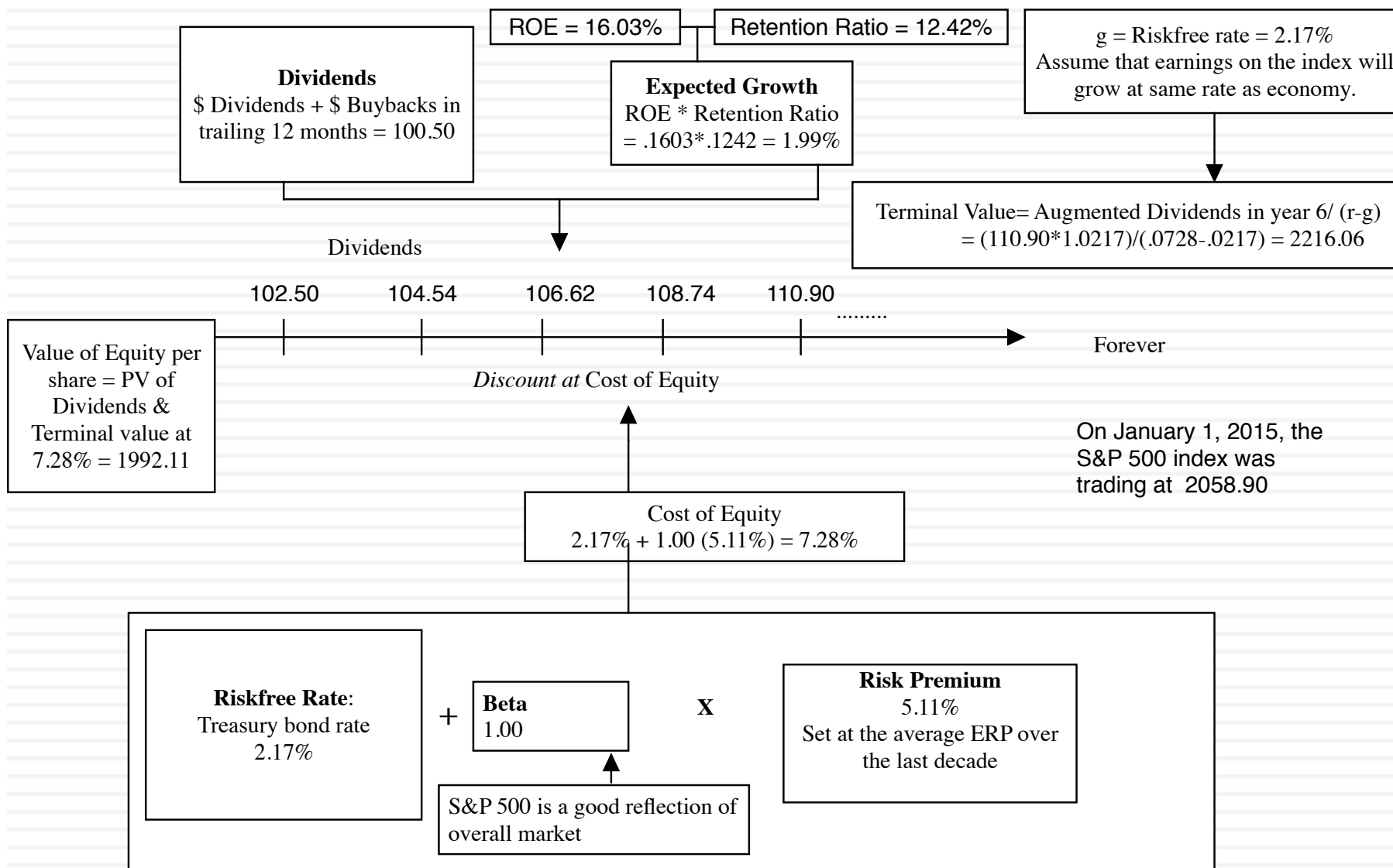


## Valuing the S&P 500: Augmented Dividends and Fundamental Growth January 2015

### Rationale for model

Why augmented dividends? Because companies are increasing returning cash in the form of stock buybacks

Why 2-stage? Why not?



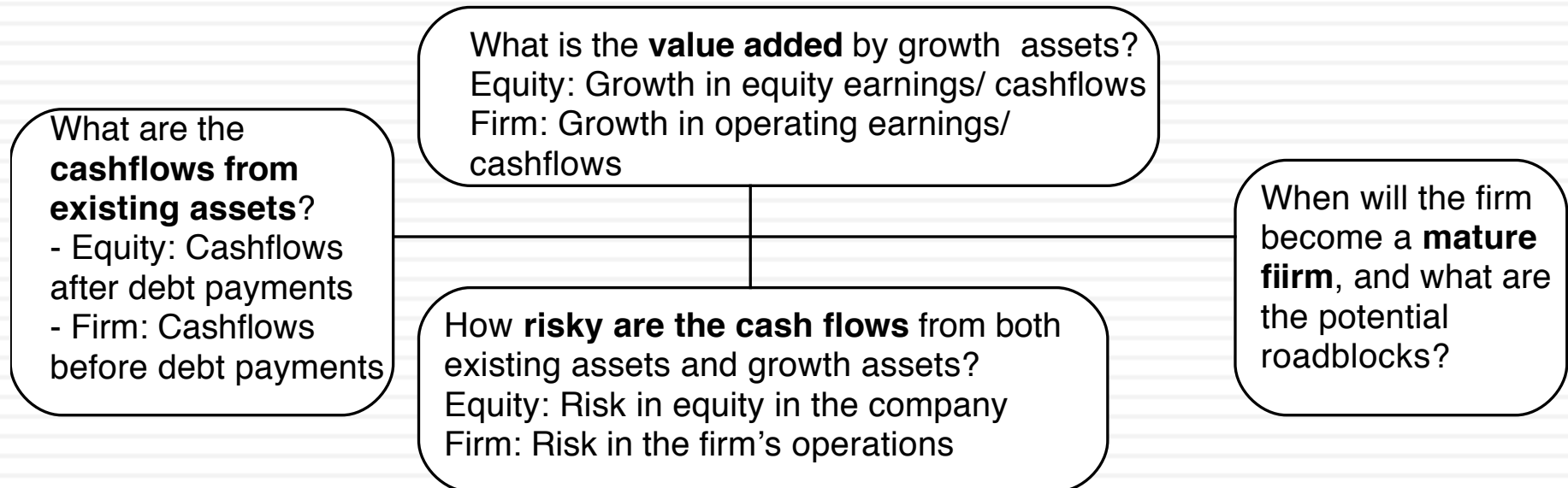
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# The Dark Side of Valuation

Anyone can value a company that is stable,  
makes money and has an established  
business model!

# The fundamental determinants of value...

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# The Dark Side of Valuation...

