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Price-To-Win Re-examined

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Bottom Line Up Front

- Pricing trends for the past decade indicate an industry-wide maturation of price to win capabilities; however also an increasing susceptibility to fail with dramatic surprise outcomes in today's hypercompetitive environment
- Development of methods, tools and data sources during the past 20-plus years have focused on three traditional approaches to PTW: Top Down using comparative exemplars, Bottom Up as a build up from individual cost elements, and Customer Assessment that infers from past customer buying behaviors
- However, our ability to understand and account for estimating errors persists—multiple sources of estimating errors compound resulting in unreliable point solutions, especially in absence of a good understanding of the procurement type, competitive context and strategic value for each offeror.
- These approaches only offer an incomplete view to confidently predict competitors' pricing strategies in today's environment.
- We believe that new approaches and techniques need to be considered that reflect firm-unique strategies and competitive context, acknowledge estimating errors, provides an analytical basis for assessing strategic value and enables an integrative synthesis of multiple, potentially divergent approaches and reliable captures the known unknowns

Presentation Outline

Market and Competitive Context

Strategic Value as Real Options

Improving Position/Price-to-Win Capabilities

Observations on Today's Pricing Dynamics

Recent pricing trends indicate an industry-wide maturation of price to win capabilities; however also an increasing susceptibility to fail with dramatic surprise outcomes in today's hypercompetitive environment.

1. **Declining defense budgets, combined with increased sustained levels of uncertainty has** resulted in a hypercompetitive environment likely to endure in the near-term

2. **Standardization and maturation of positioning and price-to-win (PTW) practices** including analytical techniques and data sources resulted in peer-level capabilities by all Tier I and many Tier II firms

3. **Emerging new business norms initiated by "better buying practices" in government and industry** intentionally leveling the playing field and shifting new types of risk to industry

Resulted in a dramatic narrowing of the competitive range price within 5%; however there have also been an **increasing occurrence of surprise awards** at a significantly lower or higher price driven by firm-unique strategic value; or an asymmetric understanding of the customer's needs

Conventional Approaches to Position/Price-to-Win

Development of methods, tools and data sources during the past 20-plus years have focused on three traditional approaches to PTW; in most robust assessments, at least 2 of these approaches are used to bound or validate the answer.

1 **Top Down**

Comparative Exemplars

- Evaluation of historical program spending and offers
- Parametric analysis (scale and complexity CERs) of similar contracts
- Infer from past to future pricing strategies

2 **Bottom Up**

Build-up from Individual Cost Elements

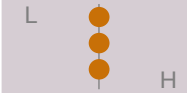
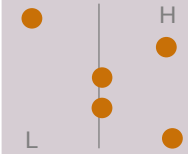
- Relies on CI and market norms for unit costs (labor and materiel), ODC allocations, and indirect factors
- Presumes baseline solution and program designs
- Requires understanding of assets and investments

3 **Customer Assessment**

Inference from Customer Behavior Preferences

- Analysis of program funding and customer PMO costs
- Normalized by overall Budget trends
- Calibration from recent award patterns
- Accounts for policy objectives such as cost reduction metrics

Pricing Strategy Decomposed by Procurement Type

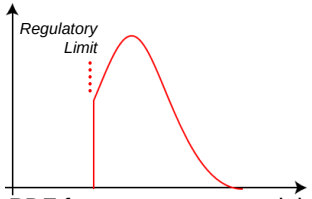
Procurement Type	Example Competition	Typical Contract Types	Typical Eval Type (in order)*	Major Drivers of Pricing Strategy	Relative Importance	Typical Estimate Bias
Product or service commodity bought by the item	Army TCAPS	Catalogue, FFP, T&M	Lowest Price, LPTA	• Input Unit Rates, Indirect Factors • Financial Measures • Strategic Value		UNF FAV UNF
Product or service commodity bought as a solution	USN NGEN, USAF ROS	FFP, FPLOE, T&M	LPTA, Lowest Price	• Input Unit Rates, Indirect Factors • Scope • Financial Measures • Strategic Value		UNF FAV FAV UNF
Differentiated product or service	USPS ETS	FFP, FPLOE, T&M	Trade-off LPTA	• Scope & Complexity • Financial Measures • Strategic Value		UNF FAV UNF
Production runs	USA Individual Carbine Upgrade	FFP EPA (by Lot)	LPTA Trade-off	• Manufacturing Unit Cost • Financial Measures • Strategic Value		FAV FAV UNF
Development or improvement of subsystem with high heritage or TRL	F-16 Upgrade	CPFF, CPAF	Trade-off	• Solution Design & CERs • Financial Measures • Strategic Value		FAV FAV UNF
Major system integration or implementation of custom COTS and/or NDI	US VISIT	CPFF, CPAF, FP Incentive	Trade-off	• Input Unit Rates, Indirect Factors • Scope, Complexity & CERs • Financial Measures • Strategic Value		UNF FAV FAV UNF
Major new system or platform development requiring FSED-like process	F-35, TSAT, NGJ, AMDR	CPFF, CPAF	Trade-off	• Input Unit Rates, Indirect Factors • Solution Design & CERs • Program Design • Financial Measures • Strategic Value		UNF FAV UNF FAV UNF

