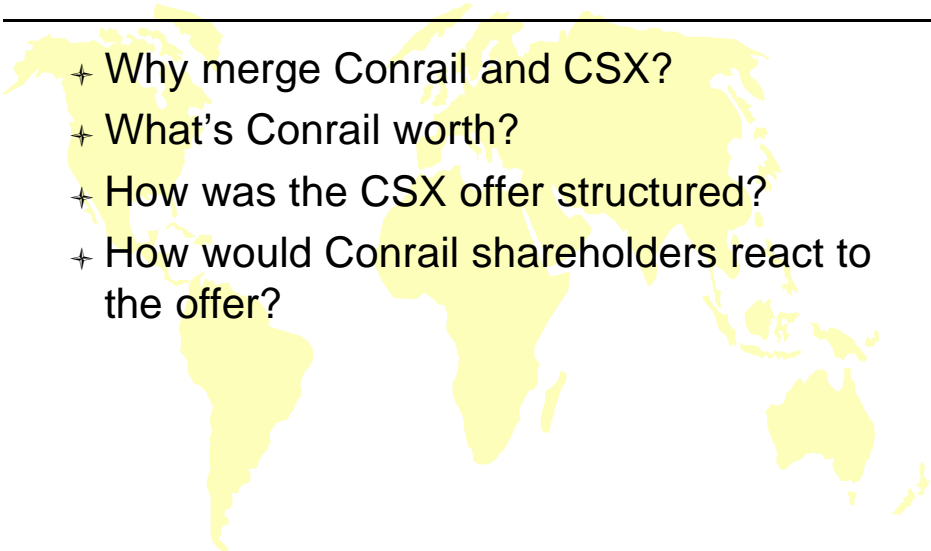


**Equity Valuation:
Application to Conrail**

Prof. Ian Giddy
New York University

Case Study: The Acquisition of Conrail

- 
- ✦ Why merge Conrail and CSX?
 - ✦ What's Conrail worth?
 - ✦ How was the CSX offer structured?
 - ✦ How would Conrail shareholders react to the offer?

Gains from Conrail Acquisition?

*Rationale: Firm A should merge with Firm B if
[Value of AB > Value of A + Value of B + Cost
of transaction]*

- + Synergy
- + Gain market power
- + Discipline
- + Taxes
- + Financing

What is Conrail Worth?

- + Stand-alone value
 - ◆ Market value
 - ◆ Comparables
 - ◆ Discounted present value
- + Value to acquirer
- + Value in bidding-war context

What is Conrail Worth?

- + Stand-alone value
 - ◆ Market value: \$71.00
 - ◆ Comparables
 - ◆ Discounted present value
- + Value to acquirer
- + Value in bidding-war context

What Is The Deal Worth?

- + Two-tier offer (why?)
 - ◆ Front-end cash offer
 $40\% * \$92.50$
 - ◆ Back-end stock swap
 $60\% * (1.85619 * \$46.75)$
- + Combined offer
 $40\% * \$92.50 + 60\% * (1.85619 * \$46.75)$
=\$89.07

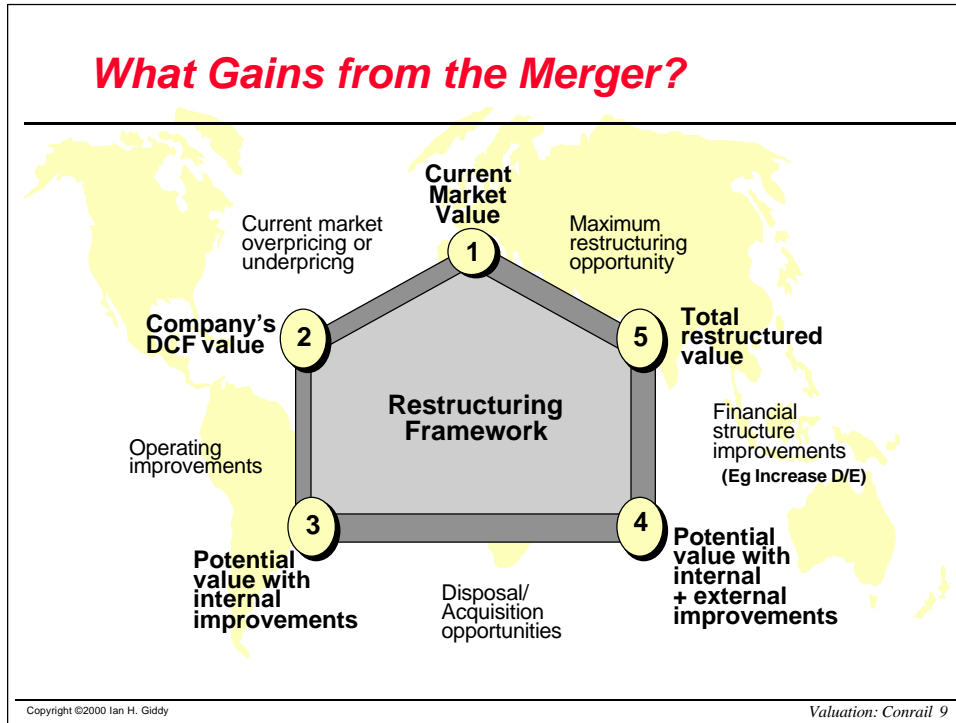
What is Conrail Worth?

