

Defense Transformation: Concepts and Affordability

Jack Treddenick
George C. Marshall Center

DRESMARA
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The Present Challenge

- Information age and globalization
- New strategic environment
- New operating environment
- New warfighting concepts
- New warfighting technologies
- Defense transformation
- Affordability

Coming to Terms With Terms

- Defense reform
- Modernization
- Revolution in military affairs
- Transformation

New Strategic Environment

- New players
- Expeditionary operations
- Multilateral operations
- Casualty averse
- Asymmetric warfare
- Stability operations
- Nation building
- Information operations
- Cyber warfare

New Operating Environment

- More complex
- More uncertain
- More volatile
- More dangerous

21st Century Forces

SURPRISE!

21st Century Forces

AGILITY!

New Warfighting Technologies

- Precision-guided weapons
- Stealth
- Space assets
- Remote sensing
- Unmanned platforms
- Increased lethality of munitions
- Rapid air and sea deployability
- Computer networks



C4ISRT

- *dissipating the “fog of war”*

- Command
- Control
- Computers
- Communications



- Intelligence
- Surveillance
- Reconnaissance
- Targeting

S2PL

– *surprise, economy, accuracy, effectiveness*

Speed

Stealth

Precision

Lethality



Dominant Maneuver

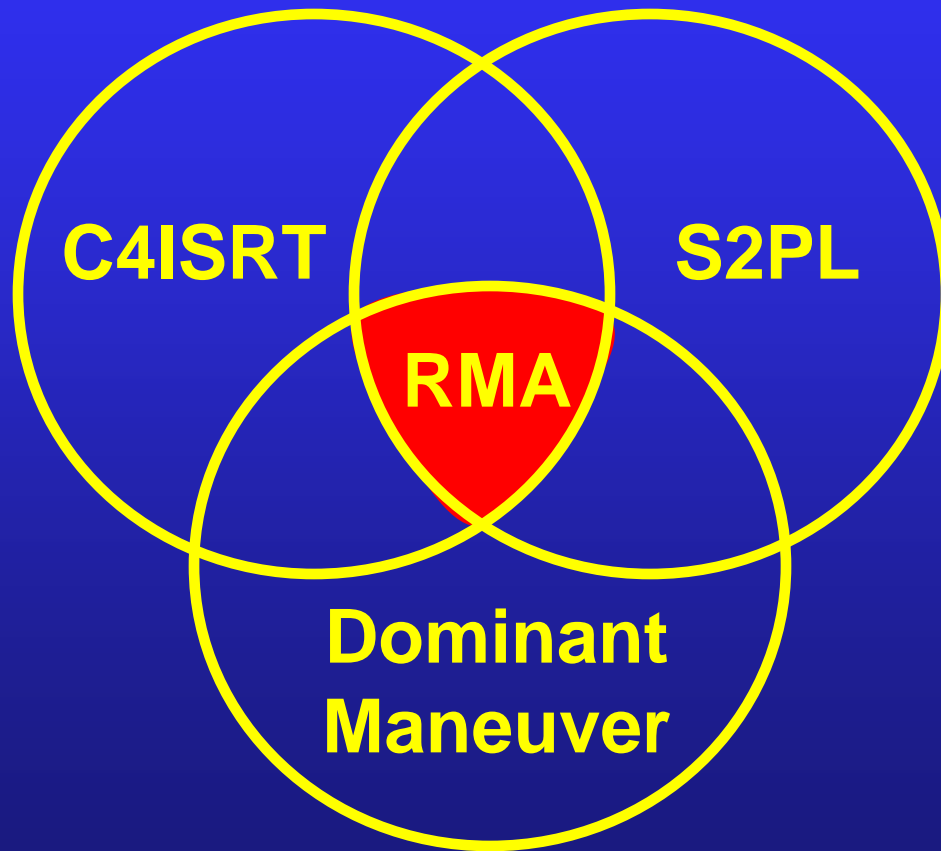
- **Strategic maneuver:** the capacity for force projection



