

Discounted Cash Flow: Decision Making

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Last Time

Interest Rates

- APR
- EAR
- Non-annual and cash flows and compounding
- Term Structure

This Time Discounted Cash Flow (DCF)

- Decision making

Decision Making

Q: How should we make financial decisions?

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A: Undertake those actions that create value

Q: Which actions create value?

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**A: Those in which the benefits
exceed the costs...**

Q: What if costs and benefits arrive at different times?

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A: Compare $PV(\text{Benefits})$ to
 $PV(\text{Costs})$

Q: What if costs and benefits arrive at different times?

A: The discount rate, R , adjusts for timing *and* risk of cash flows

Lesson: The **NPV Decision Rule** says accept all projects with a positive NPV and reject all projects with a negative NPV

$$NPV = PV(\text{Benefits}) - PV(\text{Costs})$$

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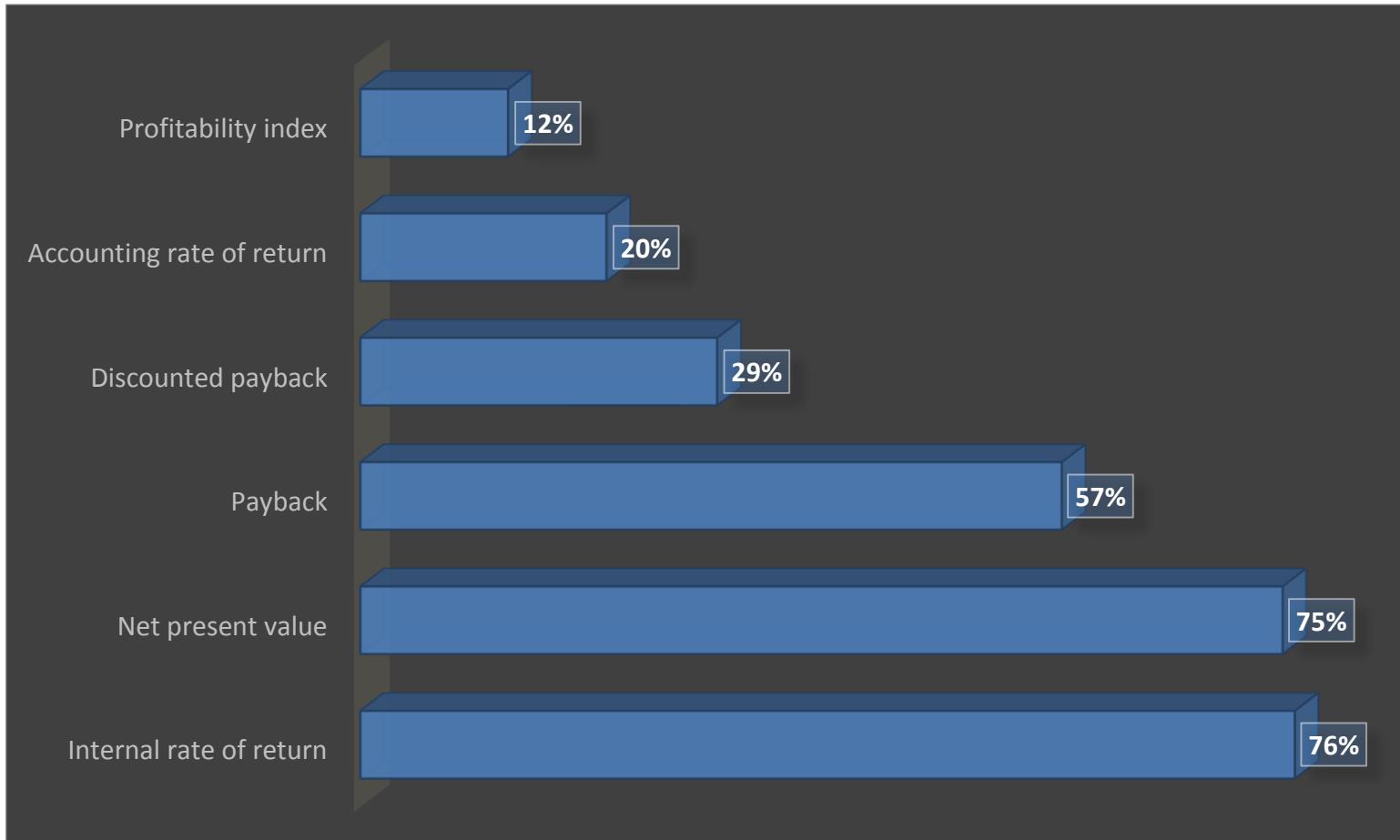
$$NPV = PV(\text{Benefits}) - PV(\text{Costs})$$

$$= FCF_0 + \frac{FCF_1}{(1+R)} + \frac{FCF_2}{(1+R)^2} + \dots + \frac{FCF_T}{(1+R)^T}$$

