ECONOMICS OF EUROPEAN DEFENCE POLICY AND JOINT PROJECTS

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DEFENCE ECONOMICS

- **Definition:**
- Economic study of War and Peace
- Contributions:
- Wars are COSTLY – Money and Lives
- Economics of Terrorism – important contribution
- Substitution effects: control aircraft highjacking = more assassinations/bombings

OVERVIEW: General Principles for Defence Policy

- Final Outputs and NOT Inputs
- Substitution: Alternative Solutions
- Role of COMPETITION

Principle I. FINAL OUTPUTS

- Emphasis on INPUTS is wrong: Numbers of soldiers, sailors; aircraft and tanks are less important

- Focus should be on Final Outputs in form of peace, protection and security of nation's citizens

- Also emphasis on INCREMENTAL changes: impacts for output of small changes: either slightly larger or smaller (10% change) numbers of tanks, warships and aircraft

Principle II. SUBSTITUTION

- There are ALTERNATIVE methods of achieving protection and security

- Examples: Nuclear forces can replace conventional forces
- Reserve forces can replace regular forces
- Helicopters can replace tanks
- Drones can replace manned aircraft

Principle III. COMPETITION

- Competition in form of rivalry and contestability promotes efficiency
- Defence offers massive opportunities for introducing competition into protected defence markets
- Examples: allowing private contractors to bid for activities traditionally undertaken by ‘in-house units
- Promoting competition between army, navy and air force: army with land-based cruise missiles competing with air force for strike roles
- Contractors providing training for military personnel; contractors providing air transport and air refuelling operations

PROBLEMS

- **TWO**

- Lack of OUTPUT Measure: valuing defence output: QALYs/PALYs

- Costing Conflict eg. Nazi occupation of Europe in WWII
  Ukraine conflict
  We can cost losses to infrastructure/equipment
  Loss of freedoms; refugees; starvation??

RIVALS: Scale of Problem

2020 data: arms sales (US$ millions)

Lockheed Martin: 58,210
BAE Systems: 24,020

Top 25 EU arms firms: average sales: 4,290

Top 25 US arms firms: 105,888 = X25 larger

The Future: Augustine and Unit Costs

- High technology weapons: stealth; drones; unmanned systems
- Inter-generational cost escalation. Rising unit costs over time (real terms). Example: combat aircraft unit costs rise by factor of four every 10 years
- Rising costs lead to smaller and decreasing volumes. Example:

  Hawker Hunter (1955)=1,000 RAF aircraft; Typhoon (2021) = 160 units (UK)

  By 2054, rising costs lead to purchase of ONE aircraft – Battlestar Galactica OR single tank army/single ship navy/ Starship Enterprise

Humour v Reality?

- Reality: claims taken seriously
- Recent Evidence: doubts about original Augustine claims
- Unit prices have not increased by factor of 4 every 10 yrs
- Unit costs will NOT overtake the defence budget but combat aircraft will become more expensive and volumes will continue to fall
- Focus on rising costs fails to recognise **OUTPUT** implications of new technology
- Trends are not causation

Principles for EU Defence Policy

- Final Outputs NOT Inputs
- Substitution
- Competition
- PLUS. Pursue benefits of collective action
- Examples: Sharing purchase of costly assets

  ABM defence; Strategic Transports; Satellite systems

PROBLEMS: Trust; Free riding

Aircraft as Decreasing Cost Industry

- Aircraft is decreasing cost industry
- Decreasing costs reflect scale and learning economies. Examples
	UPC index end contract	ULC index end contract
Hurricane (1938):	57	37
Hunter (1955):	83	71

Augustine and Future of DIB

- **Features:**
- High Technology
- High and rising unit costs
- Small and declining volumes
- **RESULTS**
- Smaller DIB: employment/fewer production plants
- Technology intensive
- Fewer opportunities for learning

JOINT PROJECTS

- **Economic Theory**: Two Nation Case of equal size
- Sharing development costs (50/50): Savings in R&D
- Pool production orders: scale and learning economies: savings in unit costs

THEORY v REALITY

- Inefficiencies in Development and Production
- Causes: work sharing based on politics and not economics
- All partner nations require share of high technology work and production
- Share of airframe; engine; avionics
- Duplicate final assembly

Proposals for Efficient Joint Projects

- Allocate development work on basis of competitiveness and not politics
- Production work on basis of single production line for scale and learning economies.
- Examples of successful collaborations:
- Airbus model: mostly civil aircraft
- F-35 model

CONCLUSIONS

- Cost escalation: continuously rising unit costs and limited defence budgets
- Higher technology and smaller volumes
- Need for difficult choices: something has to go: what goes in European Armed Forces and EDTIB?
- EDTIB: Problems of gaps in development/production work
- Can Europe afford both UK Tempest and French/German FOAS?
- Future is uncertain: no one can predict it accurately: likely to be wrong!!!