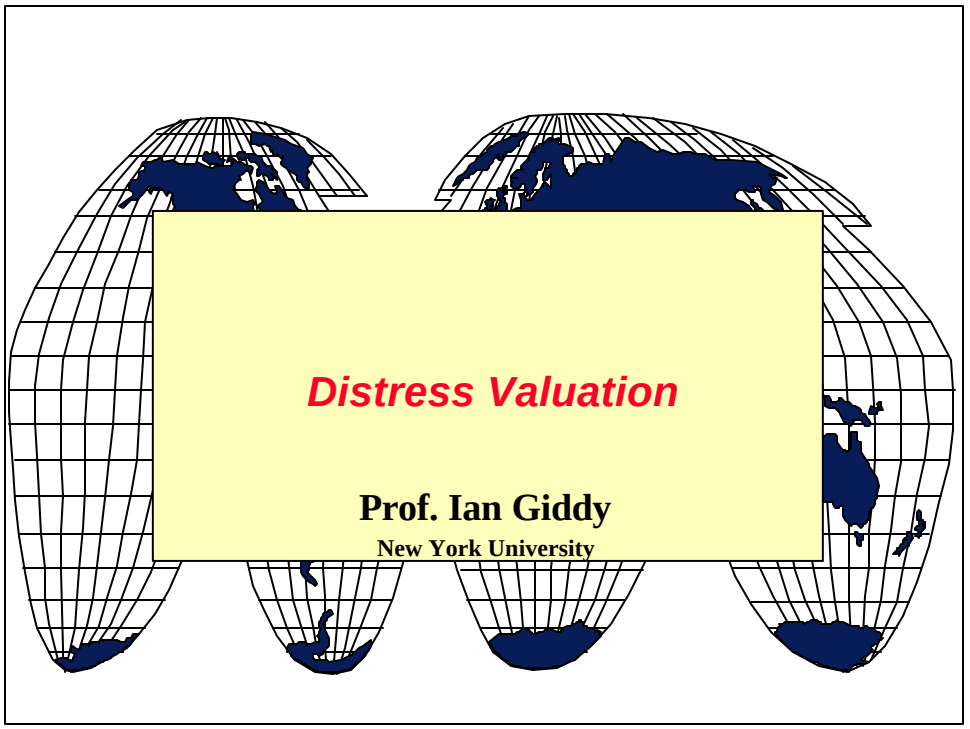
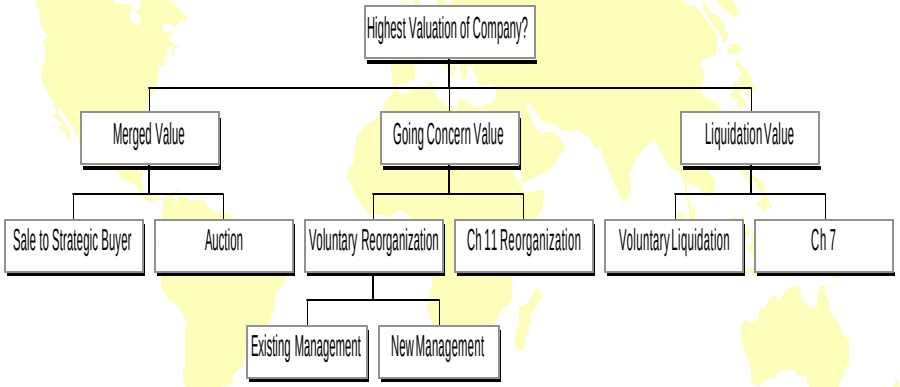


Distress Valuation

Prof. Ian Giddy
New York University

When Default Threatens, Value the Company



Example of Valuation: Zombie, Inc.

