



FAITH AND PERSPECTIVE: LESSONS FROM A CRISIS

Glimmers of light?

Lesson 1: Listen to markets, not to experts

- During a crisis, you will be often told by experts and market gurus that markets are irrational and behave in crazy and chaotic ways.
 - To back this up, the evidence that they will offer is that markets have wild swings on a day-to-day basis, and that these swings are incompatible with rational investing.
 - They very conveniently ignore the fact that their advice is even more volatile, veering from day to day...
 - And that markets are reflecting our collective uncertainty
- In what looks like chaos, there is order...

Global Equities: Industry Winners & Losers

Worst Performing Industries										
Industry	Number of firms	Market Capitalization (in US dollars)			\$ Change			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1	2/14-3/20	3/20-6/1	2/14-6/1
Air Transport	149	\$ 556,213	\$ 313,549	\$ 360,990	\$ (242,665)	\$ 47,441	\$ (195,223)	-43.63%	15.13%	-35.10%
Reinsurance	34	\$ 180,664	\$ 98,286	\$ 120,010	\$ (82,379)	\$ 21,725	\$ (60,654)	-45.60%	22.10%	-33.57%
Oil/Gas (Production and Exploration)	472	\$ 692,325	\$ 317,620	\$ 467,201	\$ (374,705)	\$ 149,581	\$ (225,123)	-54.12%	47.09%	-32.52%
Aerospace/Defense	211	\$1,217,804	\$ 674,126	\$ 835,696	\$ (543,678)	\$161,571	\$ (382,107)	-44.64%	23.97%	-31.38%
Bank (Money Center)	577	\$6,822,648	\$4,637,480	\$4,739,982	\$(2,185,168)	\$102,502	\$(2,082,666)	-32.03%	2.21%	-30.53%
Broadcasting	122	\$ 164,633	\$ 93,940	\$ 118,442	\$ (70,693)	\$ 24,502	\$ (46,191)	-42.94%	26.08%	-28.06%
Food Wholesalers	120	\$ 93,278	\$ 50,166	\$ 67,431	\$ (43,112)	\$ 17,264	\$ (25,847)	-46.22%	34.41%	-27.71%
Hotel/Gaming	538	\$ 708,307	\$ 381,770	\$ 514,681	\$ (326,538)	\$132,911	\$ (193,626)	-46.10%	34.81%	-27.34%
Insurance (General)	177	\$ 831,734	\$ 506,306	\$ 611,193	\$ (325,428)	\$104,887	\$ (220,541)	-39.13%	20.72%	-26.52%
Best Performing Industries										
Industry	Number of firms	Market Capitalization (in US dollars)			\$ Change			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1	2/14-3/20	3/20-6/1	2/14-6/1
Software (Internet)	108	\$ 226,923	\$ 166,709	\$ 281,047	\$ (60,214)	\$114,338	\$ 54,125	-26.54%	68.59%	23.85%
Precious Metals	515	\$ 417,720	\$ 296,911	\$ 471,378	\$ (120,810)	\$174,468	\$ 53,658	-28.92%	58.76%	12.85%
Drugs (Biotechnology)	908	\$1,407,999	\$1,133,945	\$1,561,080	\$ (274,054)	\$427,135	\$ 153,081	-19.46%	37.67%	10.87%
Healthcare Information and Technology	316	\$ 780,832	\$ 614,357	\$ 858,979	\$ (166,475)	\$244,623	\$ 78,147	-21.32%	39.82%	10.01%
Retail (Online)	249	\$2,455,458	\$1,989,439	\$2,688,216	\$ (466,019)	\$698,777	\$ 232,758	-18.98%	35.12%	9.48%
Healthcare Products	633	\$1,831,401	\$1,351,145	\$1,861,377	\$ (480,256)	\$510,232	\$ 29,977	-26.22%	37.76%	1.64%
Software (System & Application)	1,072	\$3,763,152	\$2,790,639	\$3,768,913	\$ (972,513)	\$978,274	\$ 5,761	-25.84%	35.06%	0.15%
Drugs (Pharmaceutical)	1,055	\$3,561,443	\$2,835,198	\$3,542,117	\$ (726,245)	\$706,919	\$ (19,327)	-20.39%	24.93%	-0.54%
Retail (Building Supply)	82	\$ 452,742	\$ 269,623	\$ 449,064	\$ (183,119)	\$179,441	\$ (3,677)	-40.45%	66.55%	-0.81%
Entertainment	510	\$1,114,636	\$ 843,035	\$1,090,046	\$ (271,601)	\$247,011	\$ (24,589)	-24.37%	29.30%	-2.21%

Lesson 2: Opinions are trumped by data...