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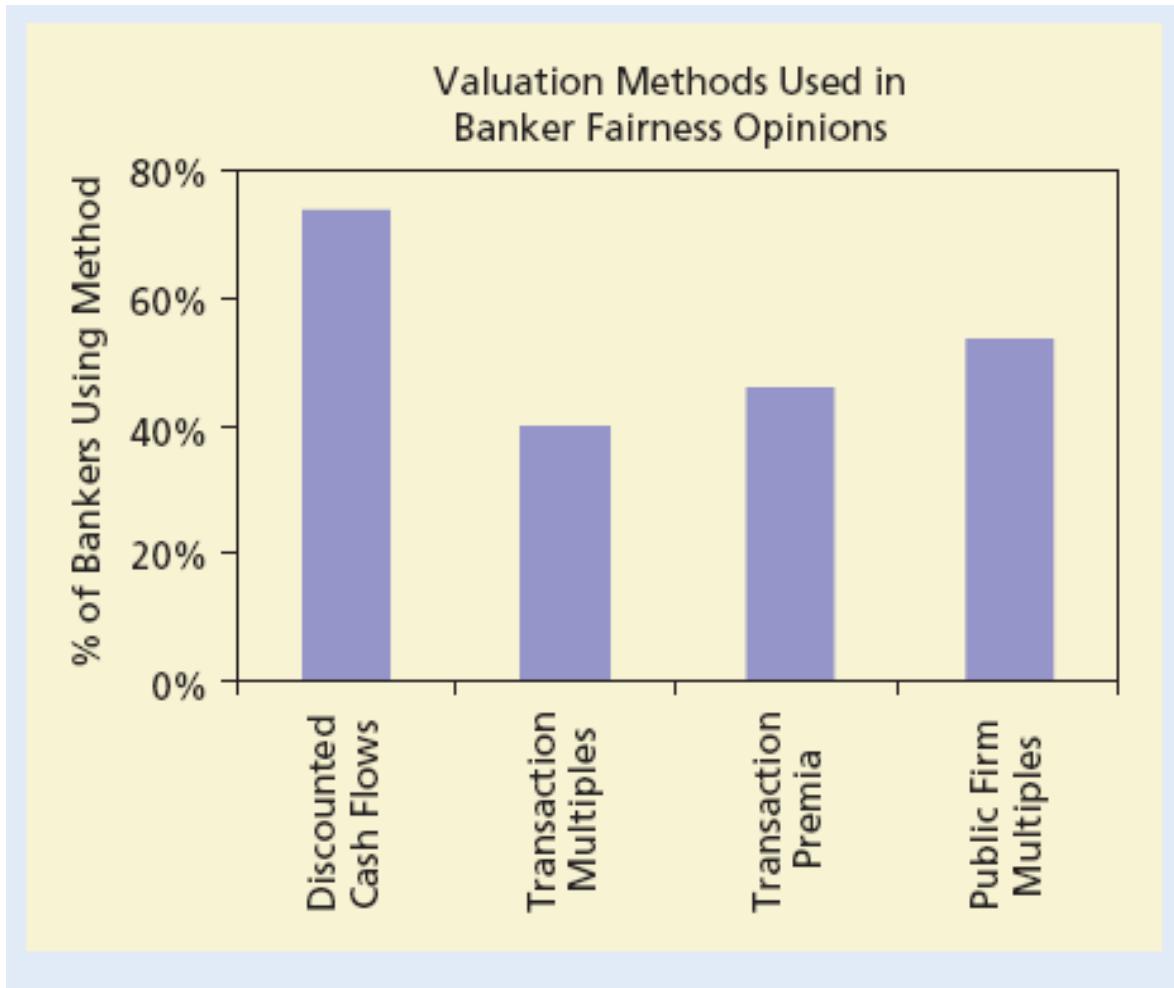
$$NPV > 0 \Rightarrow \text{Accept}$$
$$NPV < 0 \Rightarrow \text{Reject}$$

