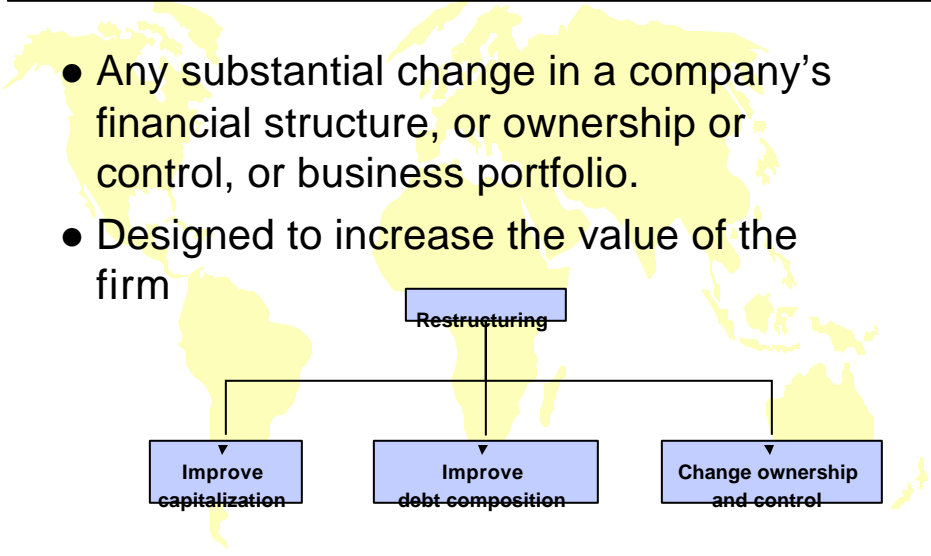


**Corporate Financial
Restructuring**

Prof Ian Giddy
New York University

What is Corporate Restructuring?

- Any substantial change in a company's financial structure, or ownership or control, or business portfolio.
- Designed to increase the value of the firm



It's All About Value

● How can corporate and financial restructuring create value?

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Restructuring

Figure out what the business is worth now	Use valuation model – present value of free cash flows
Fix the business mix – divestitures	Value assets to be sold
Fix the business – strategic partner or merger	Value the merged firm with synergies
Fix the financing – improve D/E structure	Revalue firm under different leverage assumptions – lowest WACC
Fix the kind of equity	What can be done to make the equity more valuable to investors?
Fix the kind of debt or hybrid financing	What mix of debt is best suited to this business?
Fix management or control	Value the changes new control would produce

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Getting the Financing Right

Step 1: The Proportion of Equity & Debt

- Achieve lowest weighted average cost of capital
- May also affect the business side

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Getting the Financing Right

Step 2: The Kind of Equity & Debt

- Short term? Long term?
- Baht? Dollar? Yen?
- Bonds? Asset-backed?
- Convertibles? Hybrids?
- Debt/Equity Swaps?
- Private? Public?
- Strategic partner?
- Domestic? ADRs?
- Ownership & control?

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Does Capital Structure Matter?

Assets' value is the present value of the cash flows from the real business of the firm

$$\text{Value of the firm} = \text{PV}(\text{Cash Flows})$$

Debt

Equity

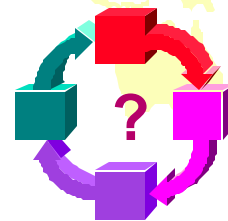
$$\text{Value of the firm} = D + E$$

You cannot change the value of the real business just by shuffling paper
- Modigliani-Miller

Most Value is Created on the Asset Side

- Only invest in assets (or keep assets) where ROE > required return on equity
- Value-Based Management for performance evaluation

Union Camp: Packaging Business



Case Study: Marconi

A world map with a yellow tint. Overlaid on the map is a rectangular image showing a red line graph trending downwards over a grid of stock market data. The Marconi logo is prominently displayed at the bottom of this image.

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Does Capital Structure Matter? Yes!

The diagram is set against a yellow world map background. It is divided into two main sections by a vertical line.

Left Section:

- Assets' value is the present value of the cash flows from the real business of the firm
- Value of the firm = PV(Cash Flows)