- Every crisis brings forth explanations for why it is happening, and what we should do about it, with half-baked rationales and anecdotal evidence. Listen, with respect, but verify for yourself.
- For people with agendas, the crisis has offered an opportunity to not only say, “I told you so”, but also to push for legal and regulatory changes to advance their viewpoints.
- Here are two stories that are making the rounds
 - Just punishment: The market drop is well-deserved punishment for those who invested in high flying companies and on momentum and that you should invest in value stocks (low PE, high dividends)
 - Buybacks are the problem: The surge in buybacks are caused companies to become weak and exposed, and the market is punishing those companies.

Value Stocks and Market Returns – During Crisis

Trailing PE	Number of firms	Market Capitalization (in US dollars)			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1
Bottom decile	2,444	\$ 3,061,076	\$ 2,351,948	\$ 2,594,261	-23.17%	10.30%	-15.25%
2nd decile	2,444	\$ 3,760,687	\$ 2,643,016	\$ 3,041,725	-29.72%	15.09%	-19.12%
3rd decile	2,444	\$ 4,714,250	\$ 3,168,954	\$ 3,773,153	-32.78%	19.07%	-19.96%
4th decile	2,445	\$ 7,747,037	\$ 5,166,733	\$ 6,030,835	-33.31%	16.72%	-22.15%
5th decile	2,444	\$ 6,980,675	\$ 4,880,317	\$ 5,776,611	-30.09%	18.37%	-17.25%
6th decile	2,444	\$ 12,238,312	\$ 8,934,428	\$ 10,752,901	-27.00%	20.35%	-12.14%
7th decile	2,445	\$ 12,931,401	\$ 9,348,278	\$ 11,682,177	-27.71%	24.97%	-9.66%
8th decile	2,444	\$ 14,074,833	\$ 10,186,052	\$ 12,989,969	-27.63%	27.53%	-7.71%
9th decile	2,444	\$ 10,247,107	\$ 7,470,118	\$ 9,438,631	-27.10%	26.35%	-7.89%
Top decile	2,445	\$ 6,787,975	\$ 5,089,776	\$ 6,555,668	-25.02%	28.80%	-3.42%
Negative Earnings	12,204	\$ 7,781,793	\$ 4,825,619	\$ 6,595,127	-37.99%	36.67%	-15.25%
All	36,647	\$ 90,325,147	\$ 64,065,238	\$ 79,231,056	-29.07%	23.67%	-12.28%

Dividend Yield Classes	Number of firms	Market Cap			Dollar Change			% Change		
		2/14/20	3/20/20	5/1/20	2/14-3/20	3/20-5/1	2/14 - 5/1	2/14-3/20	3/20-5/1	2/14 - 5/1
No Dividends	19,225	\$ 24,707,423	\$17,289,721	\$ 20,743,671	\$ (7,417,702)	\$ 3,453,950	\$ (3,963,753)	-30.02%	19.98%	-16.04%
Bottom quintile	3,440	\$ 14,683,166	\$10,815,860	\$ 13,009,503	\$ (3,867,306)	\$ 2,193,643	\$ (1,673,663)	-26.34%	20.28%	-11.40%
2nd quintile	3,440	\$ 15,339,511	\$10,891,211	\$ 13,012,951	\$ (4,448,300)	\$ 2,121,740	\$ (2,326,560)	-29.00%	19.48%	-15.17%
3rd quintile	3,439	\$ 14,326,211	\$10,101,474	\$ 11,784,654	\$ (4,224,737)	\$ 1,683,180	\$ (2,541,557)	-29.49%	16.66%	-17.74%
4th quintile	3,441	\$ 14,749,540	\$10,569,522	\$ 11,995,030	\$ (4,180,019)	\$ 1,425,508	\$ (2,754,510)	-28.34%	13.49%	-18.68%
Top quintile	3,440	\$ 6,558,097	\$ 4,440,724	\$ 5,007,719	\$ (2,117,372)	\$ 566,995	\$ (1,550,378)	-32.29%	12.77%	-23.64%
All firms	36,425	\$ 90,363,948	\$64,108,512	\$ 75,553,528	\$ (26,255,436)	\$ 11,445,016	\$ (14,810,420)	-29.06%	17.85%	-16.39%

