DEFENSE – INDUSTRIAL INITIATIVES GROUP

CSIS

Health of the Industry

National Defense Industrial Association
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"Strengthening the Core" – Health of the Industry

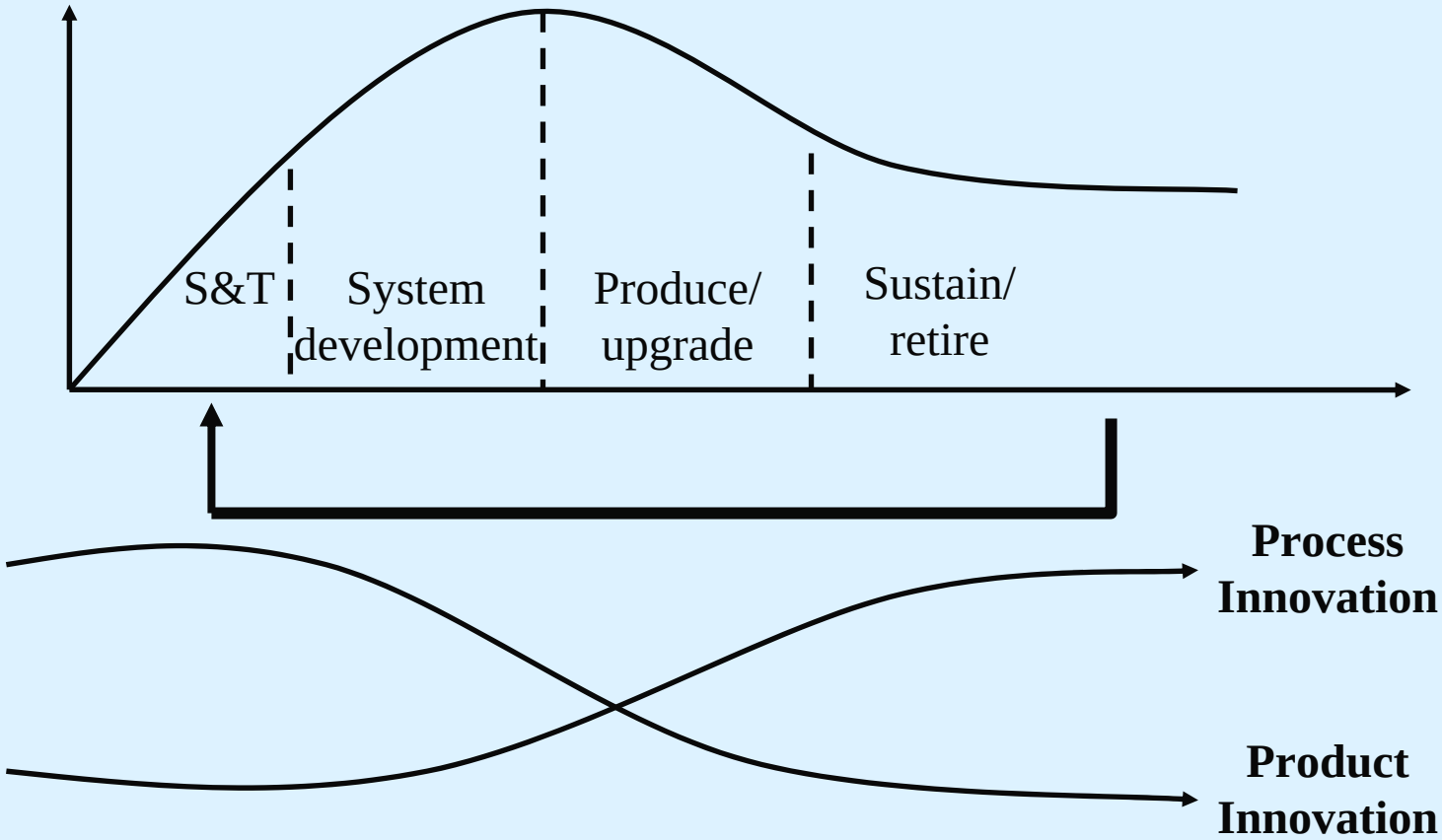
Some Central Principles

- "Is the industry healthy?" the wrong question, cannot give a valid answer – too varied, too complex
- US remains a global power with global responsibilities and faces a wide range of potential threats – full spectrum capabilities needed
- Technological superiority remains a pillar of US strategy/strength
- As long as you have a defense budget, will have a defense industry
- Industry is very adaptable, responds to its environment and survives. The key issue is whether industry's survival strategies match the goals of government policymaker

How To Think Through Complex Set of Industrial Base Issues

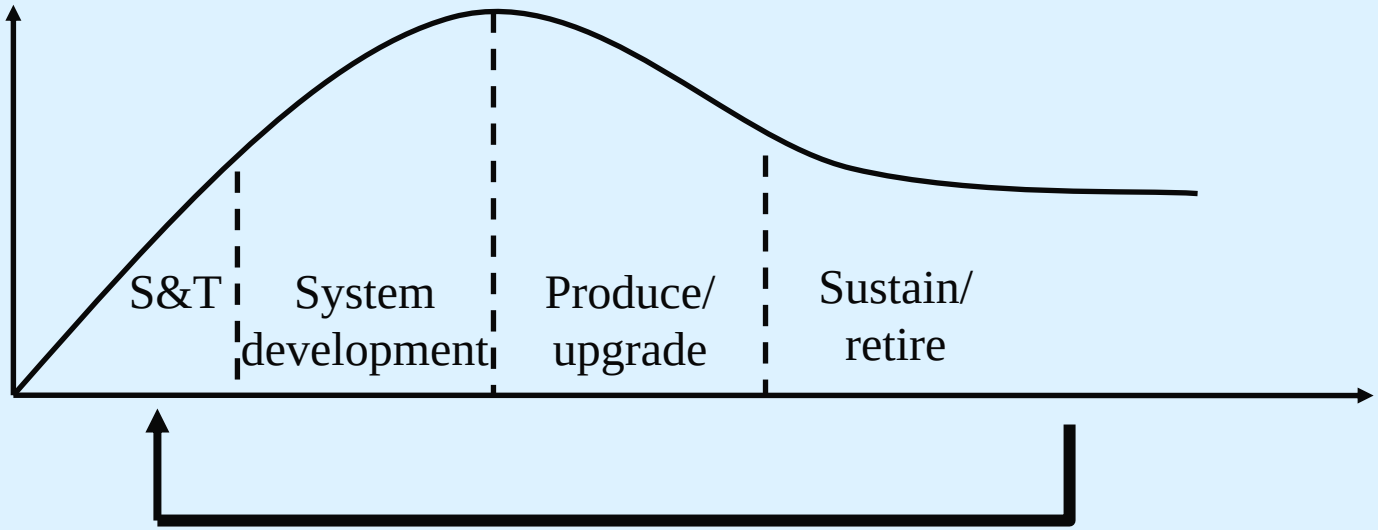
- One size does not fit all
  - Where are you on the industry life cycle
  - What tier
- War versus peace
- Look for the disconnects

From the Industry Lifecycle Standpoint…



- Industry issues “bar belled” – in the S&T and sustain

How To Redeploy Assets To Meet New Threats…

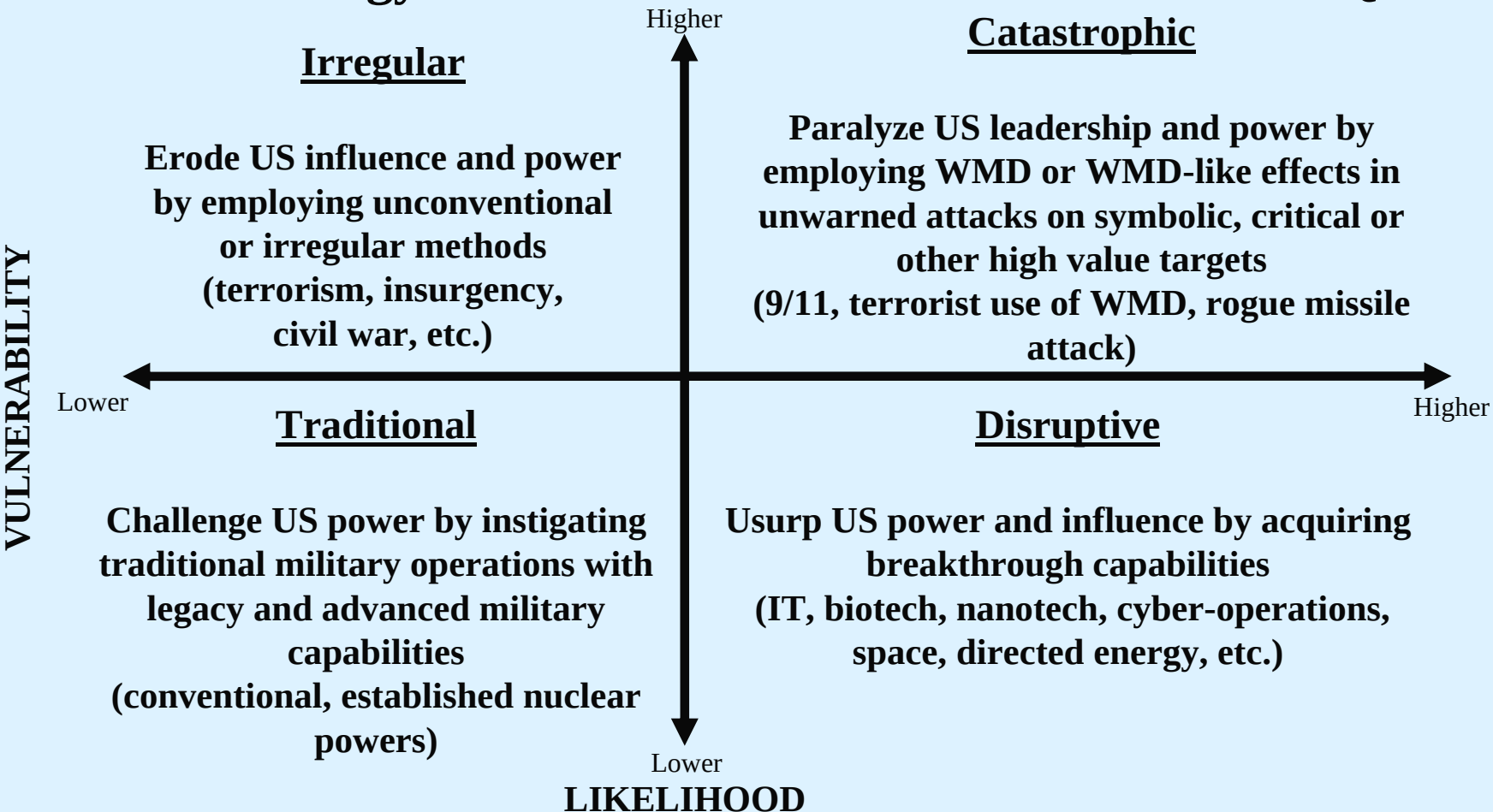


How/where to redeploy assets?