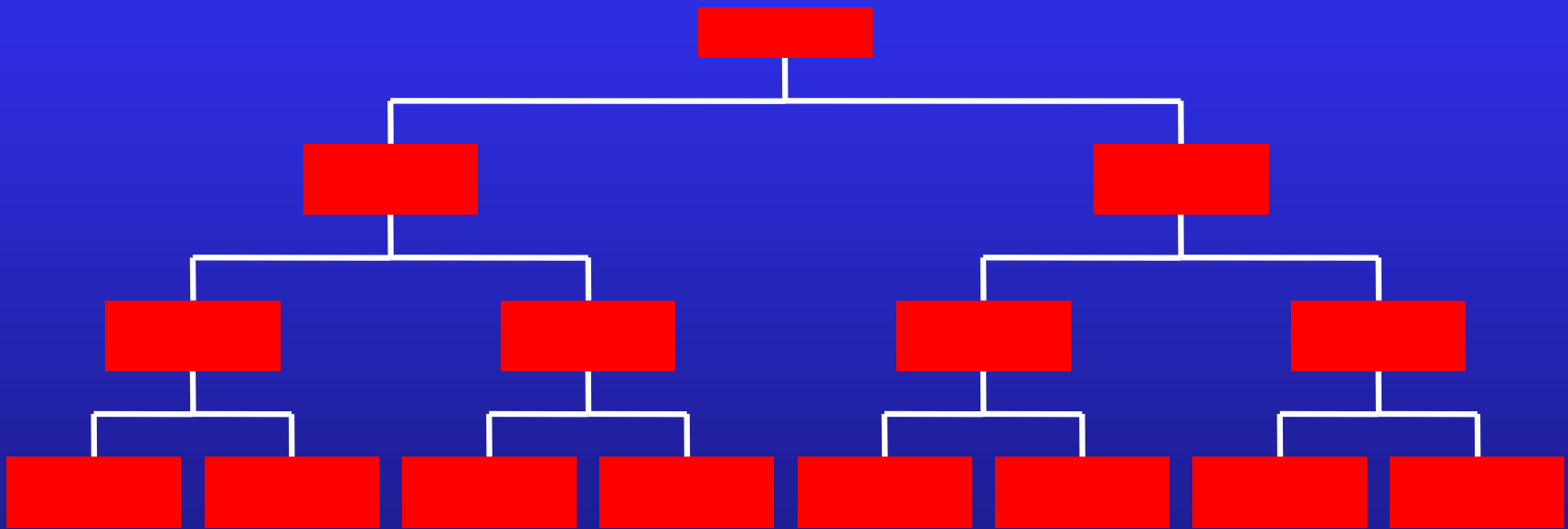
- **Operational maneuver:** the capacity for deployed forces to gain positional advantage with decisive speed and operational tempo



