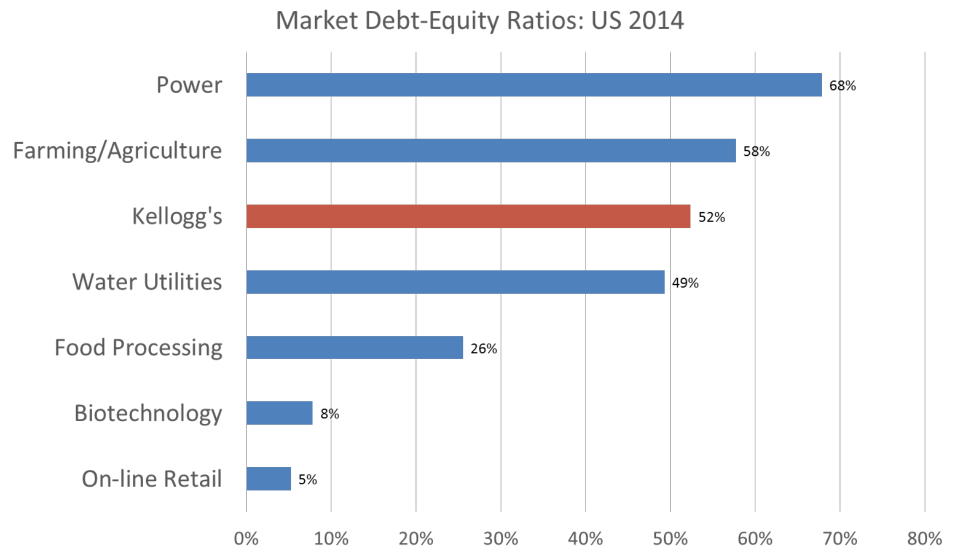
Module 2

Corporate Financial Decision-Making for Value Creation

Raising Debt Capital 2:
Explaining Differences in Debt Levels
(On borrowed time ....)

Presenter: Sean Pinder

Cross-sectional differences in capital structure



Setting the scene

Advantages of debt

1. *Looks* cheaper than equity
2. Tax deductibility of interest

	No debt	Debt
Operating Profit	100,000	100,000
less Interest Expense	-	20,000
Net Income before Tax	100,000	80,000
less Tax (@30%)	30,000	24,000
Net Income	70,000	56,000

Note: $6,000 Tax Shield

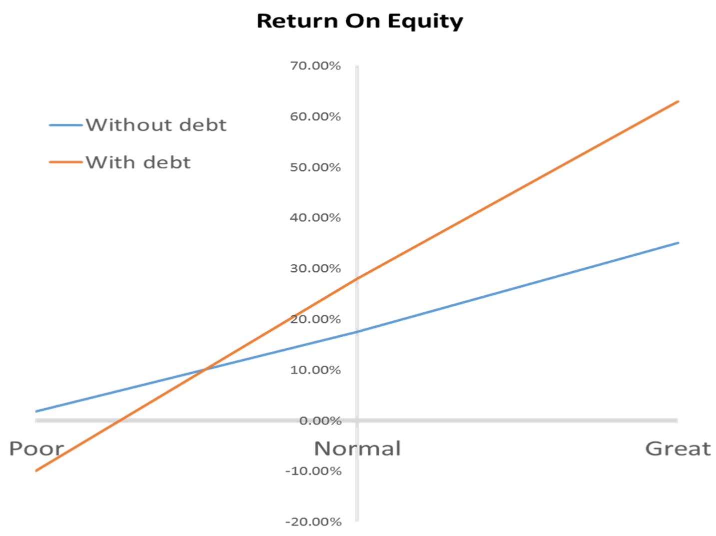
3. Financial discipline
- Soaking up free cash flow.

Setting the scene

Disadvantages of debt

1. Potential agency problems
- Claim dilution
- Asset substitution.

2. Increases probability of financial distress/bankruptcy.



Bankruptcy costs

When a firm goes into financial distress (or ultimately bankruptcy) both **Direct** and **Indirect Costs** are incurred.