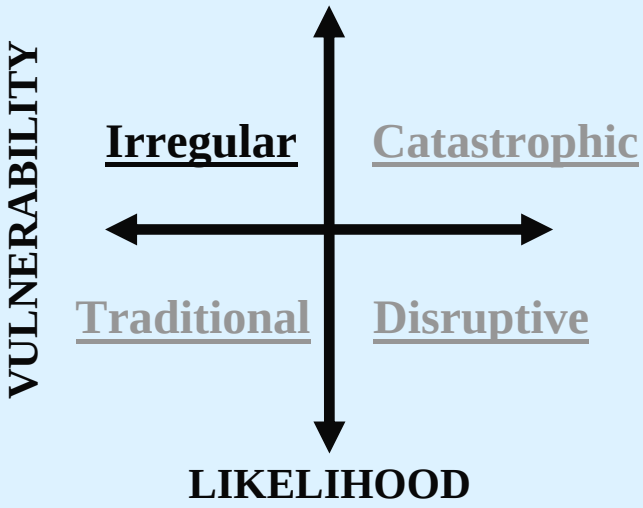
QDR will try to address…

The QDR...

- **First post-911 QDR**
- **Strategy documents created and able to inform QDR**



Irregular Threats...



Historically

- **Solved with Traditional forces**
- **SOCOM ($6.5 billion budget)**

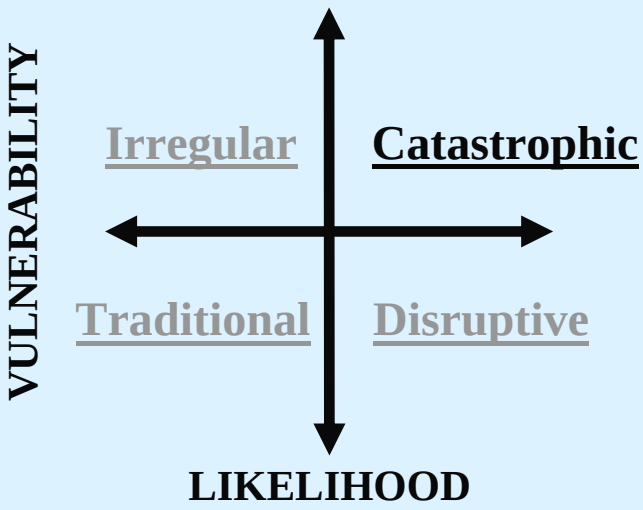
Issues

- **What role for non-military or DoD solutions?**
- **What is the role of allies in manpower intensive tasks?**
- **Are there viable technical solutions?**

Going Forward

- **Expanded SOCOM**
- **Constabulatory forces (new role or new force)**
- **Non-lethal technologies**
- **More precise and discriminating strike technologies**

Catastrophic Threats...



Historically

- Rely on distance
- Rely on intel agencies

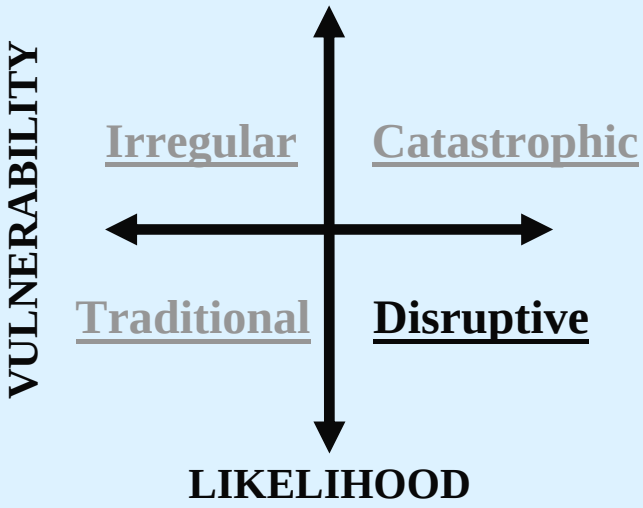
Issues

- What is your strategy – try to prevent/disrupt ahead, try to stop, try to absorb
- What is the role of DoD versus DHS?

Going Forward

- Intelligence (IT, knowledge management, etc)
- Missile defense (Cruise missile defense)
- Sensors (wide and narrow area), security technologies, lot of low tech networked together
- Biodefense

Disruptive Threats...



Historically

- **We've been the disruptor**
- **Addressed with government S&T**

Issues

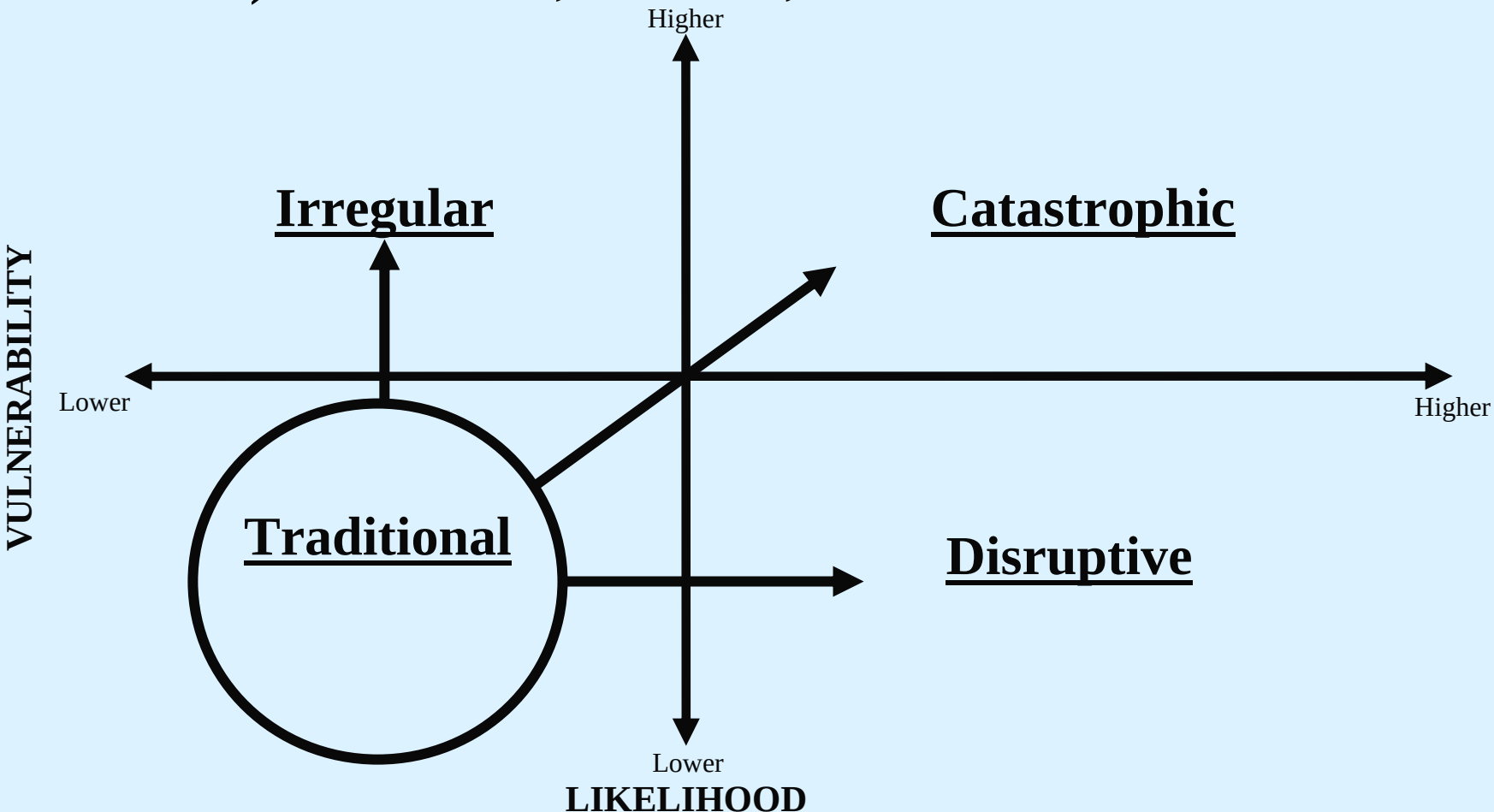
- **Is reliance on harvesting commercial technologies creating vulnerabilities?**
- **Globalization of technology**

Going Forward

- **Smaller, smarter, cheaper weapons**
- **Cyber-operations – targeting single points of failure**
- **Challenge for industry and USG is "Innovators Dilemma"**

The Central Question...

