



Key Defense-Industrial Policy Strategy Issues

House Armed Services Committee

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A Few Ways to Think of Industrial “Policy”/Affairs



View #1: Defense-Industrial Policy Levers

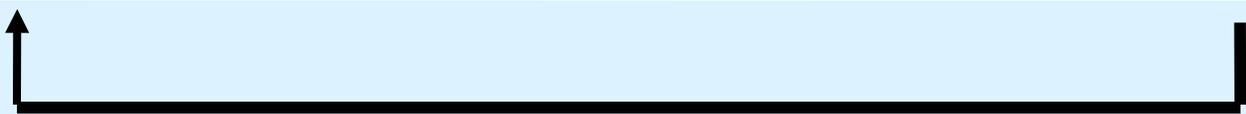
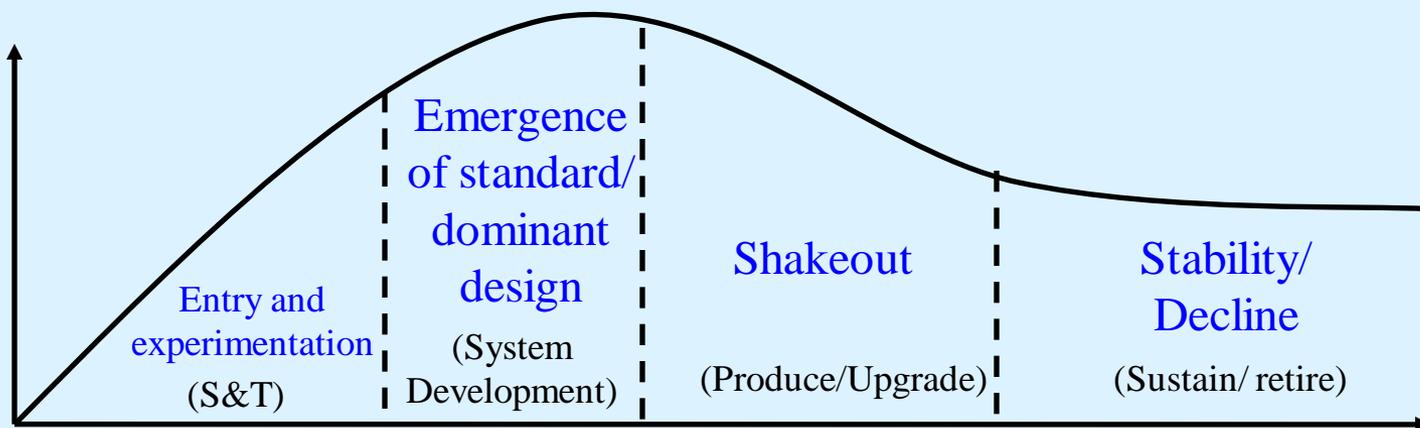
Policy Aspect

Key Dimensions

Sourcing	Global National/Autarkic	<ul style="list-style-type: none"> • Assuredness of supply • Jobs/“Buy America” • Get best technology to warfighter • Technology transfers
Innovation/Transformation	Harvest/Pull: Civil/Mil Create/Push	<ul style="list-style-type: none"> • DoD R&D leadership • Source of transformational tech • Ability to control research agenda
Allowable sector structures	Multi-Supplier Monopoly	<ul style="list-style-type: none"> • Sector importance/uniqueness • Foreseeable production demands • Public cost to keep add'l suppliers
Acquisition Philosophy	Decentralized Centralized	<ul style="list-style-type: none"> • Service specific vs joint programs • Multiple vs fewer program starts • Prime/GFE mgmt vs LSI
Acquisition Strategy	Competitive/Arms-Length Negotiated/Partnership	<ul style="list-style-type: none"> • Cost • Sensitive info dissemtn – Nat’l Sec • Urgency • Sector structure
Business proposition to industry	Return Stability	<ul style="list-style-type: none"> • Robustness of defense industry • Attracting new entrants • Gov’t stewardship of public funds

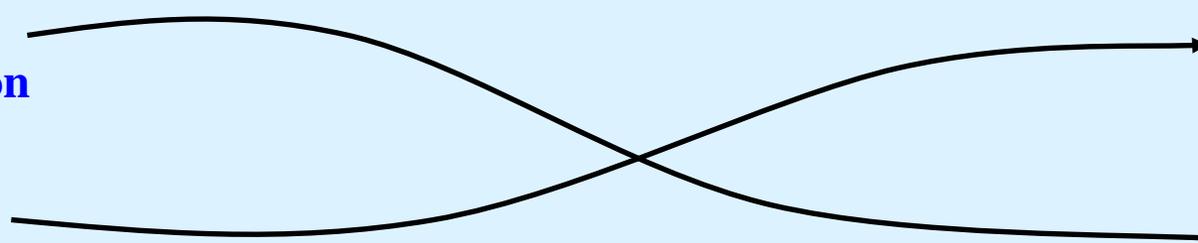


View #2: The Lifecycle of the Technology/Industry Sector...



Restart the cycle

Product Innovation



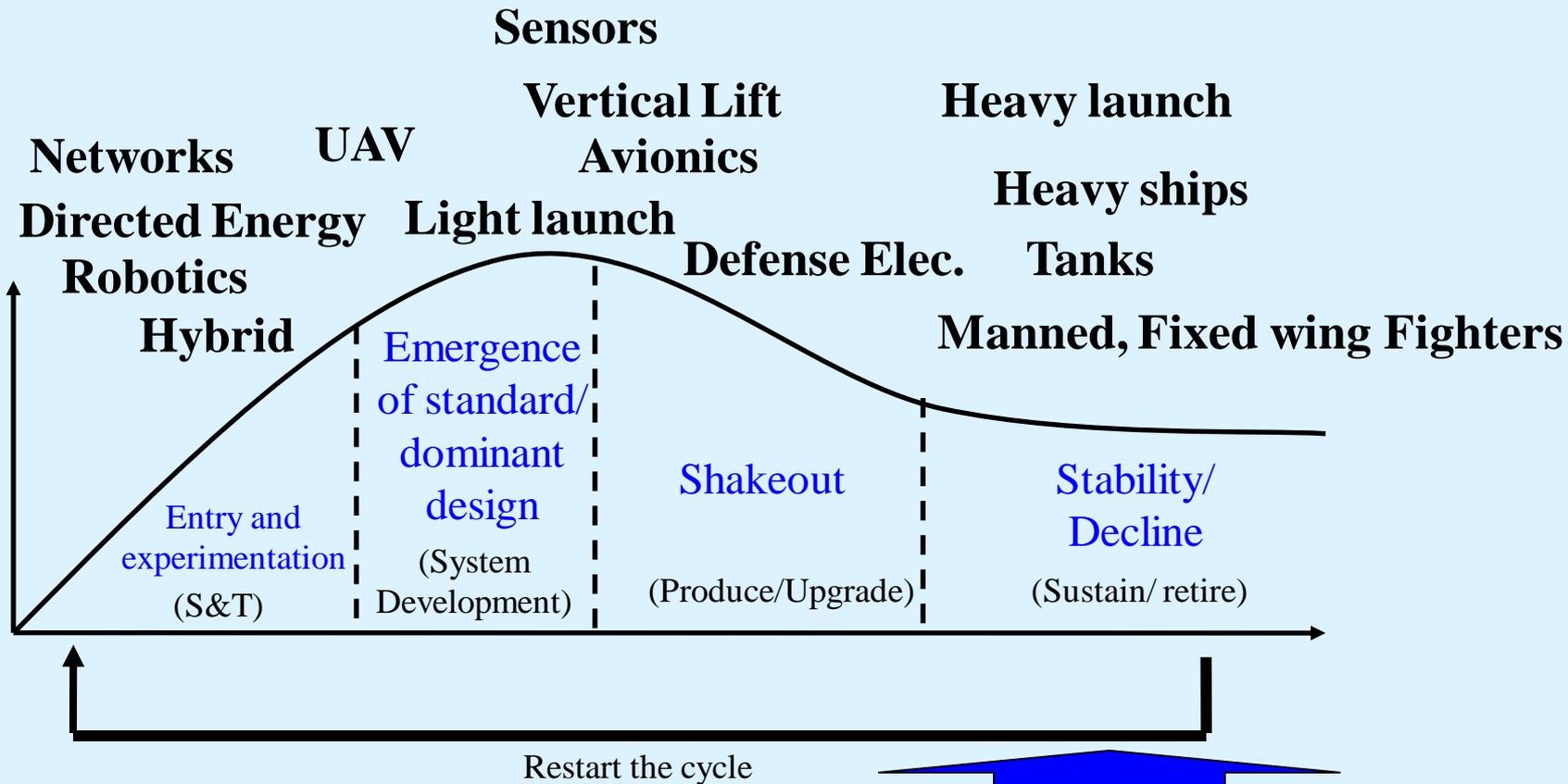
Process Innovation



Fewer Competitors



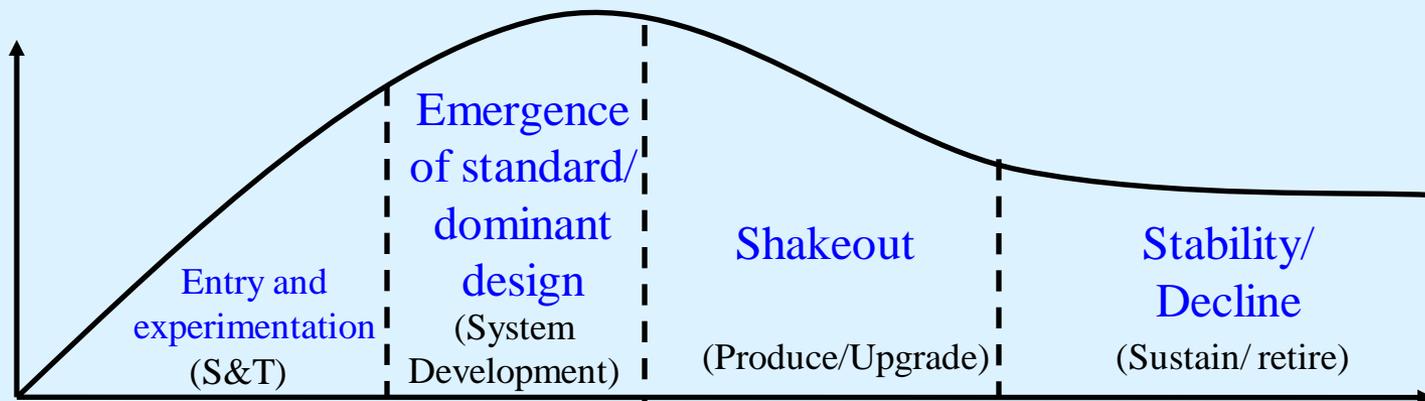
Where You Are in the Lifecycle...



