

The CFO Questions

- How fast can we grow? How do we need to invest to grow? Acquisitions?
- How should we finance the growth stage? What kind of equity? What's our exit plan? Private or public?
- How much debt should we have?
- What kind of debt should we have? Maturity? Fixed/floating? Currency? Asset-backed? Hybrids, such as convertibles?
- How should we manage our financial risks?

Financing X Inc

StockQ1/FS_Income - Netscape

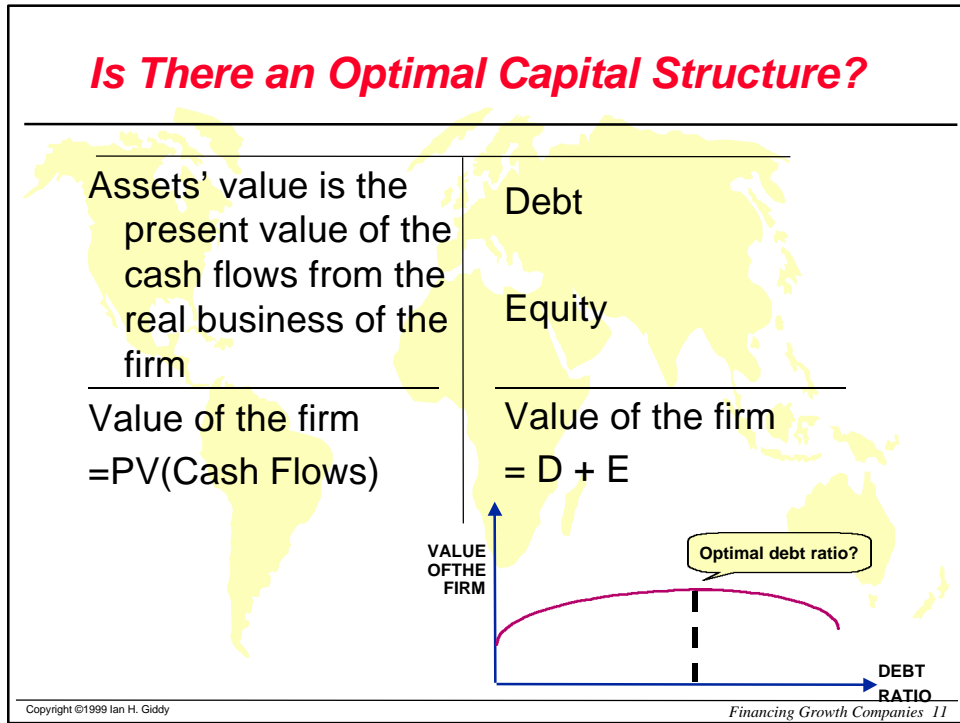
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X Company

	12-94	12-95	12-96	12-97	12-98	Trailing 12 mo
\$94.56 at 03:21 PM CT						
Operating Results						
Revenue (\$ mil)	5,732.4	8,342.9	8,620.3	10,265.8	14,807.6	
Net income (\$ mil)	748.3	505.9	715.3	1,221.3	1,945.2	
Net margin (%)	13.05	6.06	8.30	11.90	13.14	
Book val./share (\$)	3.65	10.23	5.68	6.85	10.23	
Earnings/share (\$)	1.04	1.63	1.18	2.12	3.31	
Dividend Policy						
Dividends/share (\$)	0.24	0.34	0.38	0.73	1.07	
Payout ratio (%)	22.7	20.9	32.6	34.5	32.4	
Profitability						
Ret on Equity(%)	28.56	15.90	20.71	30.92	32.40	
Ret on Assets (%)	12.74	6.70	9.91	15.95	16.50	

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Financing X Inc

Assets (\$ mil)				
Cash	2,247.2	3,396.8	29.34	28.81
Inventories	1,342.0	1,518.6	17.52	12.88
Other	2,336.1	4,266.4	30.50	36.19
Current assets	5,925.3	9,181.8	77.37	77.87
Non-current assets	1,733.0	2,608.7	22.63	22.13
Total assets	7,658.3	11,790.5	100.00	100.00
Liabilities & Shareholders' Equity (\$ mil)				
Current liabilities	3,371.7	5,232.4	44.03	44.38
Long-term debt	247.3	302.4	3.23	2.56
Other liabilities	89.9	252.0	1.17	2.14
Total liabilities	3,709.0	5,786.8	48.43	49.08
Shareholders' equity	3,949.4	6,003.8	51.57	50.92
Total liab. & equity	7,658.3	11,790.5	100.00	100.00
Balance Sheet Ratios				
Current ratio	1.8	1.8		
Debt/equity ratio	0.1	0.1		