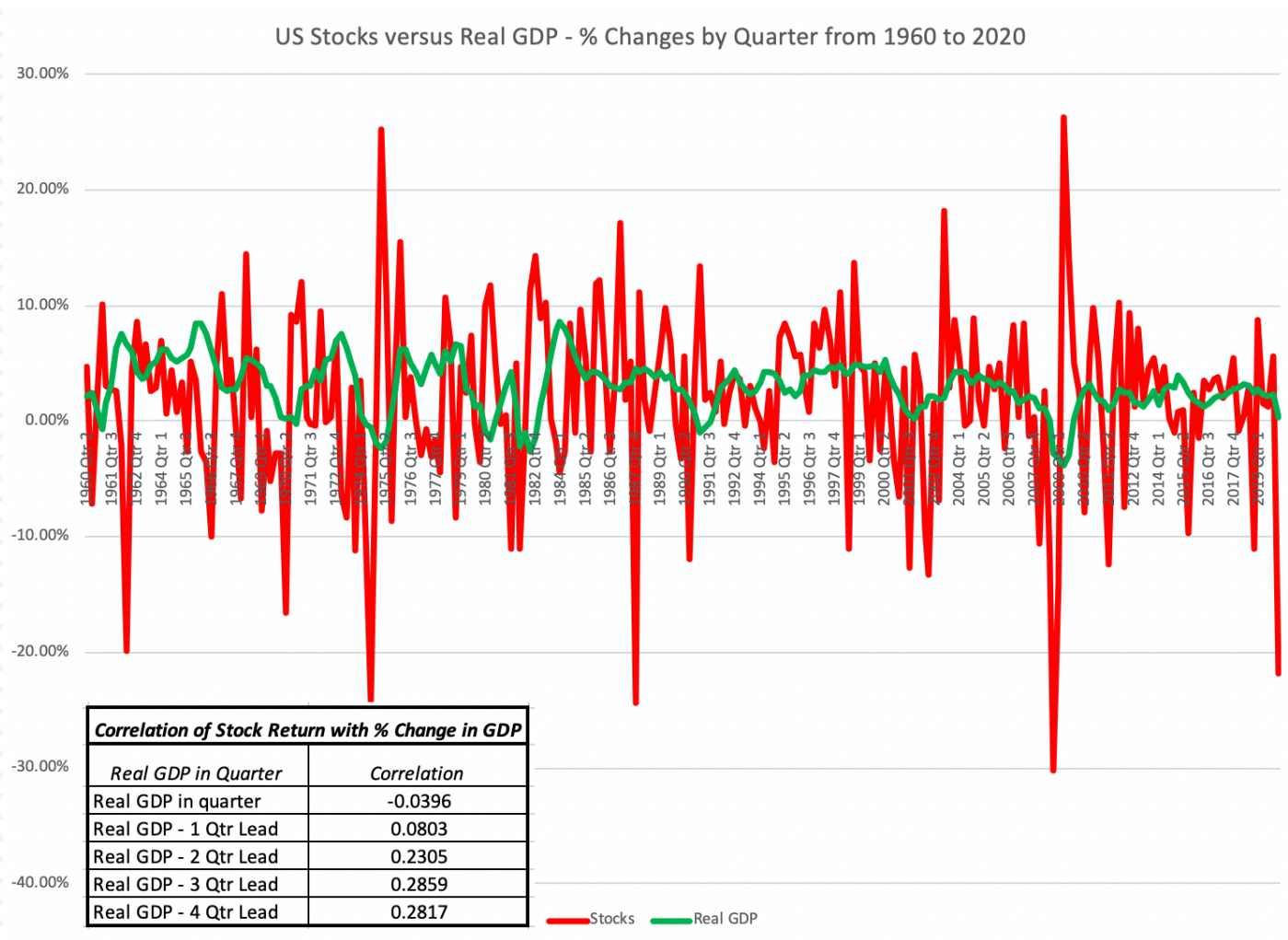
Lesson 3: There is no smart money...