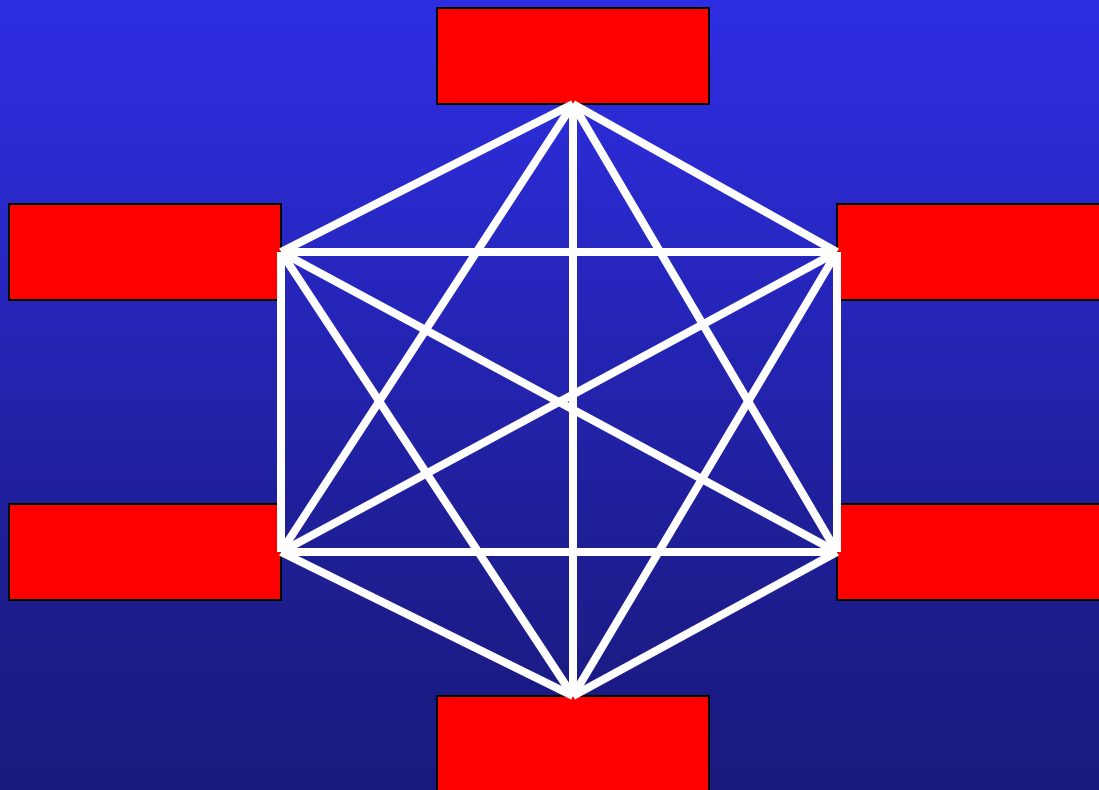
Elements of the Current RMA



New Warfighting Concepts - *from hierarchical command and control*



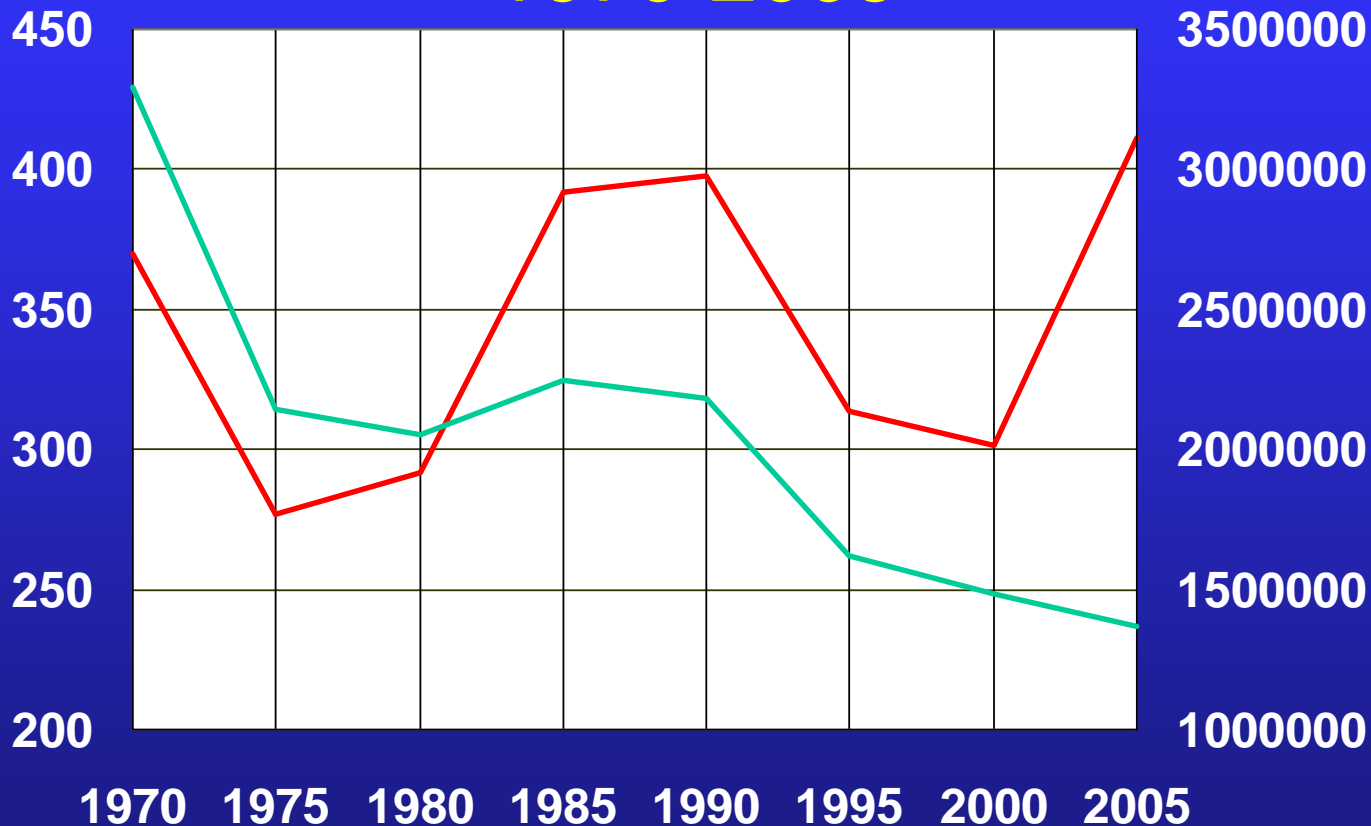
- to robustly networked command and control structures