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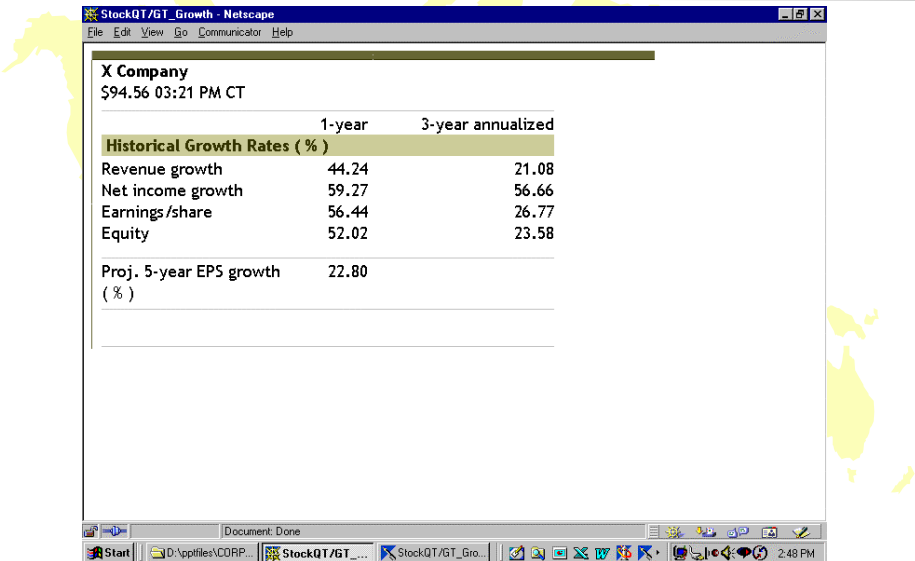
Preference Rankings for Long-Term Finance: Results of a Survey



Ranking	Source	Score
1	Retained Earnings	5.61
2	Straight Debt	4.88
3	Convertible Debt	3.02
4	External Common Equity	2.42
5	Straight Preferred Stock	2.22
6	Convertible Preferred	1.72

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Financing X Inc



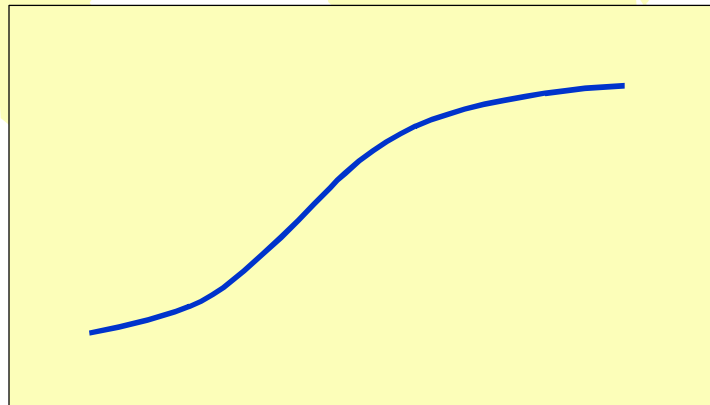
X Company
\$94.56 03:21 PM CT

	1-year	3-year annualized
Historical Growth Rates (%)		
Revenue growth	44.24	21.08
Net income growth	59.27	56.66
Earnings /share	56.44	26.77
Equity	52.02	23.58
<hr/>		
Proj. 5-year EPS growth (%)	22.80	

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Corporate Financing Life-Cycle

Leverage



Growth companies

Mature companies

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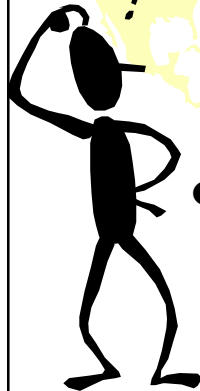
Financing Growth Companies: The Agenda

- What determines the optimal mix of debt and equity for a growth company?
- How does altering the mix of debt and equity affect the value of a company?
- What is the right kind of equity for a growth company?
- What is the right kind of debt for a growth company?
- *Where do you want to go?*

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First, Why Equity?