- + Stand-alone value
 - ◆ Market value: \$71.00
 - ◆ Comparables
 - ◆ Discounted present value
- + Value to acquirer
- + Value in bidding-war context

How Much Can a Buyer Pay?

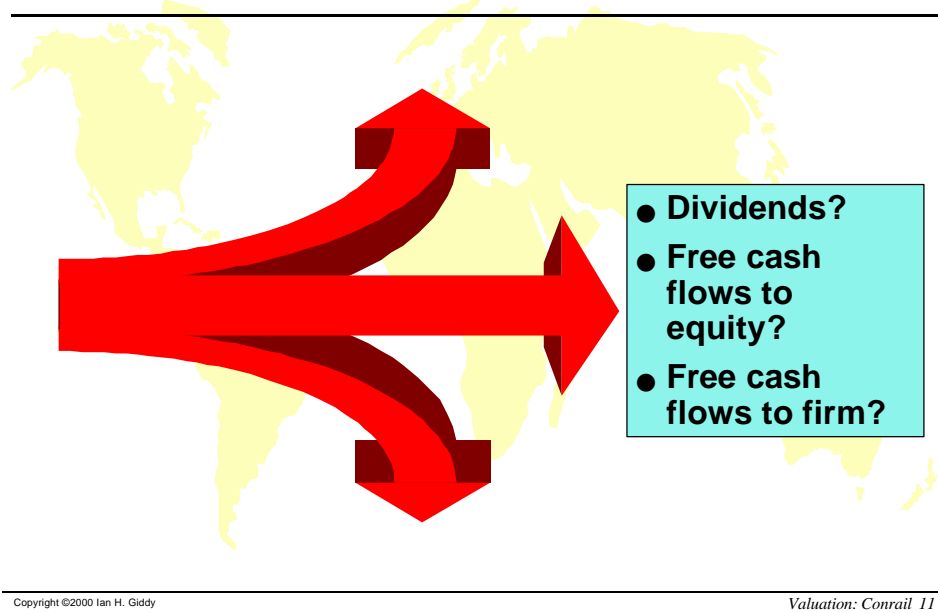
Applying the discounted cash flow approach, we need to know:

1. The incremental cash flows to be generated from the acquisition, adjusted for debt servicing and taxes
2. The rate at which to discount the cash flows (required rate of return on equity)
3. The deadweight costs of making the acquisition (investment banks' fees, etc)
4. Cost of losing out!



- ### What's It Worth?
- #### Valuation Methods
- ✦ Book value approach
 - ✦ Market value approach
 - ✦ Ratios (like P/E ratio)
 - ✦ Break-up value
 - ✦ Cash flow value
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Estimating Future Cash Flows



- Dividends?
- Free cash flows to equity?
- Free cash flows to firm?

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Conrail: Required return

$$k_j = R_F + \beta_j (k_m - R_F)$$

where:

k_j = 16.15% (required return on company)

R_F = 6.83% (US Treasury bond)

β_j = 1.30 (estimated Beta for company)

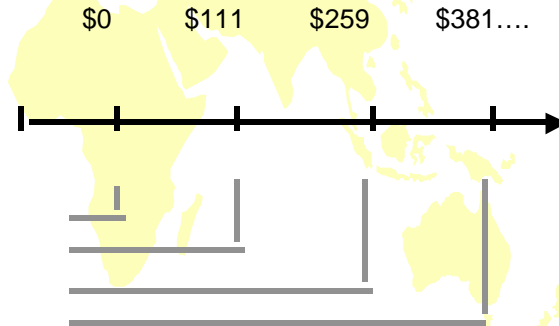
k_m = 14% (average S&P return)

We can use this required return to evaluate whether a company's stock is worth buying.

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Conrail: Value of Synergies?

If CSX can produce the following dollar profits for the next four years and beyond, at a discount rate of 16.15%, what is the present value of the cash flow stream?



\$1.xxxb = Present Value of cash flow stream

\$1.xxxb/90.2m shares = \$? Per shareadd to \$70 to get price could afford

What is Conrail Worth?

- + Stand-alone value
 - ◆ Market value: \$71.00
 - ◆ Comparables
 - ◆ Discounted present value
- + Value to acquirer
- + Value in bidding-war context

Case Study: The Acquisition of Conrail

- ✦ Could Norfolk Southern make a bid?
- ✦ How? How much?
- ✦ Does this change what CSX has to pay?
- ✦ **Answer: Yes!**

- ✦ *Result: Conrail shareholders opposed the CSX move and Conrail was split*

Equity Valuation : Results

- ✦ Estimating discount rate
- ✦ Estimating cash flows
- ✦ Application to CSX 1 & 2
- ✦ Application to NS
- ✦ Decision?

- ✦ *See spreadsheet: conrail.xls*

What's It Worth?

Valuation Methods

- + Book value approach
- + Market value approach
- + **Ratios (like P/E ratio)**
 - ◆ **Conrail: $\$89/4.91=18x$**
 - ◆ **AOL: 150x**
- + Break-up value
- + Cash flow value

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