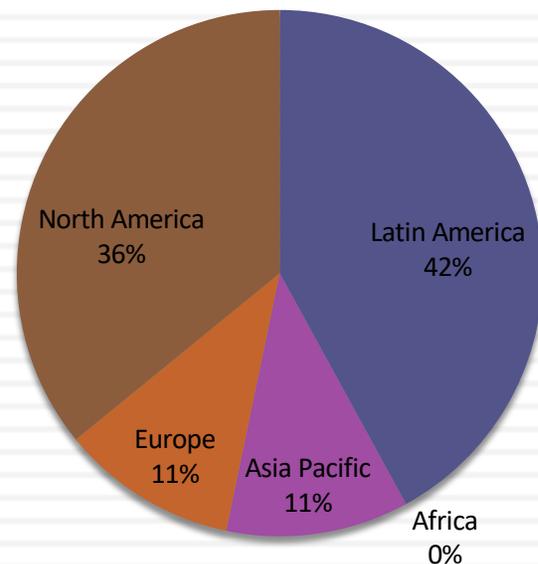
A Really Big Deal! InBev buys SABMiller



The Acquirer (ABInBev)

<i>Capital Mix</i>		<i>Operating Metrics</i>	
Interest-bearing Debt	\$51,504	Revenues	\$45,762.00
Lease Debt	\$1,511	Operating Income (EBIT)	\$14,772.00
Market Capitalization	\$173,760	Operating Margin	32.28%
Debt to Equity ratio	30.51%	Effective tax rate	18.00%
Debt to Capital ratio	23.38%	After-tax return on capital	12.10%
Bond Rating	A2	Reinvestment Rate =	50.99%

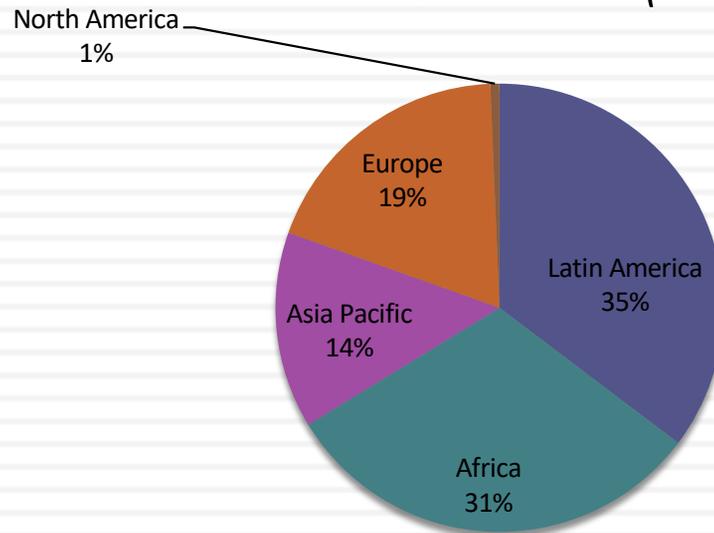
Revenue Breakdown (2014)



The Target (SABMiller)

<i>Capital Mix</i>		<i>Operating Metrics</i>	
Interest-bearing Debt	\$12,550	Revenues	\$22,130.00
Lease Debt	\$368	Operating Income (EBIT)	\$4,420.00
Market Capitalization	\$75,116	Operating Margin	19.97%
Debt to Equity ratio	17.20%	Effective tax rate	26.40%
Debt to Capital ratio	14.67%	After-tax return on capital	10.32%
Bond Rating	A3	Reinvestment Rate =	16.02%

Revenue Breakdown (2015)



Setting up the challenge

- SAB Miller's market capitalization was \$75 billion on September 15, 2015, the day ABInBev announced its intent to acquire SABMiller.
- The deal was completed (pending regulatory approval) a month later, with ABInBev agreeing to pay \$104 billion for SABMiller.
- Can ABInBev create \$29 billion in additional value from this acquisition and if so where will it find the value?
 - The market seems to think so, adding \$33 billion in market value to the combined company.

The Three (Value) Reasons for Acquisitions

- Undervaluation: You buy a target company because you believe that the market is mispricing the company and that you can buy it for less than its "fair" value.
- Control: You buy a company that you believe is badly managed, with the intent of changing the way it is run. If you are right on the first count and can make the necessary changes, the value of the firm should increase under your management
- Synergy: You buy a company that you believe, when combined with a business (or resource) that you already own, will be able to do things that you could not have done as separate entities. This synergy can be
 - Offensive synergy: Higher growth and increased pricing power
 - Defensive synergy: Cost cutting, consolidation & preempting competitors.
 - Tax synergy: Directly from tax clauses or indirectly through dent

Four numbers to watch

1. Acquisition Price: This is the price at which you can acquire the target company. If it is a private business, it will be negotiated and probably based on what others are paying for similar businesses. If it is a public company, it will be at a premium over the market price.
 2. Status Quo Value: Value of the target company, run by existing management.
 3. Restructured Value: Value of the target company, with changes to investing, financing and dividend policies.
 4. Synergy value: Value of the combined company (with the synergy benefits built in) – (Value of the acquiring company, as a stand alone entity, and the restructured value of the target company)
- The Acid Test
 - ▣ Undervaluation: Price for target company < Status Quo Value
 - ▣ Control: Price for target company < Restructured Value
 - ▣ Synergy: Price for target company < Restructured Value + Value of Synergy