- Benefits of Equity
 - ◆ Flexibility: cannot afford to have fixed obligations
 - ◆ Strategic partners
 - ◆ Interventionist partners
- Disadvantages
 - ◆ No tax shield
 - ◆ Expensive!

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What Kind of Equity?

- Sources of Equity
 - ◆ Private investors
 - ◆ Strategic investors
 - ◆ Interventionist investors
 - ◆ Public market
- And Kinds
 - ◆ Common stock
 - ◆ Stock with restricted voting rights
 - ◆ Hybrids, including convertibles

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.comfax



- Started in September 1997, .comfax enables users to send faxes and receive faxes over the internet at a low cost.
- By June 1998 the company had expanded its services and was signing up subscribers at the rate of 100,000 a day.
- Initial funding was “Angel” finance, but now the expansion was exceeding the company’s financial, physical and managerial capacity. On two occasions it had literally run out of money.
- What form of equity financing would be appropriate for .comfax?

Pre-IPO Equity Financing



- Friends and family
- Angel
- Venture capital
- Strategic partners

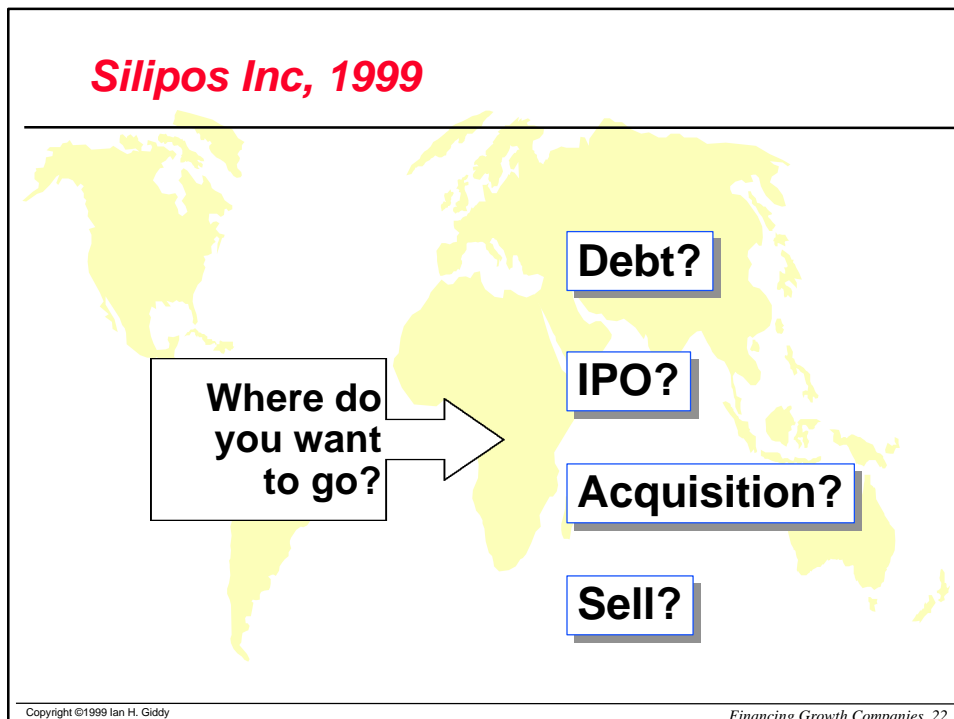