Transformation

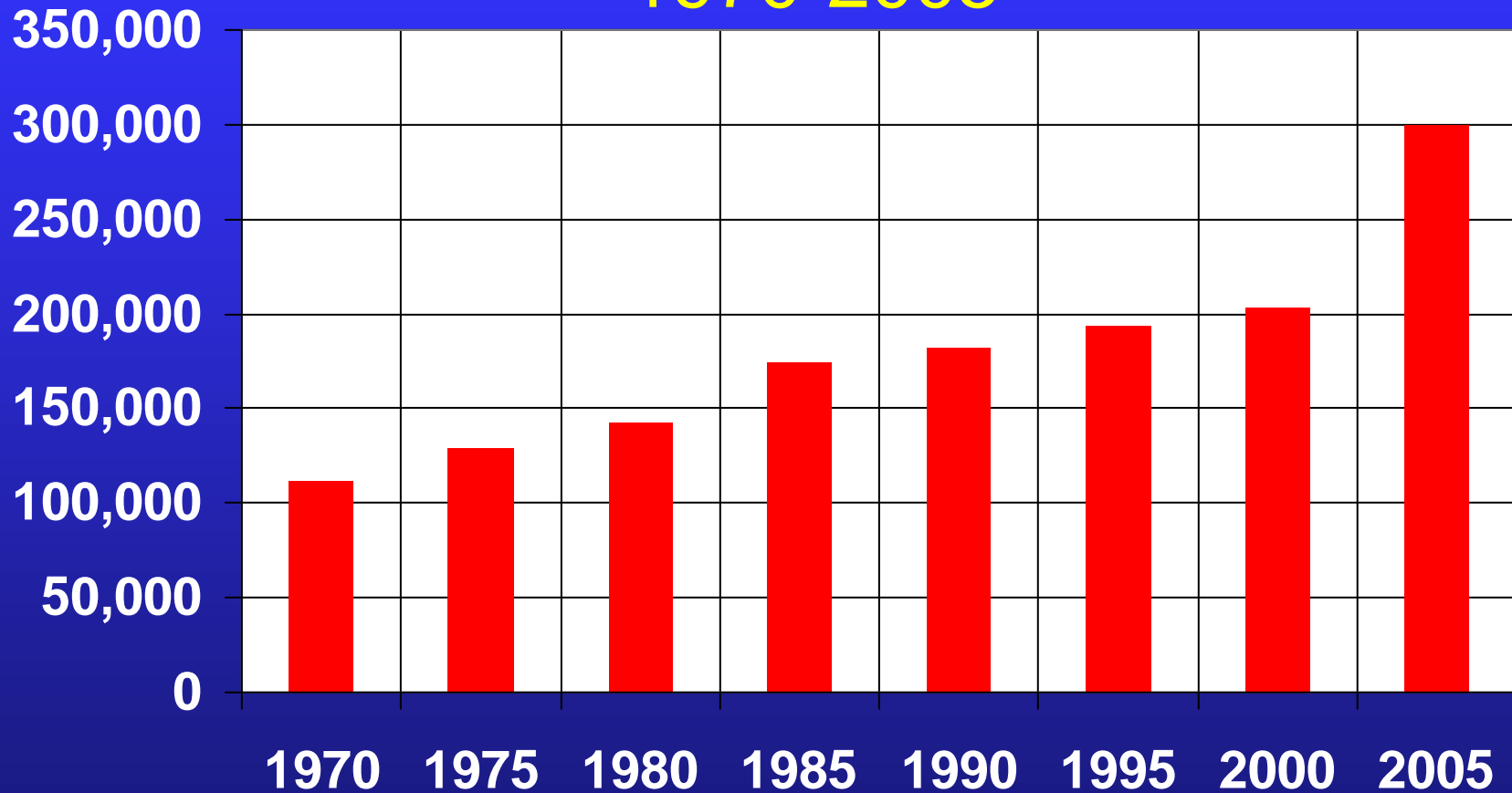
- Emphasizes lighter, more deployable, more precise, more lethal forces.
- Exploits IT for networking forces.
- Implies smaller, more entrepreneurial units, not necessarily smaller forces.
- Requires significant investments in mobility, communications and precision weaponry technologies.
- Will be expensive.