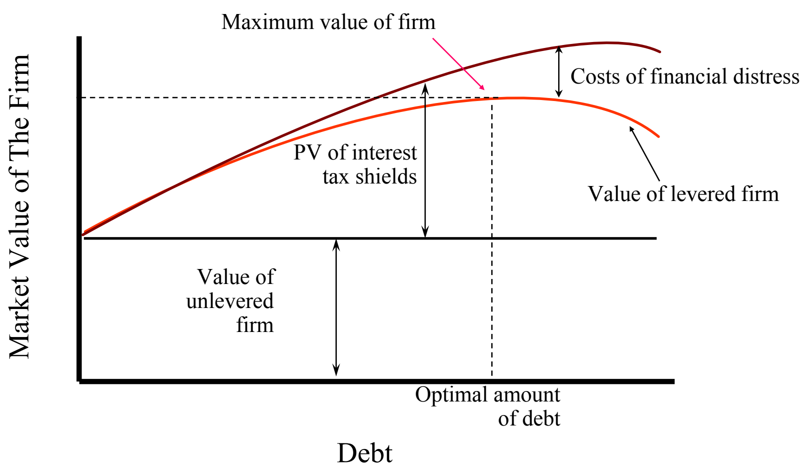
- **Direct Costs**: Fees paid to lawyers, accountants etc. to manage the process.
- **Indirect Costs**: Loss of customers, managerial time spent on trying to avert distress, missed opportunities etc.

Debtholders bear the *realized* costs of bankruptcy.

Shareholders will bear the *expected* costs of bankruptcy – as cost of debt will reflect them.

Bankruptcy costs and the trade-off model of capital structure

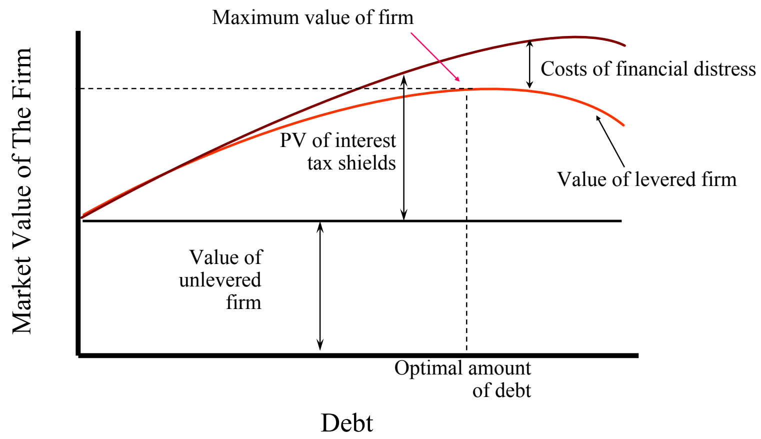
$$V_{Leveraged} = V_{Unleveraged} + PV(Tax\ Shields) - PV(Bankruptcy\ costs)$$



Bankruptcy costs and the trade-off model of capital structure

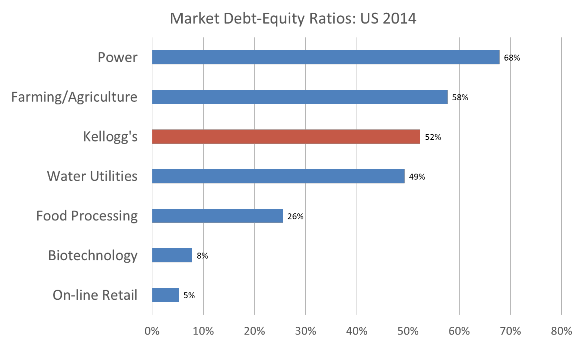
$$V_{Leveraged} = V_{Unleveraged} + PV(\text{Tax Shields}) - PV(\text{Bankruptcy costs})$$

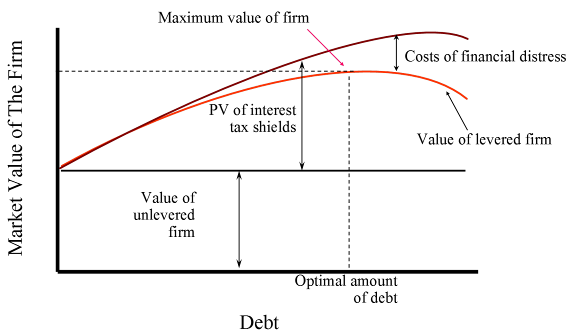
$$PV(\text{Bankruptcy costs}) = \text{Probability of Bankruptcy} \times \text{Costs Incurred}$$