- **How to reallocate a fixed amount of resources ("resource neutral") - how much, to where, etc.**

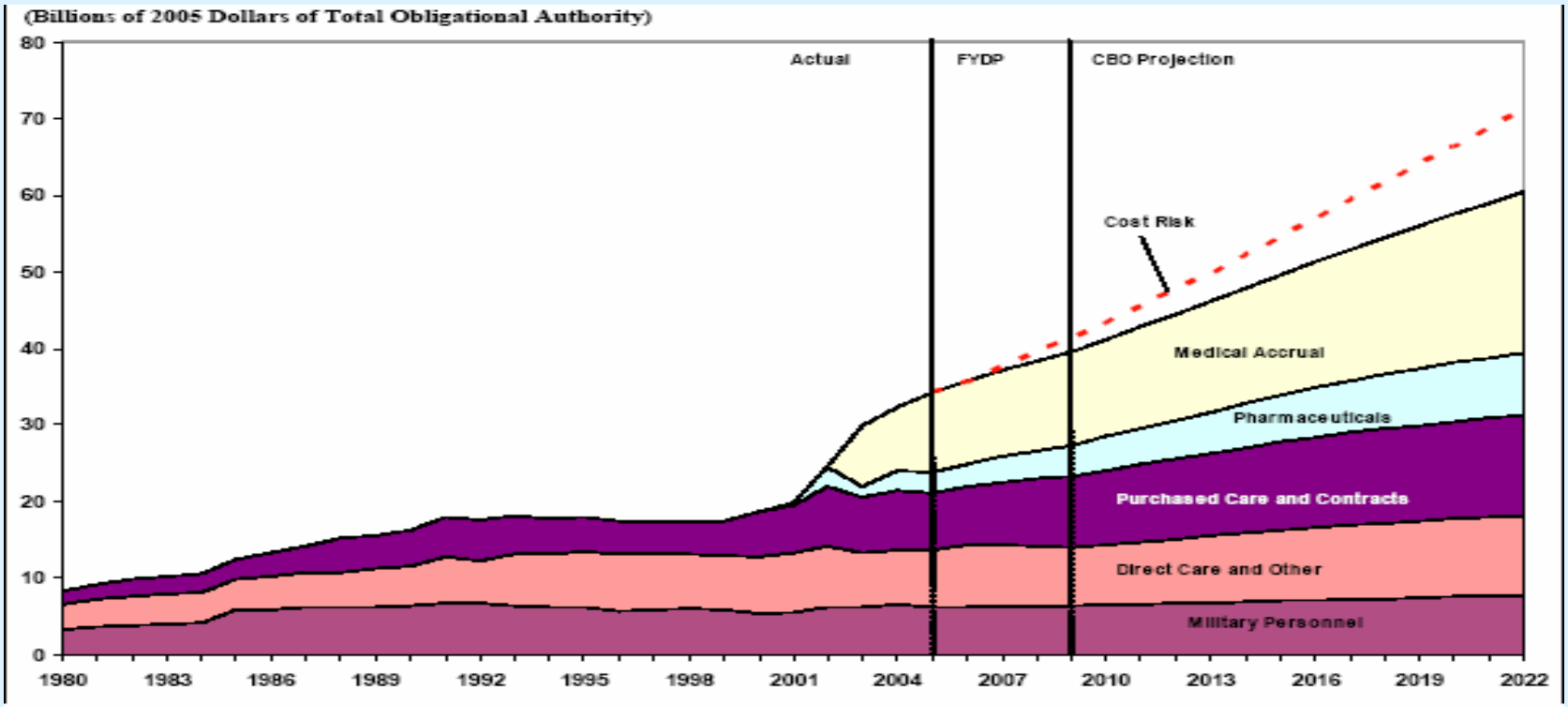


Problem Exacerbated by Pressures On Defense Budget. . .

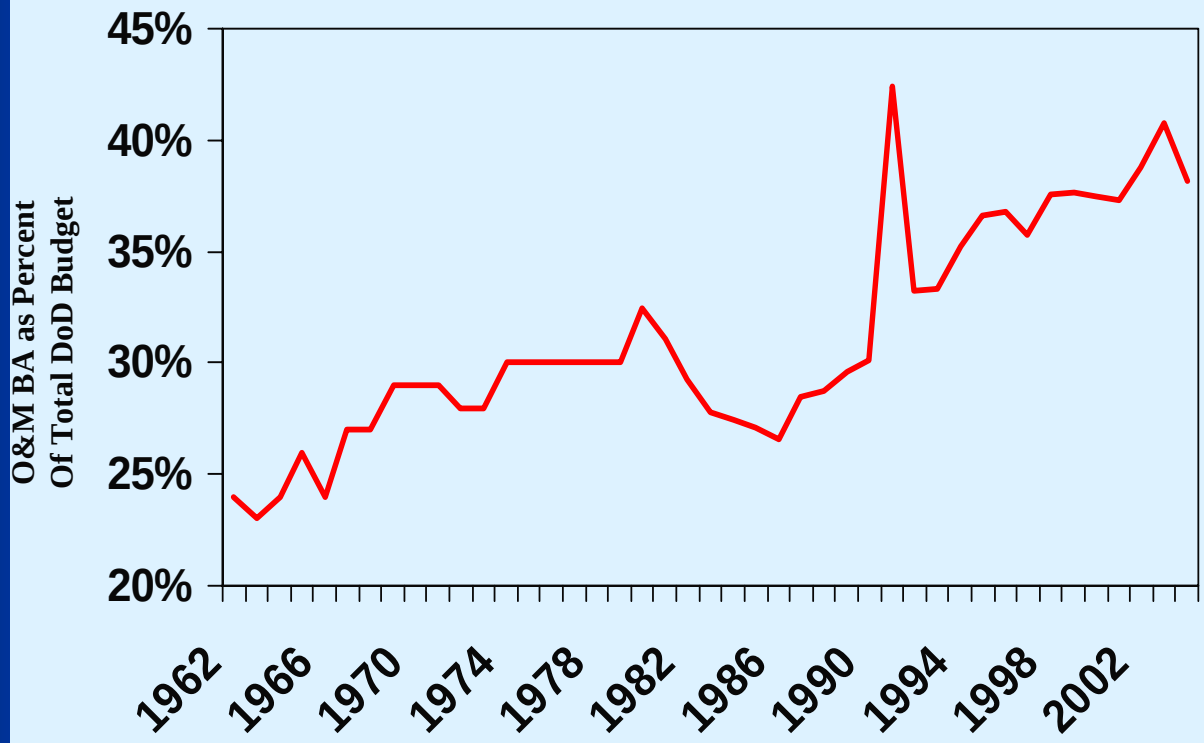
Growth in Personnel Costs ramping up

- **End Strength Growth**
- **Exploding Health Care Costs**

DoD Medical Spending According to CBO



The Operations and Maintenance "Death Spiral" Still With Us

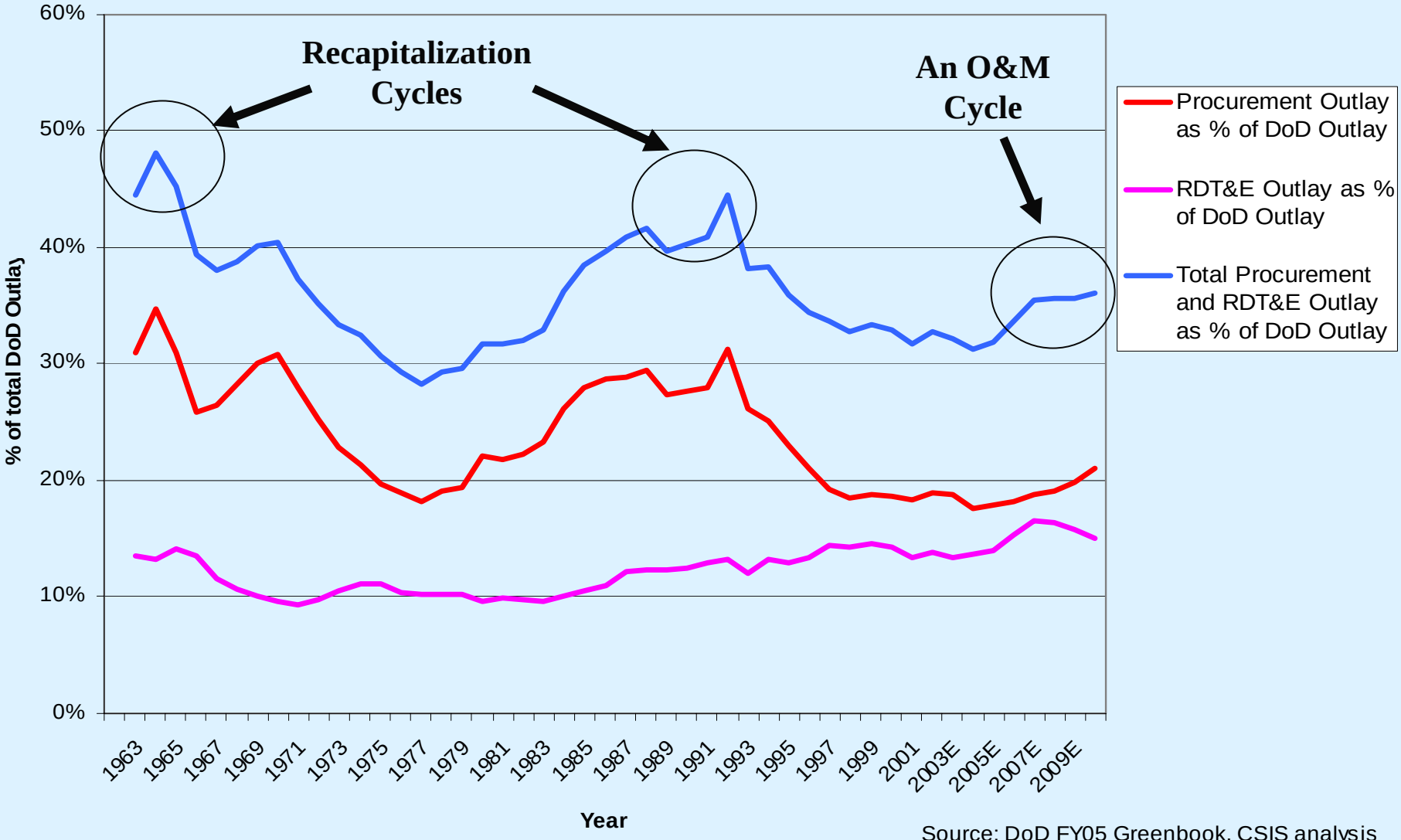


	1990 (Avg Age)	2005 (Avg Age)
Ground Combat Vehicles	~ 6 yrs	~14 yrs
Marine Combat Vehicles	~ 5 yrs	~ 15 yrs
AF Fighters	~ 10 yrs	~ 18 yrs
Navy Aircraft	~ 11 yrs	~ 14 yrs
AF Bombers	~ 21 yrs	~ 30 yrs
AF Tankers	~ 27 yrs	~ 42 yrs
Combat Ships	~ 16 yrs	~ 16 yrs
Marine Helos	~ 17 yrs	~ 24 yrs