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- Valuing stable, money making companies with consistent and clear accounting statements, a long and stable history and lots of comparable firms is easy to do.
- The true test of your valuation skills is when you have to value “difficult” companies. In particular, the challenges are greatest when valuing:
  - ▣ Young companies, early in the life cycle, in young businesses
  - ▣ Companies that don’t fit the accounting mold
  - ▣ Companies that face substantial truncation risk (default or nationalization risk)

# Difficult to value companies...

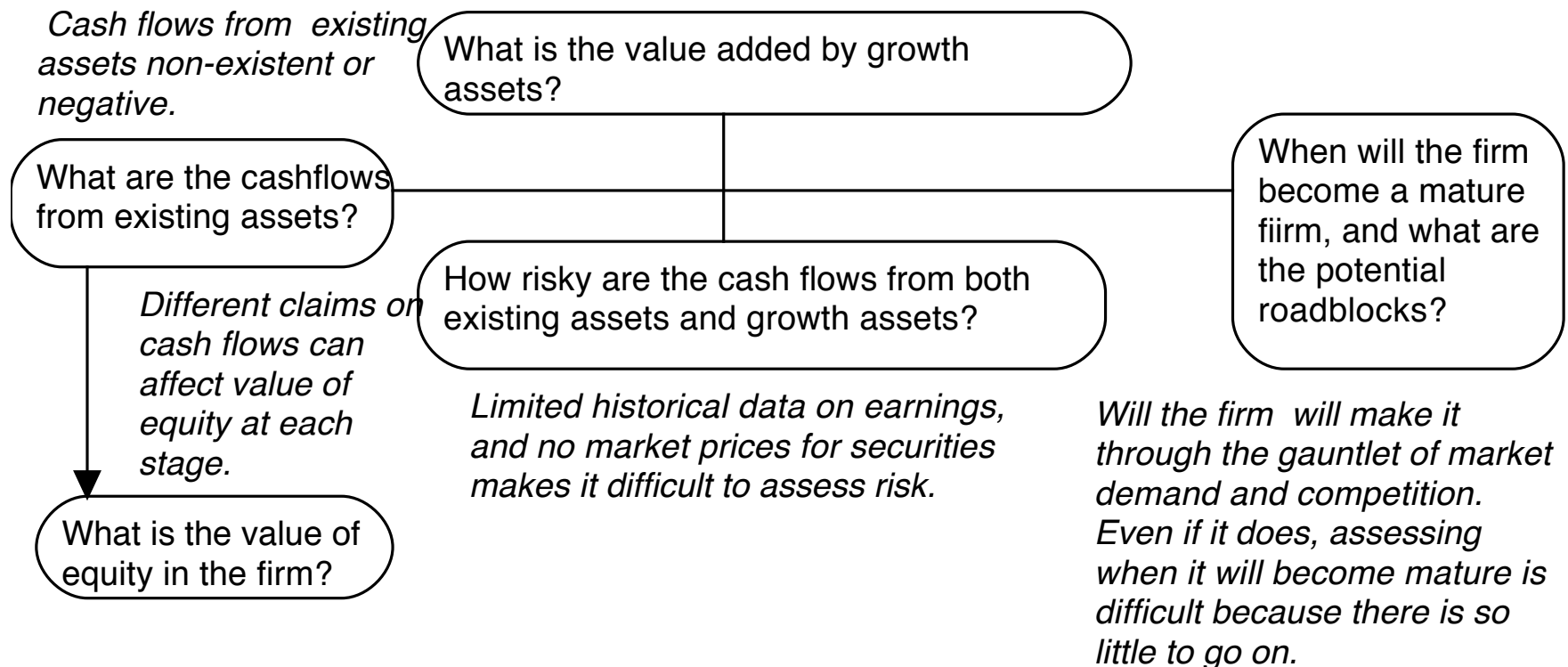
281

- Across the life cycle:
  - Young, growth firms: Limited history, small revenues in conjunction with big operating losses and a propensity for failure make these companies tough to value.
  - Mature companies in transition: When mature companies change or are forced to change, history may have to be abandoned and parameters have to be reestimated.
  - Declining and Distressed firms: A long but irrelevant history, declining markets, high debt loads and the likelihood of distress make them troublesome.
- Across markets
  - Emerging market companies are often difficult to value because of the way they are structured, their exposure to country risk and poor corporate governance.
- Across sectors
  - Financial service firms: Opacity of financial statements and difficulties in estimating basic inputs leave us trusting managers to tell us what's going on.
  - Commodity and cyclical firms: Dependence of the underlying commodity prices or overall economic growth make these valuations susceptible to macro factors.
  - Firms with intangible assets: Accounting principles are left to the wayside on these firms.

# I. The challenge with young companies...

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*Making judgments on revenues/ profits difficult because you cannot draw on history. If you have no product/ service, it is difficult to gauge market potential or profitability. The company's entire value lies in future growth but you have little to base your estimate on.*



# Upping the ante.. Young companies in young businesses...

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- When valuing a business, we generally draw on three sources of information
  - ▣ The firm's current financial statement
    - How much did the firm sell?
    - How much did it earn?
  - ▣ The firm's financial history, usually summarized in its financial statements.
    - How fast have the firm's revenues and earnings grown over time?
    - What can we learn about cost structure and profitability from these trends?
    - Susceptibility to macro-economic factors (recessions and cyclical firms)
  - ▣ The industry and comparable firm data
    - What happens to firms as they mature? (Margins.. Revenue growth... Reinvestment needs... Risk)
- It is when valuing these companies that you find yourself tempted by the dark side, where
  - ▣ "Paradigm shifts" happen...
  - ▣ New metrics are invented ...
  - ▣ The story dominates and the numbers lag...

## 9a. Amazon in January 2000

*Sales to capital ratio and expected margin are retail industry average numbers*

*Stable Growth*

*From previous years*

NOL:  
500 m

Current  
Revenue  
\$ 1,117

Current  
Margin:  
-36.71%

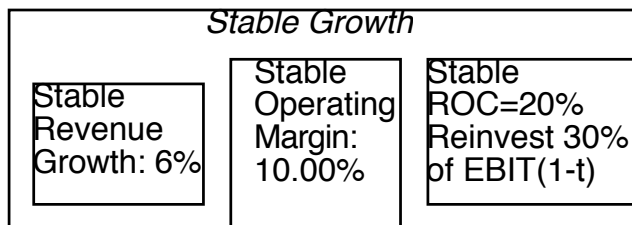
EBIT  
-410m

Sales Turnover  
Ratio: 3.00

Competitive  
Advantages

Revenue  
Growth:  
42%

Expected  
Margin:  
-> 10.00%



Terminal Value=  $1881 / (.0961 - .06)$   
=52,148

Term. Year  
\$41,346  
10.00%  
35.00%  
\$2,688  
\$ 807  
\$1,881

Value of Op Assets \$ 14,910  
+ Cash \$ 26  
= Value of Firm \$14,936  
- Value of Debt \$ 349  
= Value of Equity \$14,587  
- Equity Options \$ 2,892  
Value per share \$ 34.32

*All existing options valued  
as options, using current  
stock price of \$84.*

Revenues	\$2,793	5,585	9,774	14,661	19,059	23,862	28,729	33,211	36,798	39,006
EBIT	-\$373	-\$94	\$407	\$1,038	\$1,628	\$2,212	\$2,768	\$3,261	\$3,646	\$3,883
EBIT (1-t)	-\$373	-\$94	\$407	\$871	\$1,058	\$1,438	\$1,799	\$2,119	\$2,370	\$2,524
- Reinvestment	\$559	\$931	\$1,396	\$1,629	\$1,466	\$1,601	\$1,623	\$1,494	\$1,196	\$736
FCFF	-\$931	-\$1,024	-\$989	-\$758	-\$408	-\$163	\$177	\$625	\$1,174	\$1,788

	1	2	3	4	5	6	7	8	9	10
Cost of Equity	12.90%	12.90%	12.90%	12.90%	12.90%	12.42%	12.30%	12.10%	11.70%	10.50%
Cost of Debt	8.00%	8.00%	8.00%	8.00%	8.00%	7.80%	7.75%	7.67%	7.50%	7.00%
AT cost of debt	8.00%	8.00%	8.00%	6.71%	5.20%	5.07%	5.04%	4.98%	4.88%	4.55%
Cost of Capital	12.84%	12.84%	12.84%	12.83%	12.81%	12.13%	11.96%	11.69%	11.15%	9.61%

Forever

**Cost of Equity**  
12.90%

*Used average  
interest coverage  
ratio over next 5  
years to get BBB  
rating.*

**Cost of Debt**  
 $6.5\% + 1.5\% = 8.0\%$   
Tax rate = 0% -> 35%

**Weights**  
Debt= 1.2% -> 15%

Amazon was  
trading at \$84 in  
January 2000.