Zombie, Inc		
Share Valuation		
	Before	After
Shares	400,000	850,000
Book Value	$ 10.00	$ 10.00
Acquisition Value	$ 8.00	
Management Est.	$ 20.00	$ 9.41
NPV, based on		
EBITDA	1,100,000	1,100,000
WACC	17.48%	11.22%
Growth	2.5%	2.5%
Debt	10,100,000	5,600,000
Going Concern Value	$ (6.43)	$ 8.62
Option value?		
Bank lenders	Before	After
Debt (at market)	7,182,749	4,500,000
Equity (NPV value)	0	3,876,905
Total	7,182,749	8,376,905

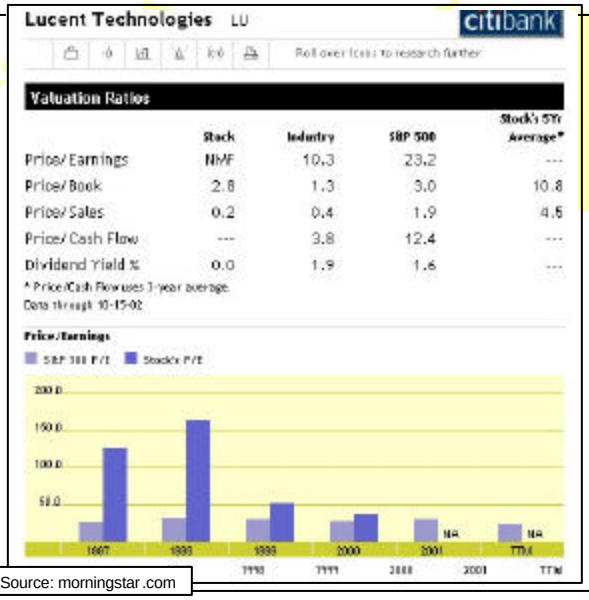
Valuation in Distress Restructuring

- Liquidation value
- Acquisition price
- **Enterprise value**

Enterprise Valuation in Distress Restructuring

- Multiples
- FCFF discounted at WACC
- APV
- Capital Cash Flows
- Option Value

Multiples in Distress

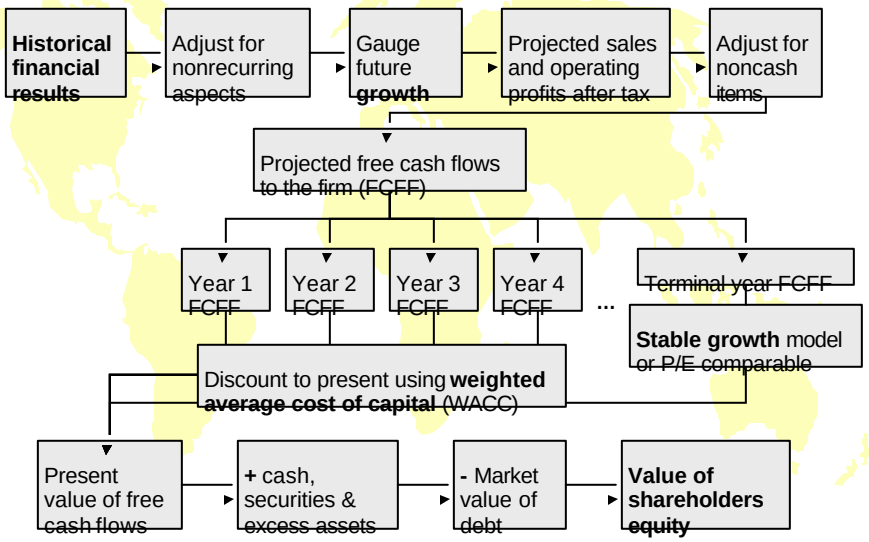


Allied Industries		
Multiples: Enterprise Value		
Industry (D+E)/EBIT		12.9
Allied EBIT		32
Allied est. Enterprise Value		412.8

Do these make sense?