Silipos Inc



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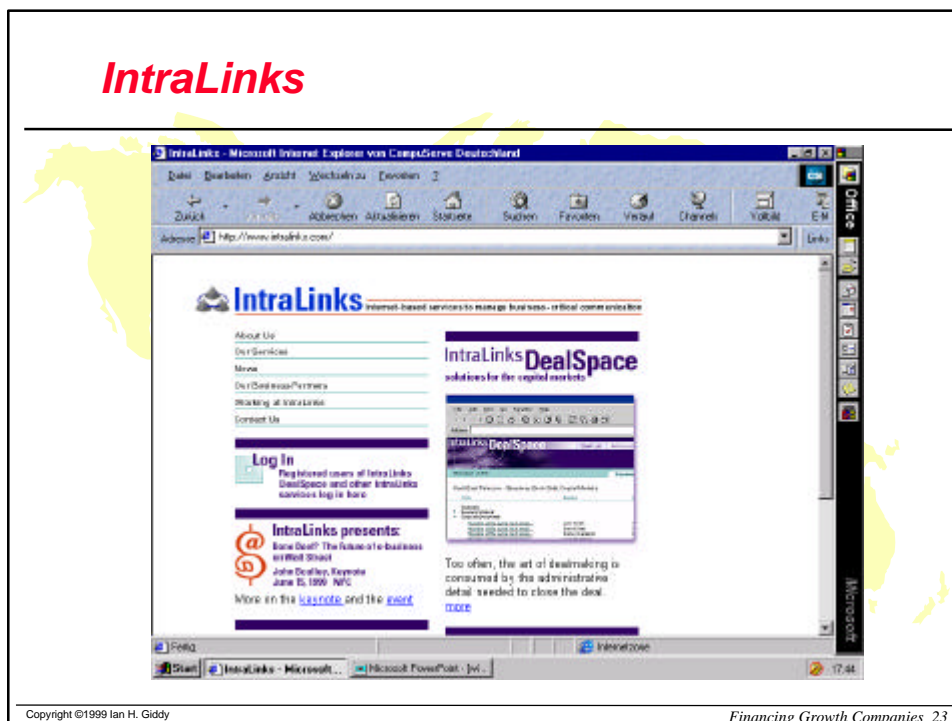
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IntraLinks



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IntraLinks' Choices

- Issue debt, either by borrowing from one of the big New York banks keen to get more involved in promising Internet businesses, or by means of a private placement of debt notes, possibly with “sweeteners” such as warrants to attract a lender.
- Seek out one or more private equity investors, ones who believed in the company’s product and its management.
- Do an initial public offering (IPO).
- Find another corporation who would be willing to acquire IntraLinks.

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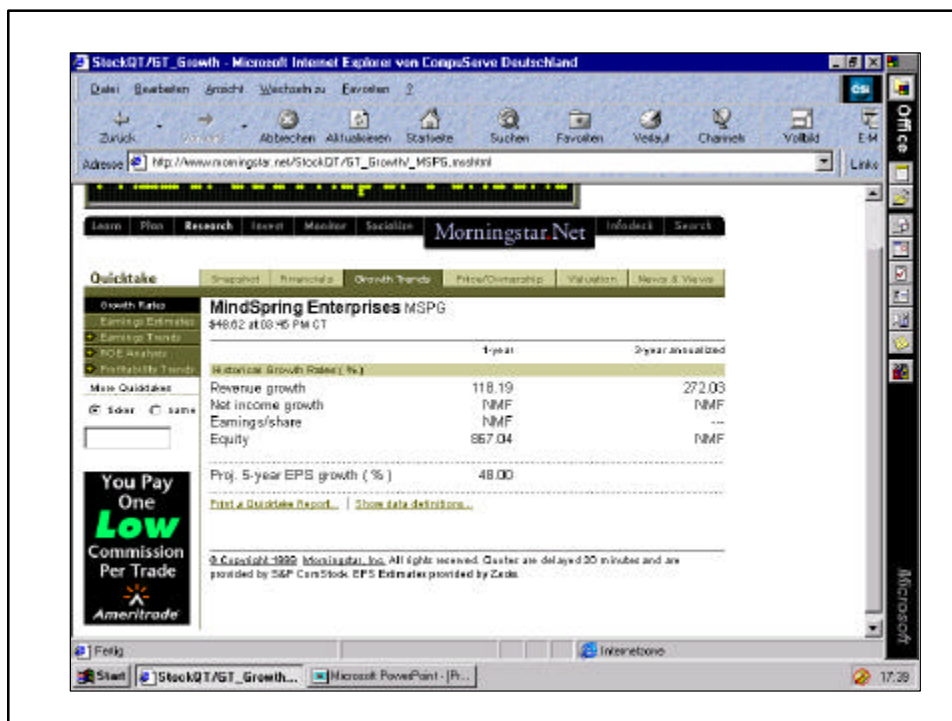
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Why Venture Capitalists Prefer Preferred

- Senior status in bankruptcy
- Does not put a value on the shares
- Is convertible into common stock before the IPO
- Conversion price is set such that if there is a liquidation all the money goes to the preferred shareholders (equity is worth zero)

How Much Debt?





