



Calhoun: The NPS Institutional Archive
DSpace Repository

Acquisition Research Program

Acquisition Research Symposium

2016-05-01

Identifying and Mitigating the Impact of the
Budget Control Act on High Risk Sectors and
Tiers of the Defense Industrial Base:
Assessment Approach to Industrial Base Risks

Aviles, Lirio; Sleeper, Sally

Monterey, California. Naval Postgraduate School

<http://hdl.handle.net/10945/53548>

Downloaded from NPS Archive: Calhoun



Calhoun is a project of the Dudley Knox Library at NPS, furthering the precepts and goals of open government and government transparency. All information contained herein has been approved for release by the NPS Public Affairs Officer.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>



Impact of the Budget Control Act (BCA) on the Defense Industrial Base (DIB)

Presentation for the 13th Annual Acquisition Research Symposium

May 2016

OUSD-AT&L-Manufacturing and Industrial Base Policy

Mrs. Lirio Aviles

Dr. Sally Sleeper



Purpose

Provide an analysis of sectors and tiers of the private industrial base found to be at highest risk, and how the risk assessment has changed since enactment of the BCA of 2011.

- MIBP did the study before the Bipartisan Budget Act of 2015.
- Areas at high risk were previously identified using Fragility and Criticality assessment, industrial base reports and SMEs inputs.

- **Missiles and Munitions**
- **Aircraft**
- **Combat Vehicles**
- **Space**
- **Ships**



How can we assess the impact of the BCA cuts on the defense industrial base?



- ***There are multiple challenges affecting the DIB***
 - Need to balance force structure, readiness and capability to meet national security commitments.
 - Declining demand for defense-unique products
 - Industry's Income-focused strategy
 - Development & Manufacturing Gaps - Programs moving from development and manufacturing stages to operations and maintenance stages.
 - Budgetary Uncertainty – Inability to plan. Appropriations have consistently fallen short of PB.
 - Aging Workforce
- ***Funding cuts due to the BCA will create additional barriers to overcome current challenges.***
- ***BCA cuts impacts cannot be assessed in isolation.***

Impact of the BCA cuts can be measured by the likelihood of losing critical capabilities and the consequences of that loss



High Risk Industrial Base Sectors & Tiers

Likelihood

- What is the probability of losing a critical capability?
- How easily can the capability be reconstituted?

Likelihood		Definition
	Low	Low expectation that a critical capability will be lost and, if lost, is easily reconstituted
	Medium	Medium expectation that a critical capability may be lost and, if lost, will not easily be reconstituted
	High	High expectation that a critical capability will be lost and, if lost will be difficult or impossible to reconstitute

Consequence

- What are we losing?
 - Design Skills
 - Manufacturing Skills
 - Innovation
 - Competition
 - Infrastructure

Consequences	Definition
Loss of Design Skills	Loss of defense-specific knowledge required to reproduce a critical capability, an alternative, or the next generation design
Loss of Manufacturing Skills	Loss of specialized skills needed to integrate, produce or sustain a critical capability
Loss of Innovation	Reductions in RDT&E funding that will jeopardize technology-based programs. Industry is focusing R&D investment on <i>near-term</i> payoffs.
Loss of Competition	Procurement levels that cannot sustain multiple suppliers will lead companies to exit a market. Markets also may consolidate through increased mergers and acquisitions, and partnerships between primes and suppliers.
Loss of Infrastructure	Loss of specialized equipment or facilities needed to integrate, manufacture, or maintain a critical capability. Lack of investment to maintain and modernize the equipment, tooling, and facilities needed to sustain the capability.

DoD defines IB risks as uncertainties regarding industry's ability to design, manufacture, and sustain present and future DoD's critical capabilities.



Risk Assessment Approach: Likelihood Example

Sector: Aircraft	2011	2013	2015	Potential BCA 16 Impact		
				PB2016		BCA16
Sub-Sector: Fixed Wing - Fighters						

- Program transition
- Development Gap
- Aging Workforce

Risk Level	Definition
Low	Low expectation that a critical capability will be lost and, if lost, is easily reconstituted
Medium	Medium expectation that a critical capability may be lost and, if lost, will not easily be reconstituted
High	High expectation that a critical capability will be lost and, if lost will be difficult or impossible to reconstitute

Potential Effect of BCA cuts on Procurement and RDT&E funding (Aircraft-Fixed Wing- Fighters Example)

- Aerospace Innovation Initiative (All) funds may be eliminated.
- RDT&E programs to advance 6th generation fighter technology may be reduced or eliminated.
- BCA16-driven divestiture or reduction of aircraft fleets may affect primes and lower-tier suppliers that are essential to capabilities sustainment.