Source: morningstar.com

Free Cash Flows to the Firm @ WACC



Free Cash Flows to the Firm @ WACC

Allied Industries						
FCFF@WACC: Enterprise Value						
		1	2	3	4	5
EBIT		32	34.4	87.9	90.3	163.2
EBIT after tax @34%		21.1	22.7	58.0	59.6	107.7
Adjustments						
FCFF		-2.1	-9.3	39	36.8	68.7
Terminal Value						876.6953
NOL tax shield		2.7	3.4	21.9	19.6	0
Debt		300	302	311	272	235
WACC		10.0%	10.0%	9.9%	10.5%	11.1%
PV		0.5	-4.9	45.9	37.9	559.2
Enterprise value		638.7				

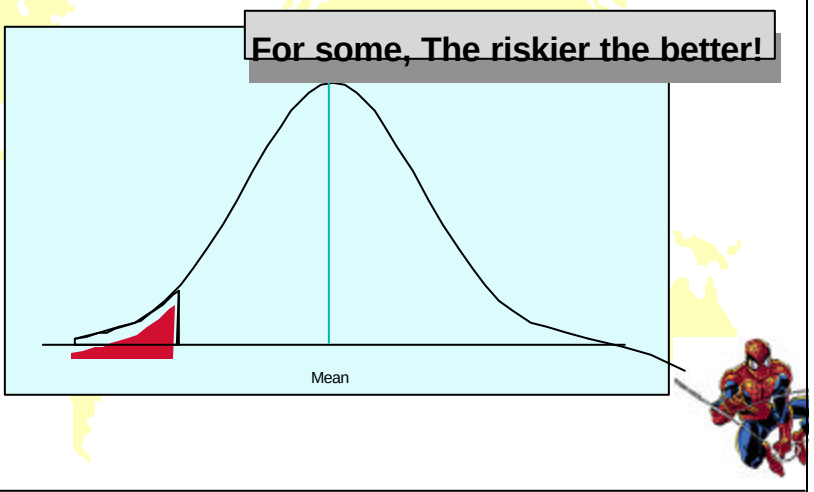
Capital Cash Flow Method

- Use NPV approach
- Project cash flows based on:
  - Net income: (R-C-D-I)*(1-t)
  - + Loss tax shield: NOL*t
  - +Cash Flow Adjustments: D-CE-ΔWC+Asset sales
  - +I
- Find terminal value based on CF(1+g)/(r-g)
- Discount at unlevered WACC, ie cost of equity with Beta: βu

Capital Cash Flow Method

Allied Industries					
Capital Cash Flow Enterprise Value					
	1	2	3	4	5
EBIT	32	34.4	87.9	90.3	163.2
Tax at 34% after NOLs	0	0	0	4.2	50
EBIAT	32.0	34.4	87.9	86.1	113.2
Adjustments	-10.0	-19.2	-25.5	-29.0	-28.4
FCFF	22.0	15.2	62.4	57.1	84.8
Terminal Value					970.5
Ra	12.0%	12.0%	12.0%	12.0%	12.0%
PV	19.6	12.1	44.4	36.3	598.8
Enterprise value	711.3				

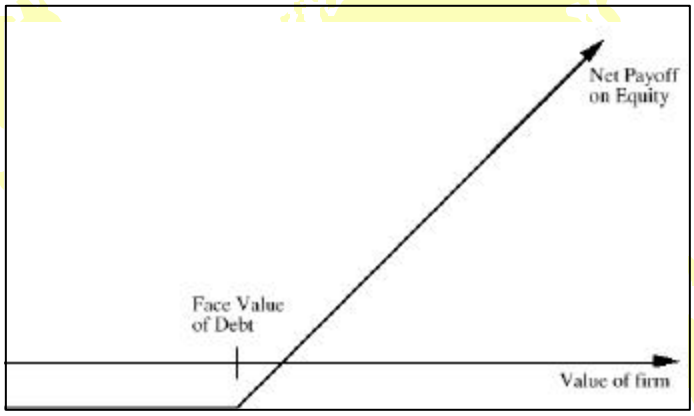
Option Value



Common Stock as a Call Option

- The equity in a firm is a **residual claim**, i.e., equity holders lay claim to all cashflows left over after other financial claim-holders (debt, preferred stock etc.) have been satisfied.
- If a firm is liquidated, the same principle applies, with equity investors **receiving whatever is left over in the firm** after all outstanding debts and other financial claims are paid off.
- The **principle of limited liability**, however, protects equity investors in publicly traded firms if the value of the firm is less than the value of the outstanding debt, and they cannot lose more than their investment in the firm.