The CFO Questions

- How fast can we grow? How do we need to invest to grow? Acquisitions?
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How Much Debt?

A \$19.95 company...an "ISP"
Profits: Low ~ Risks: High



Why Should MindSpring Have Debt?

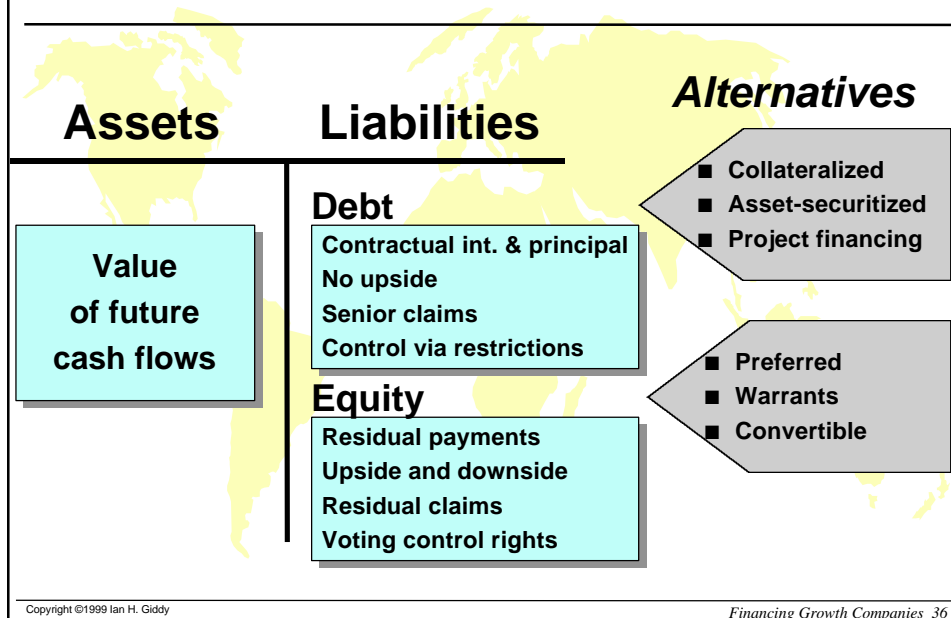
- Benefits of Debt
 - ◆ Tax Benefits
 - ◆ Adds discipline to management
- Costs of Debt
 - ◆ Bankruptcy Costs
 - ◆ Agency Costs
 - ◆ Loss of Future Flexibility