Bankruptcy costs and the trade-off model of capital structure

Helps explain **inter-industry** variation in debt levels

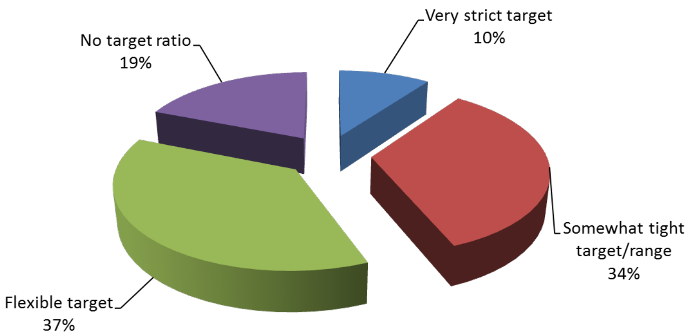




What do managers tell us?

When Fortune 500 CFOs were asked:

"Do you have an optimal or "target" debt ratio for your firm?"



Information asymmetry and the pecking order of capital

Management has more information about the firm's prospects than the market

↓

The market is aware of this and will look for a signal by management about their prospects when the firm raises capital

↓

Management will be reluctant to issue equity – for fear of it sending a negative signal about current values

↓

But issuing debt also creates problems in terms of constraints on behaviour – prefer to use internal funds (internal equity)

Information asymmetry and the pecking order of capital

Internal equity

↓

Debt

↓

External equity

Helps explain ***intra-industry*** variation in debt levels…

What sort of firms in an industry have to go to the debt markets first?

What do managers tell us?

Many surveys conducted around the world have asked CFOs:

"What factors affect how you choose the appropriate amount of debt for your firm?"

Reason	**USA**	**Germany**	**Australia**
Financial flexibility – restrict debt so we have enough internal funds to pursue new projects	1	1	2
Volatility of earnings and cash flows	3	3	1
Credit rating	2	2	3
Transactions costs and fees of issuing debt	5	4	4
Tax advantage of interest deductibility	4	5	5

Summary

- Introducing debt into a firm can assist by reducing **taxes** paid and enforcing **financial discipline** within the firm.
- It also increases the risk and costs of **financial distress.**
- The **trade-off theory** suggests that firms might balance out the benefits and costs of debt to maximize the value of assets.
- The **pecking order theory** suggests that firms might prefer debt to external equity – for signaling reasons – and internal equity to debt – to maintain flexibility.
- There is empirical support for both of these theories (as well as many **others**!).

So … what do we do with our profits?

Source list

Slide 2 and 8: Industry Market Debt-Equity. Graph prepared by Sean Pinder from data obtained from http://www.stern.nyu.edu/~adamodar/pc/datasets/dbtfund.xls, Kellogg's data obtained from Kellogg Company Annual Report 2014, 25 February 2015 (http://investor.kelloggs.com/files/doc_financials/annual_reports/K_2014-Annual-Report_v001_q725z5.pdf), and the Datastream financial database.

Slide 4: Return on equity. Graph prepared by Sean Pinder. © The University of Melbourne.

Slide 6, 7 and 8: Maximum value of firm. Figure prepared by Sean Pinder. © The University of Melbourne.

Source list

Slide 9: Chart prepared by Sean Pinder from data sourced from Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 60(2), pp. 187-243. © The University of Melbourne.

Slide 12: Table prepared by Sean Pinder from data sourced from Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 60(2), pp. 187-243; Coleman, L., Maheswaran, K., & Pinder, S. (2010). Narratives in managers' corporate finance decisions. Accounting & Finance, 50(3), pp. 605-633 and Brounen, D., de Jong, A. & Koedijk, K. (2006). Capital structure policies in Europe: survey evidence. *Journal of Banking and Finance,* 30(5), pp. 1409-1442. © The University of Melbourne.