DECISION MAKING IN PRACTICE

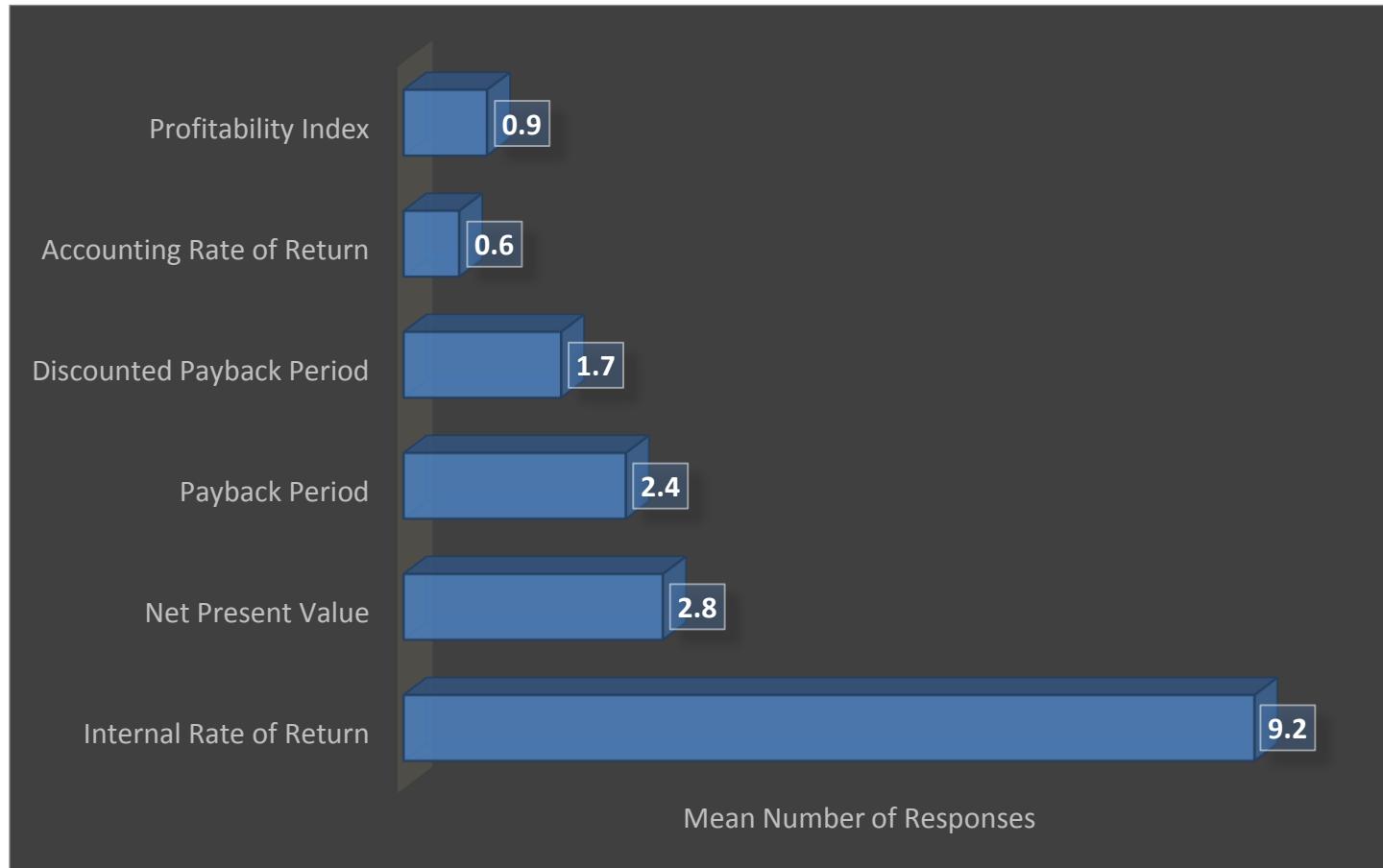


Survey of US CFOs: How frequently do you use capital budgeting techniques?

Graham and Harvey, 2001, The theory and practice of corporate finance: Evidence from the field, *Journal of Financial Economics*



How Investment Bankers Value Companies (Source: page 145 in
Graham, Smart, Megginson, 2010)



Which criterion do you use to evaluate an investment?

What do Private Equity Firms Say they Do? (Paul Gompers, Steve Kaplan, and Vladimir Mukharlyamov)

Summary

Lessons

- NPV is a decision rule that quantifies the value implications of decisions
 - Optimal rule
- Other rules still informative
 - Understand their weaknesses

Coming up next

- Discounted Cash Flow (DCF)
 - How to compute free Cash Flow