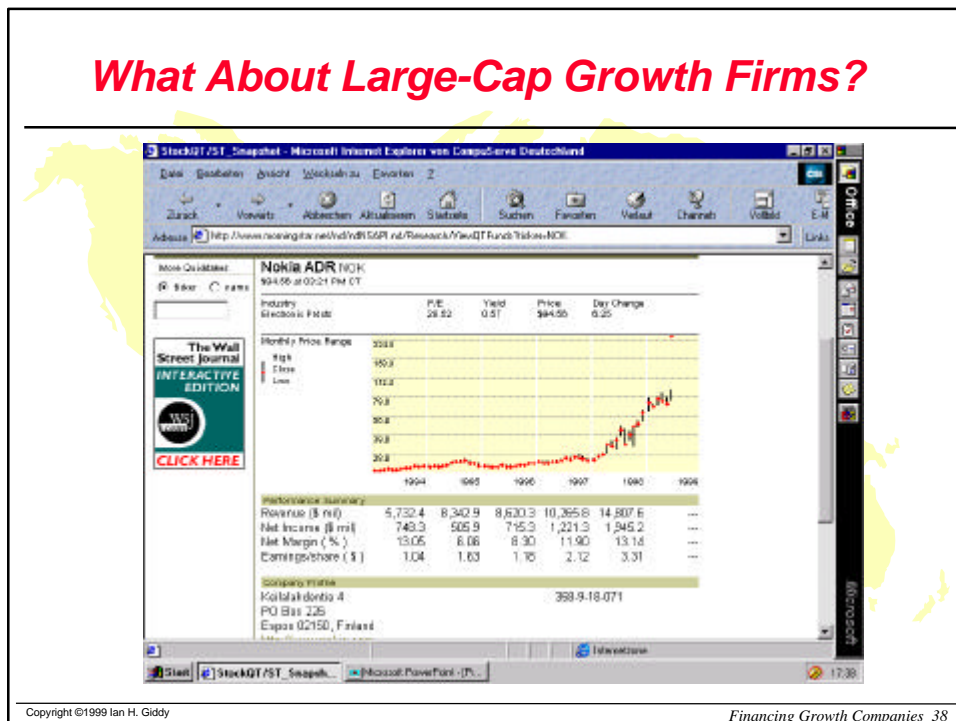
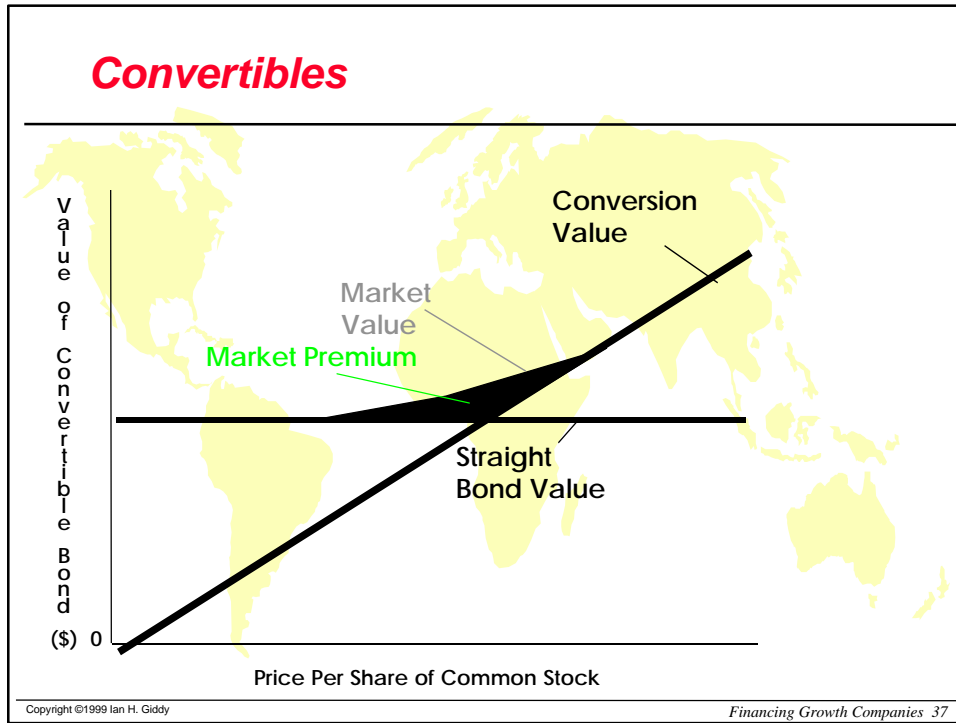
How Much Debt? Relative Analysis

The “safest” place for any firm to be is close to the industry average

- Subjective adjustments can be made to these averages to arrive at the right debt ratio.
 - ◆ Higher tax rates -> Higher debt ratios (Tax benefits)
 - ◆ Lower insider ownership -> Higher debt ratios (Greater discipline)
 - ◆ More stable income -> Higher debt ratios (Lower bankruptcy costs)
 - ◆ More intangible assets -> Lower debt ratios (More agency problems)

When Debt and Equity are Not Enough

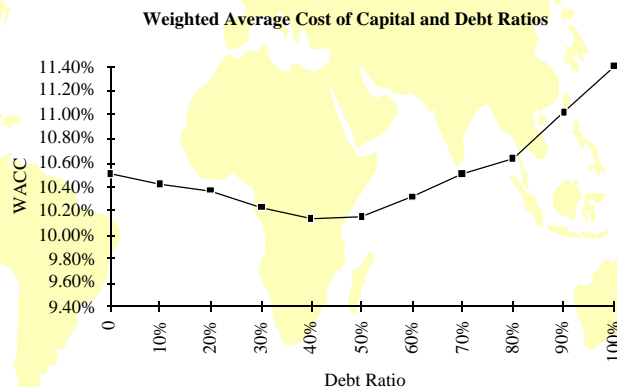




Applying the Quantitative Approach

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%

WACC and Debt Ratios



The Ratings Table

If Interest Coverage Ratio is	Estimated Bond Rating
> 8.50	AAA
6.50 - 8.50	AA
5.50 - 6.50	A+
4.25 - 5.50	A
3.00 - 4.25	A-
2.50 - 3.00	BBB
2.00 - 2.50	BB
1.75 - 2.00	B+
1.50 - 1.75	B
1.25 - 1.50	B -
0.80 - 1.25	CCC
0.65 - 0.80	CC
0.20 - 0.65	C
< 0.20	D

Case Study: SAP

You have the opportunity to visit SAP AG, the business software company. SAP, based in Walldorf, Germany, offers software development and implementation in application areas such as accounting, logistics and human-resource management to large businesses in Europe, North America and around the world. In 1997 the company had sales of over USD3.5 billion equivalent.