**Caveat – fight wars with the military
you have**



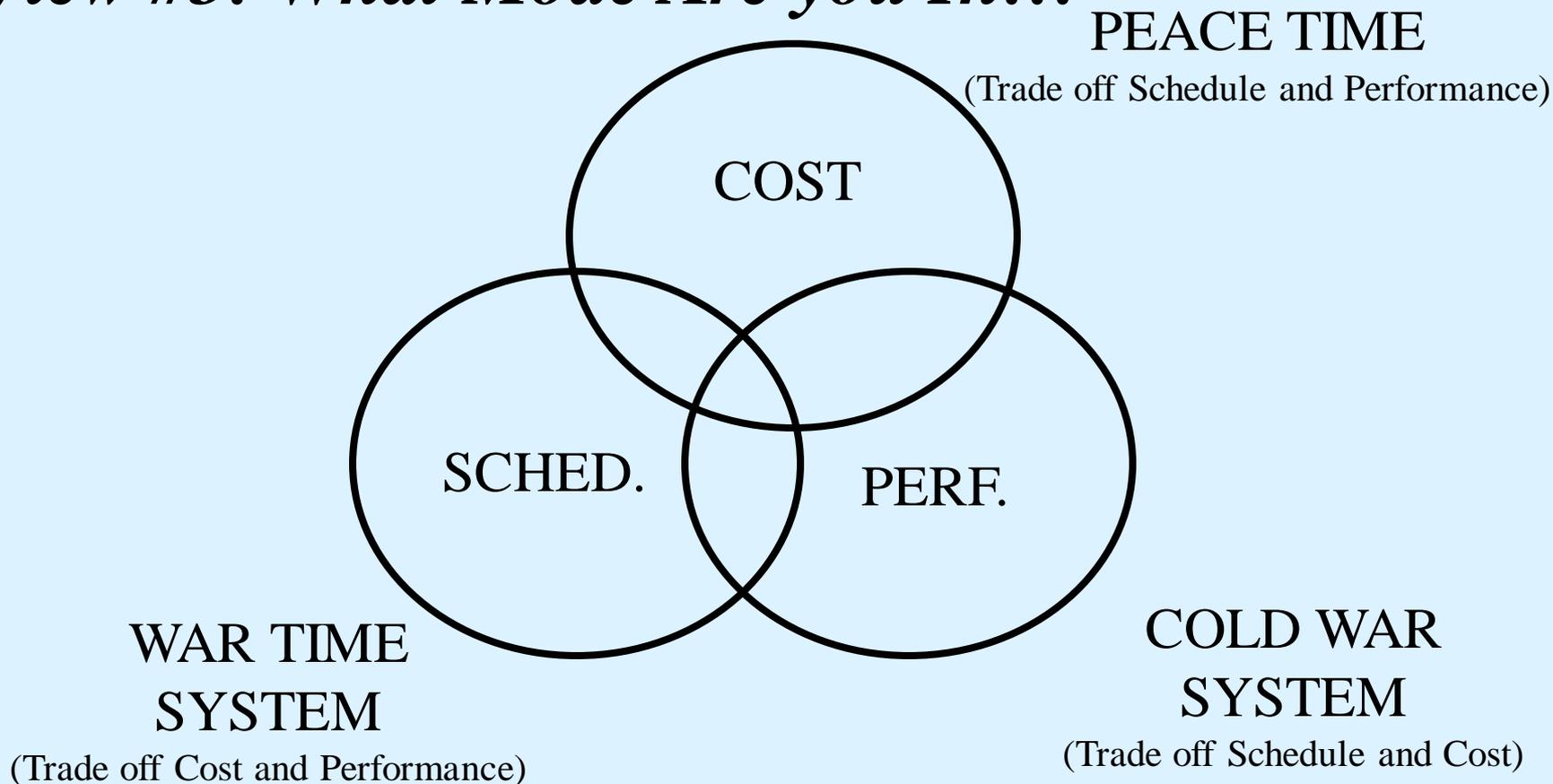
Drives Solutions/Incentive Structures...



Key Actors	Gov't, Academia FFRDC, industry (Skunk Works, UAV)	Industry (in production)	Industry, depot yard, arsenal
H.C.	Scientists	engineers	manufacturing support/logistics
Market Dynamic	← Competition →	← Negotiation/partnership →	
Financial	← Growth →	← Margins →	← ROIC →
Investors	← Growth →	← GARP →	← Value →



View #3: What Mode Are you In...



Current Problem – We are in Two Modes!



View #4: DoD Strategy Document Take Aways...

“Bar-bell” Shaped Markets



“Slice” #1

The Long War: rapid acquisition,
Off the shelf/short development,
quick response is key, COCOM centric

Dissuade: very long cycle,
Technology development, platform
oriented but limited production, service
centric

“Slice” #2

Reset/Retrofit: Install “black boxes”
in existing equipment to improve and
“plug into network”

Transformation: Desire for large,
horizontally integrating networks,
leverage the IT revolution



Defense Industry After the Consolidation of the 1990s



1990s Perfect Storm...

Cyclical Changes

Budgets Pressure from deficits, call for post-Cold War peace dividend, Procurement Holiday, cut programs/stretch out

Structural Changes

End of Cold War Rapidly changing unpredictable security environment, changing military requirements, fewer new program starts

Technological Change

IT revolution spilling over into defense, increased acceleration of technology cycles

Globalization

Of the economy, technology and labor

New Philosophy of Business

Demise of the conglomerate, “stick to your knitting”, defense run as business

IMPACT

Horizontal mergers

Exit from industry

Increased risk

Vertical mergers

Disconnect

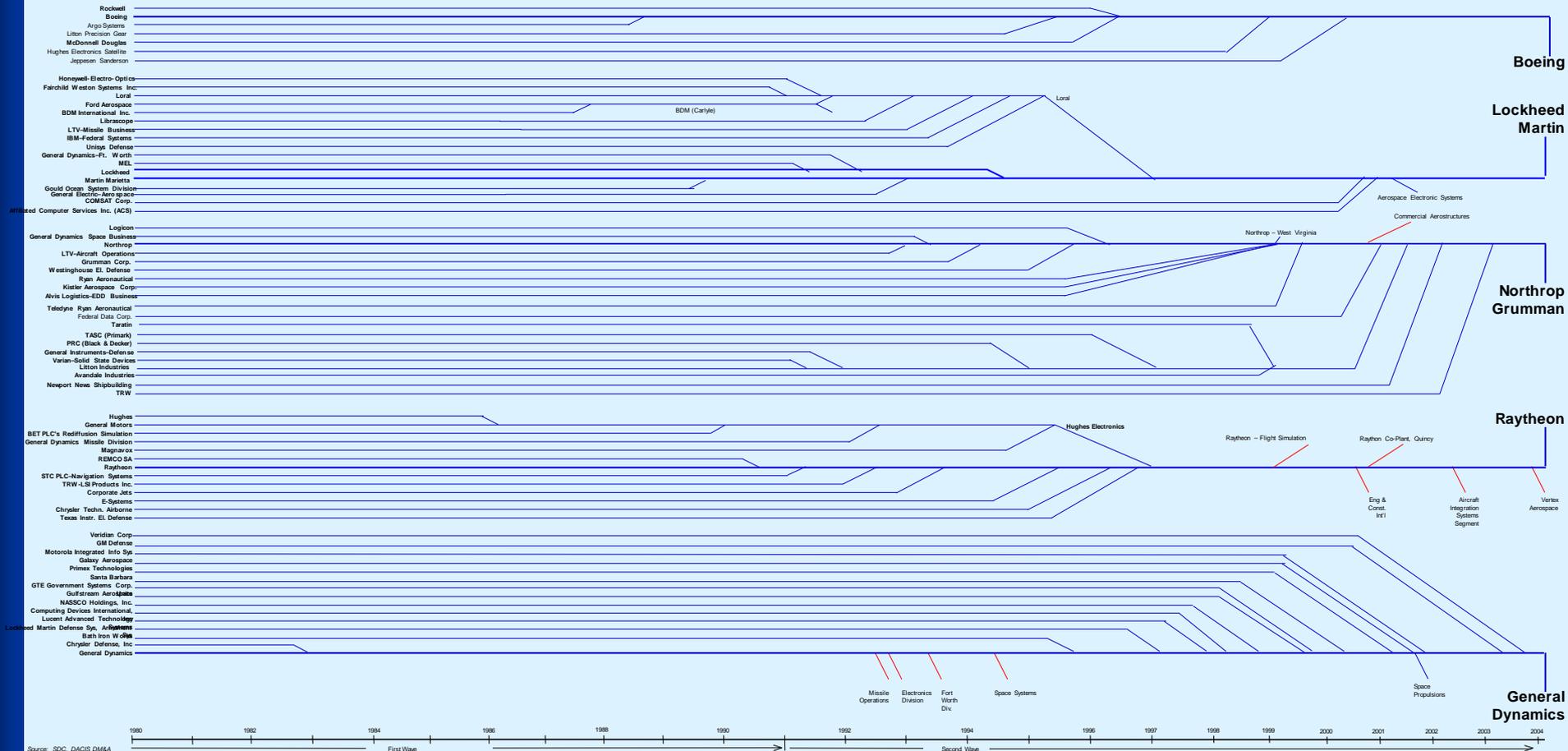
Export markets

Int'l competition

Exit from industry



The Result Was Dramatic Consolidation...