US Defense Expenditure and Personnel Strength 1970-2005



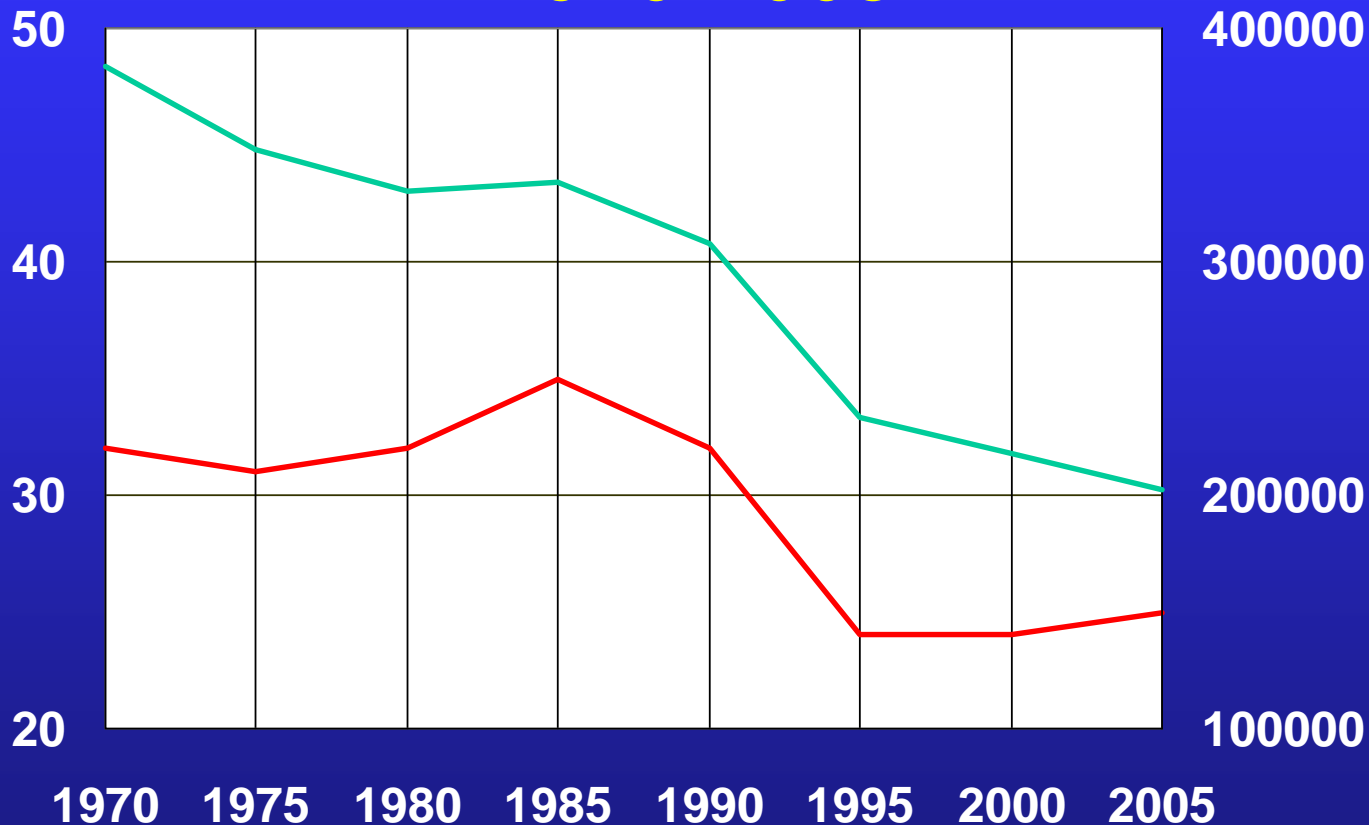
- Expenditure \$b2000 (left scale)
- Personnel Strength (right scale)

