



# Cost and Competition in U.S. Defense Acquisition

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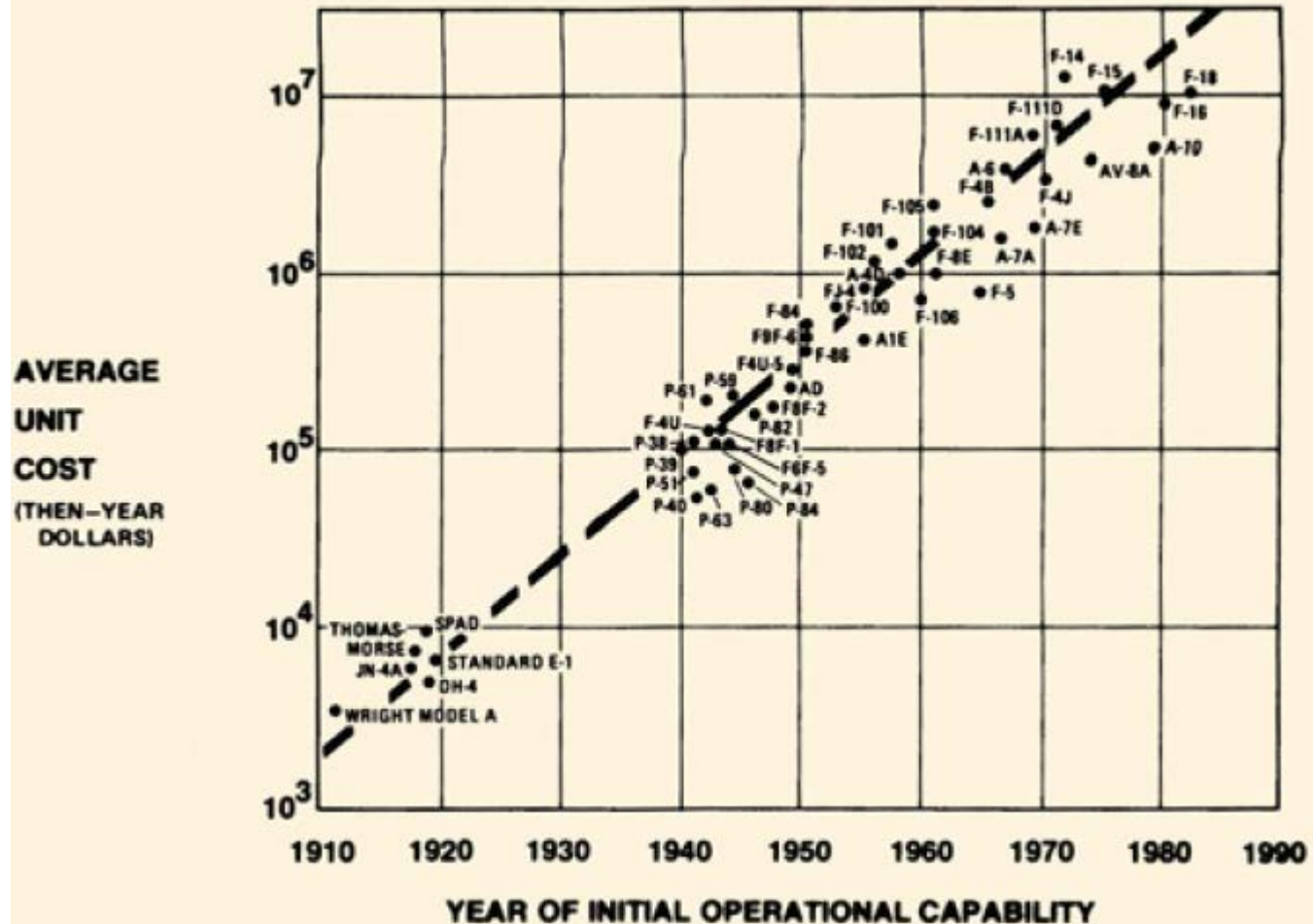
- What is a “just and reasonable” price?