- **Old equipment increasingly more expensive to maintain**
- **Iraqi War costs adding to the operations & maintenance bill**

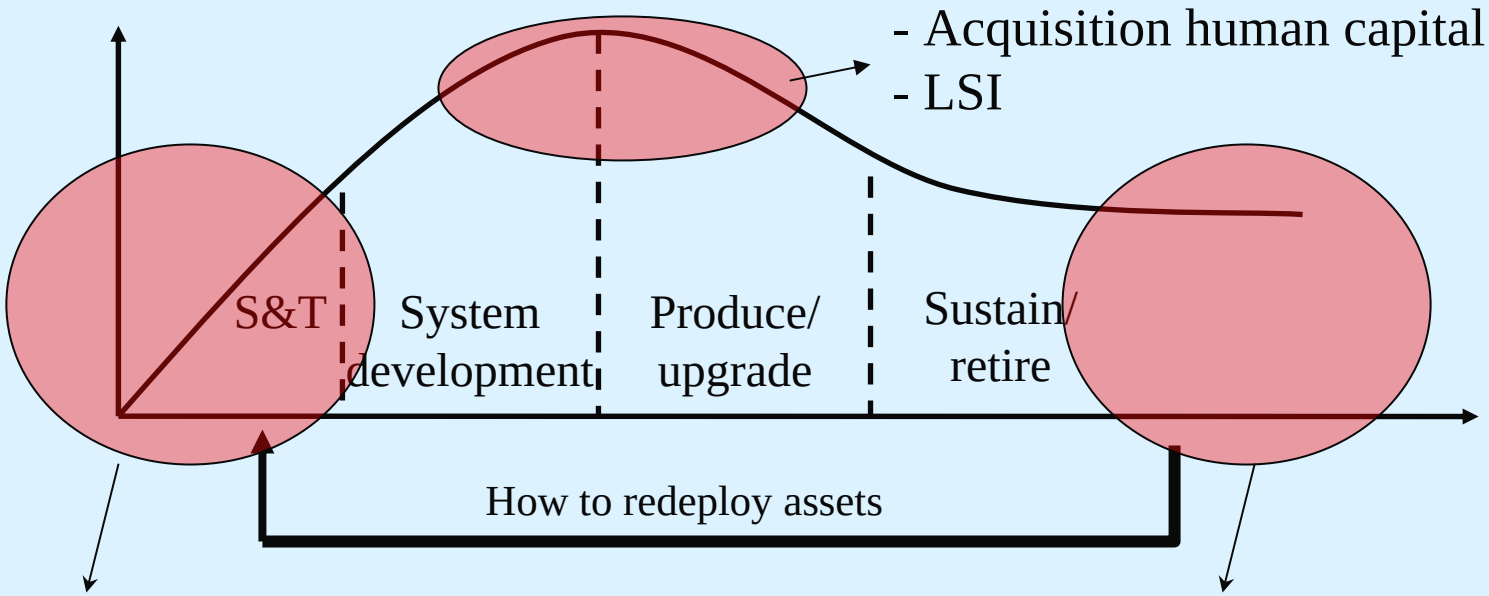
Source: CBO, DoD 2005 Greenbook

This Has Been an O&M Cycle…



Source: DoD FY05 Greenbook, CSIS analysis

From the Industry Lifecycle Standpoint…

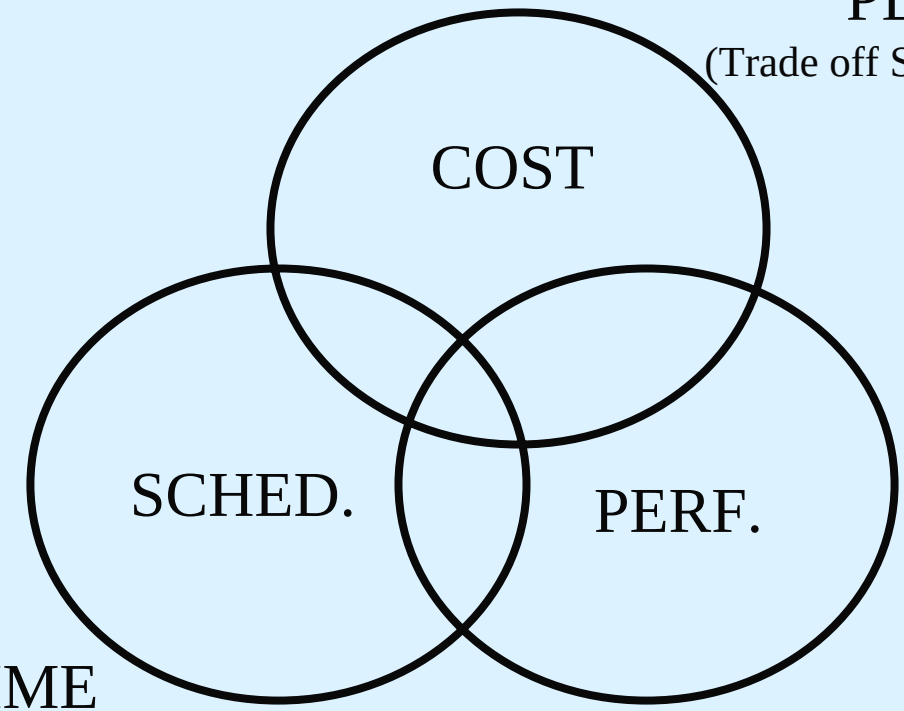


- Drop in S&T/IR&D
- Scientific human capital
- Accessing non-defense tech
- Not enough focus on process innovation – complex systems and software

- Growing single points of failure in 2/3rd tier
- Asset intensive, low volume
- Surge
- Reallocation of work/capacity
- Not enough focus on process innovation – flexible manufacturing

What Mode Are you In…

PEACE TIME
(Trade off Schedule and Performance)



WAR TIME SYSTEM
(Trade off Cost and Performance)

COLD WAR SYSTEM
(Trade off Schedule and Cost)

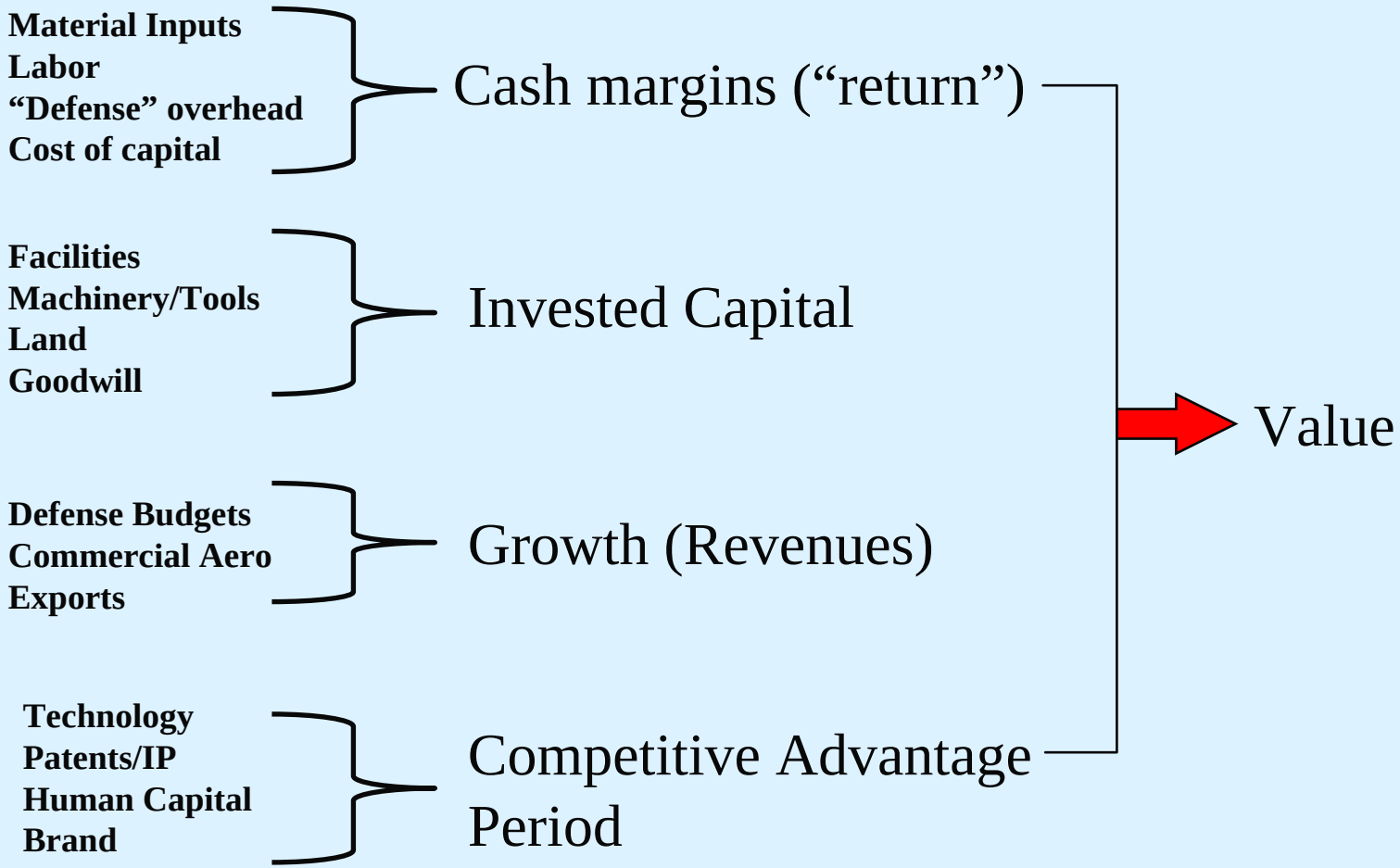
Current Problem – We are in Two Modes!