US Per Capita Expenditure (2000\$) 1970-2005



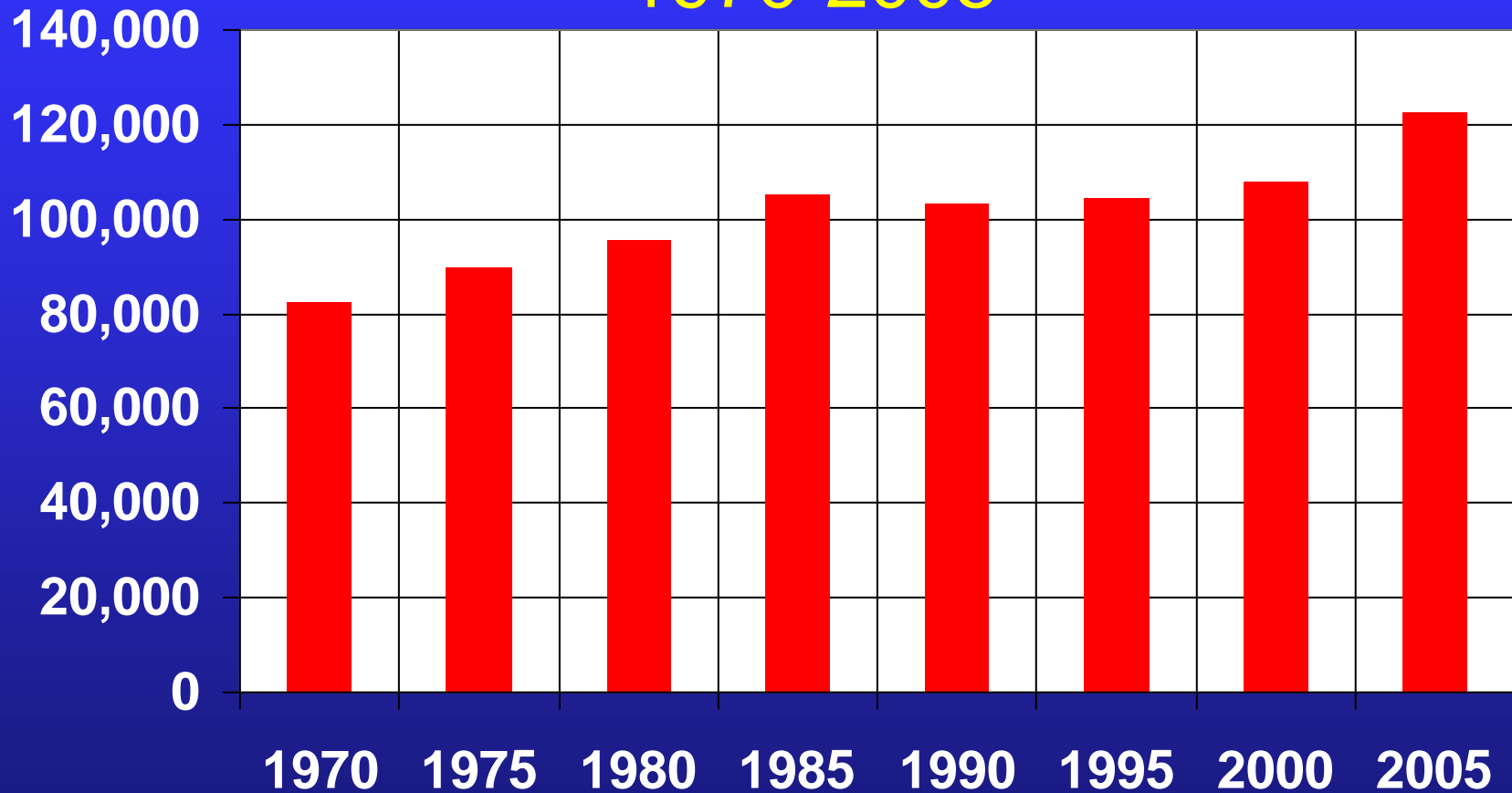
(Per capita expenditure = Total expenditure / Personnel strength)