*Pushed debt ratio  
to retail industry  
average of 15%.*

*Dot.com retailers for first 5 years  
Conventional retailers after year 5*

**Riskfree Rate:**  
T. Bond rate = 6.5%

**Beta**  
1.60 -> 1.00

**Risk Premium**  
4%

Internet/  
Retail

Operating  
Leverage

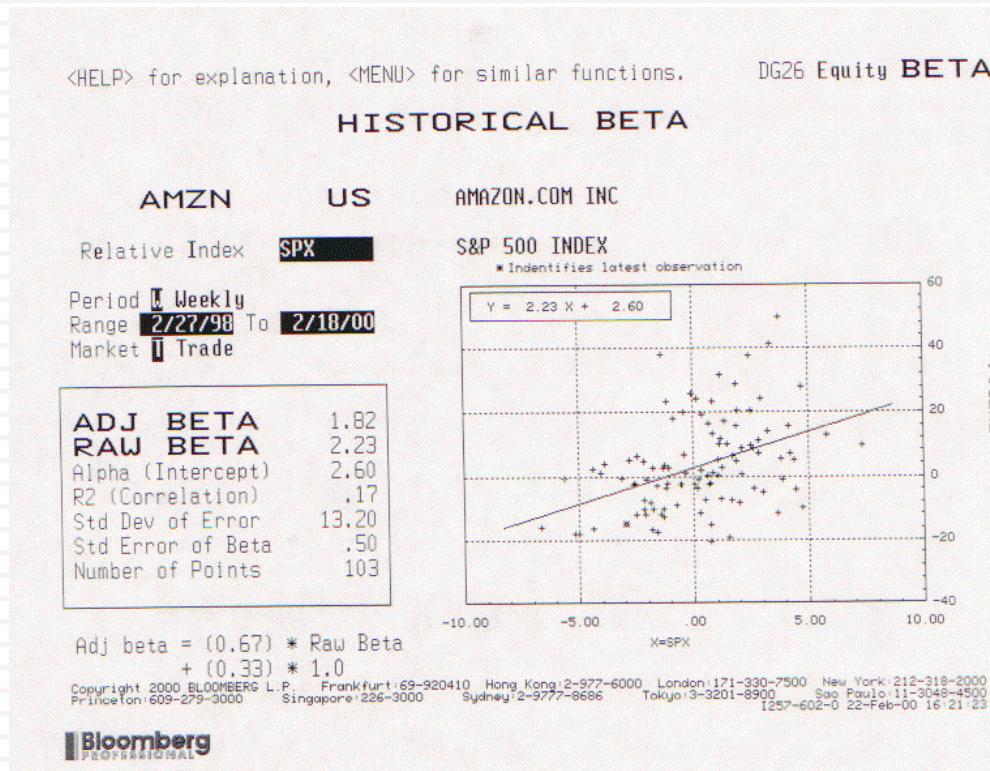
Current  
D/E: 1.21%

Base Equity  
Premium

Country Risk  
Premium



# Lesson 1: Don't sweat the small stuff



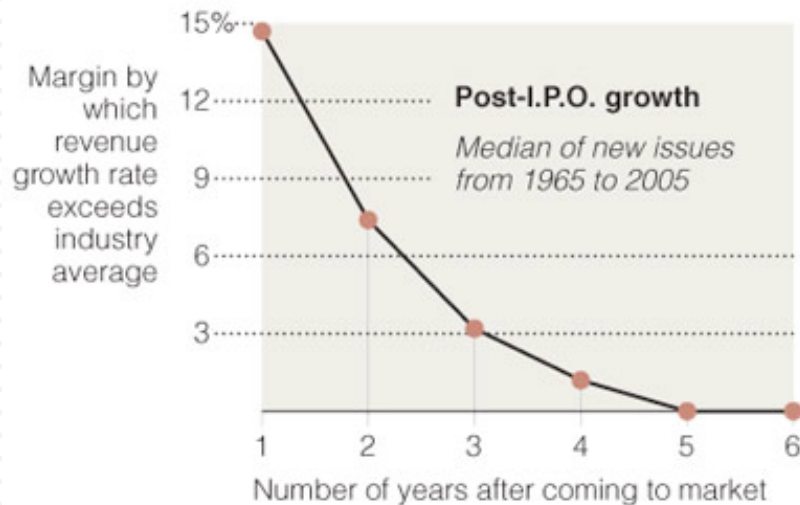
- Spotlight the business the company is in & use the beta of that business.
- Don't try to incorporate failure risk into the discount rate.
- Let the cost of capital change over time, as the company changes.
- If you are desperate, use the cross section of costs of capital to get your estimation going (use the 90<sup>th</sup> or 95<sup>th</sup> percentile across all companies).

## Lesson 2: Work backwards and keep it simple...

Year	Revenue Growth	Sales	Operating Margin	EBIT	EBIT (1-t)
Tr 12 mths		\$1,117	-36.71%	-\$410	-\$410
1	150.00%	\$2,793	-13.35%	-\$373	-\$373
2	100.00%	\$5,585	-1.68%	-\$94	-\$94
3	75.00%	\$9,774	4.16%	\$407	\$407
4	50.00%	\$14,661	7.08%	\$1,038	\$871
5	30.00%	\$19,059	8.54%	\$1,628	\$1,058
6	25.20%	\$23,862	9.27%	\$2,212	\$1,438
7	20.40%	\$28,729	9.64%	\$2,768	\$1,799
8	15.60%	\$33,211	9.82%	\$3,261	\$2,119
9	10.80%	\$36,798	9.91%	\$3,646	\$2,370
10	6.00%	\$39,006	9.95%	\$3,883	\$2,524
TY	6.00%	\$41,346	10.00%	\$4,135	\$2,688

# Lesson 3: Scaling up is hard to do & failure is common

Typically, the revenue growth rate of a newly public company outpaces its industry average for only about five years.



Source: Andrew Metrick

The New York Times

- Lower revenue growth rates, as revenues scale up.
- Keep track of dollar revenues, as you go through time, measuring against market size.