Lowest Price is typically under FAR Part 14; FAR Part 15 Best Value includes Lowest Price Technically Acceptable (LTPA) and Trade-off Source Selection (Assad, DoD Memorandum on Source Selection Procedures, March 4, 2011); all types available under FAR Parts 8, 12 and 13.

Understanding Estimating Errors

Multiple sources of estimating errors compound resulting in unreliable point solutions, especially in absence of a good understanding of the competitive context and strategic value for each offeror.

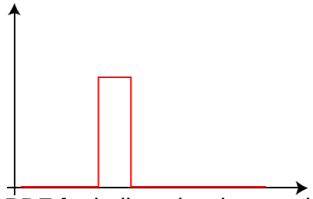
Input Unit Rates & Costs



PDF for wage rate, material costs etc.

Narrow range due to market equilibrium for employment and materiel inputs, sometimes with a regulatory minimum

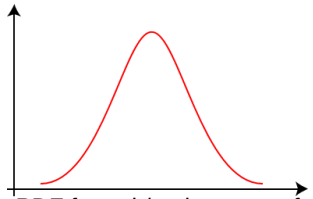
Indirect Allocations & Factors



PDF for indirect burdens and allocated costs

Constrained by disclosure statements, FPRAs and Incurred Cost Submissions into a narrow range with equally likely values (closely held info)

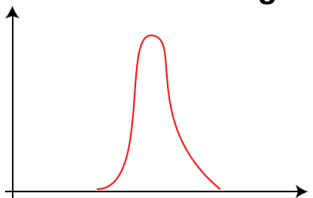
Manufacturing Unit & Lot Costs



PDF for unit/ or lot costs of manufactured parts etc.

Narrow range due to commonality of designs, supply chains and manufacturing processes

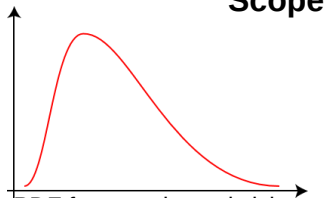
Cost Estimating Relationships



PDF for CER parameters

Narrow range due to increased industry and customer use of CERs, and exponentially growing database of actual cost info

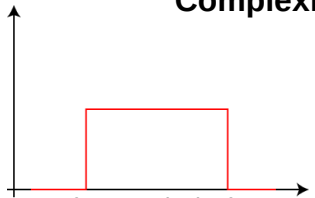
Scope



PDF for quantity and sizing parameters.

Fairly broad range likely with bias to underestimate scope to meet customer requirements

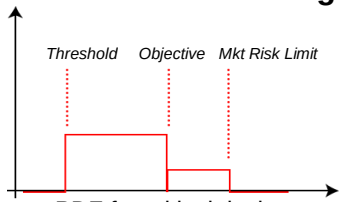
Complexity



PDF for complexity factors (# interfaces, etc.)

Equally likely values within a range driven by extent of prior experience and available legacy solutions

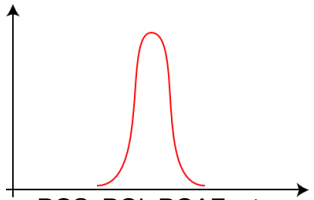
Solution and Program Design



PDF for critical design factors (KPPs)

Equally likely values within threshold and objective KPPs and other requirements; can also be modeled as scenarios

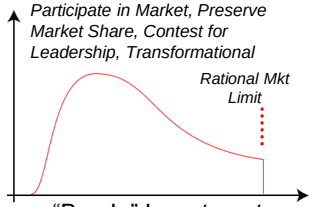
Financial Measures



ROS, ROI, ROAE, etc.