# 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

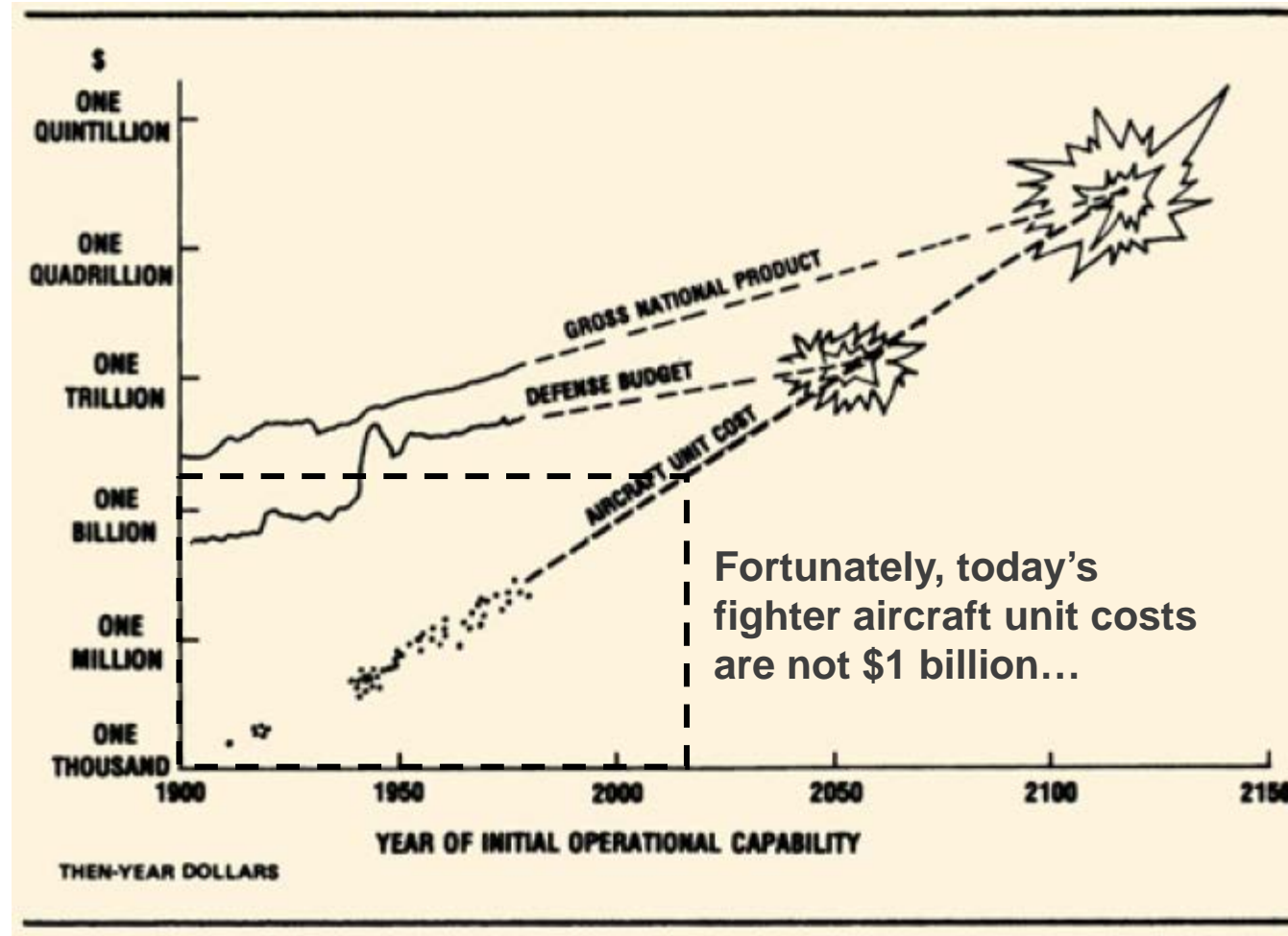
# Inter-Generational Cost Escalation

**FIGURE 10**  
**Trend of Increasing Cost of Tactical Aircraft**



Augustine, Norman R.  
“Augustine’s Laws and  
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# Potential Implications of Will Cost