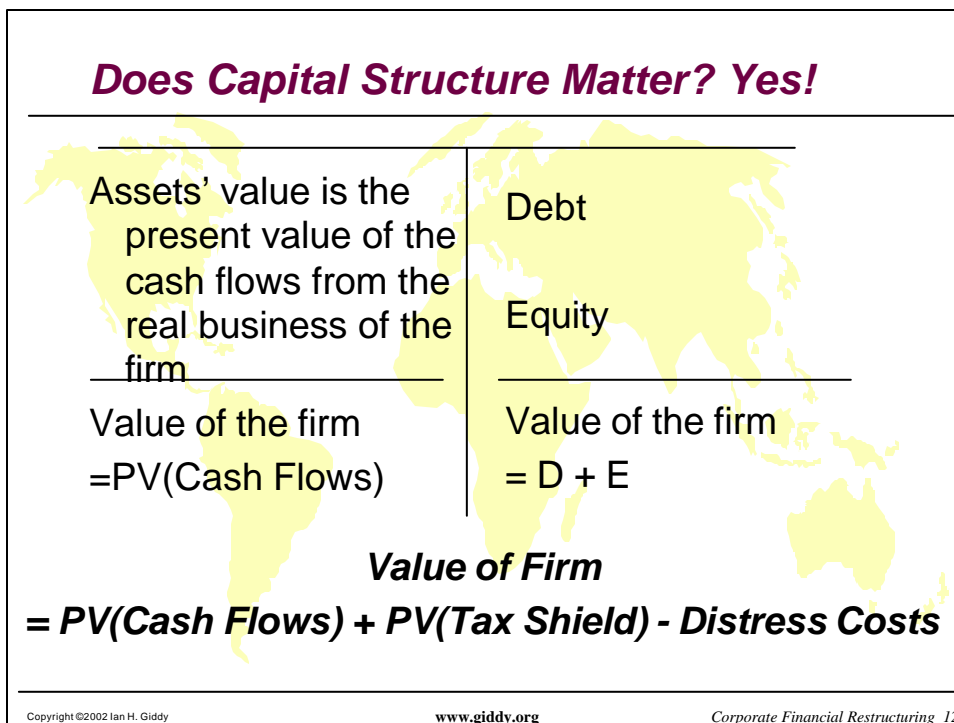
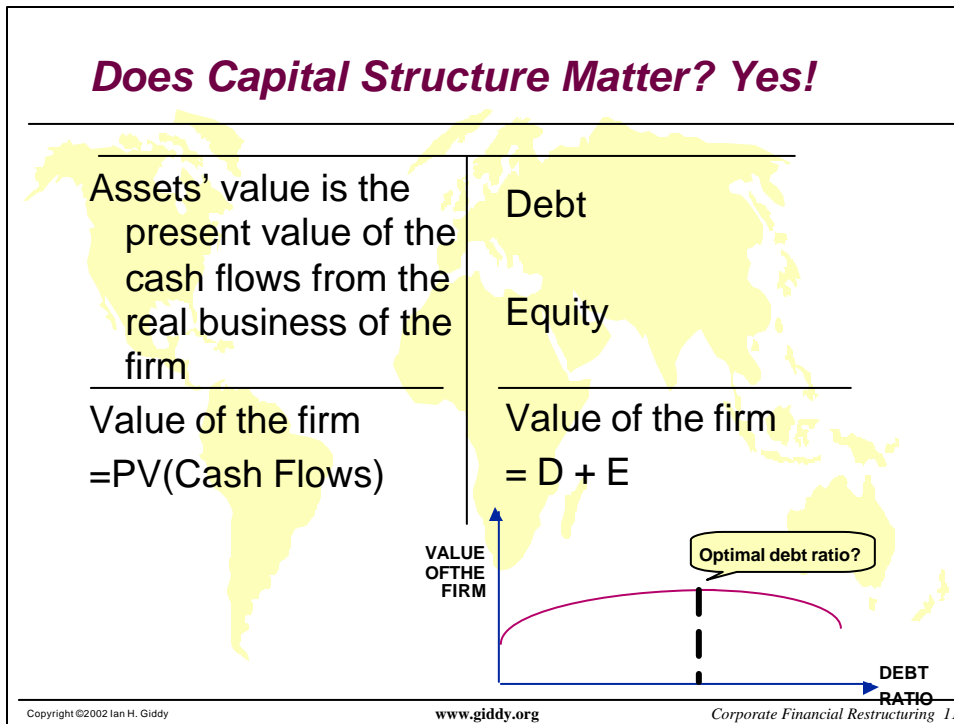
Right Section:

- Debt
- Equity
- Value of the firm = D + E

Graph:

- A vertical axis labeled "COST OF CAPITAL".
- A horizontal axis labeled "DEBT RATIO".
- A blue curve that starts high on the left, dips to a minimum, and then rises on the right.
- A vertical dashed line marks the minimum of the curve, labeled "Optimal debt ratio?".

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Changing Financial Mix

- Debt is always cheaper than equity, partly because lenders bear less risk and partly because of the tax advantage associated with debt.
- Taking on debt increases the risk (and the cost) of both debt (by increasing the probability of bankruptcy) and equity (by making earnings to equity investors more volatile).
- The net effect will determine whether the cost of capital will increase or decrease if the firm takes on more debt.

