
Real Options

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REAL OPTIONS: EVALUATING CORPORATE INVESTMENT OPPORTUNITIES IN A DYNAMIC WORLD

**Howell, Stark, Newton, Paxson, Cavus,
Pereira & Patel**

Financial Times-Prentice Hall, 2001

ISBN 0 273 65302 4

Now in paperback.

WORKBOOK

A REVIEW OF THE PRACTICAL USES OF REAL PROPERTY OPTIONS

Patel, Paxson, Sing
RICS Research, April 2005

WORKBOOK

REAL OPTION VALUE

Dean Paxson, 2020



ESSENTIALS OF REAL OPTIONS ANALYSIS

- ROs are methods for evaluating alternative choices
- Alert management creates & manages real options
- Real options are the foundation of strategy and investments in a changing world

REAL OPTIONS => SIX PRIMARY PRACTICAL USES

- Planning
- Investment evaluating & timing
- Leasing
- Operations
- Funding
- Industry strategy

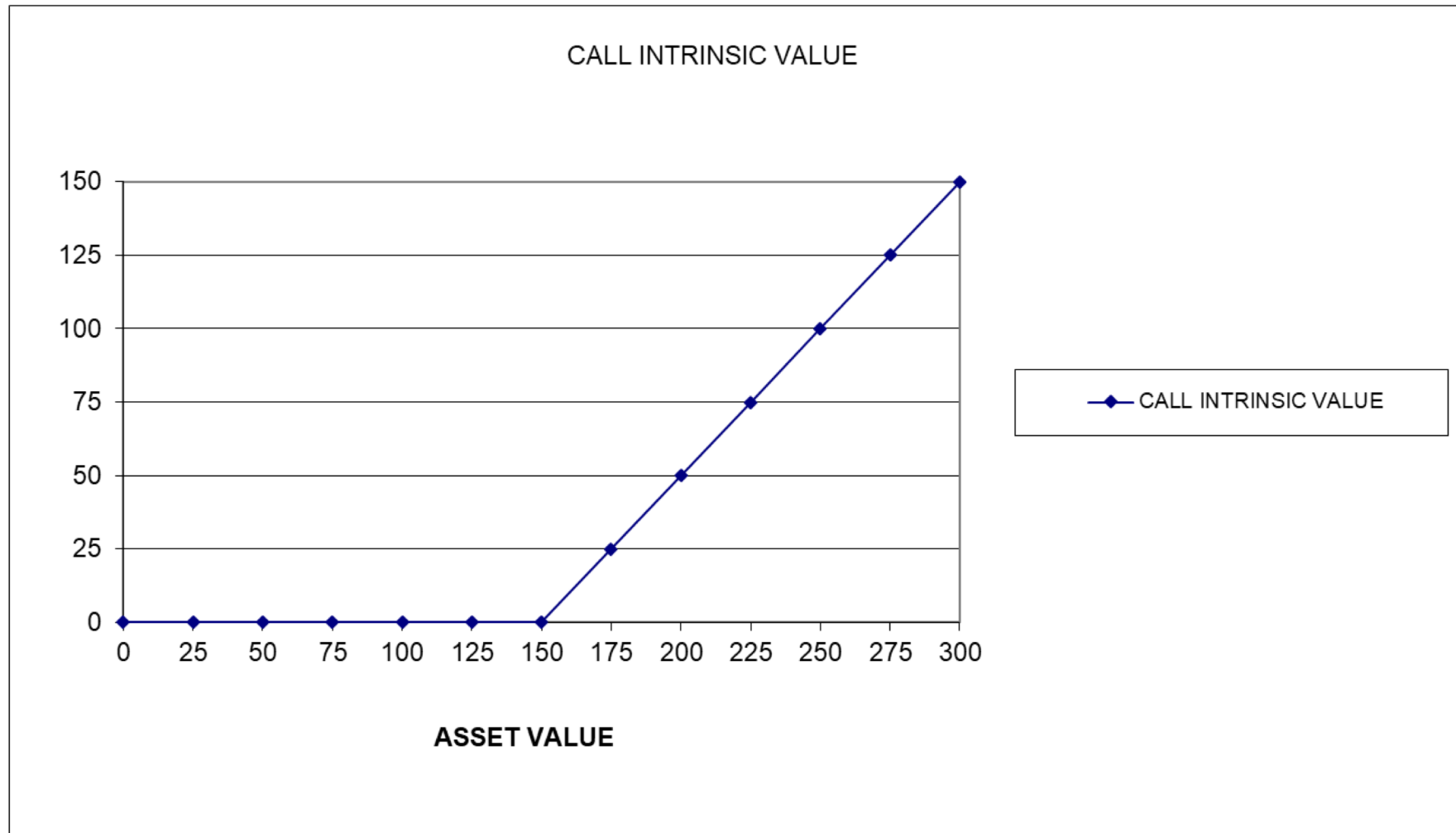
RO LEADS TO DIFFERENT DECISIONS

- Typically leads to deferred investments
- Or earlier timing of investments if competition and high yields exist
- Emphasis on flexibility and modularity
- Emphasis on upside or on protection against downside
- Sometimes leads to considering more factors affecting outcomes, especially in
- Forecasting uncertainty in prices, costs & quantities