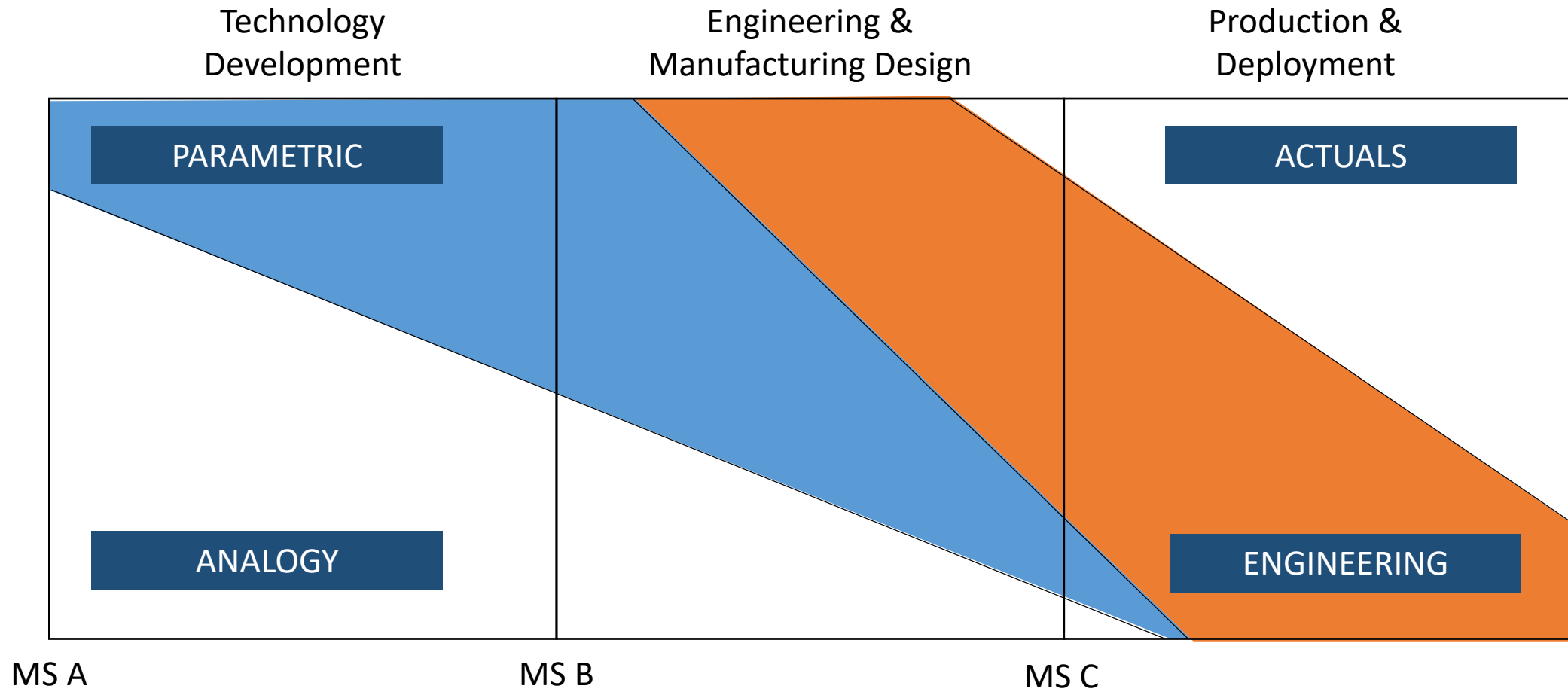
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# Should Cost