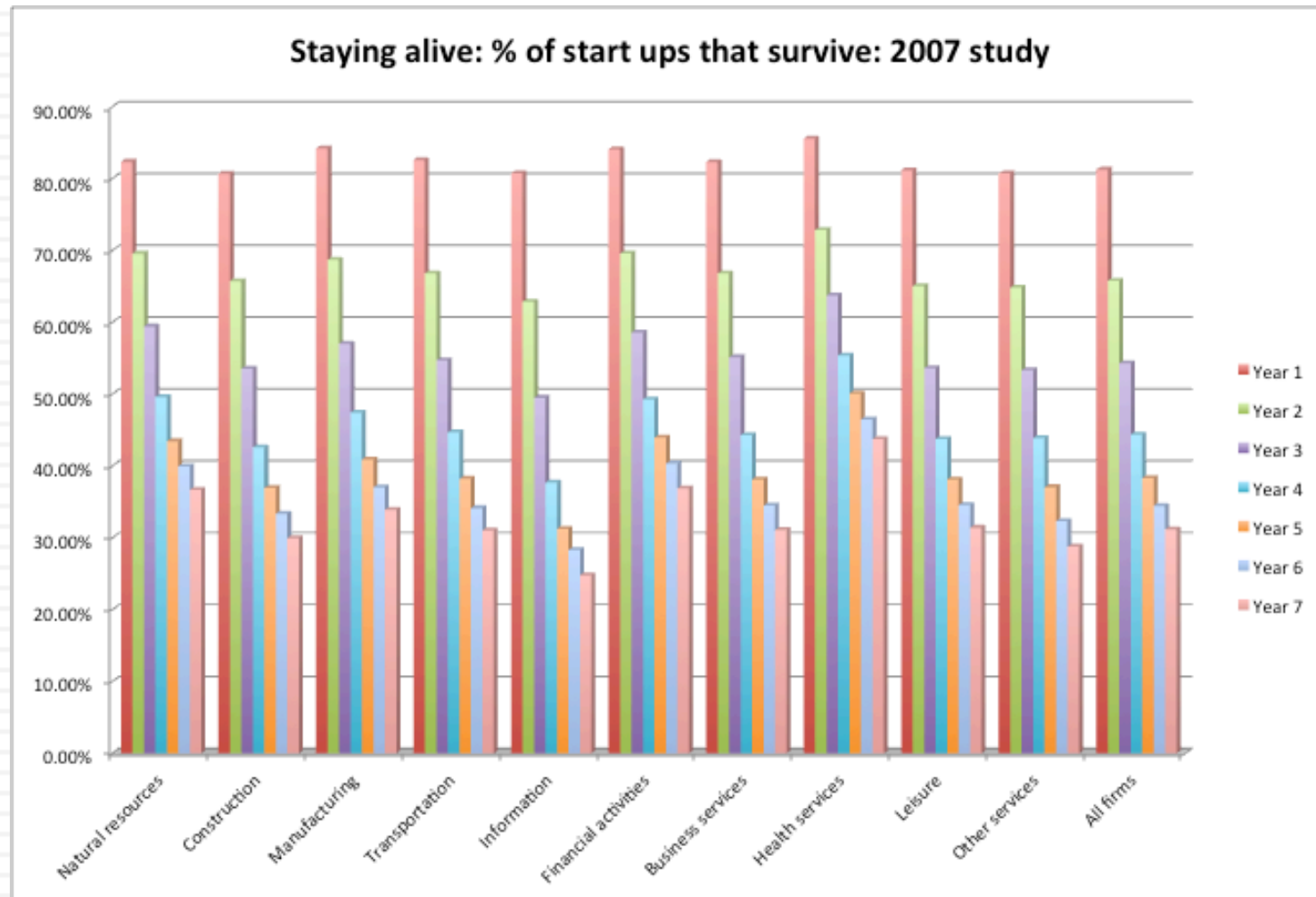
# Lesson 4: Don't forget to pay for growth...

Year	Revenues	Δ Revenue	Sales/Cap	Δ Investment	Invested Capital	EBIT (1-t)	Imputed ROC
Tr 12 mths	\$1,117				\$ 487	-\$410	
1	\$2,793	\$1,676	3.00	\$559	\$ 1,045	-\$373	-76.62%
2	\$5,585	\$2,793	3.00	\$931	\$ 1,976	-\$94	-8.96%
3	\$9,774	\$4,189	3.00	\$1,396	\$ 3,372	\$407	20.59%
4	\$14,661	\$4,887	3.00	\$1,629	\$ 5,001	\$871	25.82%
5	\$19,059	\$4,398	3.00	\$1,466	\$ 6,467	\$1,058	21.16%
6	\$23,862	\$4,803	3.00	\$1,601	\$ 8,068	\$1,438	22.23%
7	\$28,729	\$4,868	3.00	\$1,623	\$ 9,691	\$1,799	22.30%
8	\$33,211	\$4,482	3.00	\$1,494	\$ 11,185	\$2,119	21.87%
9	\$36,798	\$3,587	3.00	\$1,196	\$ 12,380	\$2,370	21.19%
10	\$39,006	\$2,208	3.00	\$736	\$ 13,116	\$2,524	20.39%
TY	\$41,346	\$2,340	NA		Assumed to be =		20.00%

# Lesson 5: The dilution is taken care off..

- With young growth companies, it is almost a given that the number of shares outstanding will increase over time for two reasons:
  - ▣ To grow, the company will have to issue new shares either to raise cash to take projects or to offer to target company stockholders in acquisitions
  - ▣ Many young, growth companies also offer options to managers as compensation and these options will get exercised, if the company is successful.
- In DCF valuation, both effects are already incorporated into the value per share, even though we use the current number of shares in estimating value per share
  - ▣ The need for new equity issues is captured in negative cash flows in the earlier years. The present value of these negative cash flows will drag down the current value of equity and this is the effect of future dilution.
  - ▣ The options are valued and netted out against the current value. Using an option pricing model allows you to incorporate the expected likelihood that they will be exercised and the price at which they will be exercised.

# Lesson 6: If you are worried about failure, incorporate into value



# Lesson 7: There are always scenarios where the market price can be justified...

	6%	8%	10%	12%	14%
30%	\$ (1.94)	\$ 2.95	\$ 7.84	\$ 12.71	\$ 17.57
35%	\$ 1.41	\$ 8.37	\$ 15.33	\$ 22.27	\$ 29.21
40%	\$ 6.10	\$ 15.93	\$ 25.74	\$ 35.54	\$ 45.34
45%	\$ 12.59	\$ 26.34	\$ 40.05	\$ 53.77	\$ 67.48
50%	\$ 21.47	\$ 40.50	\$ 59.52	\$ 78.53	\$ 97.54
55%	\$ 33.47	\$ 59.60	\$ 85.72	\$ 111.84	\$ 137.95
60%	\$ 49.53	\$ 85.10	\$ 120.66	\$ 156.22	\$ 191.77