Areas of Policy Disconnect…

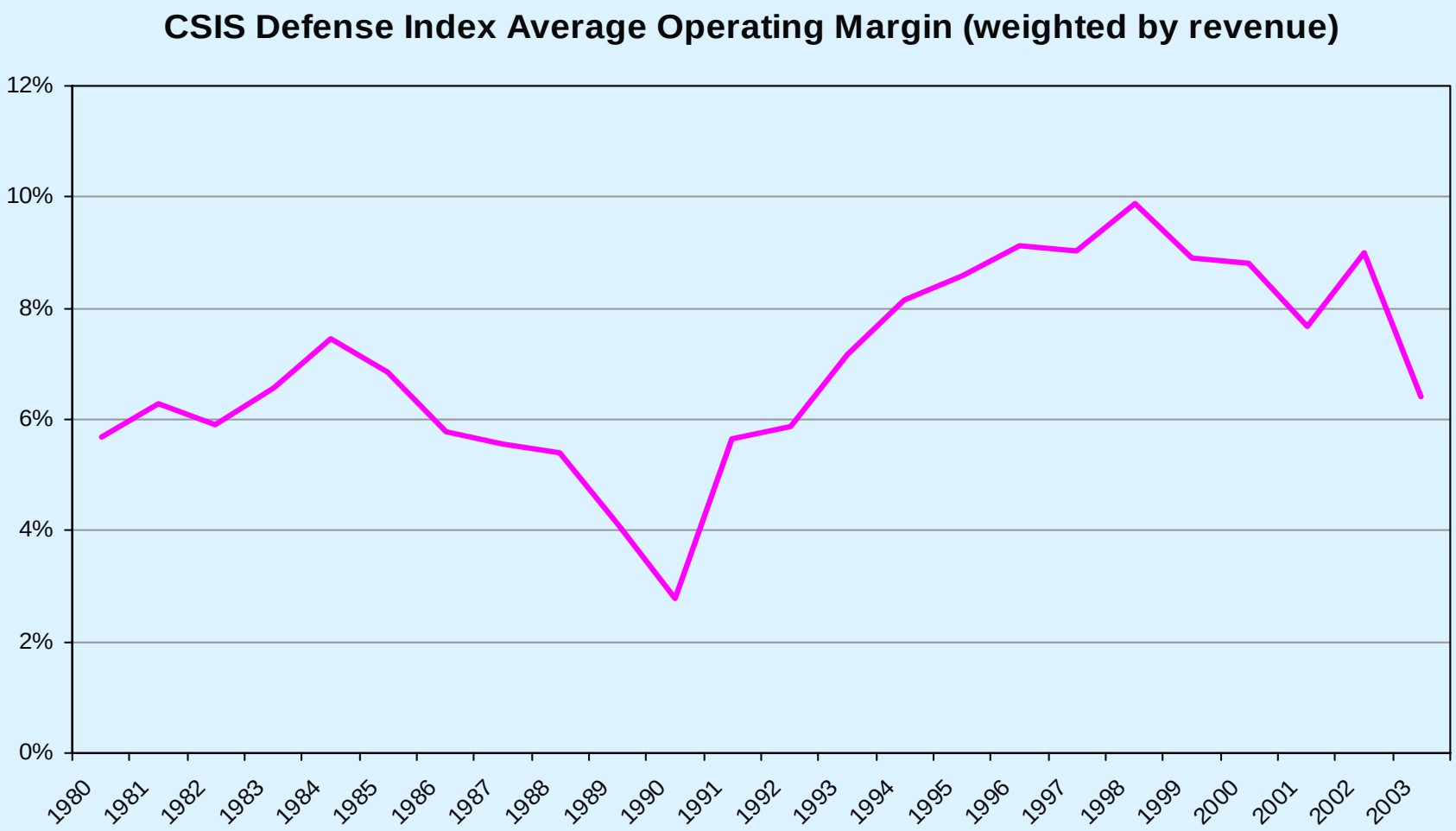
- Due to Landscape Changes
  - End Cold War, Post 911
  - Post consolidation
  - Era of joint
  - More sophisticated financial markets meets pure play defense
- Misapplied Policies
  - Competition everywhere
  - Efficiency everywhere
  - Hardware models applied to software/service
  - Answering complexity with centralization
- Conflicting Policies
  - Competition vs Buy America
  - Structural (Pendulum Swings)
    - Oversight vs efficiency
    - Civilian vs military

EXTRA SLIDES

Industry Has Four Key Levers To Create Value

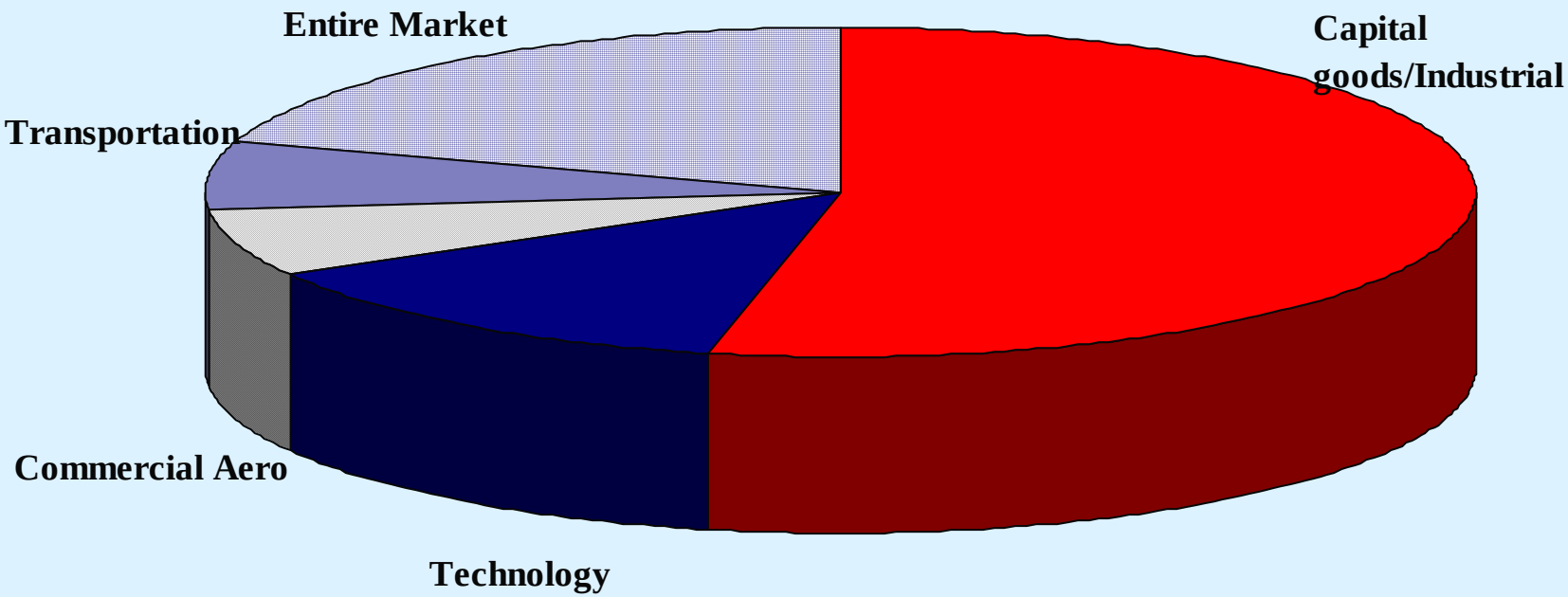


Defense Industry Margins Have Improved BUT…



The Industry Does Not Operate in a Vacuum…

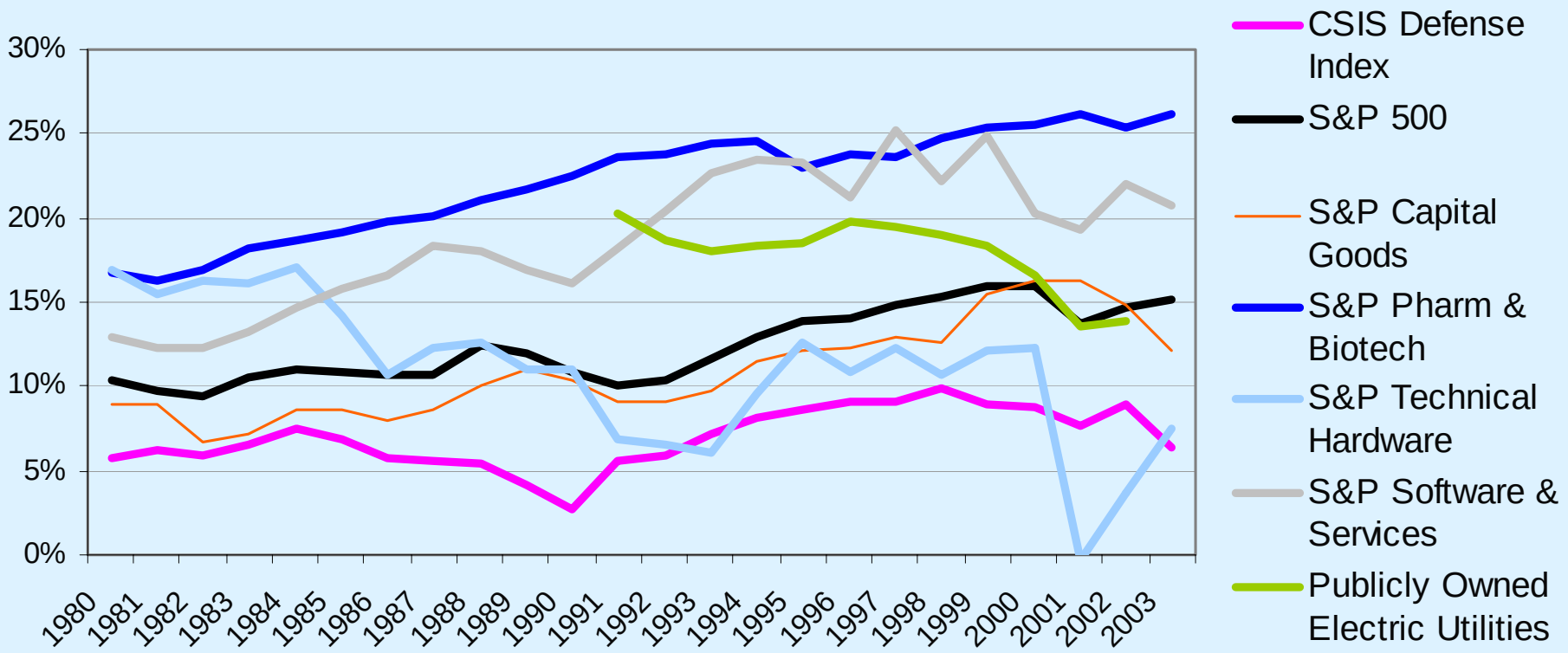
- **What are the alternative investments when you consider the defense sector?**