Debt: Pros and Cons

Advantages of Borrowing

1. Tax Benefit:

Higher tax rates --> Higher tax benefit

2. Added Discipline:

Greater the separation between managers and stockholders --> Greater the benefit

Disadvantages of Borrowing

1. Bankruptcy Cost:

Higher business risk --> Higher Cost

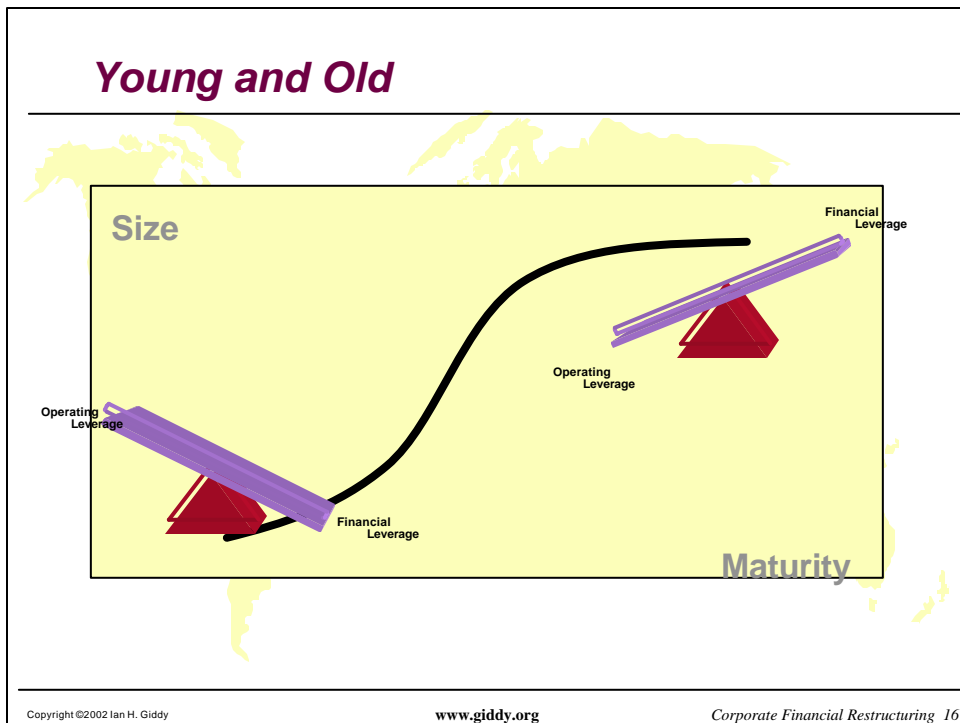
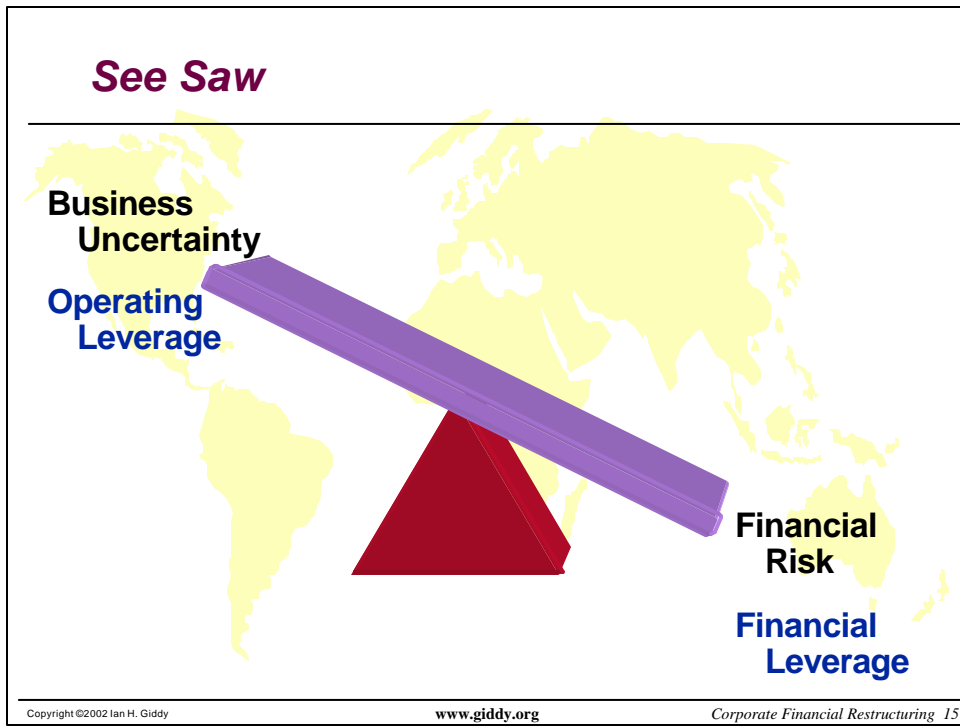
2. Agency Cost:

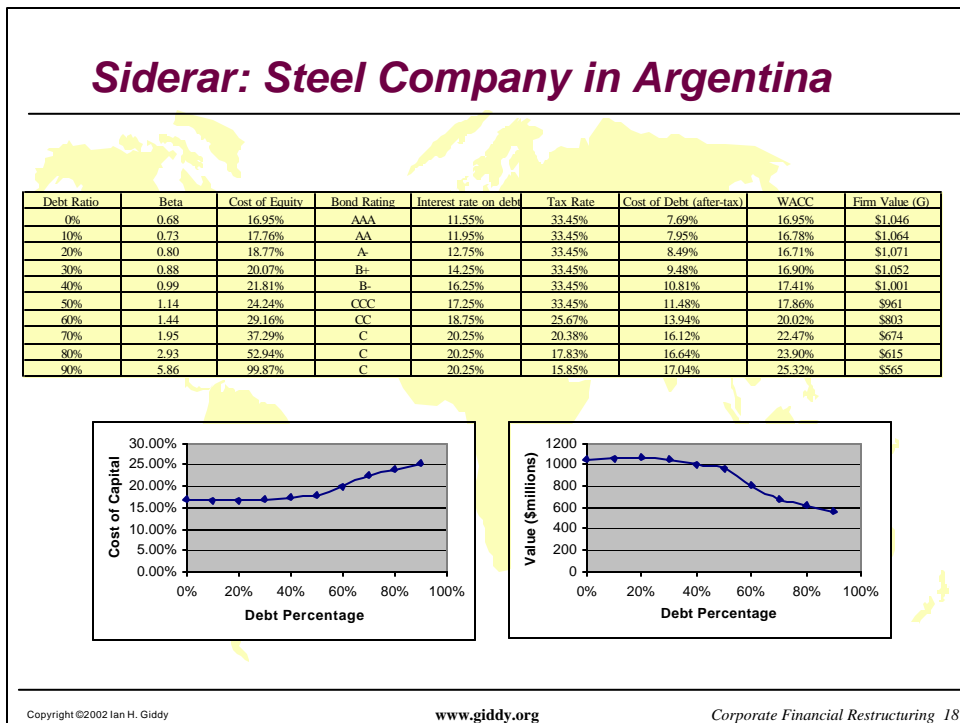
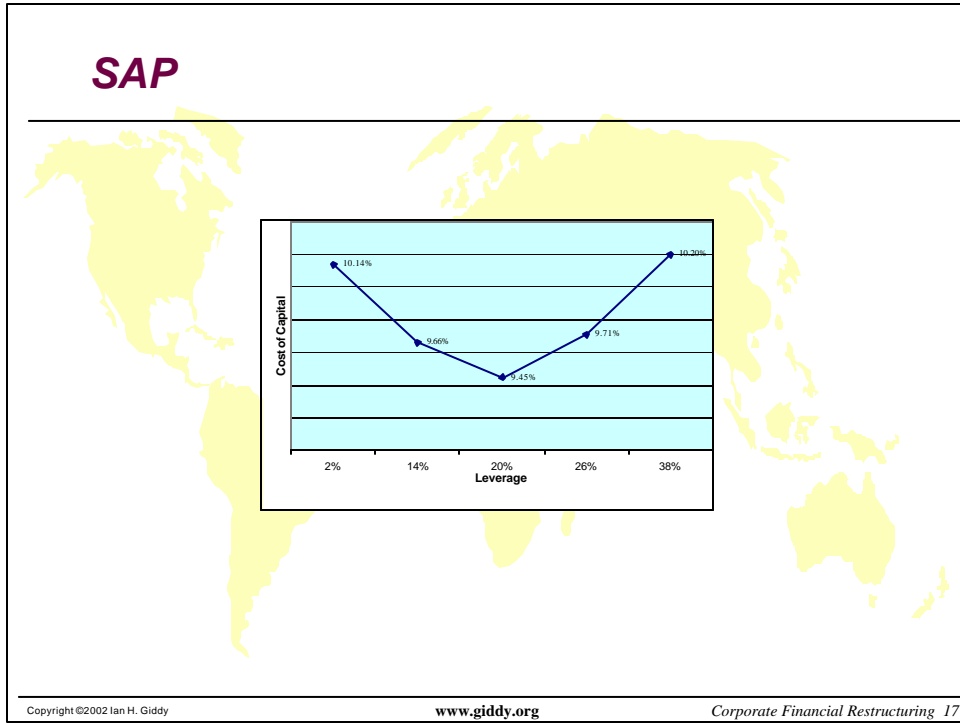
Greater the separation between stockholders & lenders --> Higher Cost

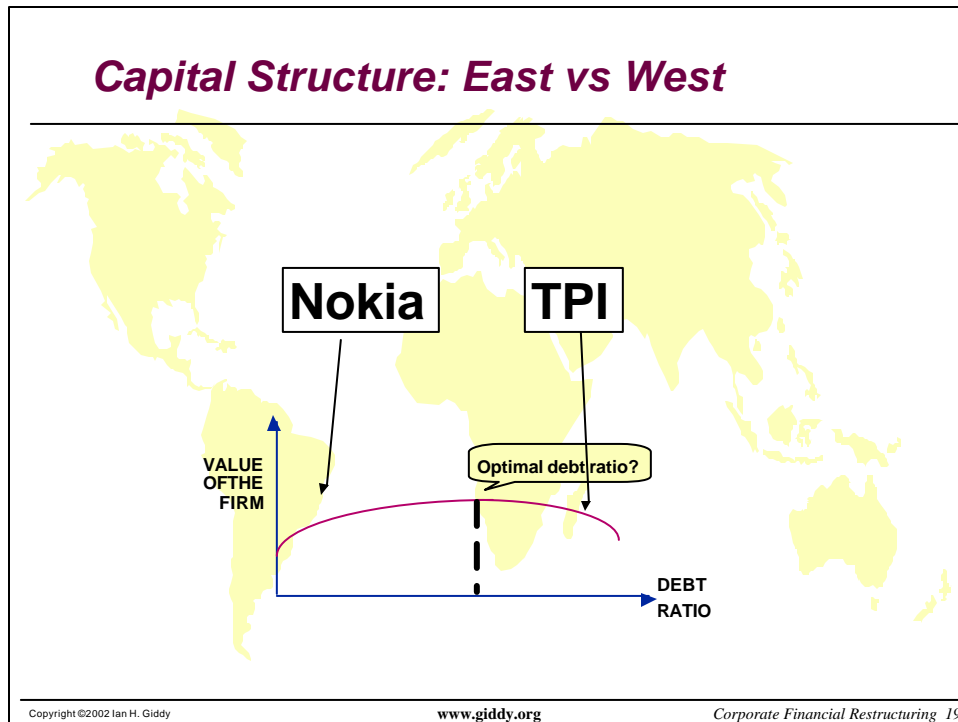
3. Loss of Future Financing Flexibility:

Greater the uncertainty about future financing needs --> Higher Cost








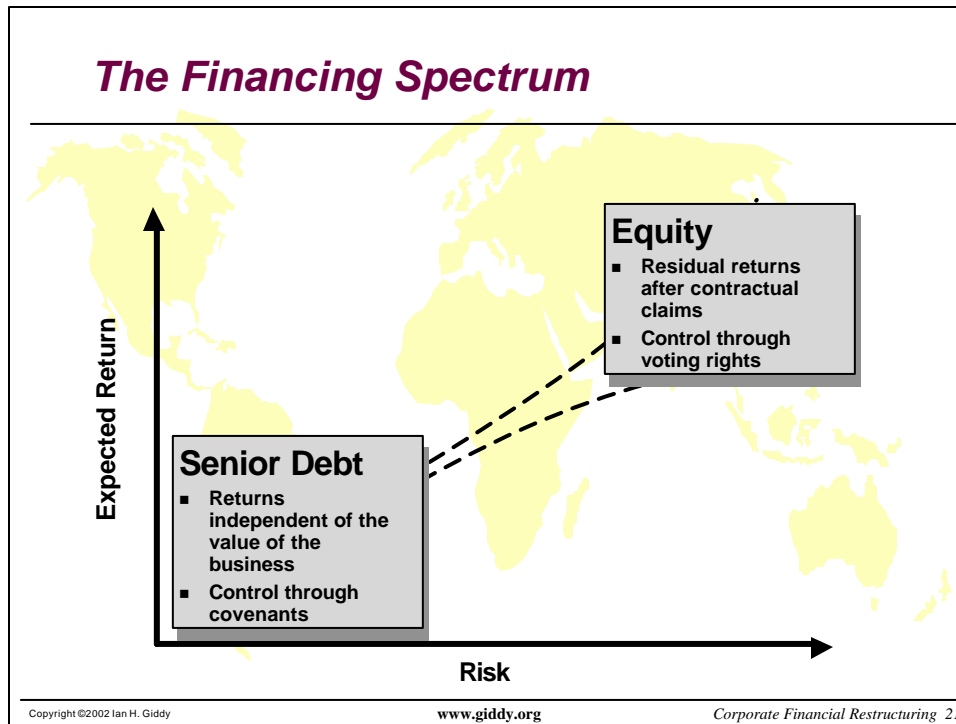


TPI's Refinancing



- Asia's biggest debtor
- Almost \$4 billion in foreign currency debt financing domestic revenues
- Protracted rescheduling results in \$360 million debt/equity swap
- No change in management or effective control
- Still needs \$1.2 billion new equity

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SCB SIAM COMMERCIAL BANK

The First Thai Bank

The Difference

- “The Ministry of Finance received a preferred share while investors received a preferred share and a warrant allowing them to purchase the ministry's share at a 13.3% premium (equivalent to the cost of carry) during a three-year period. The preferred shares carry a 5.25% dividend and full voting rights”
- "When institutions started buying the story, they bought the convertible bonds, the sub debt - you name it, they bought it."
- Alternatives: Thai Farmers Bank: SLIPS, Bangkok Bank: CAPs

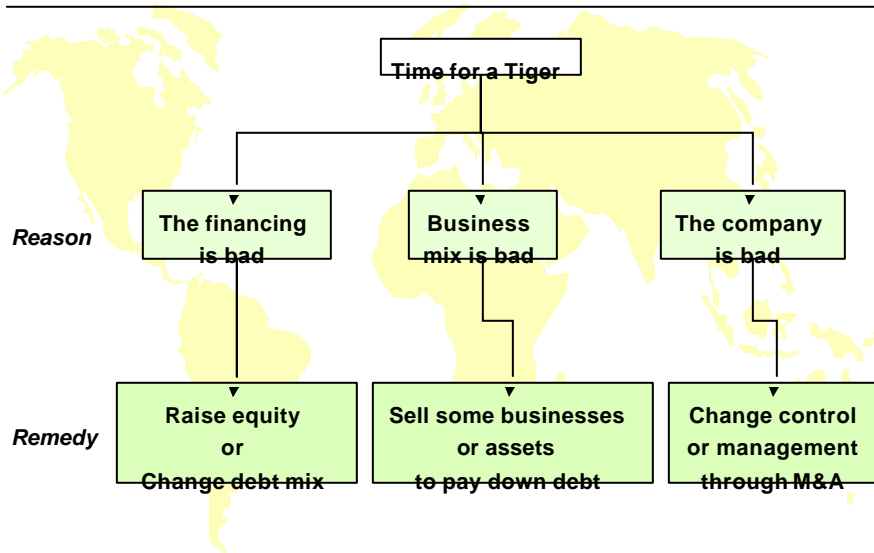
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Corporate Financial Restructuring 22