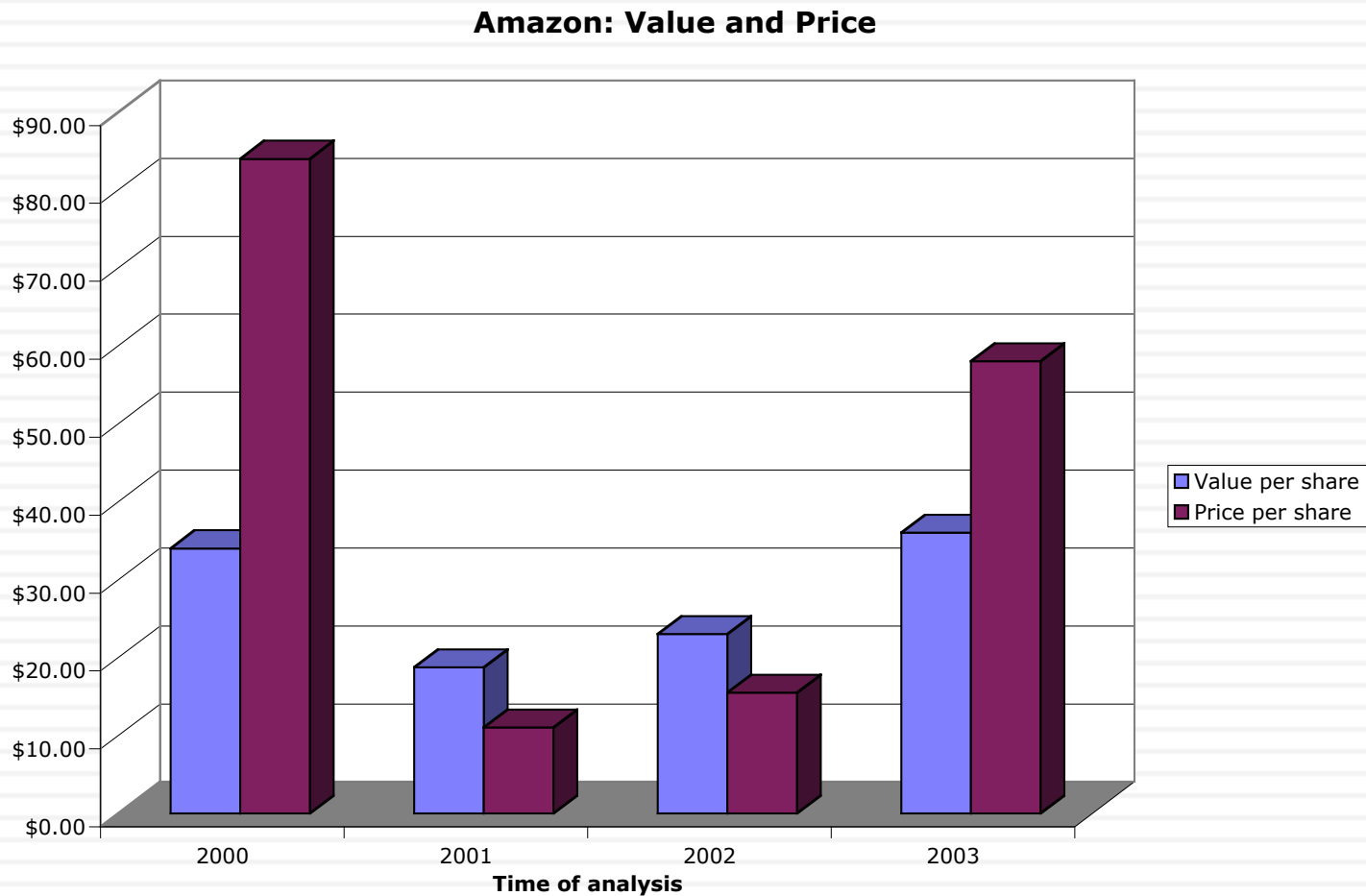


# Lesson 8: You will be wrong 100% of the time and it really is not your fault...

- No matter how careful you are in getting your inputs and how well structured your model is, your estimate of value will change both as new information comes out about the company, the business and the economy.
- As information comes out, you will have to adjust and adapt your model to reflect the information. Rather than be defensive about the resulting changes in value, recognize that this is the essence of risk.
- A test: If your valuations are unbiased, you should find yourself increasing estimated values as often as you are decreasing values. In other words, there should be equal doses of good and bad news affecting valuations (at least over time).



# And the market is often “more wrong” ....



# Assessing my 2000 forecasts, in 2014

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	<i>Revenues</i>		<i>Operating Income</i>		<i>Operating Margin</i>	
<i>Year</i>	<i>My forecast (2000)</i>	<i>Actual</i>	<i>My forecast (2000)</i>	<i>Actual</i>	<i>My forecast (2000)</i>	<i>Actual</i>
2000	\$2,793	\$2,762	-\$ 373	-\$ 664.00	-13.35%	-24.04%
2001	\$5,585	\$3,122	-\$ 94	-\$ 231.00	-1.68%	-7.40%
2002	\$9,774	\$3,932	\$ 407	\$ 106.00	4.16%	2.70%
2003	\$14,661	\$5,264	\$ 1,038	\$ 271.00	7.08%	5.15%
2004	\$19,059	\$6,921	\$ 1,628	\$ 440.00	8.54%	6.36%
2005	\$23,862	\$8,490	\$ 2,212	\$ 432.00	9.27%	5.09%
2006	\$28,729	\$10,711	\$ 2,768	\$ 389.00	9.63%	3.63%
2007	\$33,211	\$14,835	\$ 3,261	\$ 655.00	9.82%	4.42%
2008	\$36,798	\$19,166	\$ 3,646	\$ 842.00	9.91%	4.39%
2009	\$39,006	\$24,509	\$ 3,883	\$ 1,129.00	9.95%	4.61%
2010	\$41,346	\$34,204	\$ 4,135	\$ 1,406.00	10.00%	4.11%
2011	\$43,827	\$48,077	\$ 4,383	\$ 862.00	10.00%	1.79%
2012	\$46,457	\$61,093	\$ 4,646	\$ 676.00	10.00%	1.11%
2013	\$49,244	\$74,452	\$ 4,925	\$ 745.00	10.00%	1.00%
2014 (LTM)	\$51,460	\$85,247	\$ 5,146.35	\$ 97.00	10.00%	0.11%

# Amazon: My “Field of Dreams” Valuation – October 2014

To deliver this high revenue growth, Amazon will continue to sell its products/services at or below cost. Operating margin stays low for the next few years.

Amazon will continue on its path of revenue growth first, pushing into media & cloud services to become the second largest retailer in the world. Revenues grow @15% a year for 5 years, tapering down to 2.2% growth after year 10

As Amazon becomes more dominant, it will increase prices, but easy entry into the business will act as a restraint. Operating margin improves to 7.38% in year 10, weighted average of retail & media businesses

Amazon will be able to invest more efficiently than the average retailer. Reinvest \$1 for every \$3.68 in additional revenues

	Base year	1	2	3	4	5	6	7	8	9	10	Terminal year
Revenue growth rate		15.00%	15.00%	15.00%	15.00%	15.00%	12.44%	9.88%	7.32%	4.76%	2.20%	2.20%
Revenues	\$ 85,246	\$98,033	\$112,738	\$129,649	\$149,096	\$171,460	\$192,790	\$211,837	\$227,344	\$238,166	\$243,405	\$ 248,760
EBIT (Operating) margin	0.58%	1.26%	1.94%	2.62%	3.30%	3.98%	4.66%	5.34%	6.02%	6.70%	7.38%	7.38%
EBIT (Operating income)	\$ 494	\$ 1,235	\$ 2,187	\$ 3,397	\$ 4,920	\$ 6,824	\$ 8,984	\$ 11,312	\$ 13,686	\$ 15,957	\$ 17,963	\$ 18,358
Tax rate	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%
EBIT(1-t)	\$ 337	\$ 842	\$ 1,492	\$ 2,317	\$ 3,356	\$ 4,654	\$ 6,127	\$ 7,715	\$ 9,334	\$ 10,883	\$ 12,251	\$ 12,520
- Reinvestment		\$ 3,474	\$ 3,995	\$ 4,594	\$ 5,284	\$ 6,076	\$ 5,795	\$ 5,175	\$ 4,213	\$ 2,940	\$ 1,424	\$ 2,755
FCFF		\$ (2,632)	\$ (2,504)	\$ (2,278)	\$ (1,928)	\$ (1,422)	\$ 332	\$ 2,540	\$ 5,121	\$ 7,943	\$ 10,827	\$ 9,766
Terminal Value											\$168,379	
Cost of capital		8.39%	8.39%	8.39%	8.39%	8.39%	8.32%	8.24%	8.16%	8.08%	8.00%	8.00%
PV(FCFF)		\$ (2,489)	\$ (2,189)	\$ (1,842)	\$ (1,446)	\$ (994)	\$ 169	\$ 1,420	\$ 2,681	\$ 3,865	\$ 80,918	

PV(Terminal value)	\$ 76,029
PV (CF over next 10 years)	\$ 4,064
Value of operating assets =	\$ 80,093
- Debt	\$ 8,353
+ Cash	\$ 10,252
Value of equity	\$ 81,143
- Value of options	\$ -
Value of equity in common stock	\$ 81,125
Number of shares	463.01
Estimated value /share	\$ 175.25
Price	\$ 287.06
Price as % of value	163.84%

Amazon's technology twist will keep financial leverage low: Debt ratio is 94.7% equity, 5.3% debt, with a pre-tax cost of debt of 5.00%.