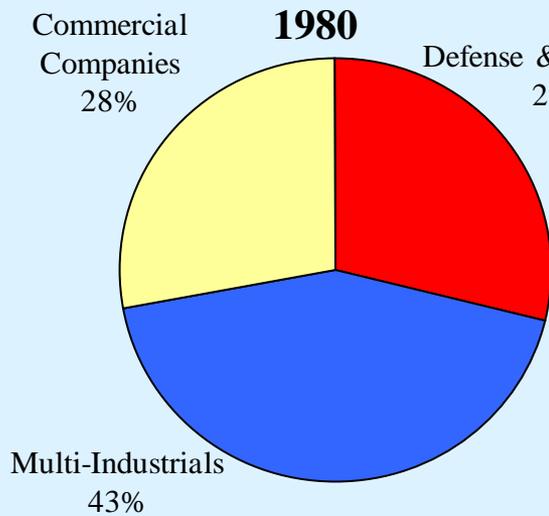


Source: SDC, DACIS DIMEA

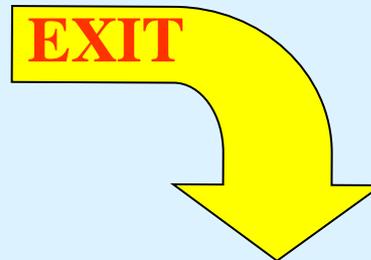


With Multi-Industrial and Commercial Firms Exiting...

**% of Contract Dollars Awarded
By Type of Company***

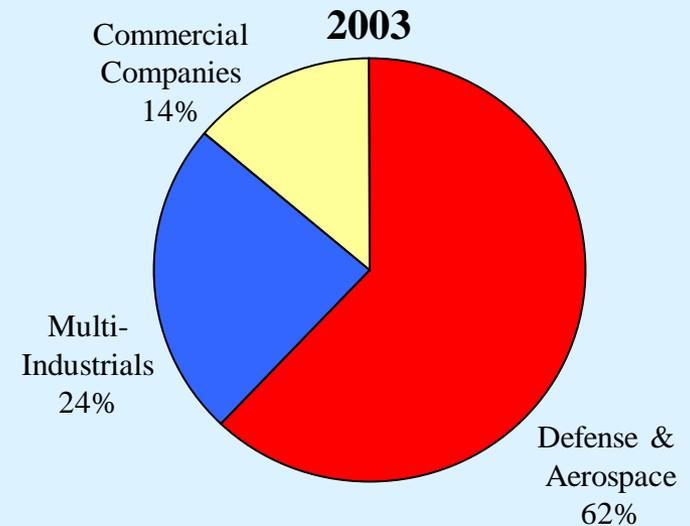


**Total Prime Contract \$
Awarded to Top 100
= \$51B**



Hughes
Tenneco
Chrysler
Rockwell
Westinghouse
Sperry
FMC
Gould
Fairchild Indus.
Singer
Ford

Litton
IBM
Harsco
Texas Instruments
GE sells defense
GM sells defense
Lockheed sells
commercial
Raytheon sells
commercial
TRW



**Total Prime Contract \$
Awarded to Top 100
= \$134B**

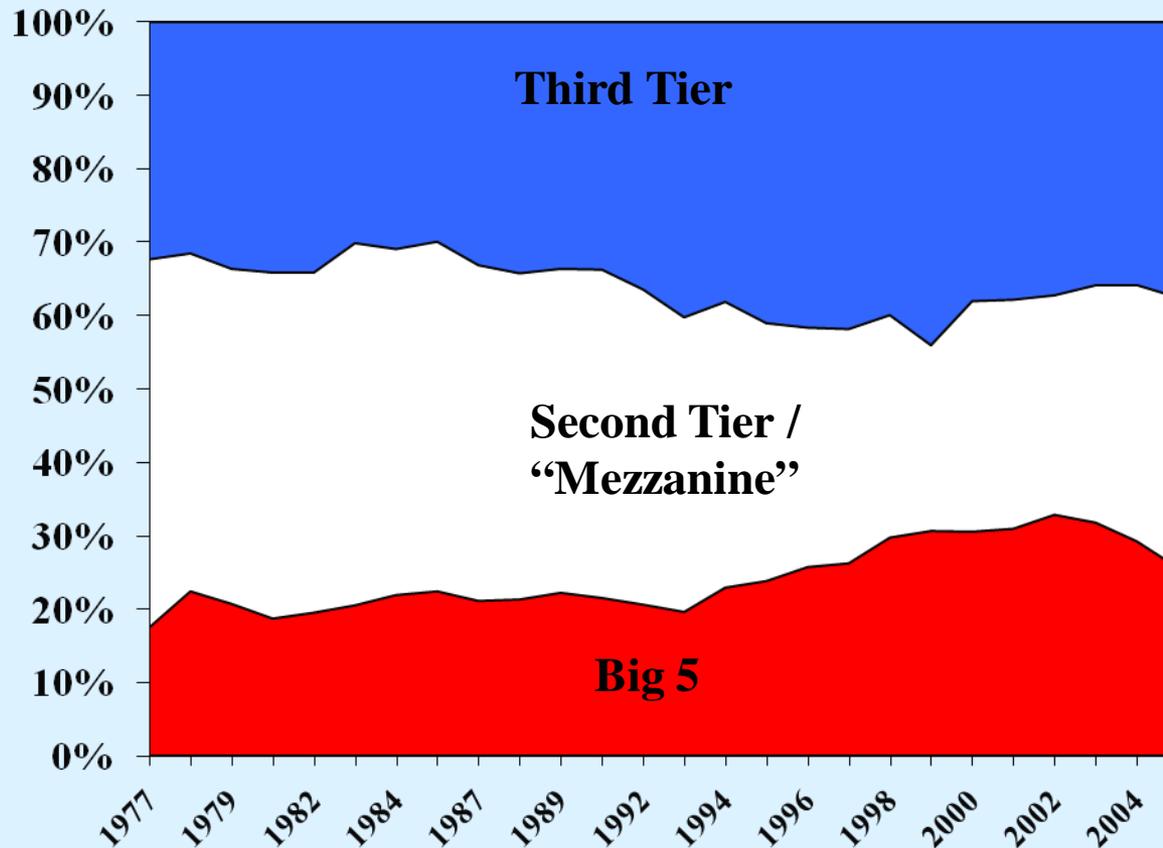
<u>Category</u>	<u>% Aerospace & Defense Sales</u>
Aerospace & Defense	85%+
Multi-Industrials	16%-84%
Commercial	<16%

* Total DoD Prime awards per DIOR reports



Resulting in 3-Tiered, Barbell-Shaped Industry...