UK Defense Expenditure and Personnel Strength 1970-2005



- Expenditure \$b2000 (left scale)
- Personnel Strength (right scale)

UK Per Capita Expenditure (2000£) 1970-2005



(Per capita expenditure = Total expenditure / Personnel strength)

Affordability Benchmark

Transformation is affordable if a nation's non-personnel defense spending per member of the active armed forces is at least equal to that of the United Kingdom on a purchasing power parity basis.

Per Capita Non-Personnel Expenditure

- Defined as the total non-personnel portion of the defense budget divided by number of regular force personnel
- Reflects training time and intensity, deployment costs, equipment acquisition, maintenance, R&D
- A *proximate* measure of capacity to transform

Defense Expenditures (2005)

	Defense Expend \$USm	GDP %	Personnel ('000)	Per Capita Expend \$US
UK	52,772	2.4	202	261,248
Canada	12,358	1.1	62	199,323
Netherlands	10,268	1.6	50	205,360
Bulgaria	640	2.4	42	15,238
Romania	1,957	2.0	79	24,772

Per Capita Expenditure

2005
(\$US)

	Total	Pay & Benefits	Non-Personnel
UK	261,248	102,148	159,100
Canada	199,323	91,290	108,033
Netherlands	205,360	101,859	103,501
Bulgaria	15,238	8,335	6,904
Romania	24,772	13,526	11,247

Per Capita Expenditure

2005 (\$US)

	Required Non-Personnel*	Pay & Benefits	Required Total
UK	159,100	102,148	261,248
Canada	174,986	91,290	266,275
Netherlands	160,737	101,859	262,596
Bulgaria	70,346	8,335	78,682
Romania	68,517	13,526	82,042

*Adjusted for per capita income levels and international procurement

Expenditure – constant personnel level

	Personnel (<i>'000</i>)	Required Per Capita \$US	Required Total 2005 \$USm	GDP %
Canada	62	266,275	16,509	1.5
Netherlands	50	262,596	13,130	2.1
Bulgaria	42	78,682	3,305	12.2
Romania	79	82,042	6,481	6.5

Personnel – constant expenditure

	Expend 2005 \$USm	Required Per Capita Expend \$US	Personnel (‘000)
Canada	12,358	266,275	46 (62)
Netherlands	10,268	262,596	39 (50)
Bulgaria	640	78,682	8 (42)
Romania	1,957	82,042	24 (79)

Transformation Uncertainties

- Revolution or evolution?
- Potential peer competitors?
- New vulnerabilities?
- Relevant for MOOTW?
- Information overload?
- Potential for micromanagement?
- Speed equals bad judgment?
- Oversold?

Transformational Priorities

- Thinking
- Learning
- Planning
- Force analysis
- Interoperability: C4ISR
- Mobility
- Precision weapons

*Lots of change, but one
enduring certainty...*