- 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



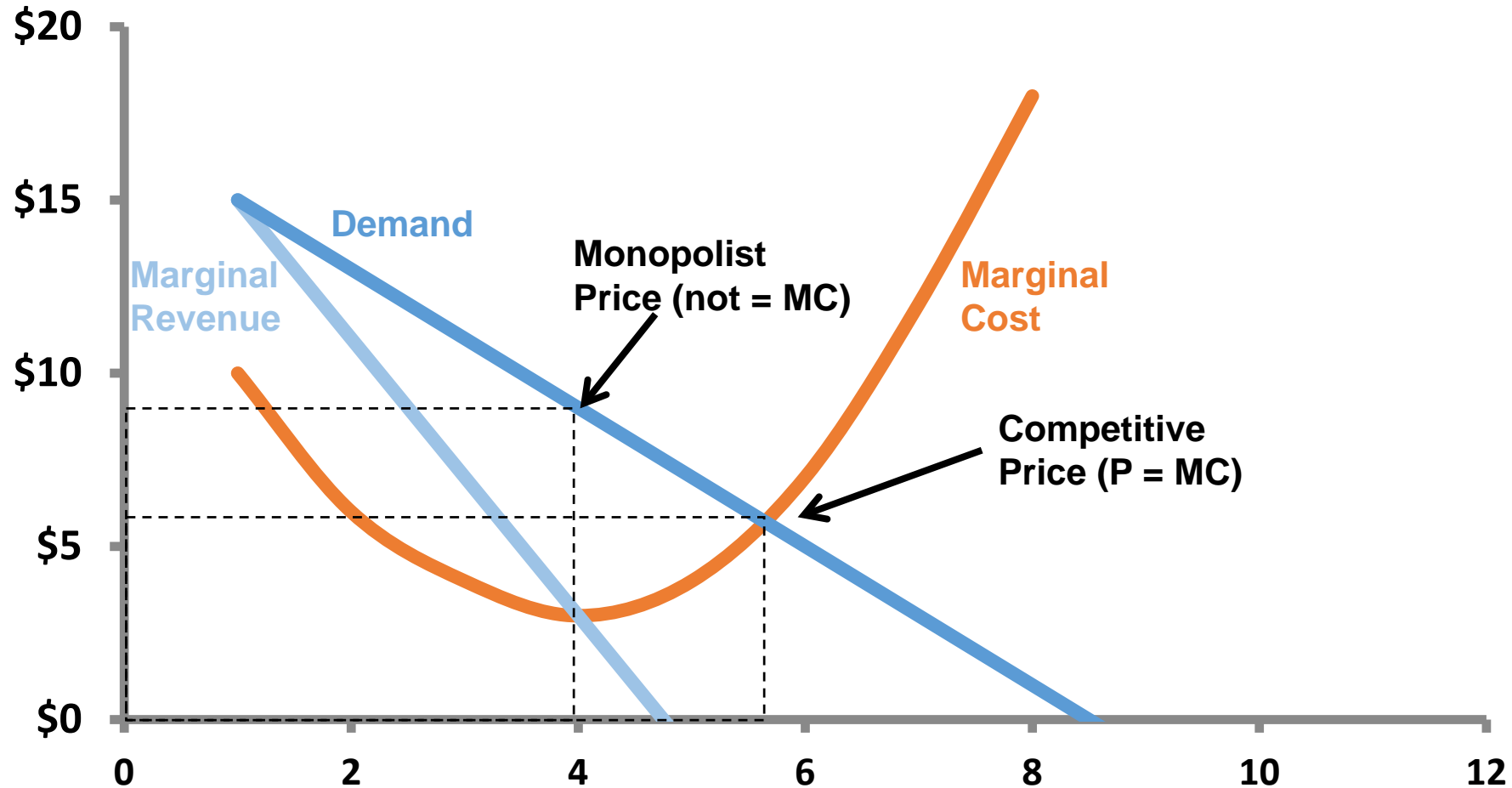
- Gilbert Fitzhugh

# 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?



# Is Marginal Cost Objective?

- 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

# Conclusion

- 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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