Cost and Competition in U.S. Defense Acquisition

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What is a “just and reasonable” price?
Will Cost

- Will cost estimates
  - Parametric
  - Analogy

- What are the potential issues?
  - “This approach builds in, and indeed amplifies, mistakes and inefficiencies of the past in establishing prices for new procurements... cost estimates for the new generation of fighter aircraft, the F-14 and F-15, are heavily influenced by cost experience on the F-111, which is highly suspect to say the least.”
    - Earnest A. Fitzgerald
Potential Implications of Will Cost


Fortunately, today’s fighter aircraft unit costs are not $1 billion...
Should Cost

- Should cost estimates
  - Engineering Build-up
  - Actuals
  - Innovates production, not just describes

- Also includes industrial and cost auditing procedures:
  1) plant layout;
  2) labor standards;
  3) material control;
  4) machine loading and utilization;
  5) production scheduling;
  6) make-or-buy practices;
  7) subcontracting procedures;
  8) quality control procedures;
  9) indirect cost controls and allocations;
  10) accounting and cost estimating procedures
Costing Methodologies

- Gilbert Fitzhugh

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Cost of Production

- **Will Cost and Should Cost** as techniques for determining Marginal Cost

- **Marginal Cost**
  - Dollar outlays required to produce an incremental unit of output
    - Price = Marginal Cost maximizes profits and social welfare
  - Labor and Material inputs
    - Attached money outlays (Thirlby)
  - Objectively measured
    - Deer vs. Beavers (Smith)

- **Take away**: Marginal Cost as foundation for a “fair and reasonable” price
Why Marginal Cost?

- Marginal Cost
- Demand
- Marginal Revenue
- Monopolist Price (not = MC)
- Competitive Price (P = MC)
Assignment of direct costs
- WBS / CLIN / Contract
- Standard Cost (2” x 4”)

Allocation of overhead costs
- Capital goods, training, IT, depreciation, etc.
- ABC

Take away: Accountants, auditors, cost estimators work in ambiguity
But Price Depends on Subjective Valuations!

- Non-monetary costs of production
  - Fixed supply
  - Irksomeness
  - Skill

- Price depends on MC and consumer demand
  - Costs divorced from benefits
  - Incommensurables
  - Uncertainty and timing (Coase)

- Take Away: MC neglects foregone alternatives
  - FBM (Sapolsky)
Can you check efficiency with MC rule?

- Failure of the “Whiz Kid” Systems Analysts
  - Could not reliably assign benefits (uncertainty and incommensurables)
  - Could not determine relevant alternatives
  - Returned choice of program requirements to military

- MC as administrative rule
  - Any check on efficiency? (Standing orders)
  - Should plan have been selected at all?
  - Cost growth obsession

- Take Away: No check on efficiency possible following MC rule
  - Under uncertainty and thin markets
Accounting Applications

- Rise of intangibles
  - Investor’s problem (Haskel, Lev)
    - Uber vs. GE
  - IT, IP, and Org
    - Scalable, Synergy, Spillover, Sunk
  - Decline of direct costing

- Take away: More info needed
  - Equity analysis, not cost and revenues
Can we know a “just and reasonable” price?
- Maybe, under unrealistic assumptions
- Price discrimination
  - Airfare, printer/ink, education

A challenge for cost analysts
- Input prices → output value, or expected value → input prices?
- Do we know our choice before the act of choosing?

Take away:
- Should cost estimators do life-cycle costing of pre-defined program plans?
  - Support a predictive science
- Or, should cost estimators help assess incremental cost/valuation decisions while “stepping into the dark”?
  - Support the logic of choice
Thank you!
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