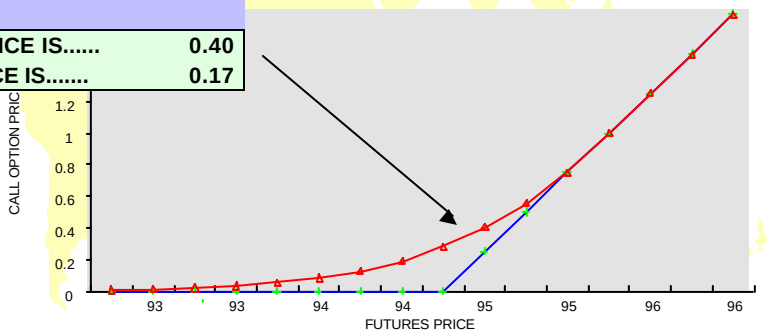
Payoffs to Shareholders on Liquidation



Option Pricing Model

ENTER THESE DATA:	
-> FUTURES PRICE	**94.75**
-> STRIKE PRICE	**94.5**
-> TIME IN DAYS	**300**
-> INTEREST RATE	**7**
-> STD DEVIATION	**15**

CALL PRICE IS.....	**0.40**
PUT PRICE IS.....	**0.17**



Black-Scholes Option Valuation

$$C_o = S_o N(d_1) - Xe^{-rT} N(d_2)$$

$$d_1 = [\ln(S_o/X) + (r + \sigma^2/2)T] / (\sigma T^{1/2})$$

$$d_2 = d_1 - (\sigma T^{1/2})$$

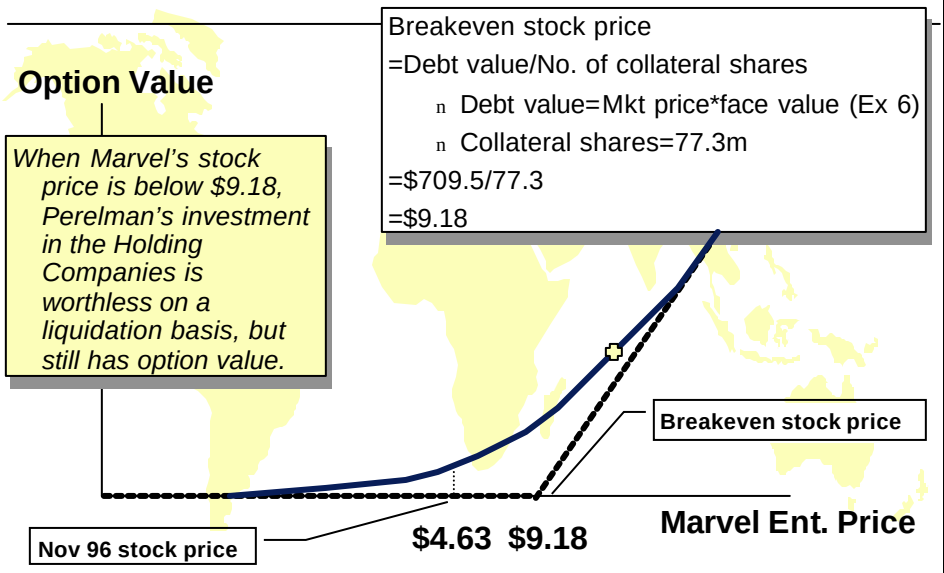
where

C_o = Current call option value.