SAB Miller Status Quo Value

	<i>SAB Miller</i>	<i>+ Coors JV</i>	<i>+ Share of Associates</i>	<i>SAB Miller Consolidated</i>
Revenues	\$22,130.00	\$5,201.00	\$6,099.00	
Operating Margin	19.97%	15.38%	10.72%	
Operating Income (EBIT)	\$4,420.00	\$800.00	\$654.00	
Invested Capital	\$31,526.00	\$5,428.00	\$4,459.00	
Beta	0.7977	0.6872	0.6872	
ERP	8.90%	6.00%	7.90%	
Cost of Equity =	9.10%	6.12%	7.43%	
After-tax cost of debt =	2.24%	2.08%	2.24%	
Debt to Capital Ratio	14.67%	0.00%	0.00%	
Cost of capital =	8.09%	6.12%	7.43%	
After-tax return on capital =	10.33%	11.05%	11.00%	
Reinvestment Rate =	16.02%	40.00%	40.00%	
Expected growth rate=	1.65%	4.42%	4.40%	
Number of years of growth	5	5	5	
<i>Value of firm</i>				
PV of FCF in high growth =	\$11,411.72	\$1,715.25	\$1,351.68	
Terminal value =	\$47,711.04	\$15,094.36	\$9,354.28	
Value of operating assets today				
=	\$43,747.24	\$12,929.46	\$7,889.56	\$64,566.26
+ Cash				\$1,027.00
- Debt				\$12,918.00
- Minority Interests				\$1,183.00
Value of equity				\$51,492.26

Price on September 15, 2015: \$75 billion > \$51.5 billion

SABMiller: Potential for Control

	<i>SABMiller</i>	<i>ABInBev</i>	<i>Global Alcoholic Beverage Sector</i>
Pre-tax Operating Margin	19.97%	32.28%	19.23%
Effective Tax Rate	26.36%	18.00%	22.00%
Pre-tax ROIC	14.02%	14.76%	17.16%
ROIC	10.33%	12.10%	13.38%
Reinvestment Rate	16.02%	50.99%	33.29%
Debt to Capital	14.67%	23.38%	18.82%

SABMiller: Value of Control

	Status Quo Value	Optimal value	
Cost of Equity =	9.10%	9.37%	
After-tax cost of debt =	2.24%	2.24%	
Cost of capital =	8.09%	8.03%	
After-tax return on capital =	10.33%	12.64%	
Reinvestment Rate =	16.02%	33.29%	
Expected growth rate=	1.65%	4.21%	
<i>Value of firm</i>			
PV of FCFF in high growth =	\$11,411.72	\$9,757.08	
Terminal value =	\$47,711.04	\$56,935.06	
Value of operating assets today =	\$43,747.24	\$48,449.42	
+ Cash	\$1,027.00	\$1,027.00	
+ Minority Holdings	\$20,819.02	\$20,819.02	
- Debt	\$12,918.00	\$12,918.00	
- Minority Interests	\$1,183.00	\$1,183.00	<i>Value of Control</i>
Value of equity	\$51,492.26	\$56,194.44	\$4,702.17

Price on September 15, 2015: \$75 billion > \$51.5 + \$4.7 billion

The Synergies?

	<i>Inbev</i>	<i>SABMiller</i>	<i>Combined firm (status quo)</i>	<i>Combined firm (synergy)</i>
Levered Beta	0.85	0.8289	0.84641	0.84641
Pre-tax cost of debt	3.0000%	3.2000%	3.00%	3.00%
Effective tax rate	18.00%	26.36%	19.92%	19.92%
Debt to Equity Ratio	30.51%	23.18%	29.71%	29.71%
Revenues	\$45,762.00	\$22,130.00	\$67,892.00	\$67,892.00
Operating Margin	32.28%	19.97%	28.27%	30.00%
Operating Income (EBIT)	\$14,771.97	\$4,419.36	\$19,191.33	\$20.368
After-tax return on capital	12.10%	12.64%	11.68%	12.00%
Reinvestment Rate =	50.99%	33.29%	43.58%	50.00%
Expected Growth Rate	6.17%	4.21%	5.09%	6.00%

The value of synergy

	<i>Inbev</i>	<i>SABMiller</i>	<i>Combined firm (status quo)</i>	<i>Combined firm (synergy)</i>
Cost of Equity =	8.93%	9.37%	9.12%	9.12%
After-tax cost of debt =	2.10%	2.24%	2.10%	2.10%
Cost of capital =	7.33%	8.03%	7.51%	7.51%
After-tax return on capital =	12.10%	12.64%	11.68%	12.00%
Reinvestment Rate =	50.99%	33.29%	43.58%	50.00%
Expected growth rate=	6.17%	4.21%	5.09%	6.00%
<i>Value of firm</i>				
PV of FCFF in high growth =	\$28,733	\$9,806	\$38,539	\$39,151
Terminal value =	\$260,982	\$58,736	\$319,717	\$340,175
Value of operating assets =	\$211,953	\$50,065	\$262,018	\$276,610

Value of synergy = 276,610 – 262,018 = 14,592 million

Passing Judgment

- If you add up the restructured firm value of \$56.2 billion to the synergy value of \$14.6 billion, you get a value of about \$70.8 billion.
- That is well below the \$104 billion that ABInBev is planning to pay for SABMiller.
- One of the following has to be true:
 - I have massively under estimated the potential for synergy in this merger (either in terms of higher margins or higher growth).
 - ABInBev has over paid significantly on this deal. That would go against their history as a good acquirer and against the history of 3G Capital as a good steward of capital.