In recent months the company's stock price has been depressed, and management is concerned about a leveraged buyout or a hostile takeover. Hence you have been asked to evaluate whether the company has an appropriate amount of debt. You have collected the following information about SAP's current position:

Current share price:	772.2	DEM
Shares outstanding:	107	million
Beta of the stock based on the German DAX	1.15	
Debt outstanding:	2,000	DEM million
Debt rating:	AAA	
Market rate on bonds with rating	AAA	4.40%
Government bond rate:	4.00%	
DAX long-run expected return	9.50%	
Company's marginal tax rate:	44%	

Based on the company's business, its interest coverage and other factors, you have prepared a table showing what an increase in debt would do to the company's ratings and its cost of borrowing:

Additional debt	New Rating	Interest rate
10000	AA	4.850%
15000	A	5.100%
20000	BBB	8.500%
30000	BB	12%

- How much additional debt should the company take on?
- What is the weighted average cost of capital before and after the additional debt?
- What will be the effect on the share price after the company takes on new debt?
- Should new debt taken on perhaps be asset-backed? Subordinated, high-yield debt? Hybrid debt such as convertibles? Or just straight debt?

Case Study: SAP

SAP AG

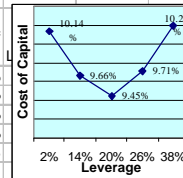
Solution:

In order to get the company's beta at different levels of debt, we have to first calculate the unlevered beta.

Current levered beta:	1.15
Current debt/equity (D/E) ratio = debt/(share price*shares outstanding):	2.42%
Current debt/capital (D/C) ratio = debt/(debt +share price*shares outstanding)	2.36%
The levered beta is found from: $\text{Beta}_{lev} = \text{Beta}_{unlev}(1+(1-\text{tax rate})(D/E))$	
The current unlevered beta is $\text{Beta}_{unlev} = \text{Beta}_{lev}/(1+(1-\text{tax rate})(D/E)) =$	1.13

Now we can calculate, for different debt levels, the cost of equity, the cost of debt, and the WACC:

Additional debt	Value of Equity Remaining	Shares (millions)	New Rating	Interest rate	Levered Beta	Cost of Equity	After-tax Cost of Debt	Cost of Capital
0	82,659	107.04	AAA	4.40%	1.15	10.33%	2.44%	10.14%
10000	72,659	94.09	AA	4.85%	1.24	10.81%	2.69%	9.66%
15000	67,659	87.62	A	5.10%	1.29	11.11%	2.83%	9.45%
20000	62,659	81.14	BBB	8.50%	1.36	11.46%	4.72%	9.71%
30000	52,659	68.19	BB	12.00%	1.52	12.35%	6.66%	10.20%



Optimal Cost of Capital: **9.45%**

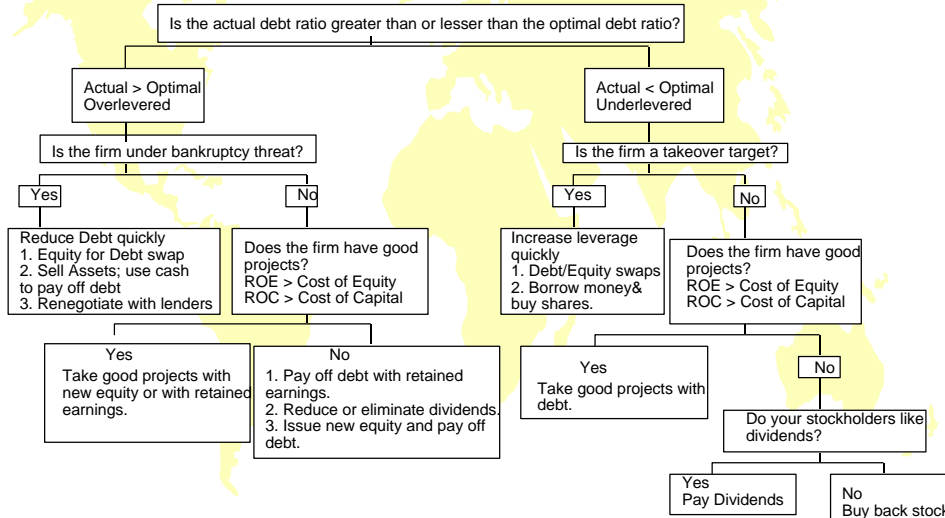
Change in firm value is a perpetuity = $CF/r = \text{cost savings}/\text{discount rate} = \text{old firm value}(\text{Old cost of capital} - \text{New cost of capital})$