S_o = Current stock price

N(d) = probability that a random draw from a normal dist. will be less than d.

Marvel's Option Value, Nov. 96



The Conflict Between Bondholders and Stockholders

- Stockholders and bondholders have different objective functions, and this can lead to conflicts between the two.
  - For instance, stockholders have an incentive to take riskier projects than bondholders do, and to pay more out in dividends than bondholders would like them to.
- Since equity is a call option on the value of the firm, **an increase in the variance in the firm value, other things remaining equal, will lead to an increase in the value of equity**.
  - It is therefore conceivable that stockholders can take risky projects with **negative net present values**, which while making them better off, may make the bondholders and the firm less valuable.

Vulture Investors

- These funds typically buy large blocks of debt (often across different seniority classes) in distressed firms in order to gain a seat at the bargaining table.
- As the term "vulture" implies, these investors have been viewed as "bondmailers" who seek only to delay and disrupt reorganizations in order to extract concessions from debtors.
- But by consolidating large blocks of debt, vulture investors facilitate restructurings by reducing the number of claimholders and aligning incentives across seniority classes.
- 3 largest players: Trust Company of the West, Fidelity Management and Research, and Apollo Investors.

Example: *Trust Company of the West played a crucial role in facilitating the prepackaged bankruptcy of Kinder-Care Learning Centers by buying up most of that firm's bank debt and subordinated debentures.*

Marvel

- 1. Why did Marvel file for Chapter 11? Were the problems caused by bad luck, bad strategy, or bad execution?
- 2. Evaluate the proposed restructuring plan. Will it solve the problems that caused Marvel to file for Chapter 11? As Carl Icahn, the largest unsecured debtholder, would you vote for the proposed restructuring plan? Why or why not?
- 3. How much is Marvel's equity worth per share under the proposed restructuring plan, assuming it acquires Toy Biz as planned? What is your assessment of the pro forma financial projections and liquidation assumptions?
- 4. Will there be a "contagion effect," making it difficult for Marvel or other companies in the Perelman group to issue debt in the future?

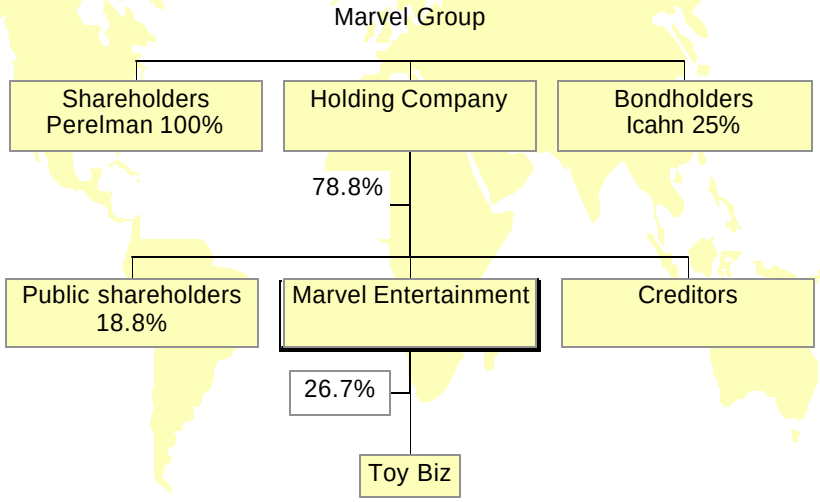
Source of Problem?

- Bad luck?
- Bad strategy? “Diversified youth entertainment company”
- Bad execution?
  - Overpaying for acquisitions
  - COGS 50% → 65%, SG&A 19→28%
- Bad finance?

Bad Finance?