Transparency and Disclosure

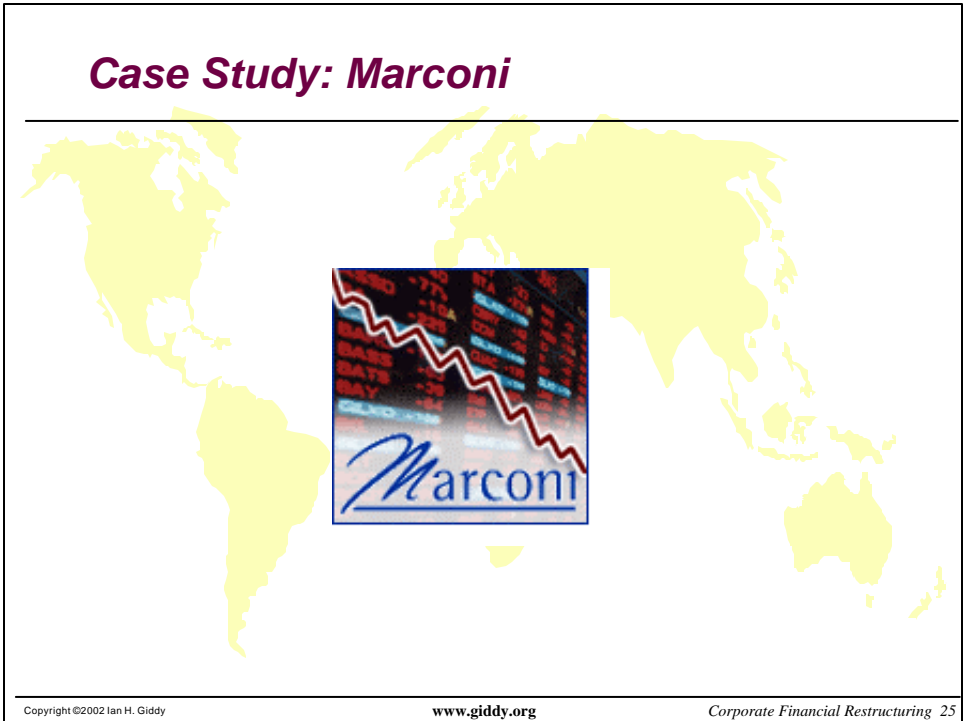


- A 275-page prospectus, which provided a breadth and depth of information previously unseen in an Asian issue.
- "We went and looked back at US bank holding company offers - those that were US SEC Grade 3 compliant. We also went back and looked at a lot of the prospectuses for the recaps of US banks, like Mellon and Citibank. We looked at the level of disclosure they achieved and committed ourselves to exceeding that -- which SCB did."

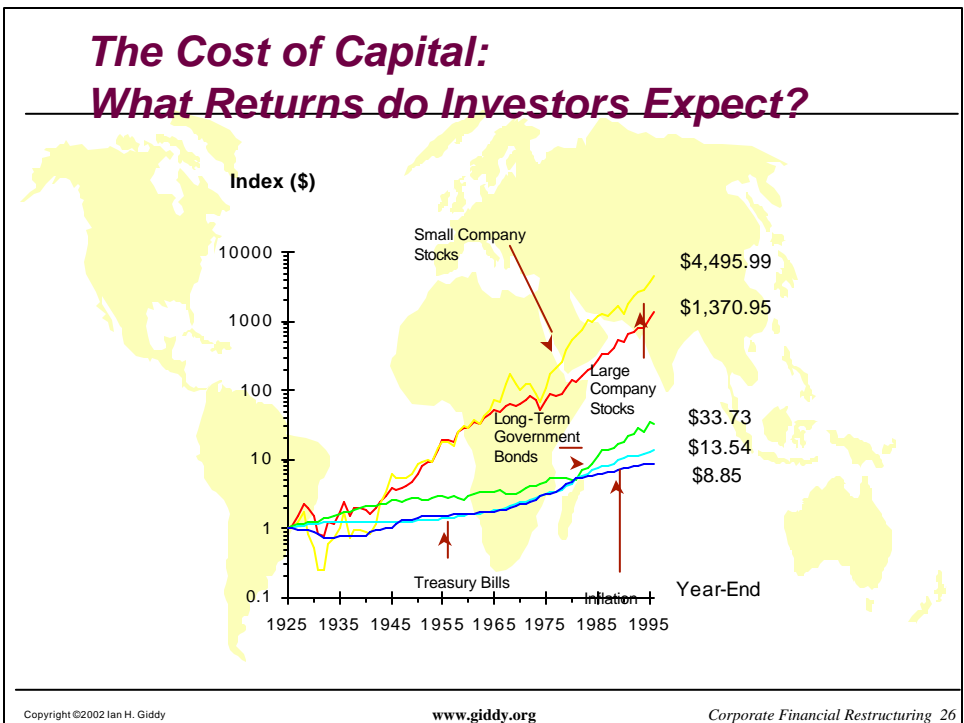
When The Creditors are Prowling



Case Study: Marconi



The Cost of Capital: What Returns do Investors Expect?



Estimating the Cost of Debt

- If the firm has bonds outstanding, and the bonds are traded, the yield to maturity on a long-term, straight (no special features) bond can be used as the interest rate.
- If the firm is rated, use the rating and a typical default spread on bonds with that rating to estimate the cost of debt.
- If the firm is not rated,
 - ◆ and it has recently borrowed long term from a bank, use the interest rate on the borrowing or
 - ◆ estimate a synthetic rating for the company, and use the synthetic rating to arrive at a default spread and a cost of debt
- The cost of debt has to be estimated in the same currency as the cost of equity and the cash flows in the valuation.