Amazon's risk profile will reflect a mix of retail, media and cloud businesses as well as geographic ambitions: Beta used in cost of capital is 1.12, weighted average of online retail, entertainment and business services (cloud). ERP is weighted average of US ERP (5%) and rest of the world (6.45%)

Amazon: A DCF valuation in late October 2014

# Amazon: World Dominator in October 2014

To deliver this high revenue growth, Amazon will continue to sell its products/services at or below cost. Operating margin stays low for the next few years.

Amazon will continue on its path of revenue growth first, pushing **strongly** into media & cloud services to become the second largest retailer in the world. Revenues grow @20% a year for 5 years, tapering down to 2.2% growth after year 10

As Amazon becomes more dominant, it will increase prices, **with few restraints**. Operating margin improves to 12.84% in year 10, the 75th percentile of retail & media businesses

Amazon will be able to invest more efficiently than the average retailer. Reinvest \$1 for every \$3.68 in additional revenues

	Base year	1	2	3	4	5	6	7	8	9	10	Terminal year
Revenue growth rate		20.00%	20.00%	20.00%	20.00%	20.00%	16.44%	12.88%	9.32%	5.76%	2.20%	2.20%
Revenues	\$ 85,246	\$102,295	\$122,754	\$147,305	\$176,766	\$212,119	\$246,992	\$278,804	\$304,789	\$322,345	\$329,436	\$ 336,684
EBIT (Operating) margin	0.47%	1.71%	2.94%	4.18%	5.42%	6.65%	7.89%	9.13%	10.37%	11.60%	12.84%	12.84%
EBIT (Operating income)	\$ 400	\$ 1,746	\$ 3,613	\$ 6,158	\$ 9,576	\$ 14,116	\$ 19,492	\$ 25,451	\$ 31,594	\$ 37,401	\$ 42,300	\$ 43,230
Tax rate	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%
EBIT(1-t)	\$ 273	\$ 1,190	\$ 2,464	\$ 4,200	\$ 6,531	\$ 9,627	\$ 13,293	\$ 17,358	\$ 21,547	\$ 25,508	\$ 28,848	\$ 29,483
- Reinvestment		\$ 4,632	\$ 5,559	\$ 6,670	\$ 8,004	\$ 9,605	\$ 9,475	\$ 8,643	\$ 7,060	\$ 4,770	\$ 1,927	\$ 5,405
FCFF		-\$ 3,442	-\$ 3,094	-\$ 2,470	-\$ 1,473	\$ 22	\$ 3,819	\$ 8,715	\$ 14,487	\$ 20,738	\$ 26,922	\$ 24,078
Cost of capital		8.39%	8.39%	8.39%	8.39%	8.39%	8.32%	8.24%	8.16%	8.08%	8.00%	8.00%
Cumulated discount factor		0.9226	0.8511	0.7852	0.7244	0.6683	0.6170	0.5700	0.5271	0.4877	0.4515	
PV(FCFF)		\$3,175	\$2,634	\$1,940	\$1,067	\$15	\$2,356	\$4,968	\$7,636	\$10,113	\$12,156	

Terminal value	\$415,134.21
PV(Terminal value)	\$187,447.77
PV (CF over next 10 years)	\$ 28,427.49
Value of operating assets =	\$215,875.26
- Debt	\$ 9,201.58
+ Cash	\$ 10,252.00
+ Non-operating assets	\$ -
Value of equity	\$216,925.67
- Value of options	\$ -
Value of equity in common stock	216,925.67
Number of shares	463.01
Estimated value /share	\$ 468.51

Amazon's technology twist will keep financial leverage low: Debt ratio is 94.7% equity, 5.3% debt, with a pre-tax cost of debt of 5.00%.

Amazon's risk profile will reflect a mix of retail, media and cloud businesses as well as geographic ambitions: Beta used in cost of capital is 1.12, weighted average of online retail, entertainment and business services (cloud). ERP is weighted average of US ERP (5%) and rest of the world (6.45%)

# Amazon: Bezos, the Change-maker

To deliver this high revenue growth, Amazon will continue to sell its products/services at or below cost. Operating margin stays low for the next few years.

Amazon will continue on its path of revenue growth first, pushing into media & cloud services to become the second largest retailer in the world. Revenues grow @15% a year for 5 years, tapering down to 2.2% growth after year 10

Easy entry into the business will push margins down for everyone: Operating margin stays at 2.85% in year 10, in the 25th percentile of retail company margins

Amazon will be able to invest more efficiently than the average retailer. Reinvest \$1 for every \$3.68 in additional revenues

	Base year	1	2	3	4	5	6	7	8	9	10	Terminal year
Revenue growth rate		15.00%	15.00%	15.00%	15.00%	15.00%	12.44%	9.88%	7.32%	4.76%	2.20%	2.20%
Revenues	\$ 85,246	\$ 98,033	\$ 112,738	\$ 129,649	\$ 149,096	\$ 171,460	\$ 192,790	\$ 211,837	\$ 227,344	\$ 238,166	\$ 243,405	\$ 248,760
EBIT (Operating) margin	0.47%	0.71%	0.95%	1.18%	1.42%	1.66%	1.90%	2.14%	2.37%	2.61%	2.85%	2.85%
EBIT (Operating income)	\$ 400	\$ 693	\$ 1,066	\$ 1,534	\$ 2,120	\$ 2,846	\$ 3,659	\$ 4,524	\$ 5,397	\$ 6,221	\$ 6,937	\$ 7,090
Tax rate	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%	31.80%
EBIT(1-t)	\$ 273	\$ 473	\$ 727	\$ 1,046	\$ 1,446	\$ 1,941	\$ 2,495	\$ 3,086	\$ 3,681	\$ 4,243	\$ 4,731	\$ 4,835
- Reinvestment		\$ 3,474	\$ 3,995	\$ 4,594	\$ 5,284	\$ 6,076	\$ 5,795	\$ 5,175	\$ 4,213	\$ 2,940	\$ 1,424	\$ 1,064
FCFF		\$ (3,001)	\$ (3,268)	\$ (3,548)	\$ (3,838)	\$ (4,136)	\$ (3,300)	\$ (2,089)	\$ (532)	\$ 1,302	\$ 3,307	\$ 3,771
Cost of capital		8.39%	8.39%	8.39%	8.39%	8.39%	8.32%	8.24%	8.16%	8.08%	8.00%	8.00%
Cumulated discount factor		0.9226	0.8511	0.7852	0.7244	0.6683	0.6170	0.5700	0.5271	0.4877	0.4515	
PV(FCFF)		-\$2,768.76	-\$2,781.71	-\$2,785.95	-\$2,780.38	-\$2,763.78	-\$2,036.06	-\$1,191.09	-\$ 280.58	\$ 635.12	\$1,493.45	

PV(Terminal value)	\$29,361
PV (CF over next 10 years)	\$15,260
Value of operating assets =	\$14,101
- Debt	\$9,202
+ Cash	\$10,252
Value of equity	\$15,151
- Value of options	\$0
Value of equity in common stock	\$15,151
Number of shares	463.01
Estimated value /share	\$ 32.72

Amazon's technology twist will keep financial leverage low: Debt ratio is 94.7% equity, 5.3% debt, with a pre-tax cost of debt of 5.00%.