% of DoD Prime Contract \$s



**Third
Tier**

The Rest

**37% of 2005
DoD Prime
Contract \$**

**Second
Tier**

#6-100

**37% of 2005
DoD Prime
Contract \$**

**First
Tier**

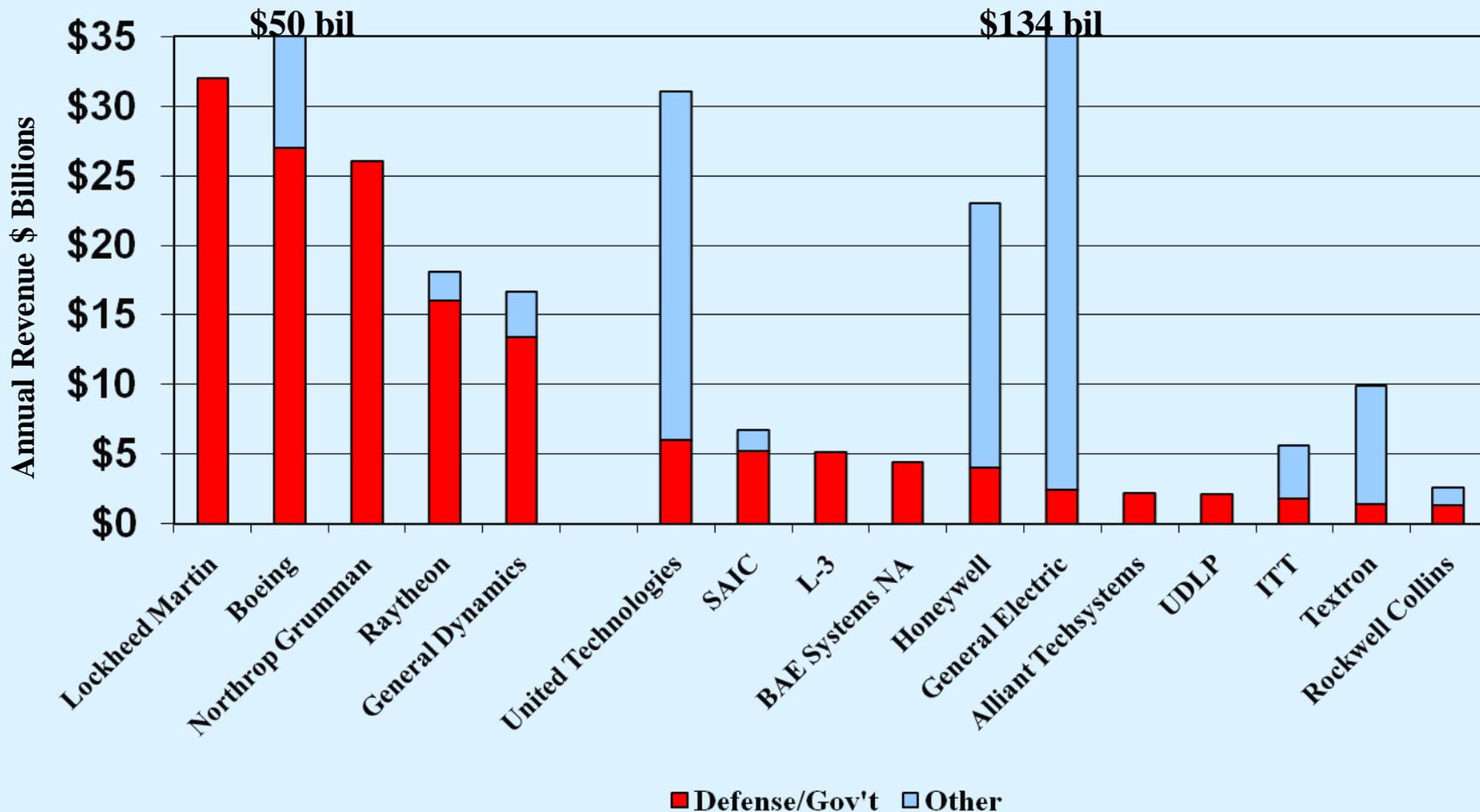
Big 5

**26% of 2005
DoD Prime
Contract \$**



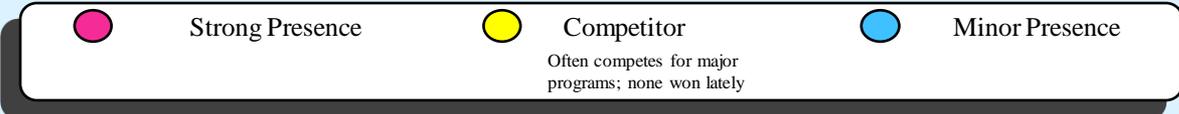
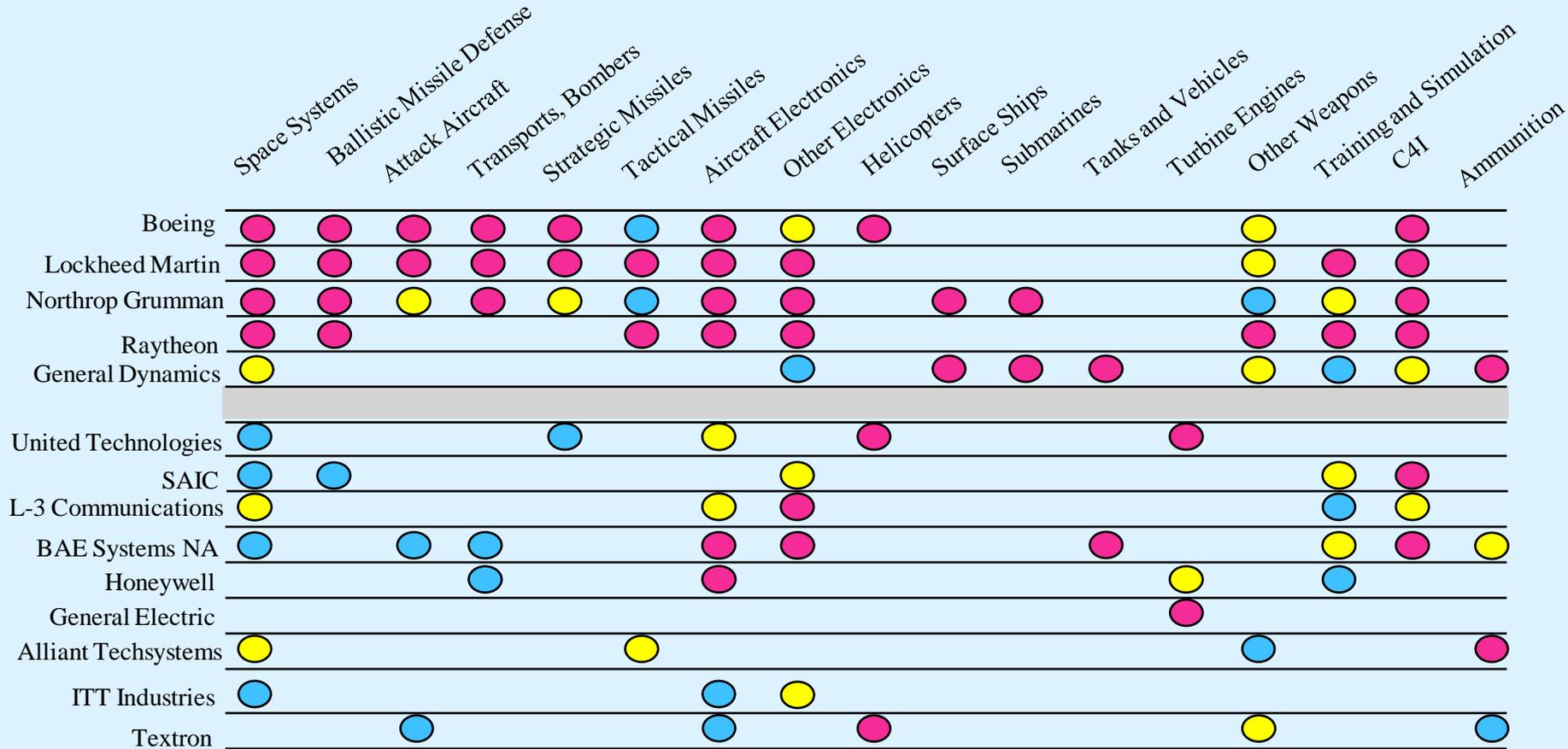
With Large Critical Mass...

Top US Defense Suppliers - 2003





And a Top Tier With a Wide Breadth of Capabilities..





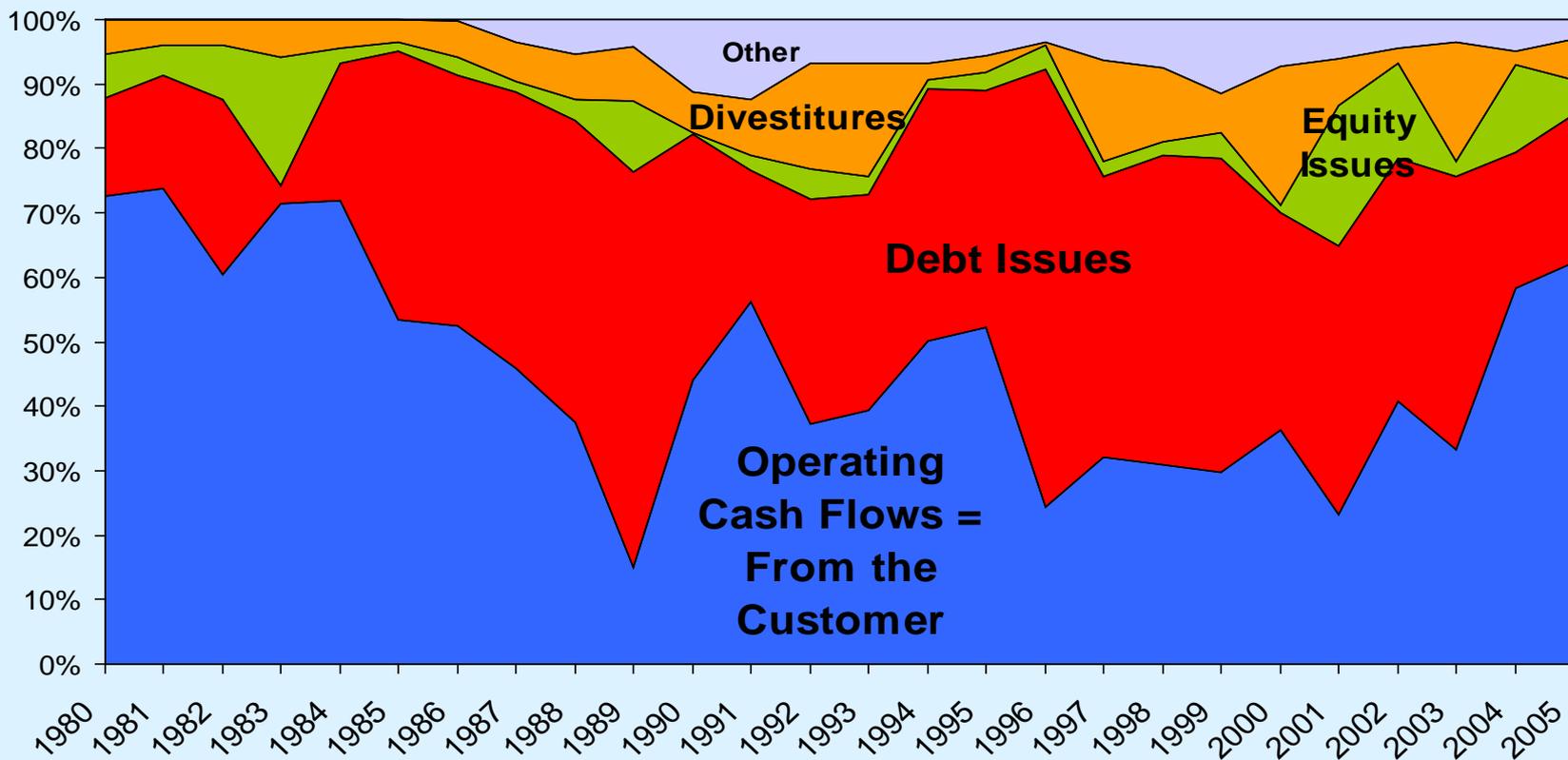
The Same Story Through the Lens of Incentives / Financial Returns



Why Care About Wall Street?