Financing Ratios			
		Debt/Capital	Interest Coverage
Year	Total Debt	D/(D+E)	EBITDA/Interest
1991			10.1X
1992	236.3	73.60%	10.4X
1993	250.2	62.90%	8.2X
1994	384.3	61.30%	8.oX
1995	586.5	73.80%	1.2X
1996Q3	654.5	78.40%	1.4X

Marvel Structure



Perelman Proposal

- Buy 427m new shares for $365m @ $0.85
- Pay Marvel creditors in full
- Acquire 100% of Toy Biz to use NOLs
- Bondholders get 15% of shares (77.3m)

Marvel

Banks
- **Secured and senior**
- **Get fully repaid under plan**

Icahn et al.
- **Choices:**
  - **Accept Perelman's plan**
  - **Sell the debt at $.14-$.17**
  - **Reject plan and propose own**

Perelman
- **Controls Marvel equity**
- **NPV is negative**
- **Option value may be positive**

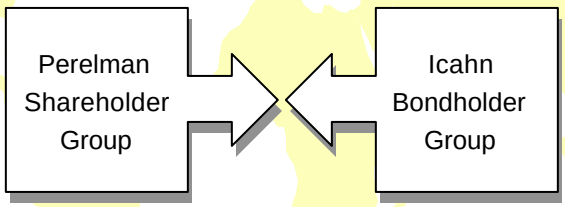
Perelman's Strategy

- Has control for 120 days (under Ch 11)
- Holds an out-of-the-money call option
- He can credibly destroy bond debt value
- Hence can extract rents from bondlholders

Decision Time

- Evaluate the proposed restructuring plan. Will it solve the problems that caused Marvel to file for Chapter 11?
- What is the company worth?
- As Carl Icahn, the largest unsecured debtholder, would you vote for the proposed restructuring plan? Why or why not?
- What other options does Perelman have?