Amazon's risk profile will reflect a mix of retail, media and cloud businesses as well as geographic ambitions: Beta used in cost of capital is 1.12, weighted average of online retail, entertainment and business services (cloud). ERP is weighted average of US ERP (5%) and rest of the world (6.45%)

## II. Mature Companies in transition..

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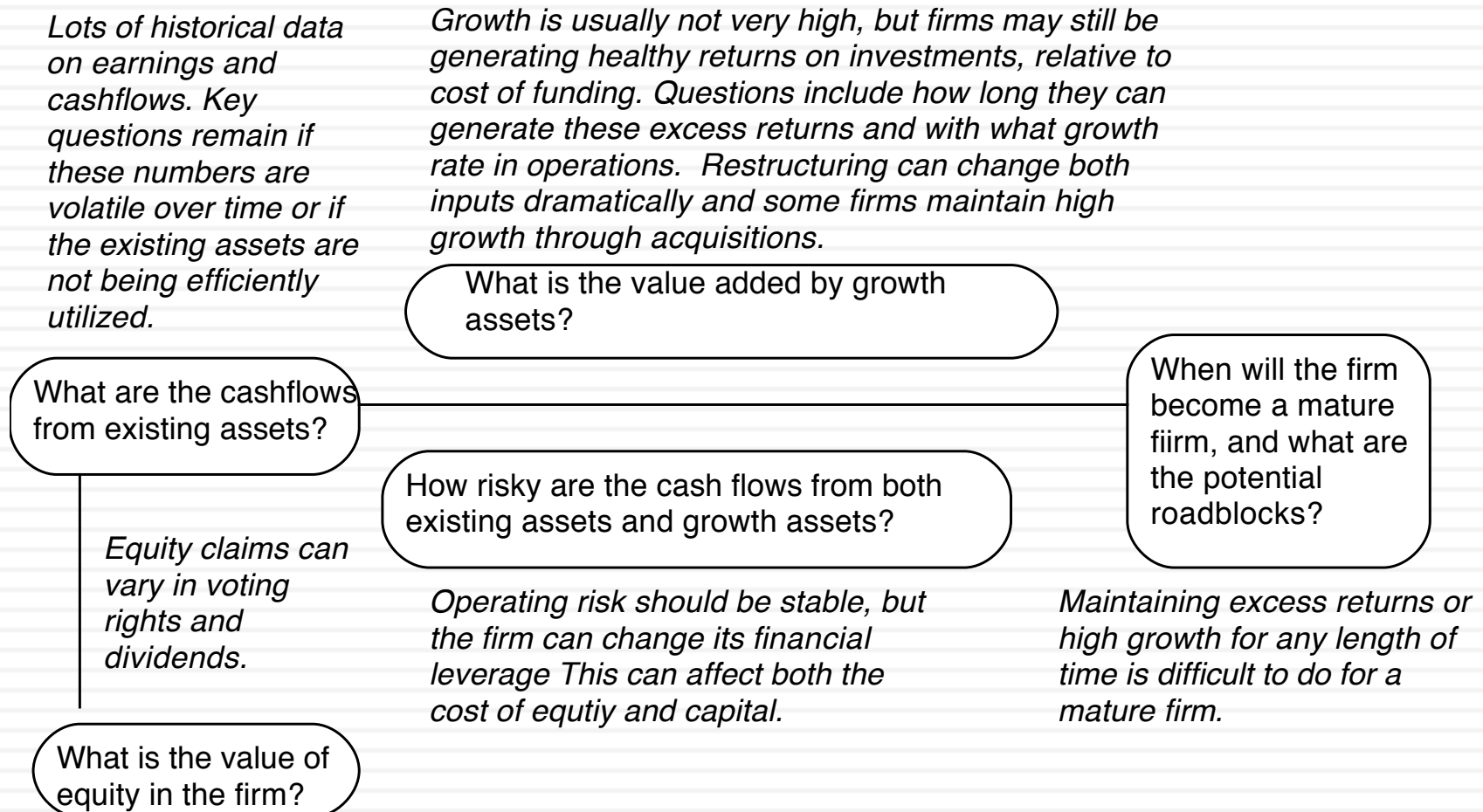
- Mature companies are generally the easiest group to value. They have long, established histories that can be mined for inputs. They have investment policies that are set and capital structures that are stable, thus making valuation more grounded in past data.
- However, this stability in the numbers can mask real problems at the company. The company may be set in a process, where it invests more or less than it should and does not have the right financing mix. In effect, the policies are consistent, stable and bad.
- If you expect these companies to change or as is more often the case to have change thrust upon them,



# The perils of valuing mature companies...

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Figure 7.1: Estimation Issues - Mature Companies



## Hormel Foods: The Value of Control Changing

Hormel Foods sells packaged meat and other food products and has been in existence as a publicly traded company for almost 80 years. In 2008, the firm reported after-tax operating income of \$315 million, reflecting a compounded growth of 5% over the previous 5 years.

### The Status Quo

Run by existing management, with conservative reinvestment policies (reinvestment rate = 14.34% and debt ratio = 10.4%.

Anemic growth rate and short growth period, due to reinvestment policy

Low debt ratio affects cost of capital

Year	Operating income after taxes	Expected growth rate	ROC	Reinvestment Rate	Reinvestment	FCFF	Cost of capital	Present Value
Trailing 12 months	\$315							
1	\$324	2.75%	14.34%	19.14%	\$62	\$262	6.79%	\$245
2	\$333	2.75%	14.34%	19.14%	\$64	\$269	6.79%	\$236
3	\$342	2.75%	14.34%	19.14%	\$65	\$276	6.79%	\$227
Beyond	\$350	2.35%	7.23%	32.52%	\$114	\$4,840	7.23%	\$3,974
Value of operating assets								\$4,682
(Add) Cash								\$155
(Subtract) Debt								\$491
(Subtract) Management Options								\$53
Value of equity in common stock								\$4,293
Value per share								\$31.91

### New and better management

More aggressive reinvestment which increases the reinvestment rate (to 40%) and tlength of growth (to 5 years), and higher debt ratio (20%).

#### Operating Restructuring ①

Expected growth rate = ROC \* Reinvestment Rate

Expected growth rate (status quo) = 14.34% \* 19.14% = 2.75%

Expected growth rate (optimal) = 14.00% \* 40% = 5.60%

ROC drops, reinvestment rises and growth goes up.

#### Financial restructuring ②

Cost of capital = Cost of equity (1-Debt ratio) + Cost of debt (Debt ratio)

Status quo = 7.33% (1-.104) + 3.60% (.104) = 6.79%

Optimal = 7.75% (1-.20) + 3.60% (.20) = 6.63%

Cost of equity rises but cost of capital drops.