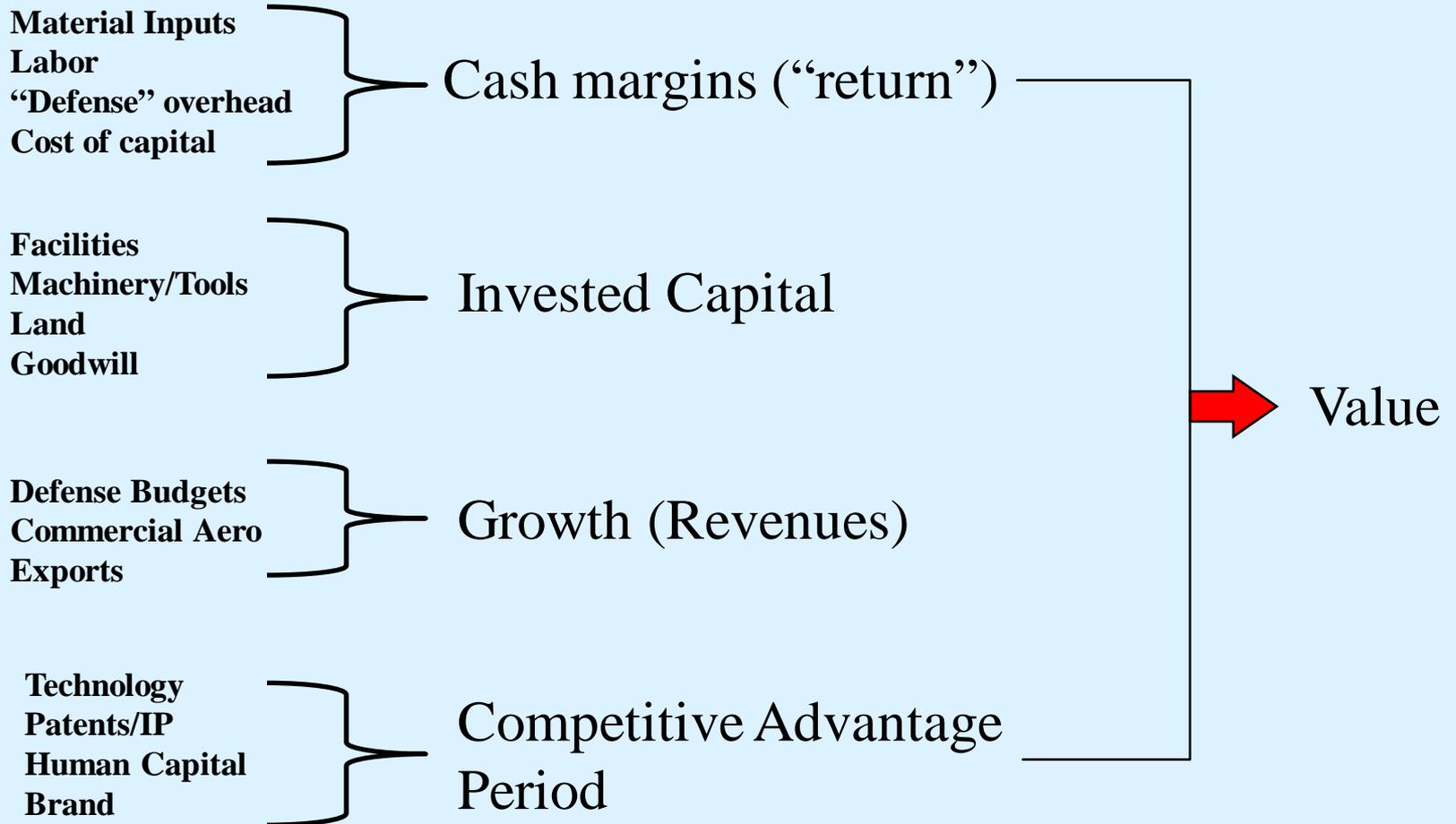
In the last 20 years, financial markets have provided 40-80% of the capital needed to operate...

Defense Industry Cash Inflows (Percent), 1980-2005





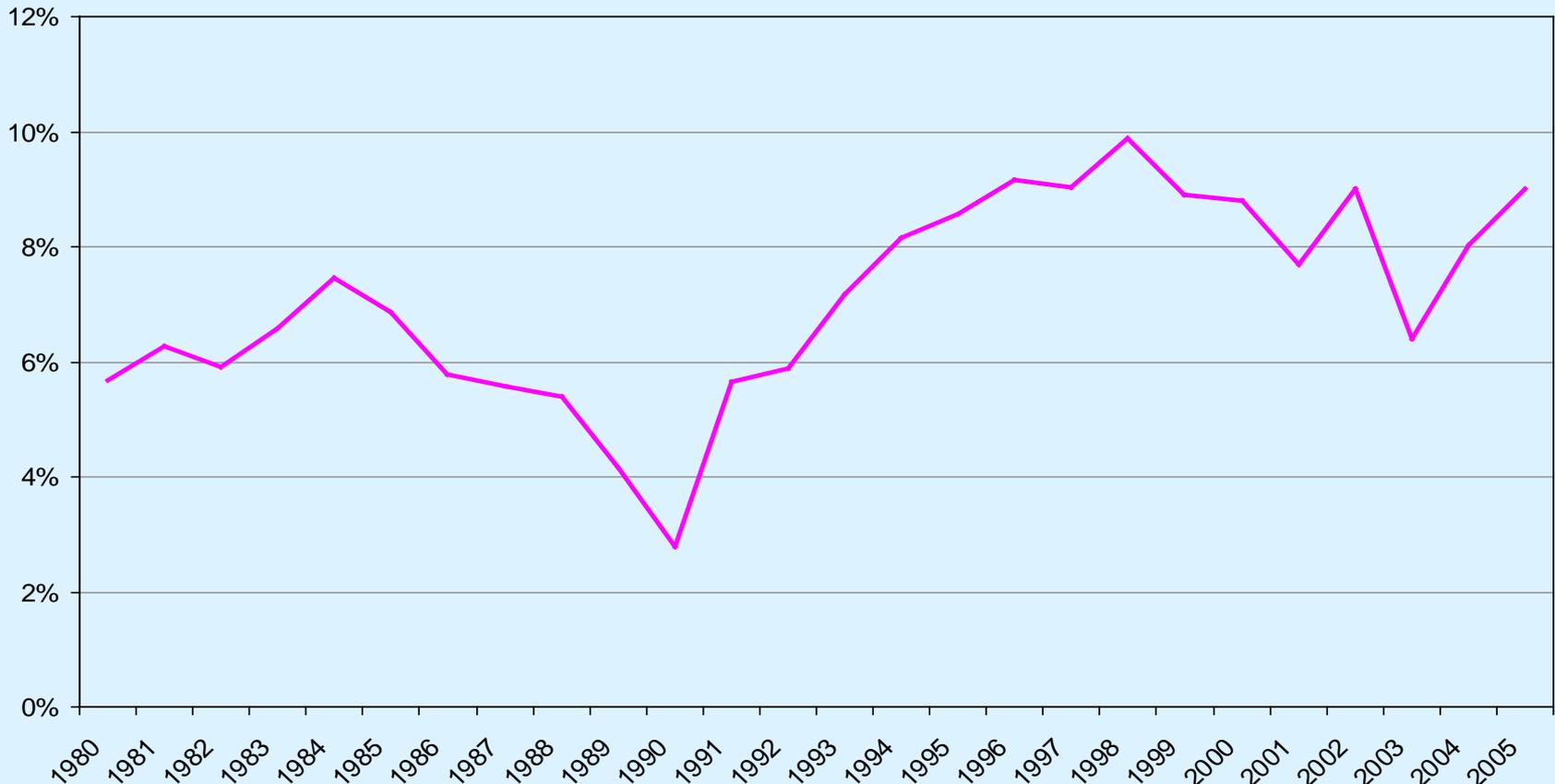
Industry Has Four Key Levers To Create Value





Overall Defense Industry Margins Near Highs. . .