Interest Coverage Ratios, Ratings and Default Spreads

If Interest Coverage Ratio is	Estimated Bond Rating	Default Spread
> 8.50	AAA	0.20%
6.50 - 8.50	AA	0.50%
5.50 - 6.50	A+	0.80%
4.25 - 5.50	A	1.00%
3.00 - 4.25	A-	1.25%
2.50 - 3.00	BBB	1.50%
2.00 - 2.50	BB	2.00%
1.75 - 2.00	B+	2.50%
1.50 - 1.75	B	3.25%
1.25 - 1.50	B-	4.25%
0.80 - 1.25	CCC	5.00%
0.65 - 0.80	CC	6.00%
0.20 - 0.65	C	7.50%
< 0.20	D	10.00%

Other Factors Affecting Ratios

Medians of Key Ratios : 1993-1995

	AAA	AA	A	BBB	BB	B	CCC
Pretax Interest Coverage	13.50	9.67	5.76	3.94	2.14	1.51	0.96
EBITDA Interest Coverage	17.08	12.80	8.18	6.00	3.49	2.45	1.51
Funds from Operations/ Total Debt (%)	98.2%	69.1%	45.5%	33.3%	17.7%	11.2%	6.7%
Free Operating Cashflow/ Total Debt (%)	60.0%	26.8%	20.9%	7.2%	1.4%	1.2%	0.96%
Pretax Return on Permanent Capital (%)	29.3%	21.4%	19.1%	13.9%	12.0%	7.6%	5.2%
Operating Income/Sales (%)	22.6%	17.8%	15.7%	13.5%	13.5%	12.5%	12.2%
Long Term Debt/ Capital	13.3%	21.1%	31.6%	42.7%	55.6%	62.2%	69.5%
Total Debt/Capitalization	25.9%	33.6%	39.7%	47.8%	59.4%	67.4%	69.1%

The Cost of Equity

Equity is not free!

Expected return = Risk-free rate + Risk Premium

$$E(R_{\text{Risky}}) = R_{\text{Risk-free}} + \text{Risk Premium}$$

The Cost of Equity

- Consider the standard approach to estimating cost of equity:

$$\text{Cost of Equity} = R_f + \text{Equity Beta} * (E(R_m) - R_f)$$

where,

R_f = Riskfree rate

$E(R_m)$ = Expected Return on the Market Index (Diversified Portfolio)

- In practice,
 - Short term government security rates are used as risk free rates
 - Historical risk premiums are used for the risk premium
 - Betas are estimated by regressing stock returns against market returns

The Weighted Average Cost of Capital

Choice

- Equity
 - Retained earnings
 - New stock issues
 - Warrants

Cost of equity = riskless rate + beta * risk premium

2. Debt

- Bank borrowing
- Bond issues

Cost of debt = Borrowing rate (1 - tax rate)

Debt + equity = Capital Cost of capital = Weighted average of cost of equity and cost of debt; weights based upon market value.

$$\text{Cost of capital} = k_d [D/(D+E)] + k_e [E/(D+E)]$$

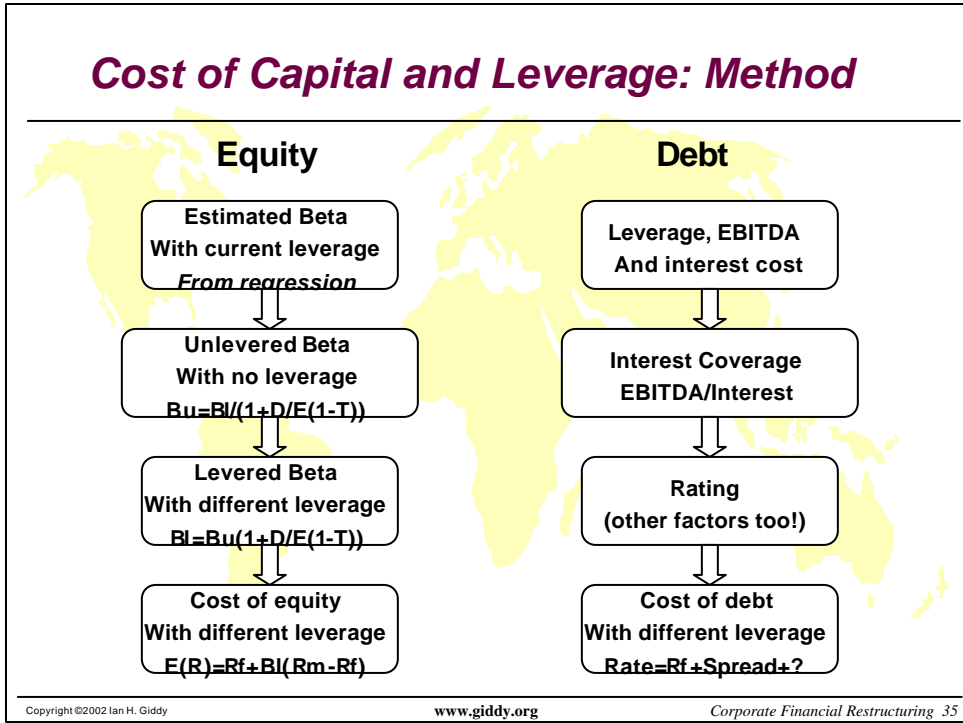
Next, Minimize the Cost of Capital by Changing the Financial Mix

- The first step in reducing the cost of capital is to change the mix of debt and equity used to finance the firm.
- Debt is always cheaper than equity, partly because it lenders bear less risk and partly because of the tax advantage associated with debt.
- But taking on debt increases the risk (and the cost) of both debt (by increasing the probability of bankruptcy) and equity (by making earnings to equity investors more volatile).
- The net effect will determine whether the cost of capital will increase or decrease if the firm takes on more or less debt.