- In investing mythology, there are smart investors and stupid investors.
 - Smart investors sense when markets are going to turn, and get in sooner than others, and get out sooner than others. After every crisis, there are a few who are anointed as gurus. They are also much better at picking the right stocks to buy and sell
 - Stupid investors are uninformed, act on emotion, and panic quickly.
- Professional money managers and talking heads on financial TV land are smart investors. Retail investors are stupid investors.

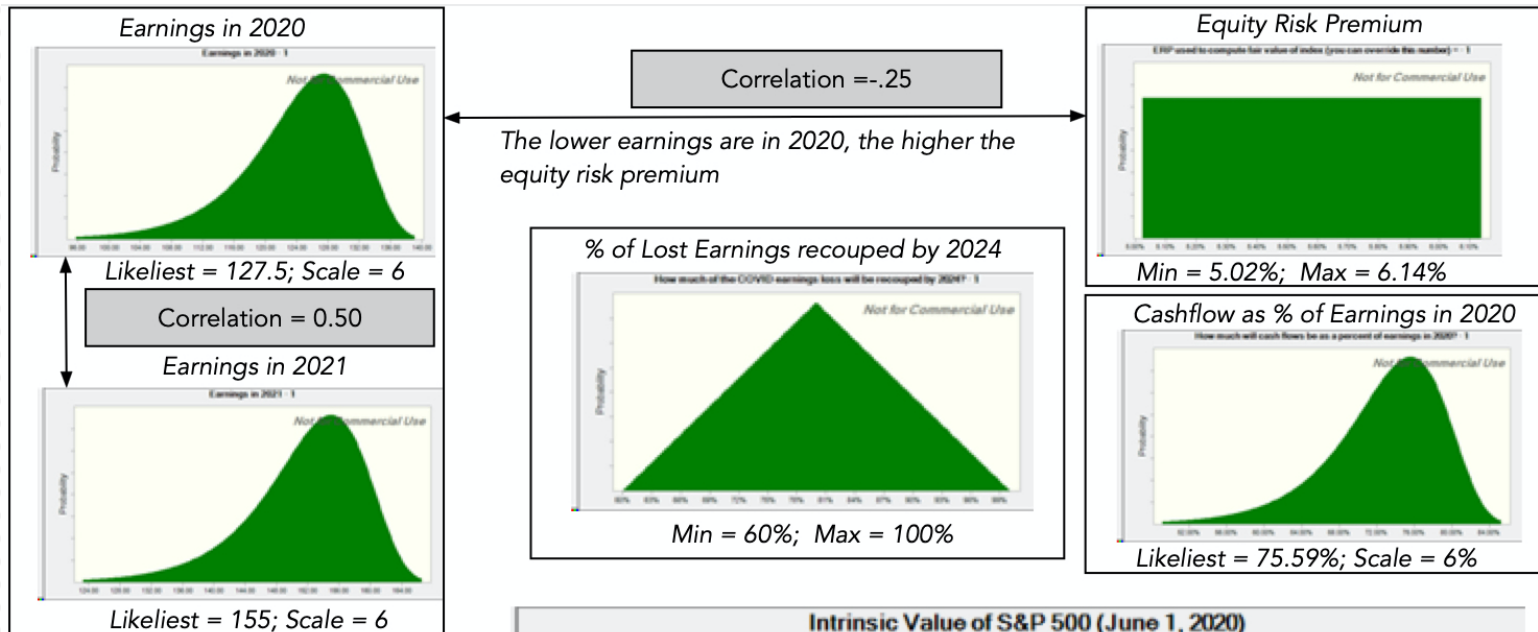
The Crisis Test

<i>Equity Mutual Funds</i>	<i>Returns in 2020, First Quarter</i>		
	<i>Mutual Funds</i>	<i>MS Index</i>	<i>Active Excess Return</i>
Large Blend	-20.92%	-17.86%	-3.06%
Large Growth	-15.48%	-11.51%	-3.97%
Large Value	-26.77%	-25.10%	-1.67%
Mid-Cap Blend	-28.28%	-26.42%	-1.86%
Mid-Cap Growth	-20.64%	-17.00%	-3.64%
Mid-Cap Value	-32.53%	-35.52%	2.99%
Small Blend	-32.37%	-31.61%	-0.76%
Small Growth	-24.59%	-21.45%	-3.14%
Small Value	-36.89%	-39.68%	2.79%
All US Equity Funds	-21.94%	-20.57%	-1.37%