Source: CSFB survey

Defense Returns Improved, But Lowest Relative to Peers…

Industry Average Operating Margin (weighted by revenue)



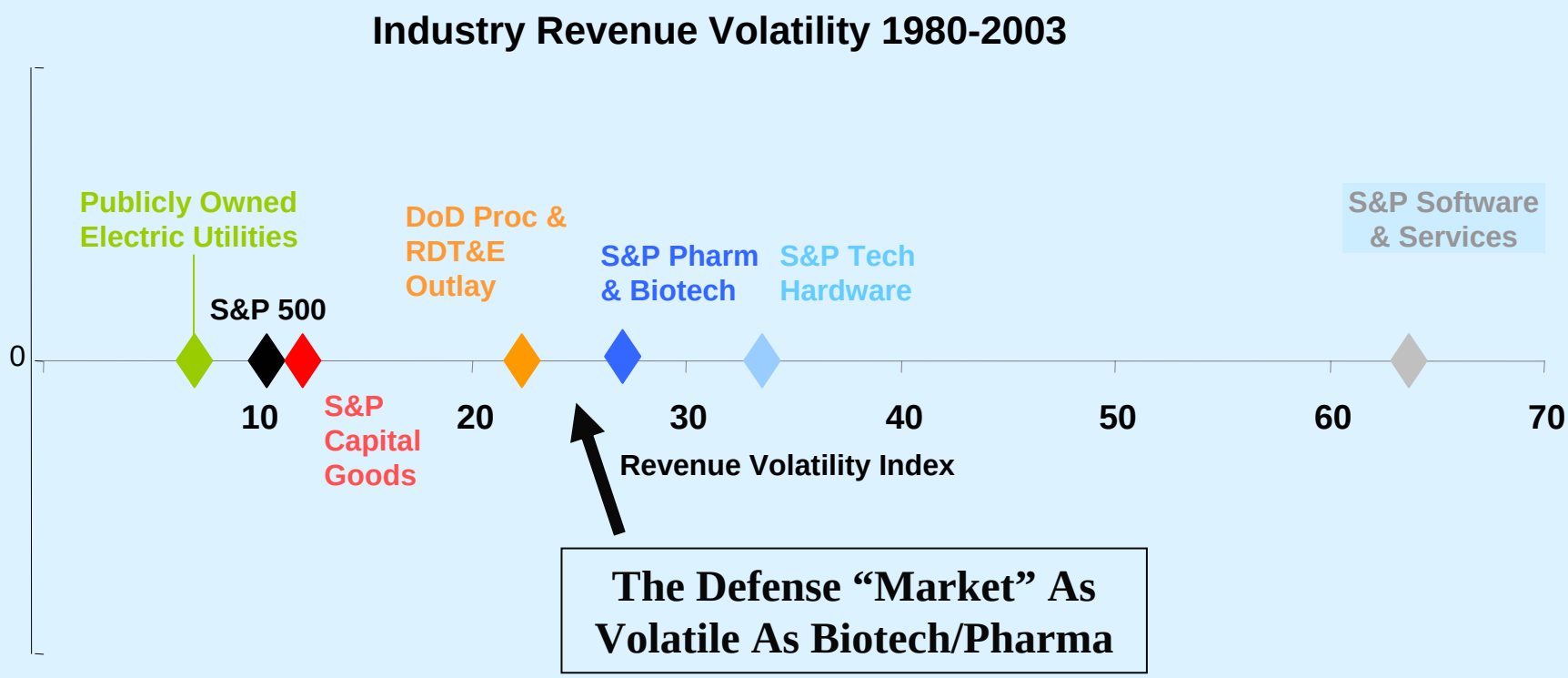
Sources: FactSet, S&P Compustat, Energy Information Administration, CSIS Analysis

Notes: 1) CSIS Defense Index comprises 36 publicly-traded companies with majority revenues derived from US defense business.
(2) S&P Sub-sector constituents accurate back to 1994; composition held constant for years 1980 to 1993.

Conventional Wisdom

- **Defense industry SHOULD have lower returns than peers because:**
  - **Defense industry has lower risk**
  - **Pentagon pays for "everything"**
  - **R&D and assets paid for**
  - **Industry has long term contracts and the FYDP**
  - **No one allowed to fail**

More Volatility Than Conventional Wisdom...



Sources: FactSet, S&P Compustat, Energy Information Administration, National Defense Budget Estimates for FY2004, CSIS Analysis

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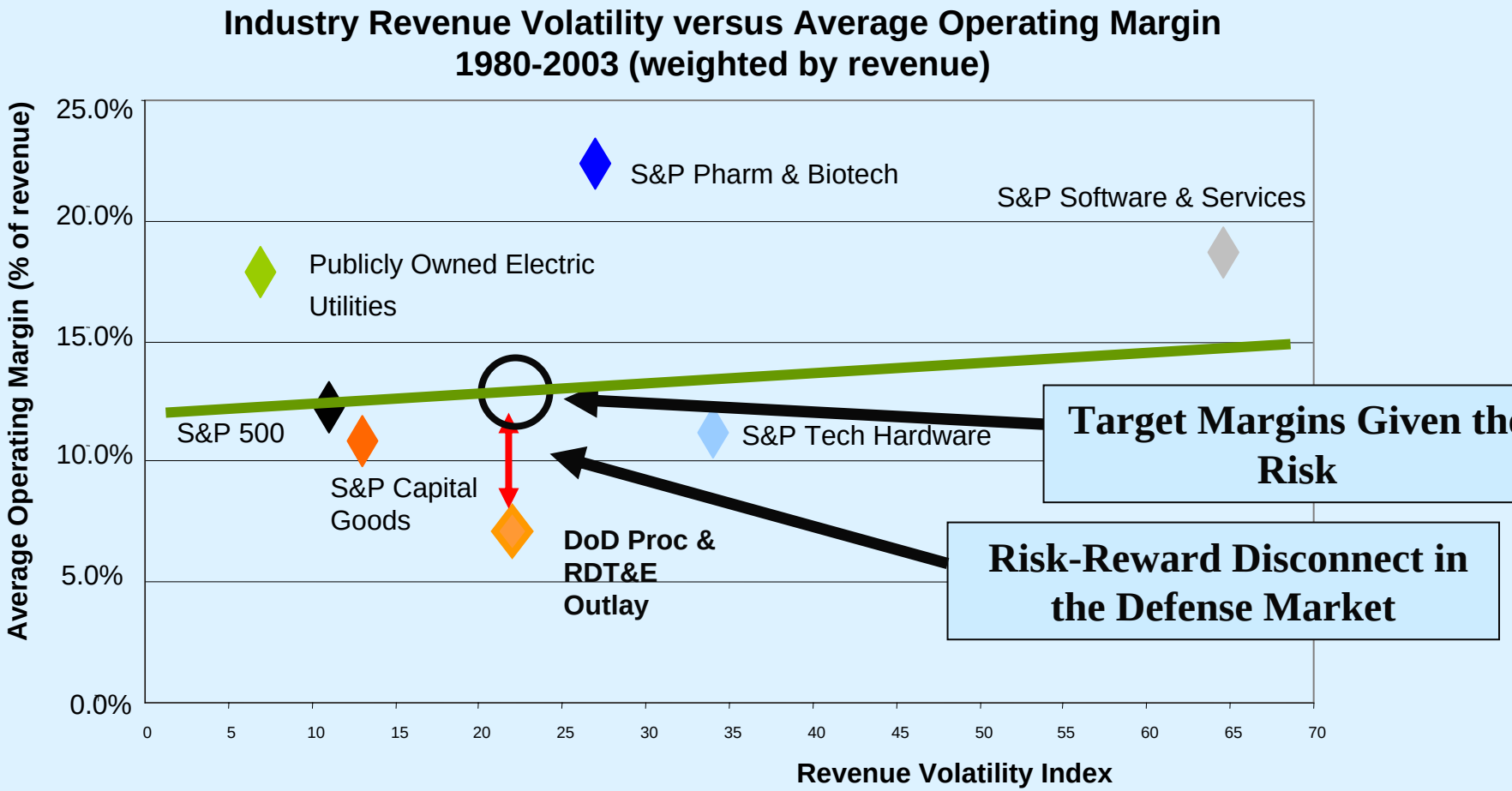
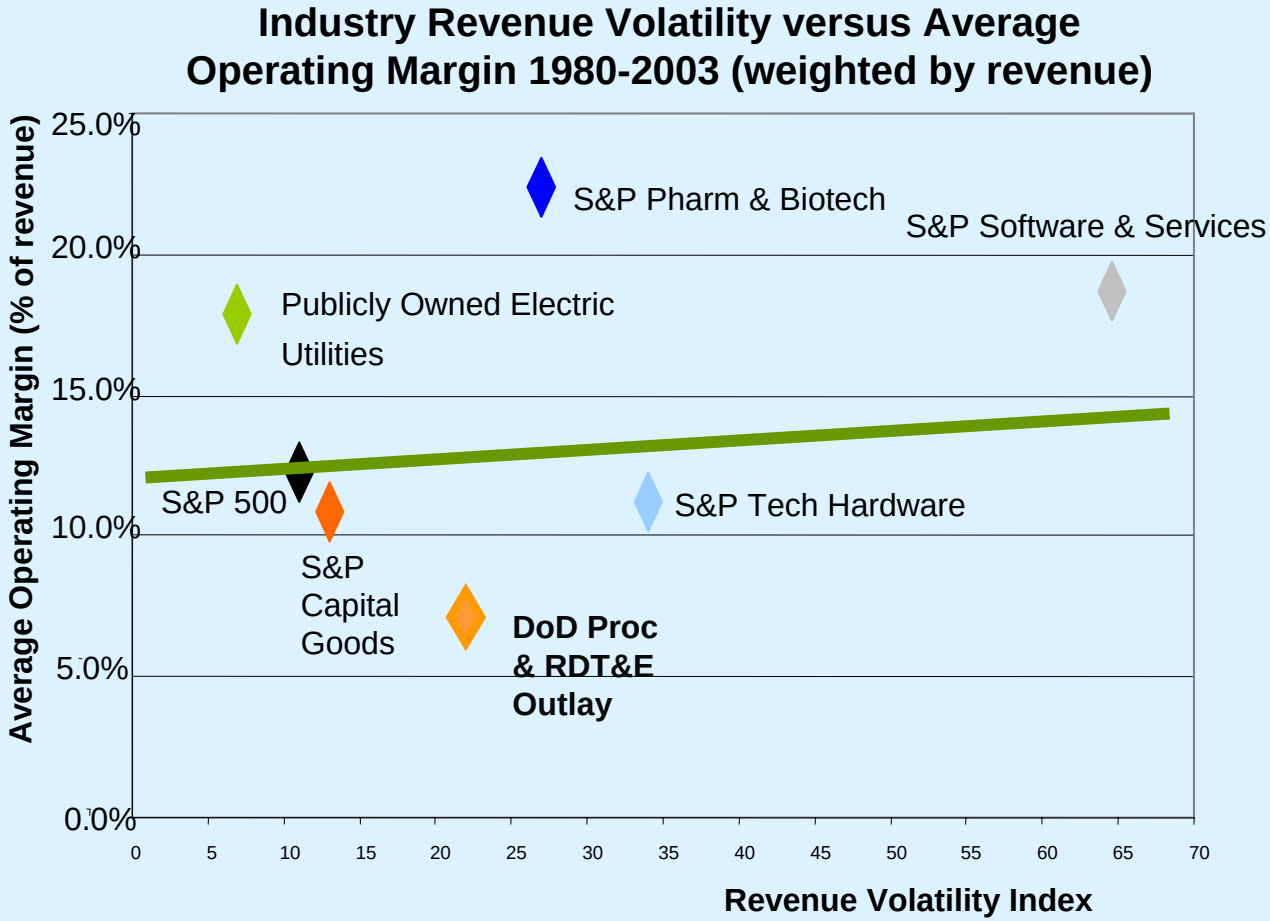
Apparent Risk-Reward Disconnect in the Defense Business...