Narrow range due to common industry-wide financial performance expectations (hurdle rates and profit metrics)

Strategic Value



“Buy-In” Investment

Wide range of likely values due to lack of transparency in unique firm strategies, particularly in a recessionary environment

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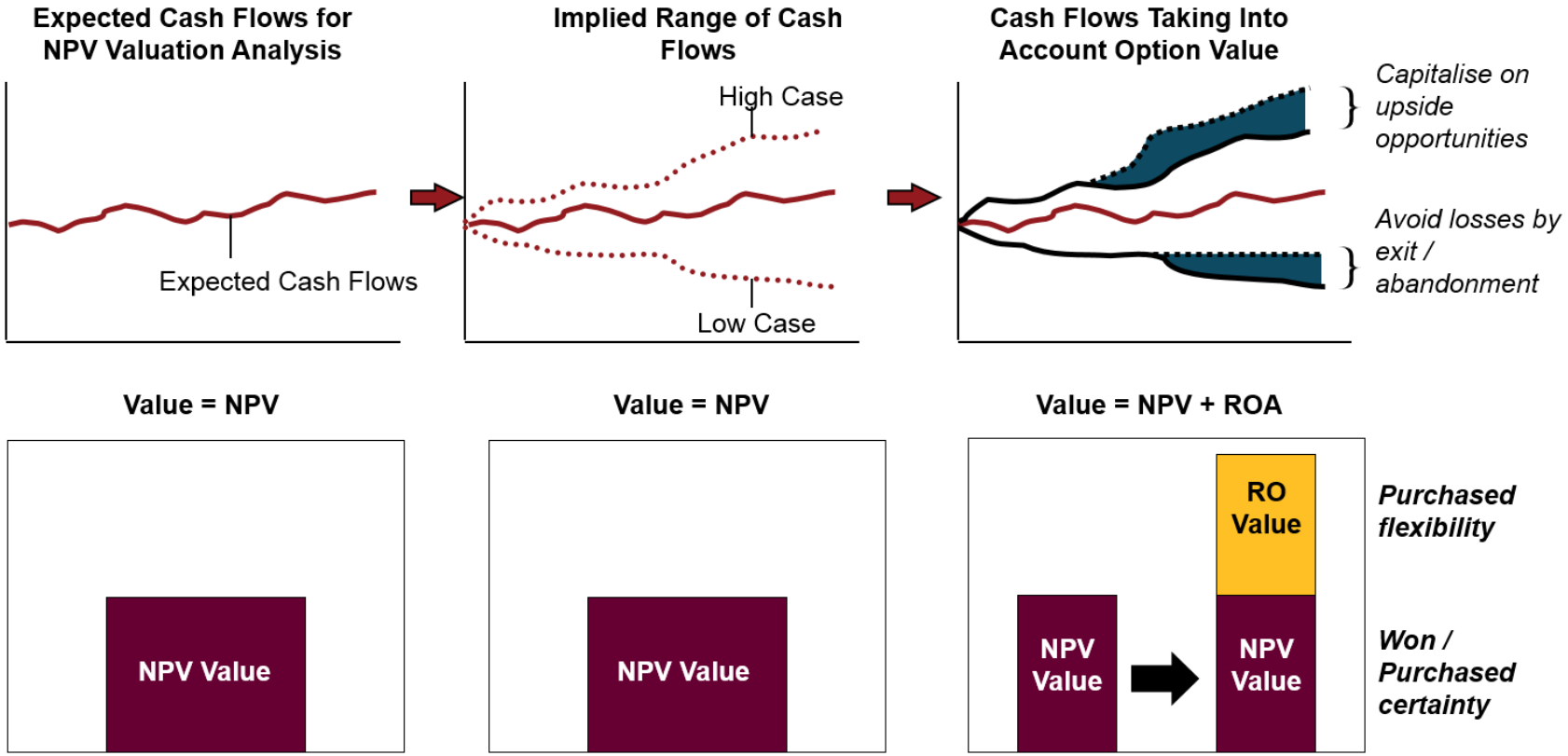
Strategic Value as Optionality (Real Options Analysis)

Similar to financial options, real options are “purchased” to create future value: “Buying-In” creates future value beyond the cash flows of the current project as purchased options to participate in future programs, protect profits from a market franchise, and can create flexibility in other on-going programs—all sources of value ignored by project NPV assumptions of certain future fixed cash flows.