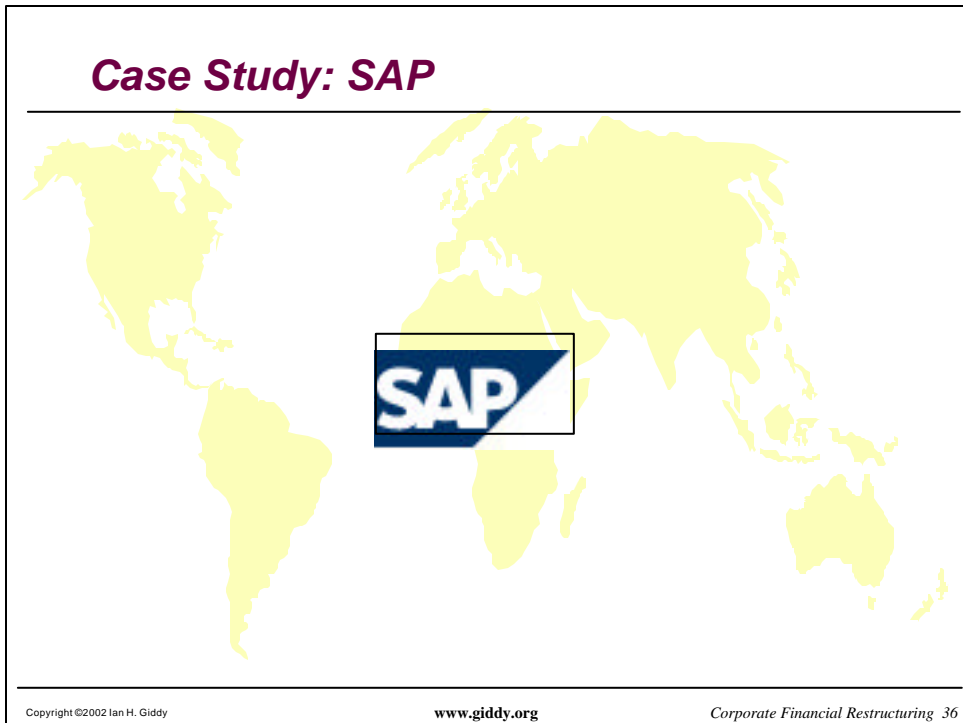
This is What We're Trying to Do

D/(D+E)	ke	kd	After-tax Cost of Debt	WACC
0	10.50%	8%	4.80%	10.50%
10%	11%	8.50%	5.10%	10.41%
20%	11.60%	9.00%	5.40%	10.36%
30%	12.30%	9.00%	5.40%	10.23%
40%	13.10%	9.50%	5.70%	10.14%
50%	14%	10.50%	6.30%	10.15%
60%	15%	12%	7.20%	10.32%
70%	16.10%	13.50%	8.10%	10.50%
80%	17.20%	15%	9.00%	10.64%
90%	18.40%	17%	10.20%	11.02%
100%	19.70%	19%	11.40%	11.40%

Cost of Capital and Leverage: Method



Case Study: SAP



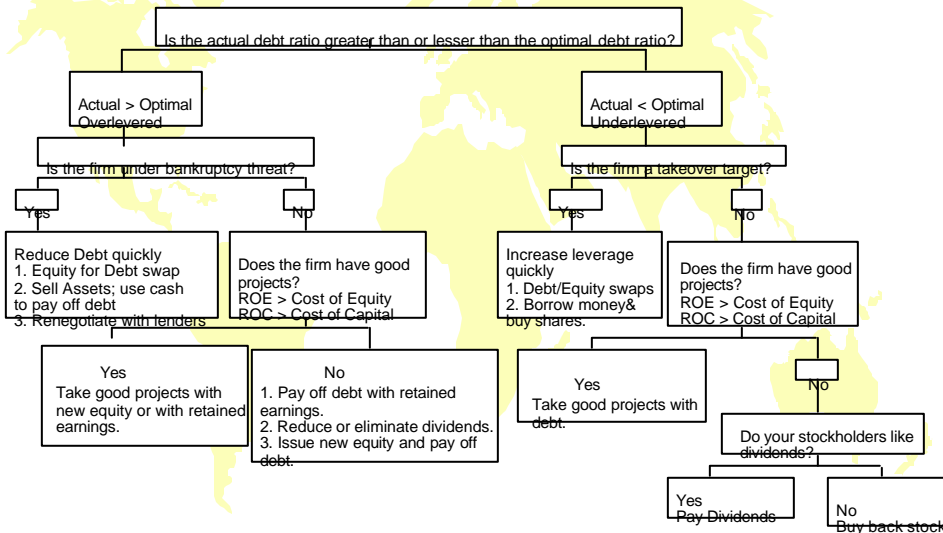
Case Study: SAP

Debt	Rating	Interest rate	Interest expense	Interest coverage ratio	Debt / capitalization	Debt/book equity
0	AAA	5.65%	11	138.76	1%	0.1
2500	AAA	5.65%	153	10.28	7%	0.7
5000	A	6.37%	331	4.73	14%	1.4
7500	A-	6.56%	505	3.10	21%	2.1
10000	B+	10.90%	1,112	1.41	27%	2.7

- Should SAP take on additional debt? If so, how much?
- What is the weighted average cost of capital before and after the additional debt?
- What will be the estimated price per share after the company takes on new debt?



A Framework for Getting to the Optimal



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