Year	Operating income after taxes	Expected growth rate	ROC	Reinvestment Rate	Reinvestment	FCFF	Cost of capital	Present Value
Trailing 12 months	\$315							
1	\$333	5.60%	14.00%	40.00%	\$133	\$200	6.63%	\$187
2	\$351	5.60%	14.00%	40.00%	\$141	\$211	6.63%	\$185
3	\$371	5.60%	14.00%	40.00%	\$148	\$223	6.63%	\$184
4	\$392	5.60%	14.00%	40.00%	\$260	\$235	6.63%	\$182
5	\$414	5.60%	14.00%	40.00%	\$223	\$248	6.63%	\$180
Beyond	\$423	2.35%	6.74%	34.87%	\$148	\$6,282	6.74%	\$4,557
Value of operating assets								\$5,475
(Add) Cash								\$155
(Subtract) Debt								\$491
(Subtract) Management Options								\$53
Value of equity in common stock								\$5,085
Value per share								\$37.80



# Lesson 1: Cost cutting and increased efficiency are easier accomplished on paper than in practice... and require commitment

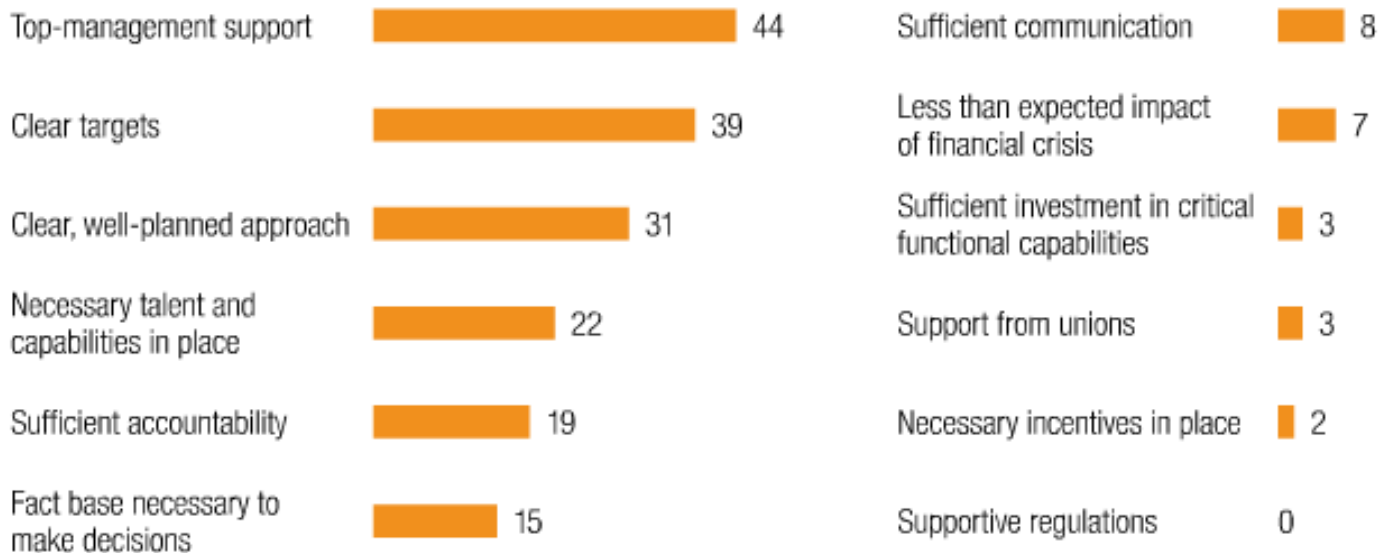
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Exhibit 4: **Top factors for meeting targets**

expand 

% of respondents whose companies have met their cost reduction strategies,<sup>1</sup> n = 178

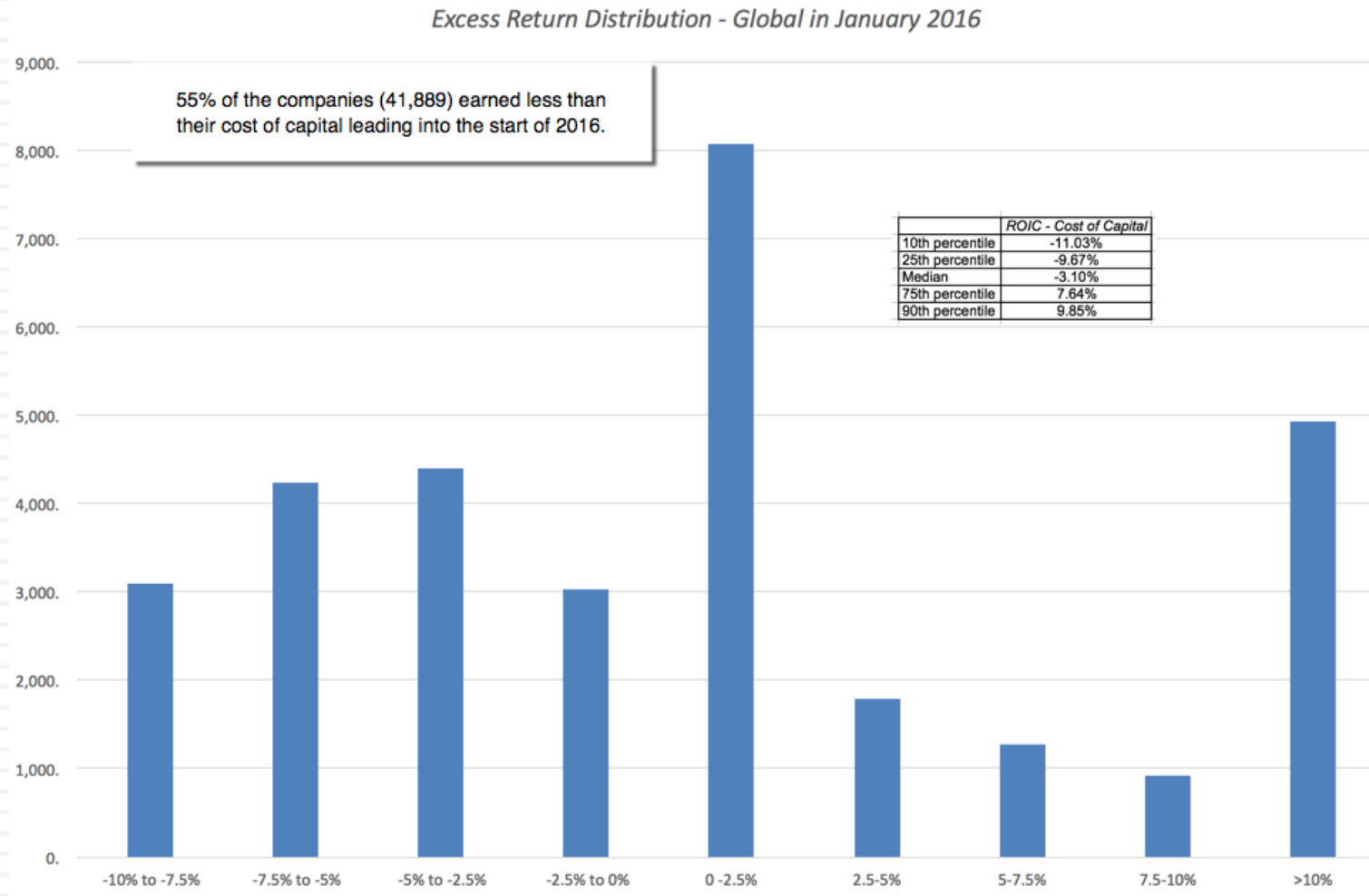
**Top two factors most responsible for companies meeting cost targets or goals**



<sup>1</sup> Respondents who answered "don't know" are not shown.

## Lesson 2: Increasing growth is not always a value creating option.. And it may destroy value at times..

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# Lesson 3: Financial leverage is a double-edged sword..

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Exhibit 7.1: Optimal Financing Mix: Hormel Foods in January 2009