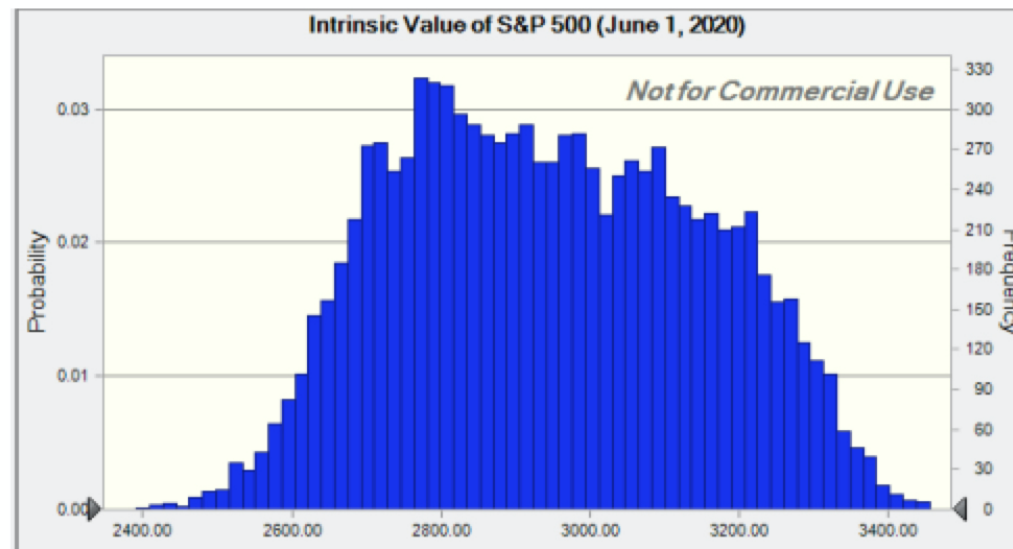
Lesson 4: Markets are meant to be predictors, not reflectors...