Sources: FactSet, S&P Compustat, Energy Information Administration, Congressional Reports,

Policy Realities Leave Industry With Few Levers to Pull…

“Glass Ceiling” in Margins, Difficult Politically To Change



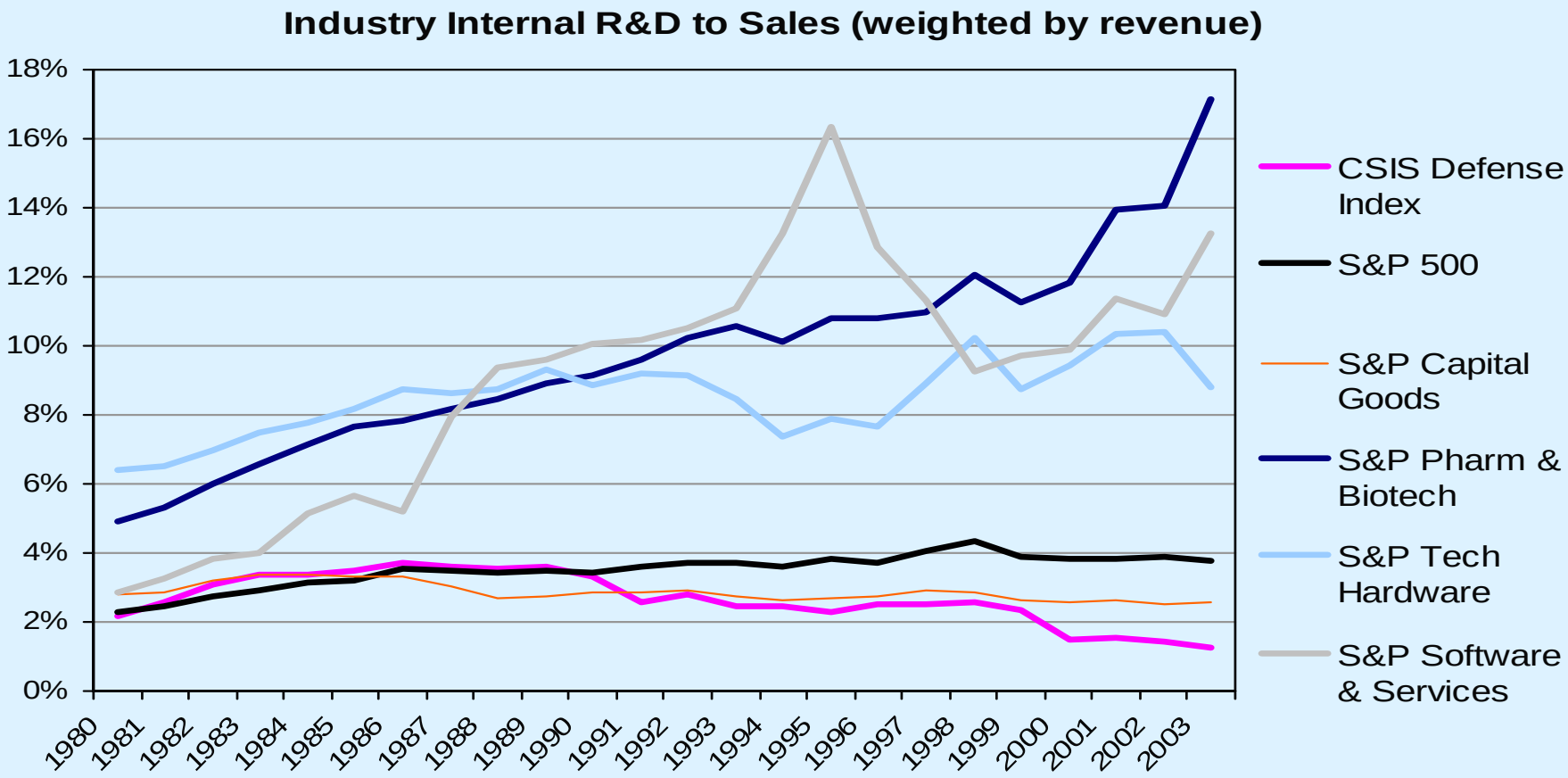
SO…Work the Volatility/Risk Side of the Relationship

Industry Strategies Generally Limited…

Growth (Revenues)	**- Limited by growth in budgets** **- Acquire it (hit a limit as well)** **- Expand into O&M/services**
Competitive Advantage Period	**- Disrupted by technology shifts** **- Acquire IT/electronics/ architecture skills**
Cash margins (“return”)	**- Cut costs** **- Cut investments** **- Eventually hit the margin glass ceiling**
Invested Capital	**- One of few areas with running room** **- Continue to shrink invested capital** **– keep capx low, acquire and consolidate, give capital back**

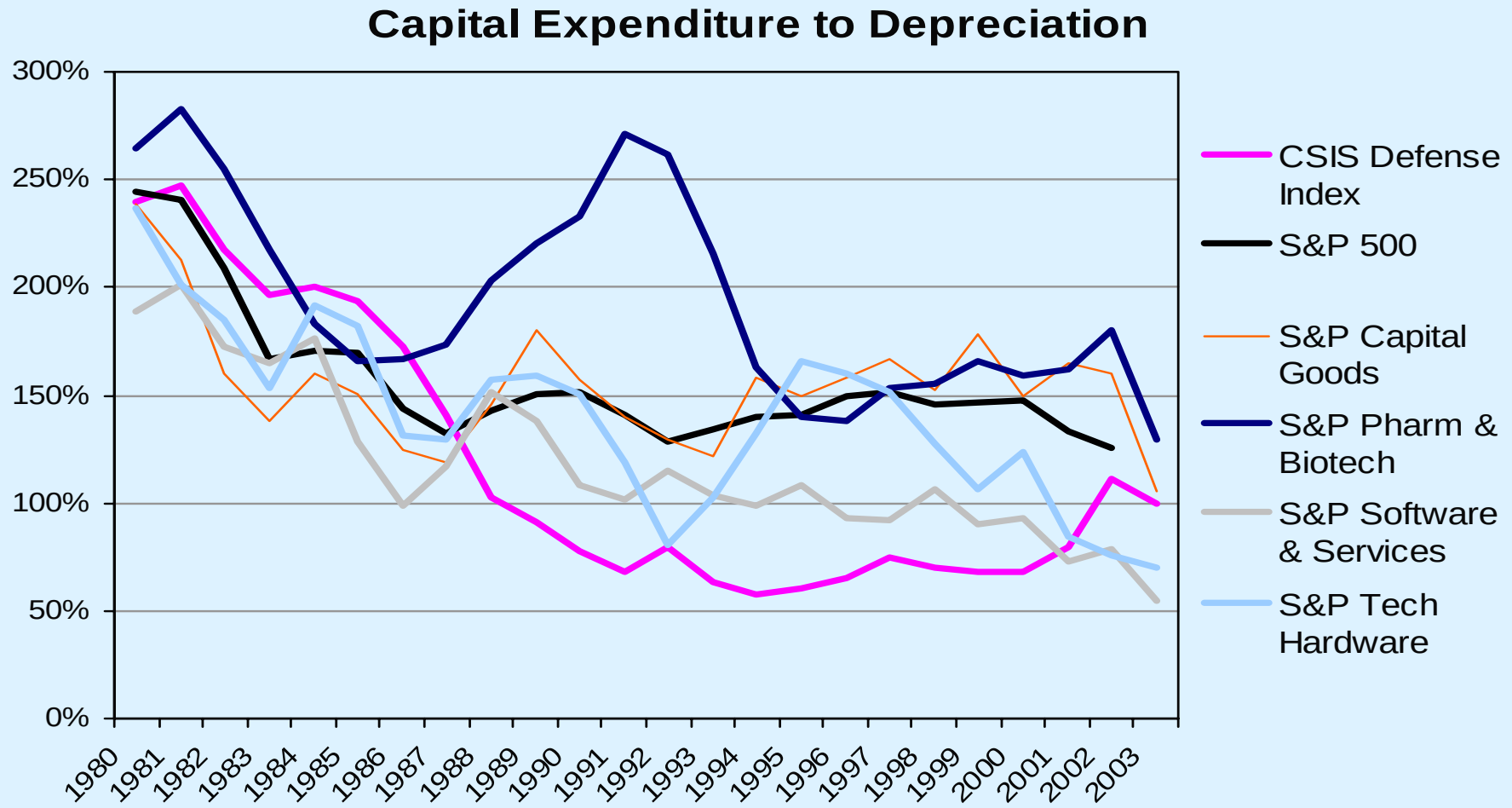
Fewer Opportunities, Low Returns..Cut IR&D

