



Module 4

Alternative Approaches to Valuation and Investment

Empirical evidence and final points
(Does anyone exercise their option to use real options?)

Presenter: Sean Pinder



THE UNIVERSITY OF
MELBOURNE



BNY MELLON

Anecdotal evidence

We often observe behavior that is consistent with management understanding the importance of real options analysis.

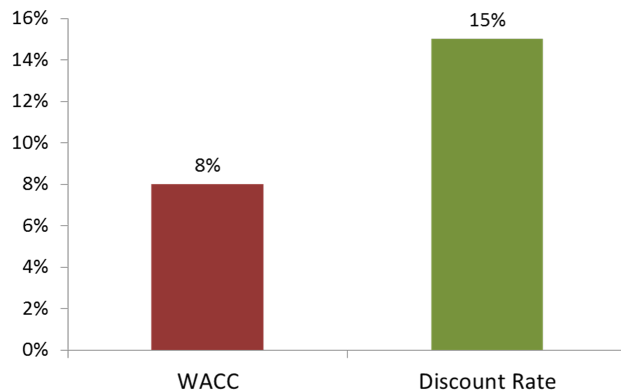
Examples:

- Exporters don't leave markets as soon as exchange rates move against them
- Airlines don't immediately cancel routes that are suddenly losing money
- Companies do establish small negative NPV operations in new markets to develop a "footprint" for future expansion.

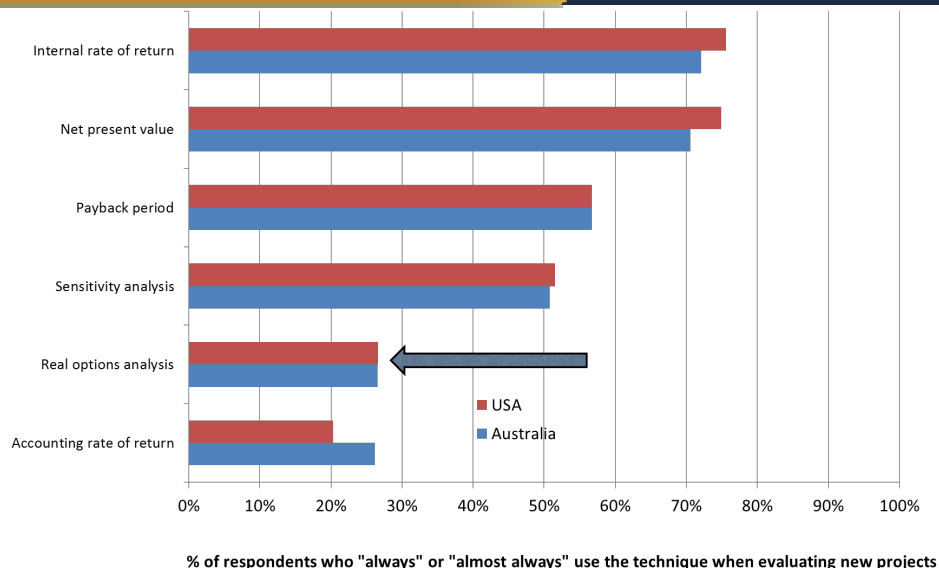


Empirical evidence

Ravi Jagannathan, David Matsa, Iwan Meier and Vefa Tarhan's survey of 4,600 CFOs of US listed firms on what discount rate the firm used in the last 2 years:

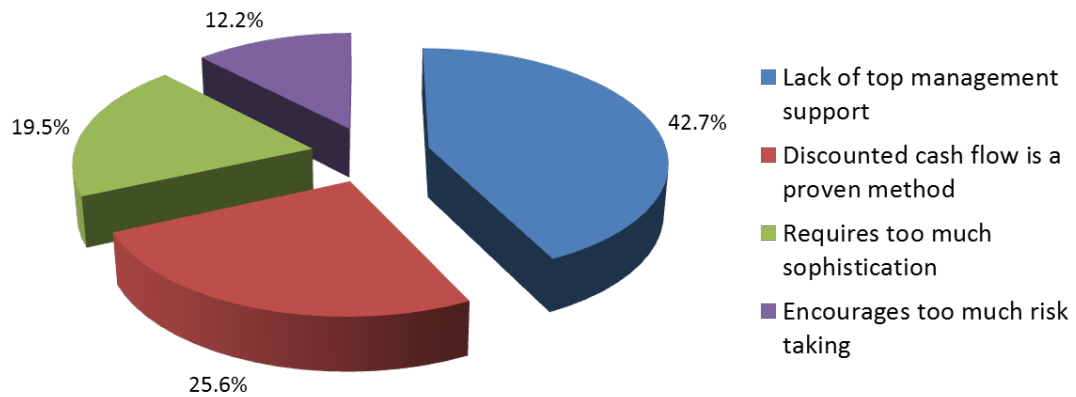


Empirical evidence

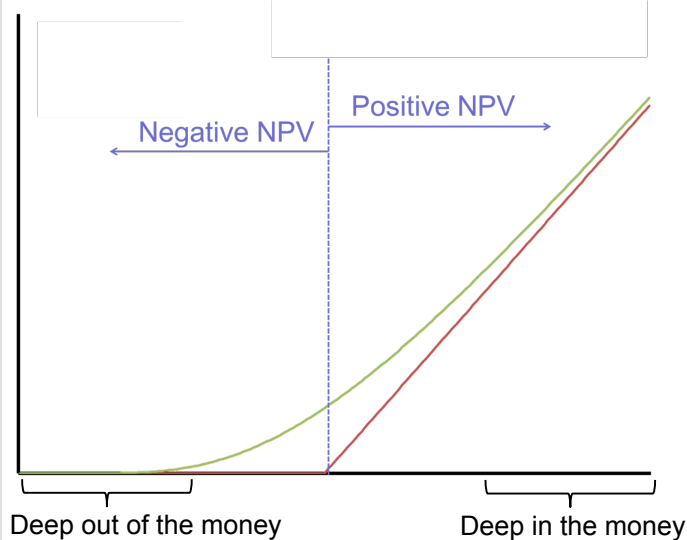


Empirical evidence

Reasons for not using real options

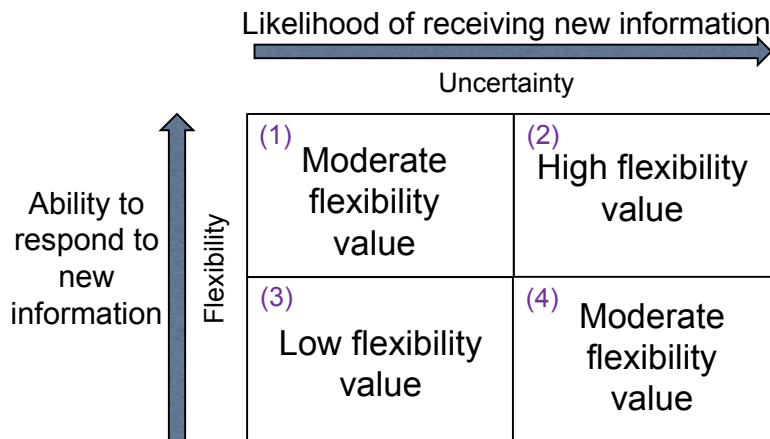


When should we be most aware of real options?





When should we be most aware of real options?



Summary

We have considered:

- Anecdotal evidence that suggests that managers understand the value of flexibility
- Empirical evidence consistent with managers behaving as if real options are relevant
- Other empirical evidence that suggests that the value of real options are not often modelled explicitly
- The circumstances where it may be particularly important to consider real option analysis in addition to standard DCF analysis.



Module summary

1. The problem with NPV



2. Examples of real options



3. Valuation using decision trees



4. Empirical evidence and final thoughts

Key issues in valuation and investment

**Defining and
Measuring Risk**



**Linking Risk with
Expected Return**



**Using Financial
Information to Estimate
Cost of Capital**



**Real Options
Analysis**



Source list

Slide 3:

Graph by Sean Pinder. © The University of Melbourne. Prepared using data from Jagannathan, R., Matsu, D. A., Meier, I., & Tarhan, V. (2014). Why do firms use high discount rates?. Available at SSRN 2412250.

Slide 4:

Graph by Sean Pinder. © The University of Melbourne. Prepared using 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.

Slide 5:

Graph by Sean Pinder. © The University of Melbourne. Prepared using data from Block, S. (2007). Are "Real Options" Actually Used in the Real World?, *The Engineering Economist: A Journal Devoted to the Problems of Capital Investment*, 52:3, p. 261. Available at <http://dx.doi.org/10.1080/00137910701503910>

Slide 6:

Graph prepared by Sean Pinder. © The University of Melbourne.

Slide 7:

Figure © The University of Melbourne. Prepared by Sean Pinder based upon table presented by Copeland, Koller and Murrin in *Valuation: Measuring and managing the value of companies*, 3rd edition, New York, Wiley and Sons, 2002.

Additional background image / video sourced from: ©iStock.com/mindopen.