Annual cost savings = = old firm value(Old cost of capital-New cost of capital) = 584 DEM million

Permanent increase in firm value = Annual cost savings/cost of capital = 6,180 DEM million

Increase in stock price = increase in firm value/shares outstanding = **70.54** DEM or 9.1%

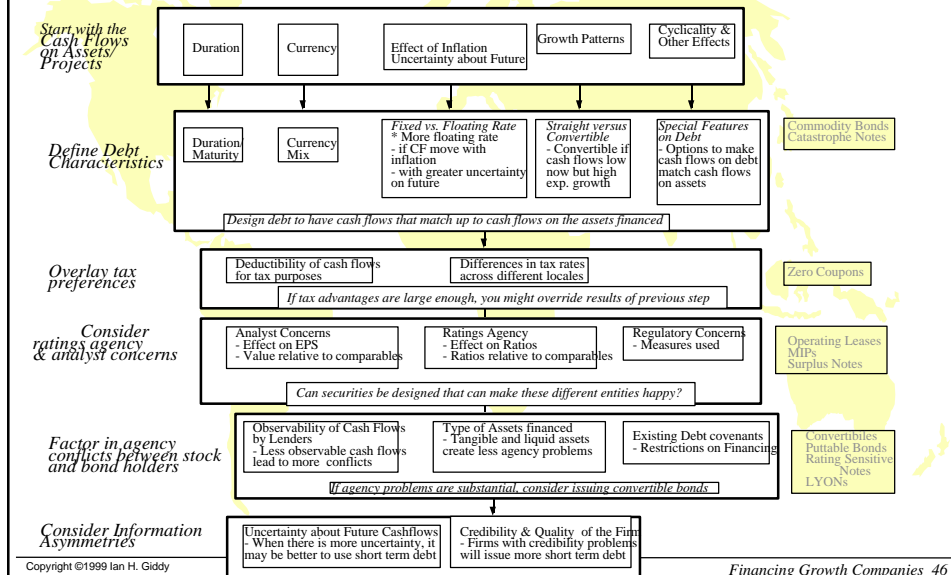
A Framework for Getting to the Optimal



What Kind of Debt? Some Considerations

- Fixed/floating:
 - ◆ How certain are the cash flows? Are operating profits linked to interest rates or inflation?
- Currency:
 - ◆ Consider currency of the assets: currency of denomination vs. currency of location vs. currency of determination.
- Maturity or availability:
 - ◆ Are the assets short term or long term? Should the firm assume ease of refinancing, or buy an option on access to financing?

Designing Debt



Conclusion: Back to First Principles

- Invest in projects that yield a return greater than the minimum acceptable hurdle rate.
 - ◆ The hurdle rate should be higher for riskier projects and reflect the financing mix used - owners' funds (equity) or borrowed money (debt)
 - ◆ Returns on projects should be measured based on cash flows generated and the timing of these cash flows; they should also consider both positive and negative side effects of these projects.
- Choose a financing mix that minimizes the hurdle rate and matches the assets being financed.
- If there are not enough investments that earn the hurdle rate, return the cash to stockholders.
 - ◆ The form of returns - dividends and stock buybacks - will depend upon the stockholders' characteristics.
- Manage financial risks with debt and derivatives

www.giddy.org

Ian Giddy

NYU Stern School of Business

Tel 212-998-0332; 917-930-0291

Fax 212-995-4233; 630-604-7413

ian.giddy@nyu.edu

<http://www.giddy.org>