Get out of S&T, Acquire it instead, Outsource it



Sources: FactSet, S&P Compustat, CSIS

Shrink The Cold War Asset Base...



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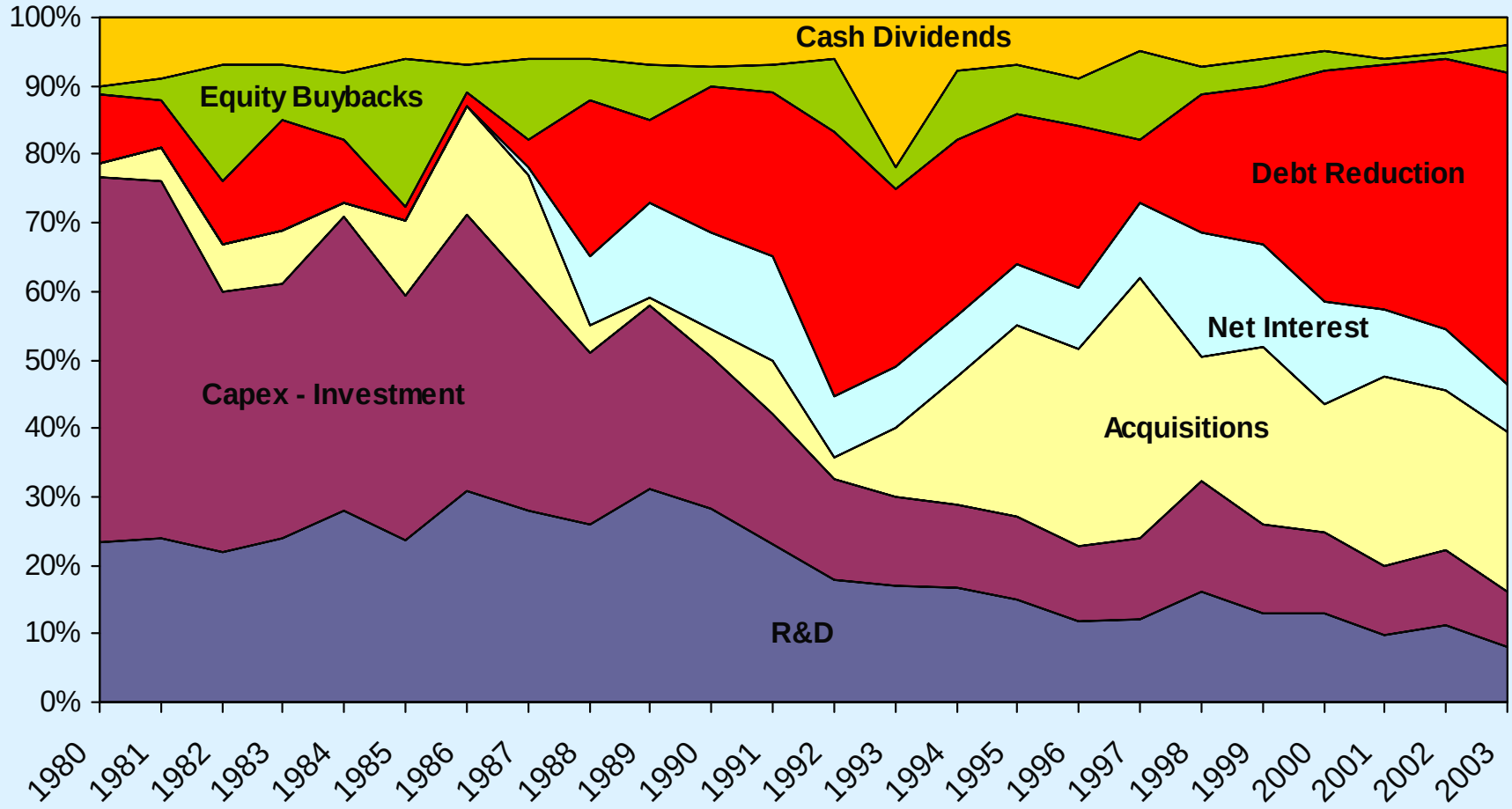
Financial Response to the Policy and Market Realities...

Defense Industry Cash Outflows



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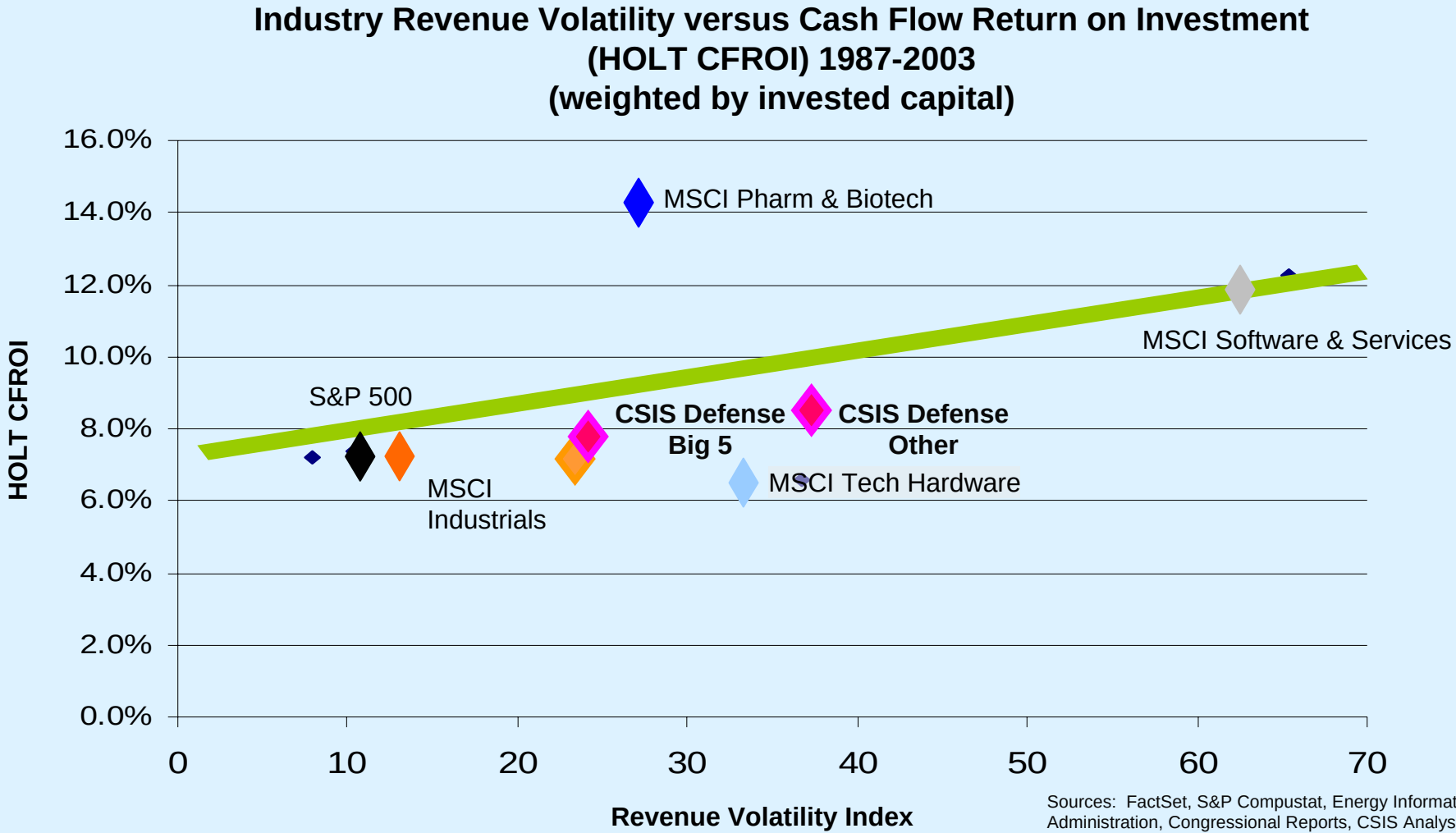
Industry "Returned To the Line" Via Acquisition and Cuts in Investment/Capital ...



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