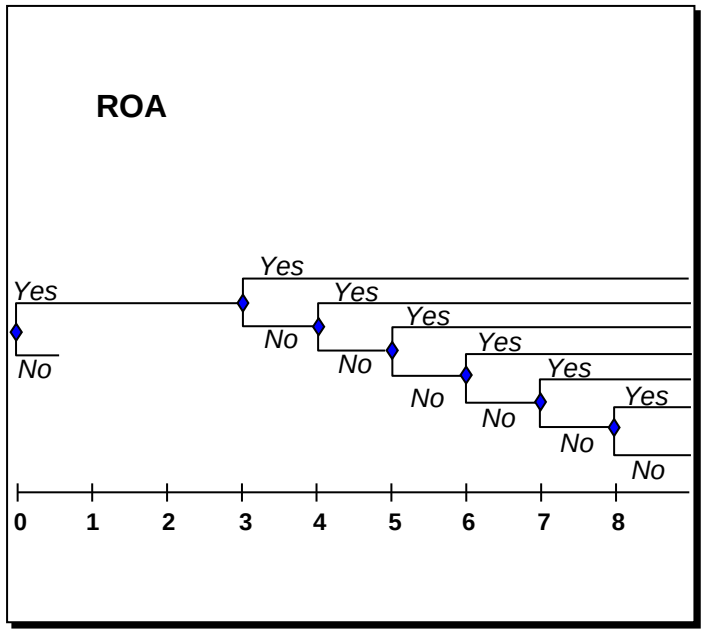


Real Options Analysis Captures Flexibility

… that even a “refined” Net Present Value analysis cannot

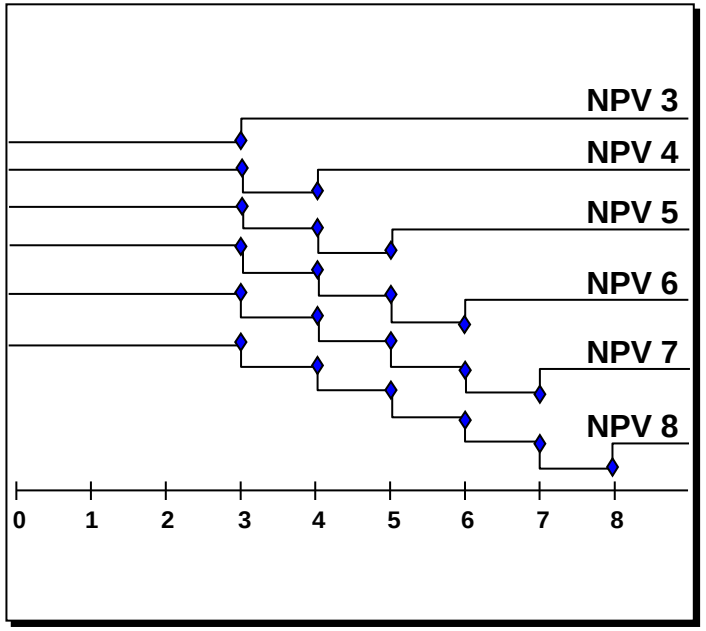
- Incapable of incorporating flexibility for future managerial decisions, traditional NPV approach must treat each sequence of possible decisions as a separate project and value each alternative
- Even the largest positive NPV, obtained in this way, usually fails to capture the true value of managerial flexibility

Future Decision Chain



ROA ≥ Max (NPV*$_i$)

Required NPV Project / Scenario Decomposition



◆ *Decision Point* * *NPVi — Net Present Value for the i scenario (uncertainties and sequence of decisions)*

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Need for a New Approach

Past approaches only offer an incomplete view to confidently predict competitors' pricing strategies in today's environment.

- New emerging business norms being applied across different procurement types are altering the drivers of pricing strategy and their relative importance
- Competitors are embracing strategies that diverge from those used in the past
- Point PTW solutions can not be relied on because of numerous uncertainties in today's market environment and competitive landscape
- Hypercompetitive environment is driving pricing strategies towards the extreme, many times based on firm-unique imputed strategic value of winning emerging as a new norm
- Assumptions implicit in historical data and conventional approaches may no longer be valid

Principles of a New Approach

Reflect Firm-Unique Strategies and Competitive Context	• Genuine strategic choices of the competitor that drives pricing strategy • Testable hypotheses and conditions associated with strategy choices • Observable indicators from competitor and customer behaviors to continually assess fidelity of PTW solution
Acknowledge Estimating Errors	• Insight into fidelity and limitations of PTW solution • Account for key estimating errors as confidence curves for PTW solution • Scenario based solution trade space when insufficient information to predict estimating errors
Analytical Basis for Strategic Value	• Analytically derived from data instead of inferred from limited expert knowledge and guess-work • Calculate strategic value from different sources gained from winning the competition • Observable and measurable (event-based) as new information is learned through the pursuit
Integrative Synthesis	• Consistent approach to reconciling multiple, potentially divergent approaches • Incorporate the best of each approach by integrating across common factors • Reliably capture the known unknowns

Consider

- Framework for evaluating suitability of PTW approaches and tools based on procurement type and competitive context
- Competitive Assessment based on structured analysis of strategic choices to impute baseline strategy of each competitor
- Scenario-based thinking to capture key uncertainties common across all competitors
- Proven statistical modeling techniques (e.g., double loop Monte Carlo simulation) to develop confidence bounded PTW solutions
- Real Options Analysis estimate of strategic value (“buy-in” investment)
- Bayesian maximum likelihood estimates, multifactor analysis and other techniques to integrate across approaches