CSIS Defense Index Average Operating Margin (weighted by revenue), 1980-2005



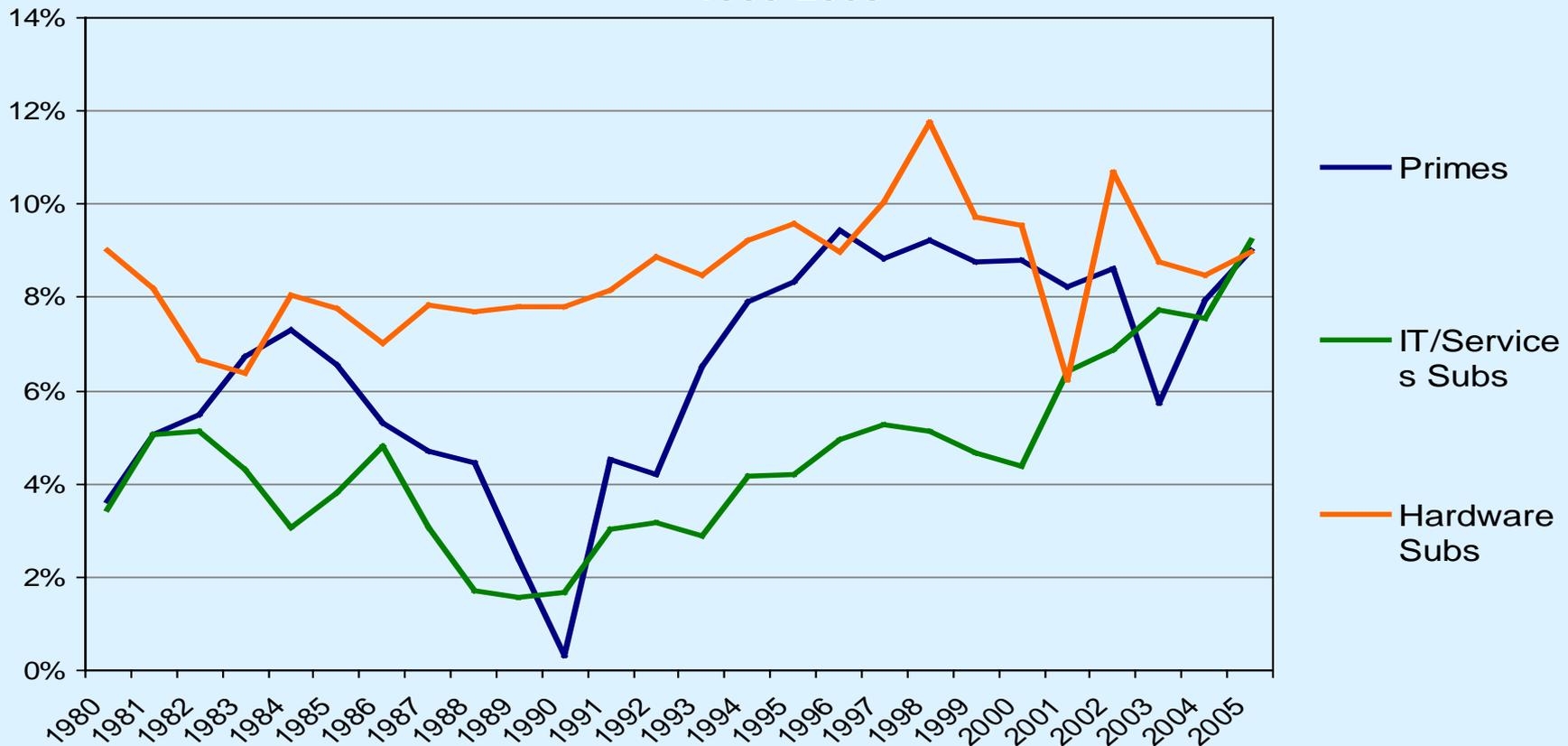
Sources: FactSet, Company Reports, CSIS Analysis.

Note: CSIS Defense Index comprises 36 publicly-traded companies with majority revenues derived from US defense business. Boeing Military results have also been included here.



From A Return Standpoint, Second Tier Does Better...

**Operating Margin by Company Type (weighted by revenue),
1980-2005**



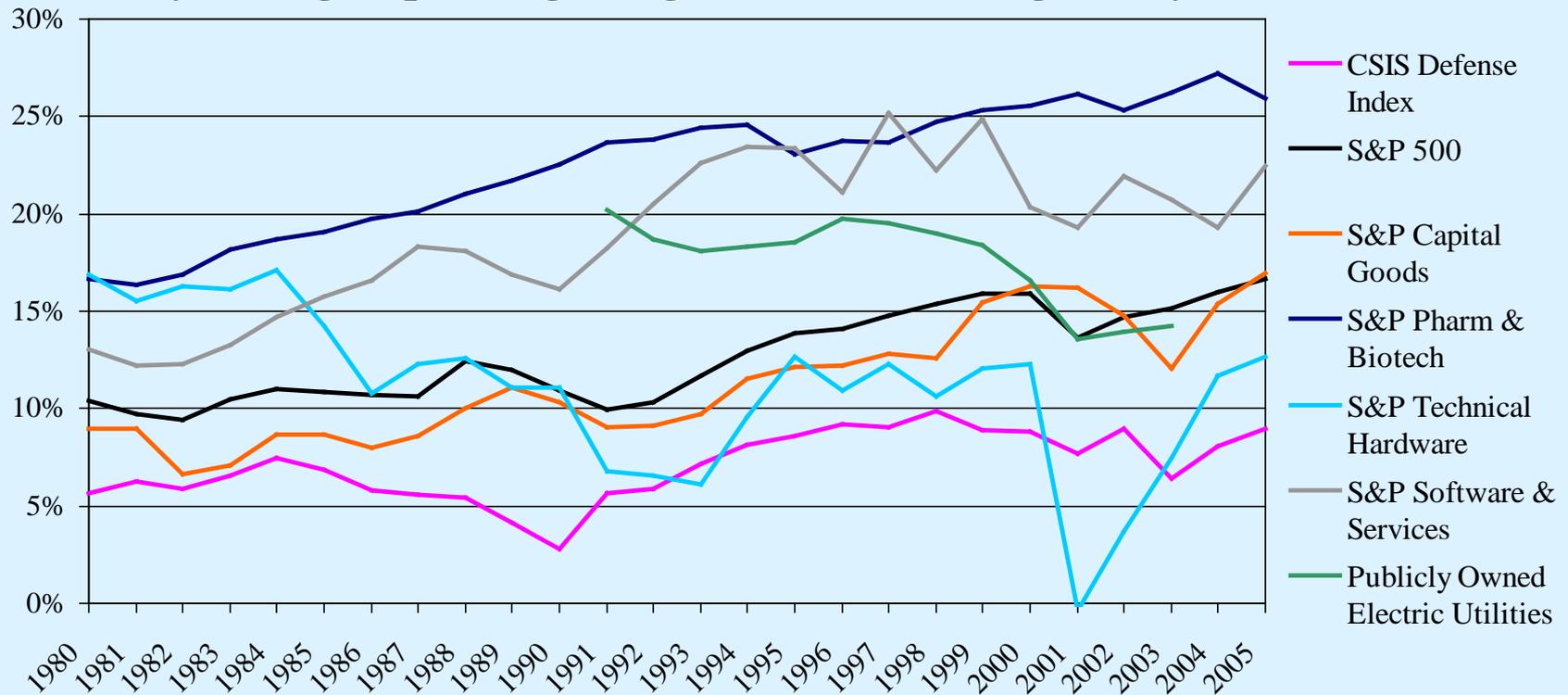
Sources: FactSet, S&P Compustat, Company Reports, CSIS Analysis.

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However, Compared to Its Peers the Defense Industry Has the Lowest Returns...

Industry Average Operating Margin, 1980-2005 (weighted by revenue)



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

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



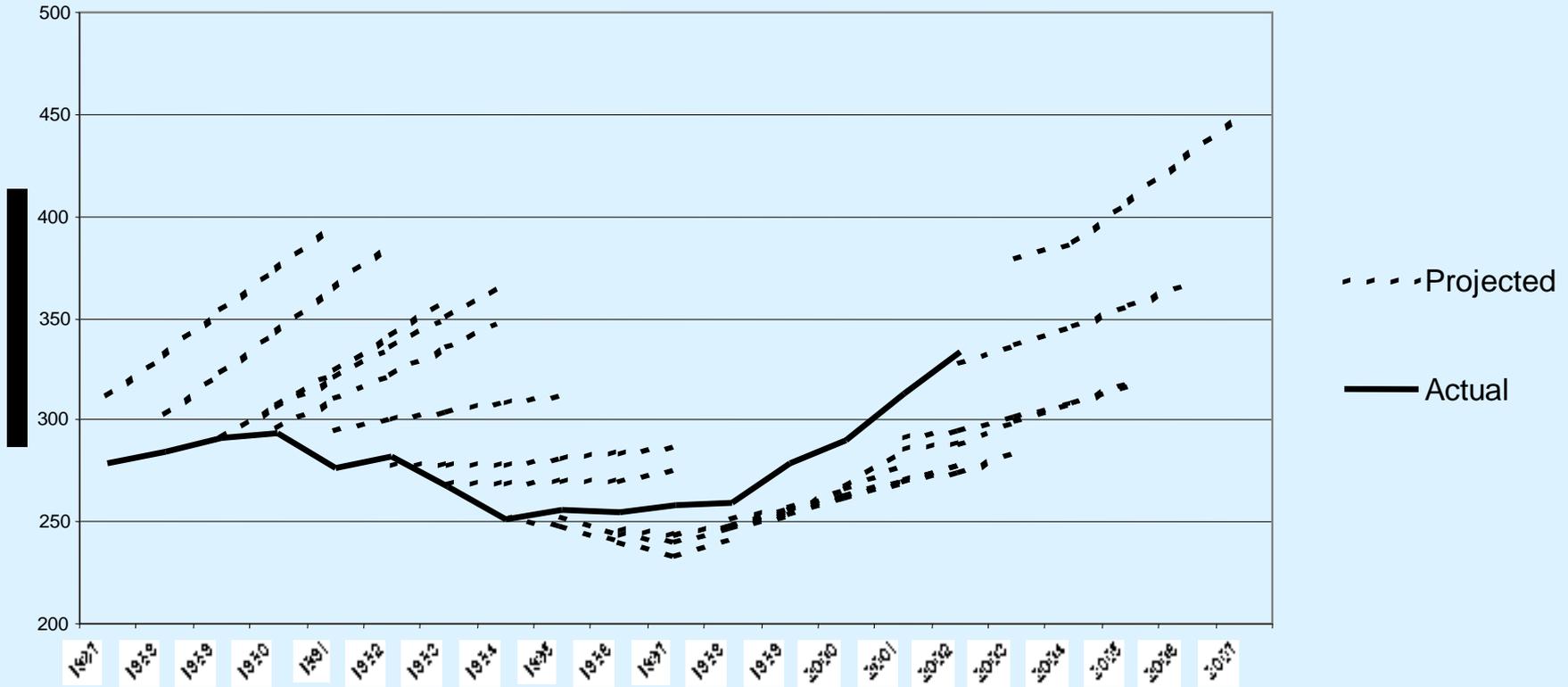
Conventional Wisdom

- **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**



Reality is Far Less Predictability...