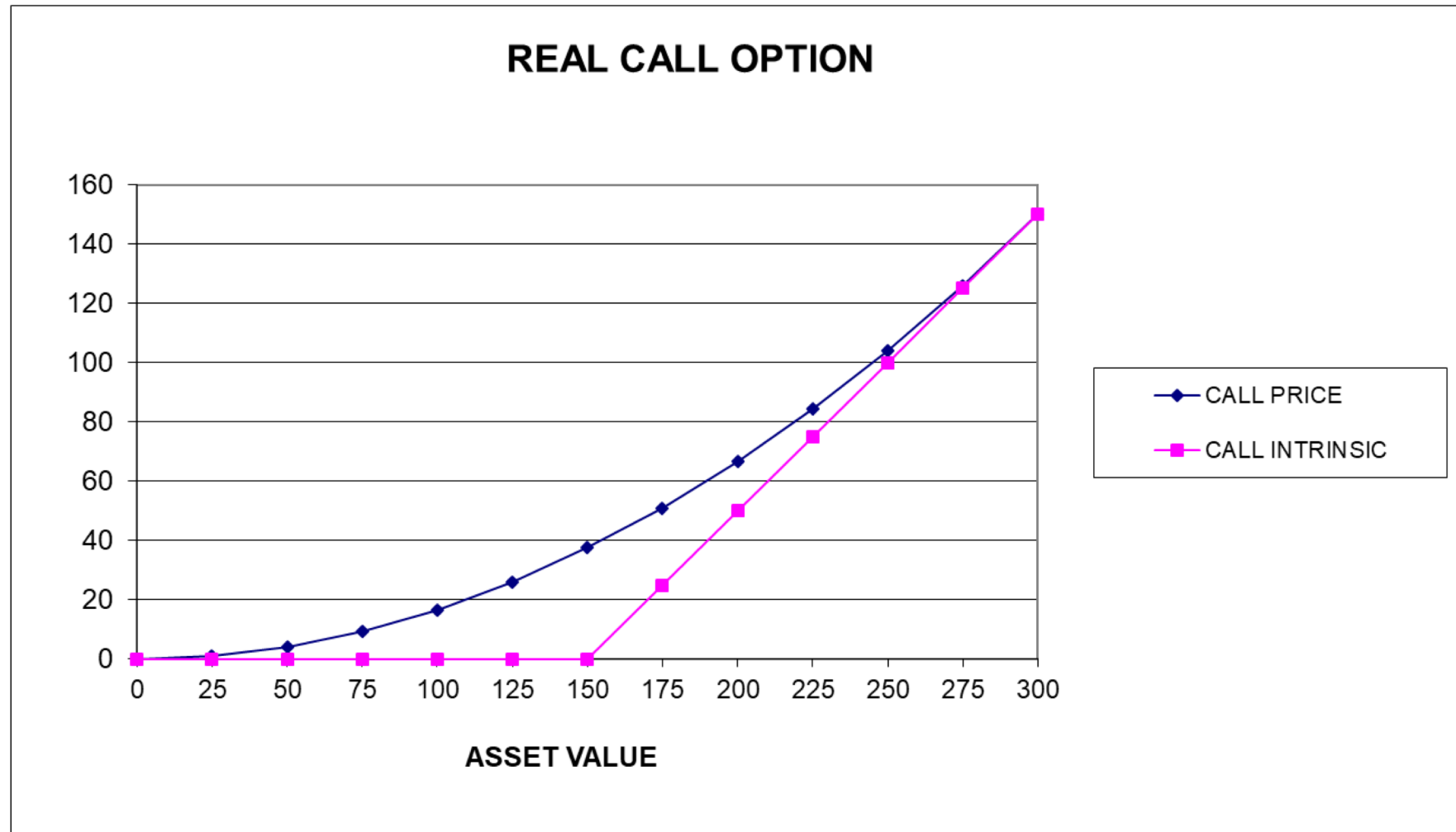
ROs LEAD TO UNEXPECTED DECISIONS

- Don't necessarily invest even if $NPV > 0$
- Keep options open
- R&D or land planning expense = paying call option premium
- Might stop planning if outcome not volatile