Sequestration would put a hold on critical programs like our Aerospace Innovation Initiative, the Next Generation Adaptive Engine, ...” Secretary of Defense Ashton Carter, March 2015



Industrial Base Risks: Consequence Example



Sector: Aircraft	Loss of Design Skills	Loss of Manufacturing Skills	Loss of Innovation	Loss of Competition	Loss of Infrastructure
Sub-Sector: Fixed Wing - Fighters	√	√	√	√	√

Consequences	Definition
Loss of Design Skills	Loss of defense-specific knowledge required to reproduce a critical capability, an alternative, or the next generation design
Loss of Manufacturing Skills	Loss of specialized skills needed to integrate, produce or sustain a critical capability
Loss of Innovation	Reductions in RDT&E funding that will jeopardize technology-based programs. Industry is focusing R&D investment on <i>near-term</i> payoffs.
Loss of Competition	Procurement levels that cannot sustain multiple suppliers will lead companies to exit a market. Markets also may consolidate through increased mergers and acquisitions, and partnerships between primes and suppliers.
Loss of Infrastructure	Loss of specialized equipment or facilities needed to integrate, manufacture, or maintain a critical capability. Lack of investment to maintain and modernize the equipment, tooling, and facilities needed to sustain the capability.



Risk Assessment Approach: Likelihood and Consequences

Industrial Base Risks at BCA Levels (Consequence)

Sector: Aircraft	Loss of Design Skills	Loss of Manufacturing Skills	Loss of Innovation	Loss of Competition	Loss of Infrastructure
Sub-Sector: Fixed Wing - Fighters	✓	✓	✓	✓	✓

Industrial Base Risks Assessment (Likelihood)

Sector: Aircraft	2011	2013	2015	PB2016	BCA16
Sub-Sector: Fixed Wing - Fighters	●	●	●	●	●

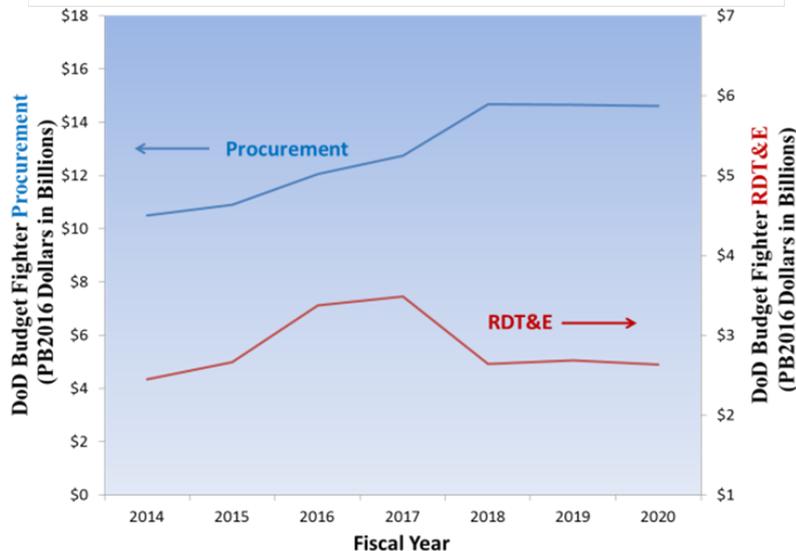
Potential BCA 16 Effect



Potential BCA16 Impact

- Aerospace Innovation Initiative (AII) funds may be eliminated. Loss opportunity to build X-planes prototypes and develop technology for next generation fighters.
- RDT&E programs to advance 6th generation fighter technology may be reduced or eliminated. For example, the Adaptive Engine Transfer Program (AETP) is working on engine technology for sixth-generation fighters.
- Procurement strategies to drive down cost and increase predictability for primes and subcontractors at jeopardy.
- BCA16-driven divestiture or reduction of aircraft fleets affects primes, and lower-tier suppliers that are essential to sustainment.

Fighter Aircraft Procurement and RDT&E



Source: US DoD Photo Gallery



Summary of Findings

- BCA levels would have a significant negative impact on most major sectors of the defense industrial base.
 - Many of DoD's remediation efforts to protect high risk sectors and tiers will be at risk.
 - Remediation programs to help manage IB risks and challenges may be extremely limited or unavailable at BCA levels.
- DoD's future actions to reduce the potential impact of BCA on the industrial base will depend on the cuts across the Services
- Additional actions may be necessary to sustain the industrial base
 - Acquisition Strategies, Increase Efficiencies, Partnerships

U.S. ability to maintain technological superiority and meet National Defense needs will diminish if industrial base risks are not mitigated