Department of Defense Future Years Defense Plans

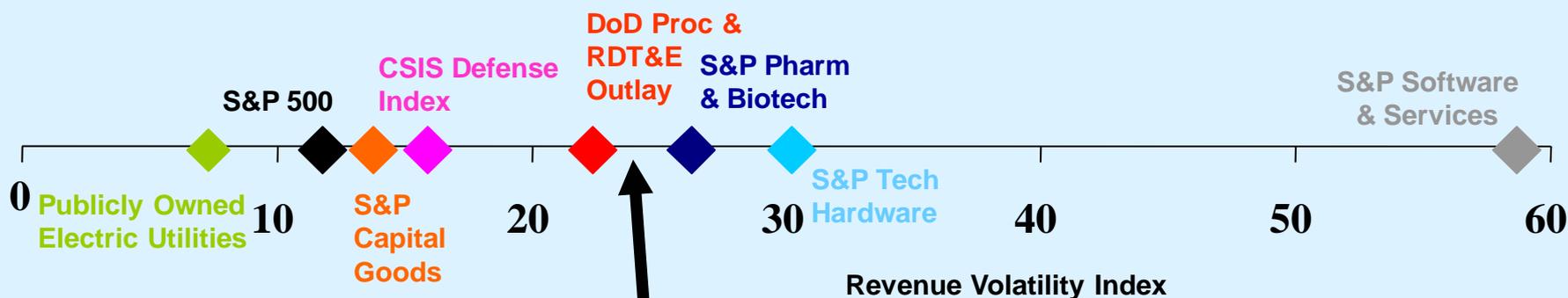


Source: "Defense Budget for FY2003: Data Summary", March 29, 2002, Stephen Daggett and Amy Belasco, Congressional Research Service.



When Actually Measured, Volatility of the Defense Market is Higher Than Conventional Wisdom...

Industry Revenue Volatility, 1980-2005



Defense “Market” Nearly as Volatile as Biotech/Pharma

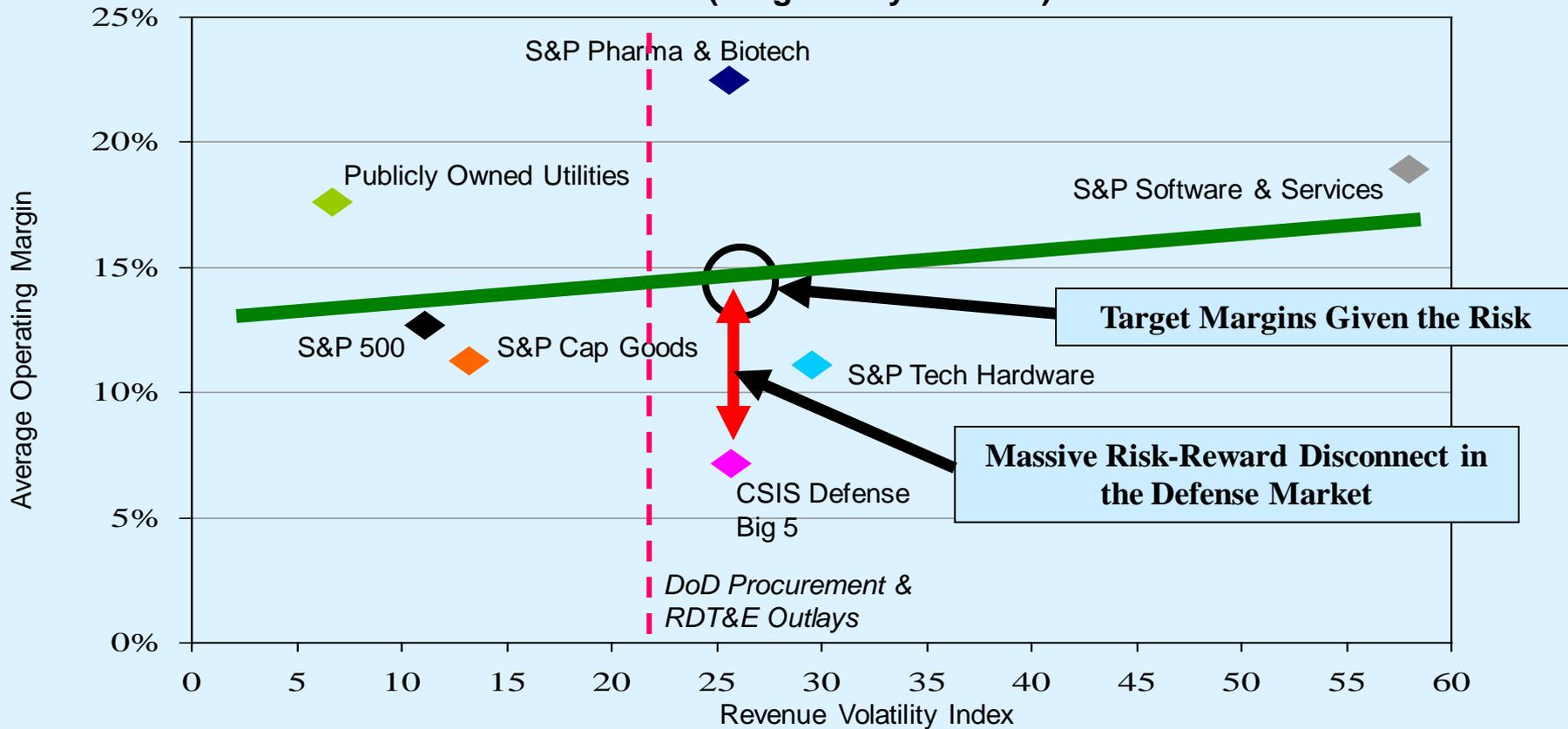
Sources: FactSet, S&P Compustat, Energy Information Administration, National Defense Budget Estimates for FY2004, CSIS Analysis

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***Policy Realities Leave Industry With Few Levers to Pull...
If margins cannot be increased, then lower volatility – multi-years, O&M, political***

**Industry Revenue Volatility versus Average Operating Margin,
1980-2005 (weighted by revenue)**



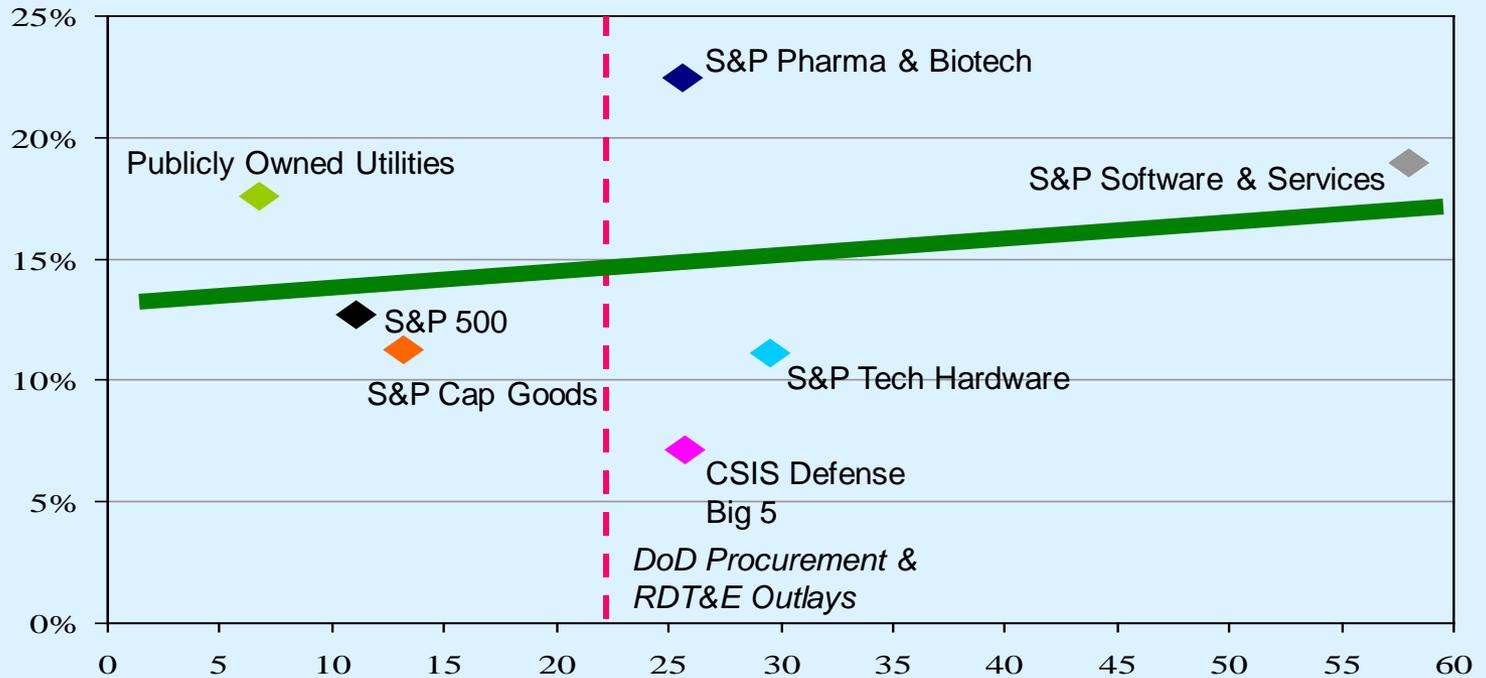
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Policy Realities Leave Industry With Few Levers to Pull...