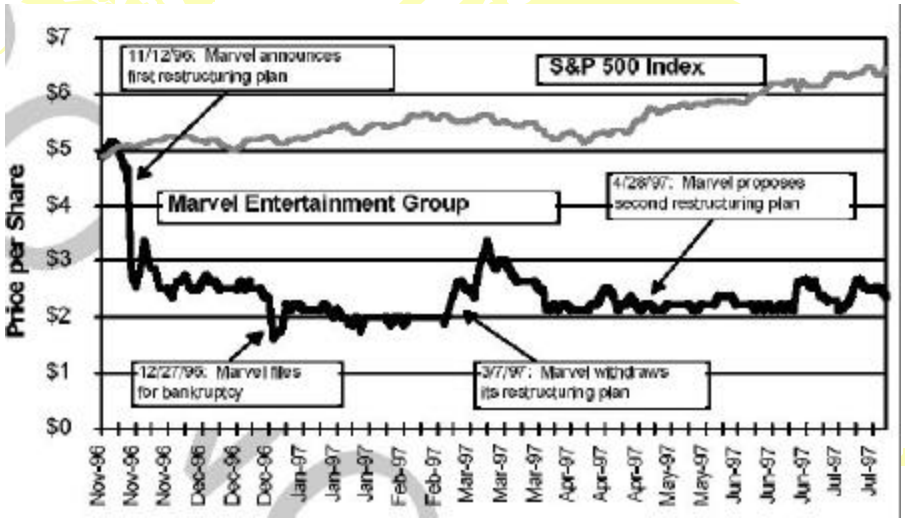
Decision Time



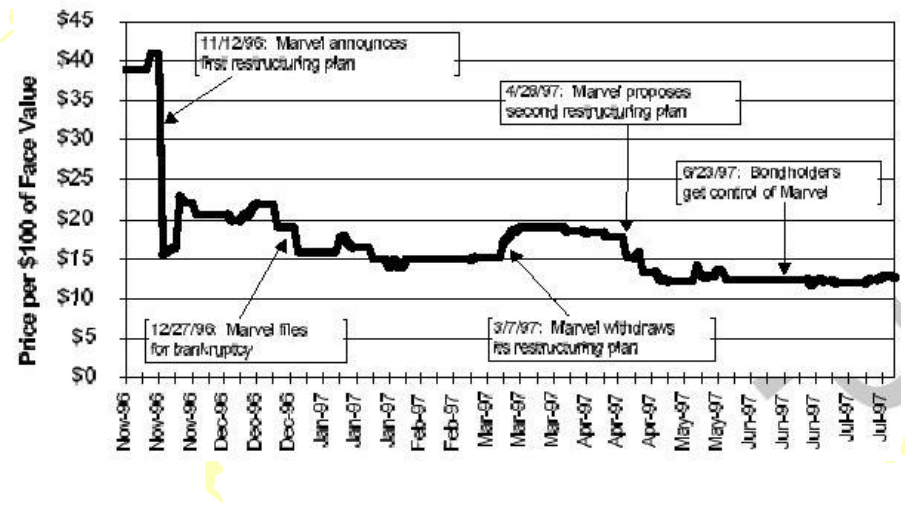
What Happened

- Feb 26 – judge lets bondholders seize their collateral
- Perelman withdraws his plan
- Icahn & bondholders propose own plan to change management,
- Divest Sky Box and Panini & forgive $385 debt
- Issue rights offering for working capital, pay off DIP, pay most of bank debt
- Increased value of shares, est. $0.85 to est $2+

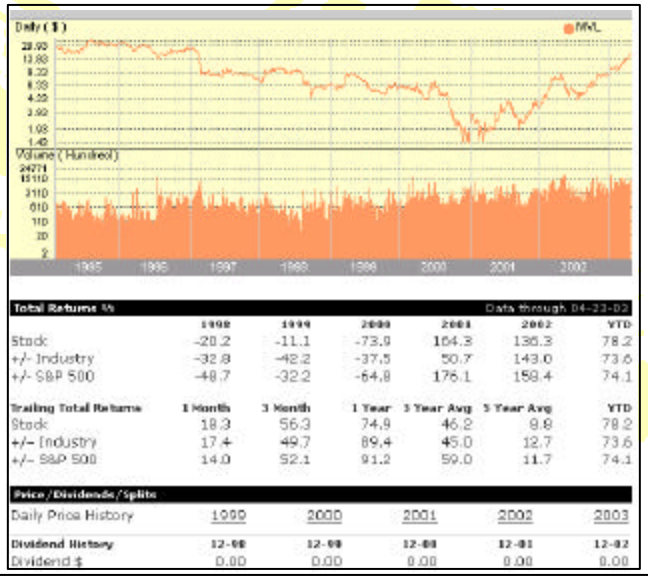
Marvel Stock Price



Marvel Zero-Coupon Bond Price



Update



Total Returns % — Data through 04-23-02

	1998	1999	2000	2001	2002	YTD
Stock	-20.2	-11.1	-73.8	164.3	136.3	78.2
+/- Industry	-32.8	-42.2	-37.5	50.7	143.0	73.6
+/- S&P 500	-48.7	-32.2	-64.8	176.1	158.4	74.1

Trailing Total Returns	1 Month	3 Month	1 Year	3 Year Avg	5 Year Avg	YTD
Stock	18.3	56.3	74.9	46.2	9.8	78.2
+/- Industry	17.4	49.7	89.4	45.0	12.7	73.6
+/- S&P 500	14.0	52.1	91.2	59.0	11.7	74.1

Price / Dividends / Splits

Daily Price History	1999	2000	2001	2002	2003
Dividend History	12-98	12-99	12-00	12-01	12-02
Dividend $	0.00	0.00	0.00	0.00	0.00

Alphatec

- What really caused Alphatec's collapse?
- What was the January 1999 rehabilitation proposal?
- What, specifically, is the "performance-linked obligation?"
- Does the January 1999 Rehabilitation Plan meet investors' expectations? Look at it from the point of view of:
  - Existing creditors
  - New equity investors
  - A possible management buyout

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