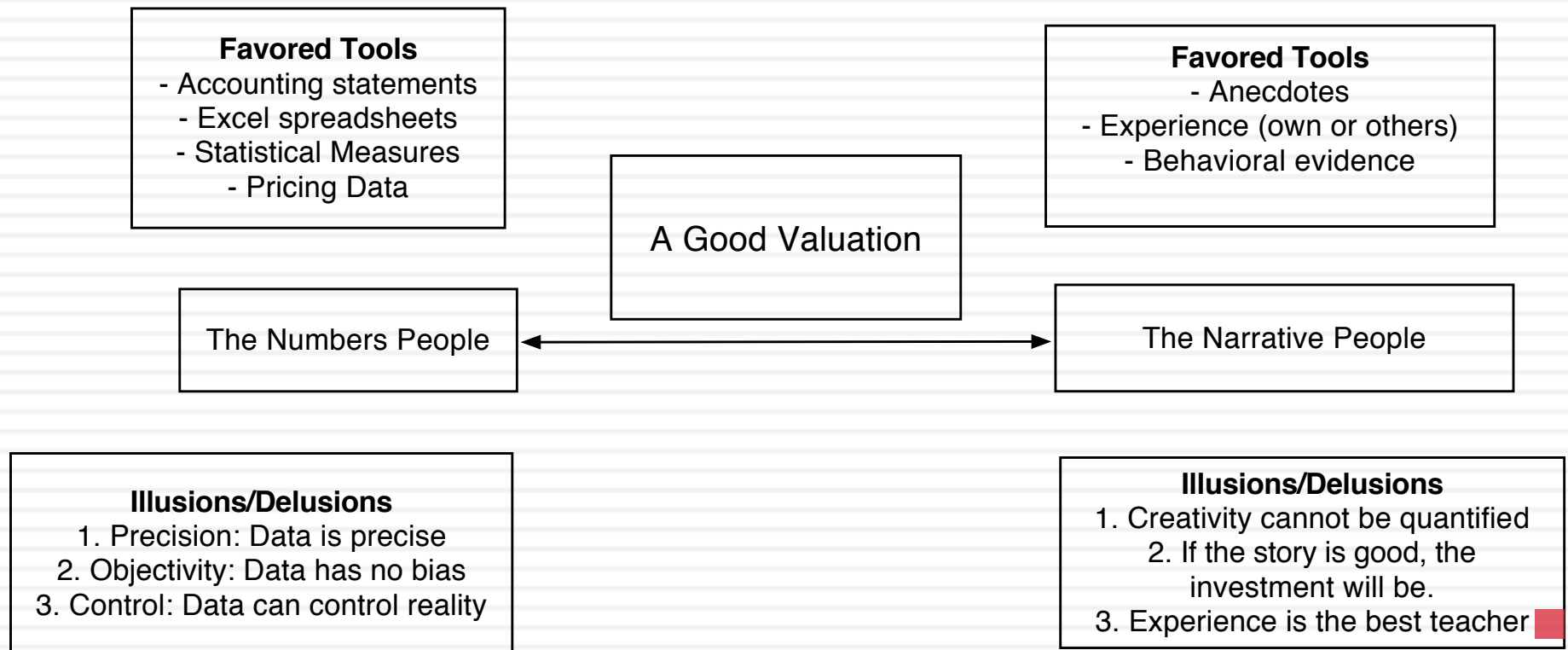
Valuing the S&P 500: June 1, 2020



Percentile	Forecast values
0%	2277.04
10%	2685.17
20%	2752.07
30%	2809.79
40%	2870.31
50%	2932.91
60%	2999.98
70%	3072.14
80%	3144.45
90%	3226.31
100%	3455.33



Lesson 5: Stories + Numbers



Slip, slipping away!

In the face of the Covid-19 pandemic, the protracted impact on the airline industry, and the struggles in the past of the 737 Max, BA faces a tough path forward over the next 5 years. With the assumption that air travel will not return to its pre-Covid-19 levels for the next 4-6 quarters, BA will have negative growth. Furthermore, given BA's debt-heavy balance sheet, there will also be limited re-investment given that paying down the debt is the priority. Thus, risk remains high

The Assumptions

	Base year	Years 1-5	Years 6-10		After year 10	Link to story
Revenues (a)	\$ 76,559	-15.00% → 2.00%			2.00%	Continued slowing of growth
Operating margin (b)	-2.82%	-2.82% → 11.00%			11.00%	With pressure on margins
Tax rate	25.00%	25.00% → 25.00%			25.00%	& Convergence to global tax rate
Reinvestment (c)		Sales to capital ratio 0.00		RIR =	16.67%	Business stays capital intensive
Return on capital	-9.31%	Marginal ROIC =	121.07%		12.00%	But competitive advantages fade
Cost of capital (d)		7.40% → 7.00%			7.00%	As cost of capital stays low

The Cash Flows

	Revenues	Operating Margin	EBIT	EBIT (1-t)	Reinvestment	FCFF
1	\$ 65,075	-5.00%	\$ (3,254)	\$ (3,254)	\$ -	\$ (3,254)
2	\$ 60,195	4.09%	\$ 2,462	\$ 2,462	\$ (1,952)	\$ 4,414
3	\$ 72,233	7.54%	\$ 5,450	\$ 4,434	\$ 2,866	\$ 1,568
4	\$ 86,680	11.00%	\$ 9,535	\$ 7,151	\$ 3,440	\$ 3,711
5	\$ 95,348	11.00%	\$ 10,488	\$ 7,866	\$ 2,064	\$ 5,802
6	\$ 103,357	11.00%	\$ 11,369	\$ 8,527	\$ 1,907	\$ 6,620
7	\$ 110,386	11.00%	\$ 12,142	\$ 9,107	\$ 1,673	\$ 7,433
8	\$ 116,126	11.00%	\$ 12,774	\$ 9,580	\$ 1,367	\$ 8,214
9	\$ 120,306	11.00%	\$ 13,234	\$ 9,925	\$ 995	\$ 8,930
10	\$ 122,712	11.00%	\$ 13,498	\$ 10,124	\$ 573	\$ 9,551
Terminal year	\$ 125,167	11.00%	\$ 13,768	\$ 10,326	\$ 1,721	\$ 8,605

The Value

Terminal value	\$ 172,104		
PV(Terminal value)	\$ 85,215		
PV (CF over next 10 years)	\$ 31,867		
Value of operating assets =	\$ 117,082		
Adjustment for distress	\$ 8,781	Probability of failure =	15.00%
- Debt & Mnority Interests	\$ 28,371		
+ Cash & Other Non-operating assets	\$ 10,886		
Value of equity	\$ 90,816		
- Value of equity options	\$ 153		
Number of shares	564.20		
Value per share	\$ 160.69	Stock was trading at =	\$132.40