**Industry Revenue Volatility versus Average Operating Margin,
1980-2005 (weighted by revenue)**

“Glass Ceiling” in Margins, Difficult Politically To Change



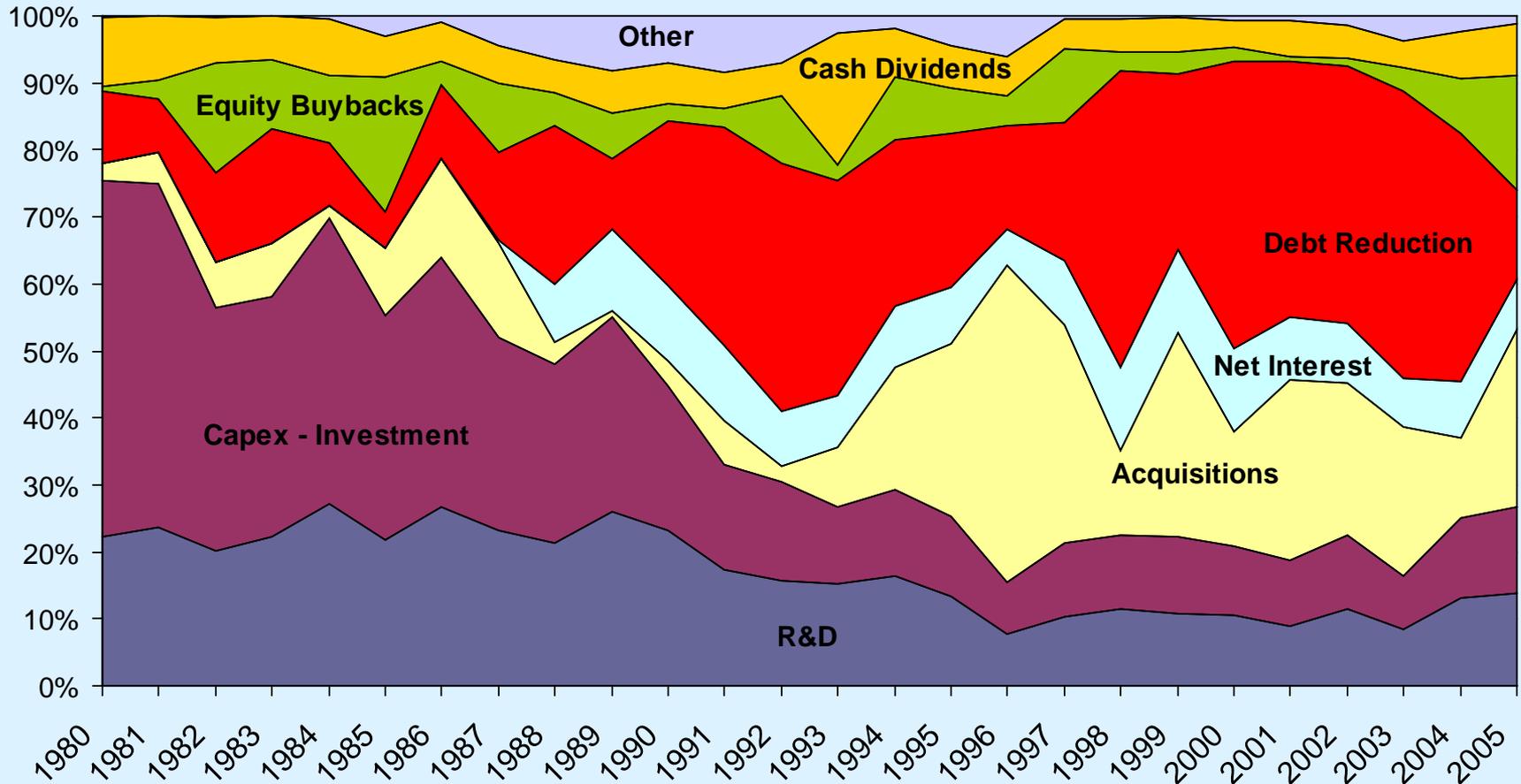
SO...Work the Volatility/Risk Side of the Relationship

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



Financial Response to the Policy and Market Realities...

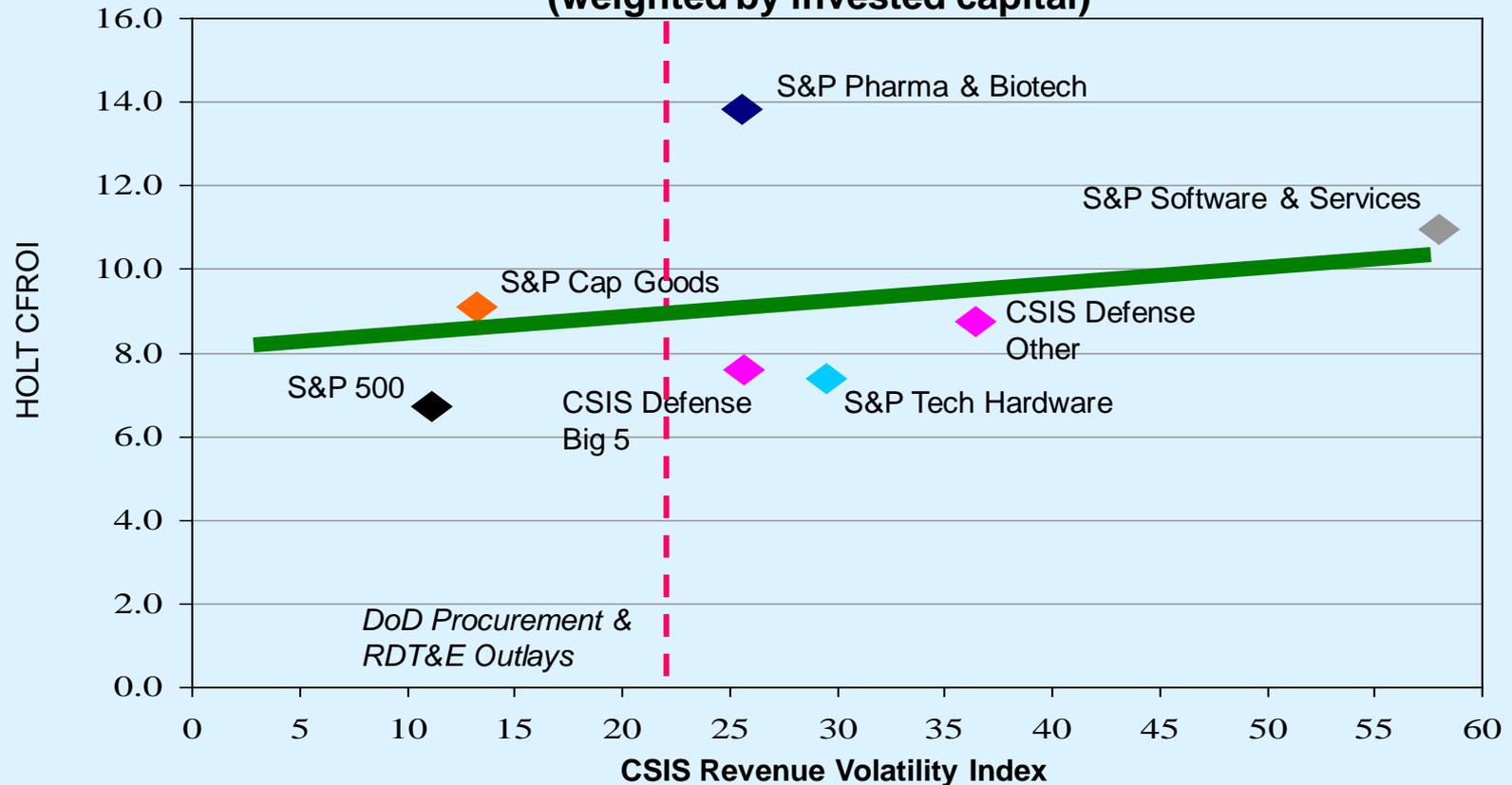
Defense Industry Cash Outflows (Percent)





With This Strategy Industry “Returned To the Line” and Retained the Interest of Investors ...

Industry Revenue Volatility versus Cash Flow Return on Investment (HOLT CFROI) 1987-2005 (weighted by invested capital)





Questions/Discussion



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