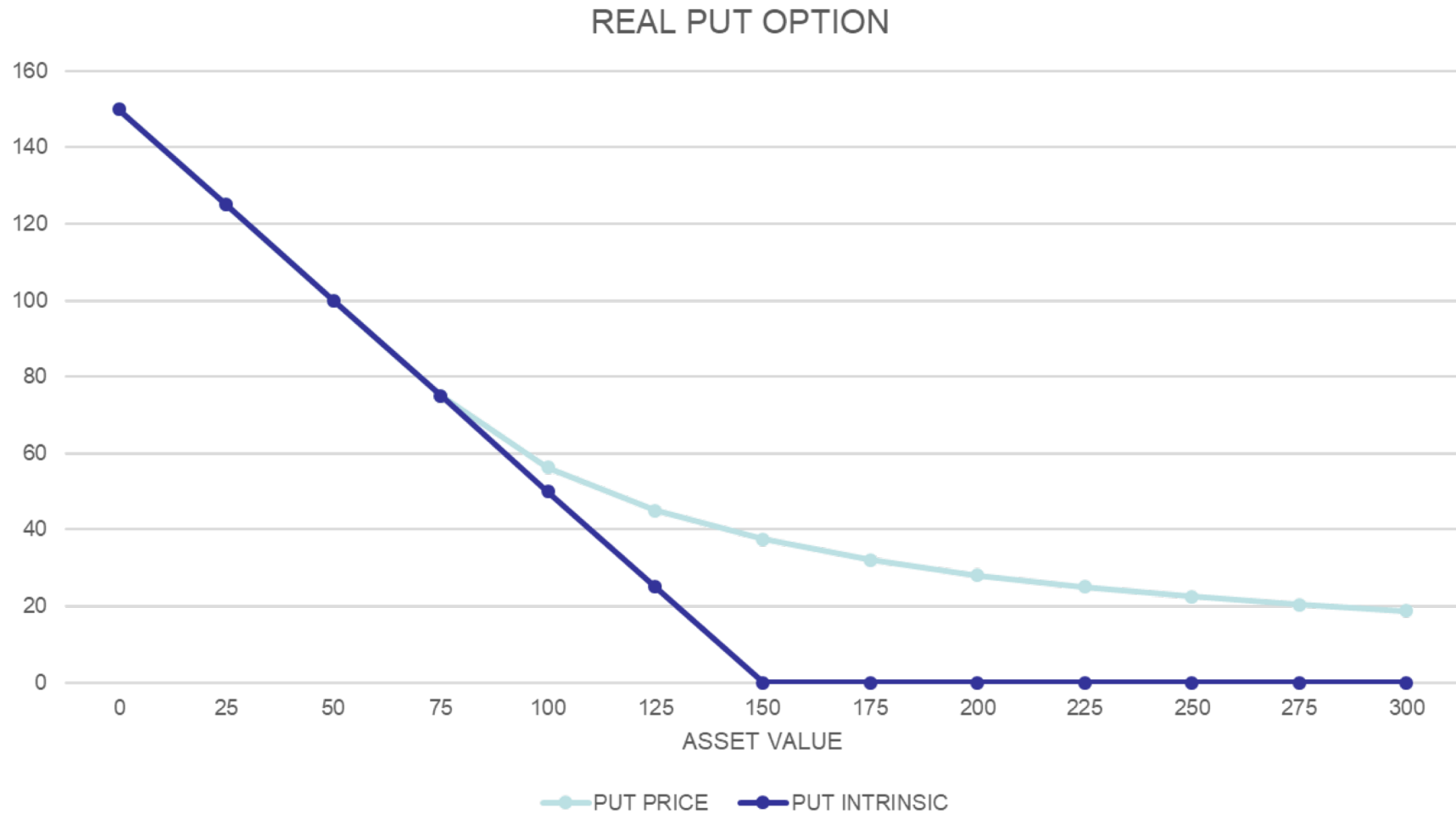
BASIC TYPES OF REAL OPTIONS



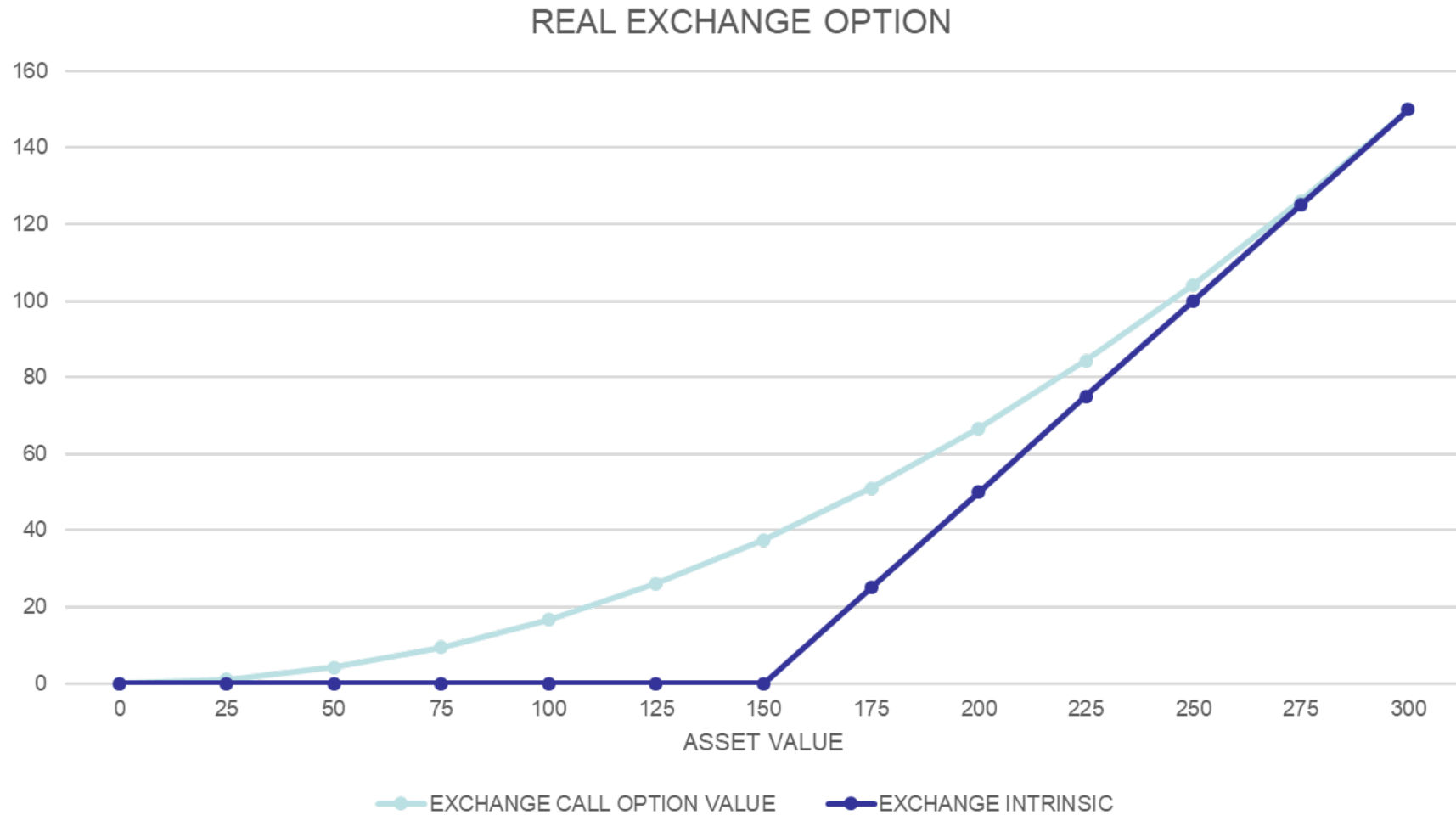
REAL CALL OPTION



REAL PUT OPTION



REAL EXCHANGE CALL OPTION



Real Options

The programme unit aims to:

Encourage students to identify and evaluate the strategy and alternative actions in management and investments, seeking flexibility to change as the environment evolves.

Flexibility adds value, but is the extra value worth the cost? When and how to change are critical issues.

RO 2020

- 6 Sessions
- Topics oriented to projects
- Valuation and Uncertainty

- Do Group Project, or Case
- Projects Due March 19
- Present/Discuss March 20
- Exam in June

FUTURE OF REAL OPTIONS

- M&A, Financial Engineering, Security Analysis=>Real Option Evaluation
- Critical for 2020 is using real option methods to enhance investment appraisal & corporate strategy, especially when enterprises disclose appropriate information.
- This is the practical business of Real Options 2020.

RO 20 Cases/Projects

- SWN GAS GROWTH OPTION
- RRC SWITCHING OPTIONS
- STRATEGIC EVALUATION FOR AR, EGT
- ASSET MONETIZATION OPTIONS and REPURCHASING SECURITIES IN A DISTRESSED MARKET.
- SURVIVAL AT \$1.80 NG PRICES