

Rigid Wall Shelters in a Cost Constrained Environment

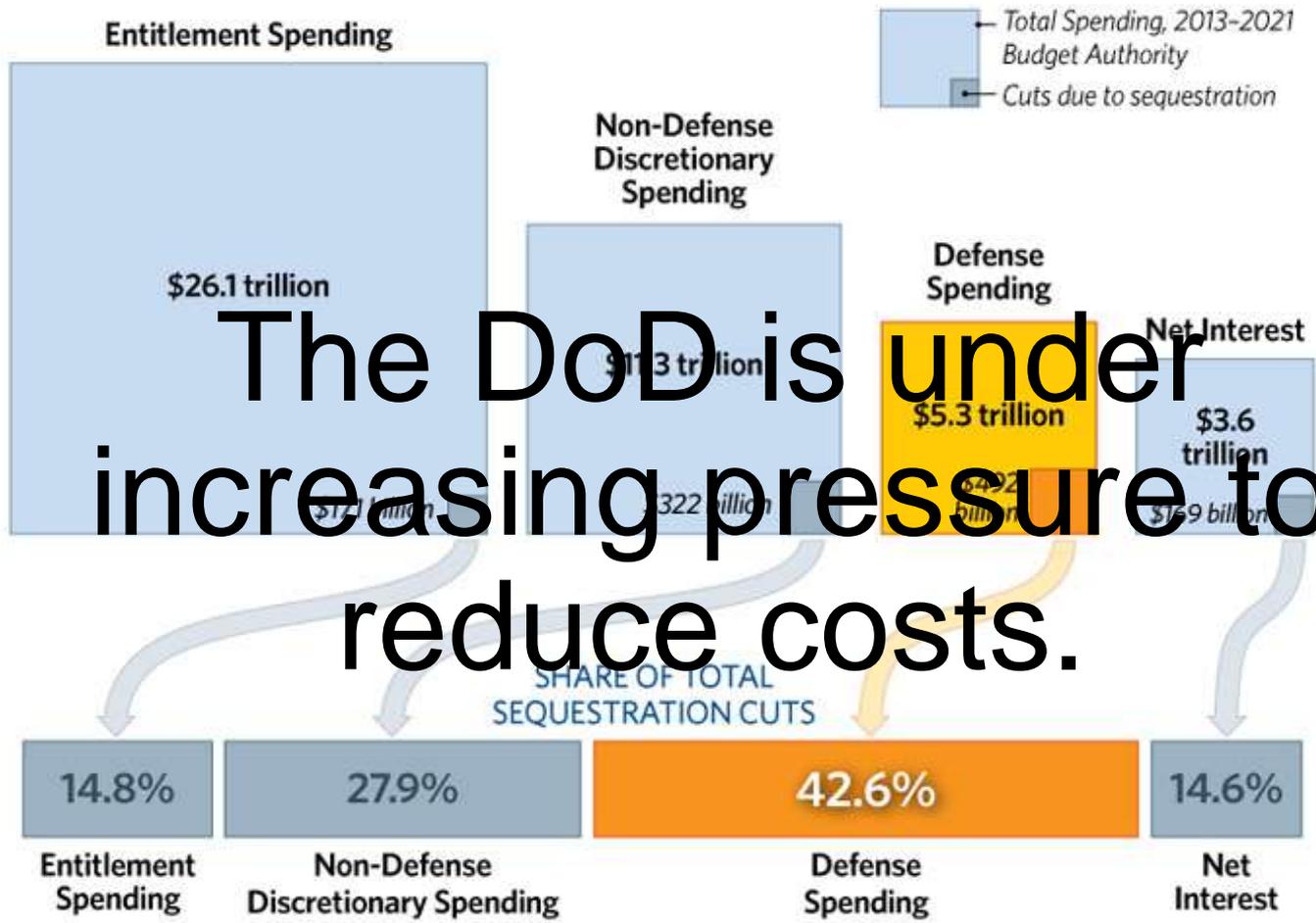
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19 Nov 2013

*Can we make them affordable without
“cheapening” them?*



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The DoD is under increasing pressure to reduce costs.

Source: Heritage Foundation © 2012

How do we maintain readiness, meet our customer's needs and do so at an affordable cost?

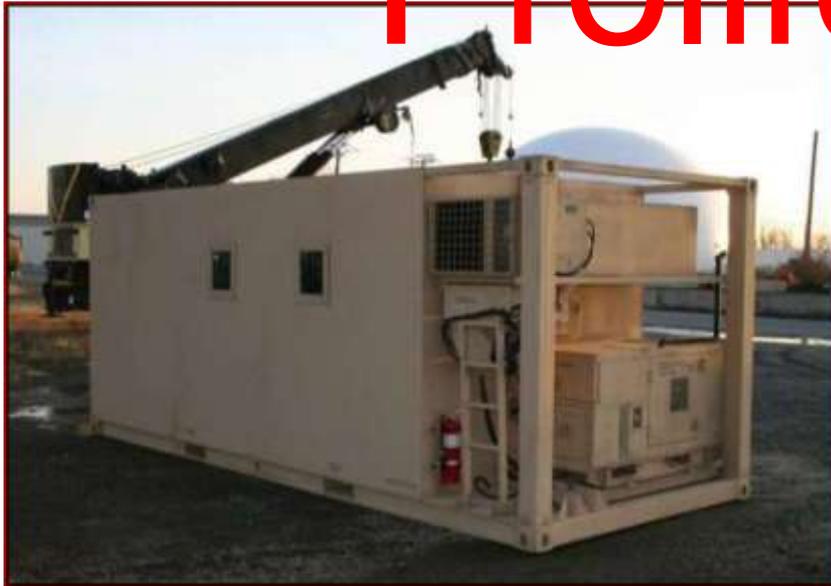
The purpose of this talk is to begin a serious discussion as to navigating the current fiscal environment, not to offer a solution.

Why is this an important
topic?

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Proliferation!



When JOCOTAS was established, we went from 100+ to 21 Shelters, knowing that we'd only satisfy the capability needs of 85-90% of the user base.

Now, DoD seems to be
going back in the
opposite direction!

- Two Main Reasons for this movement
 - Capability
 - Cost

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DoD Standard Family of Shelters



Costs have risen
significantly over the last
20-30 years

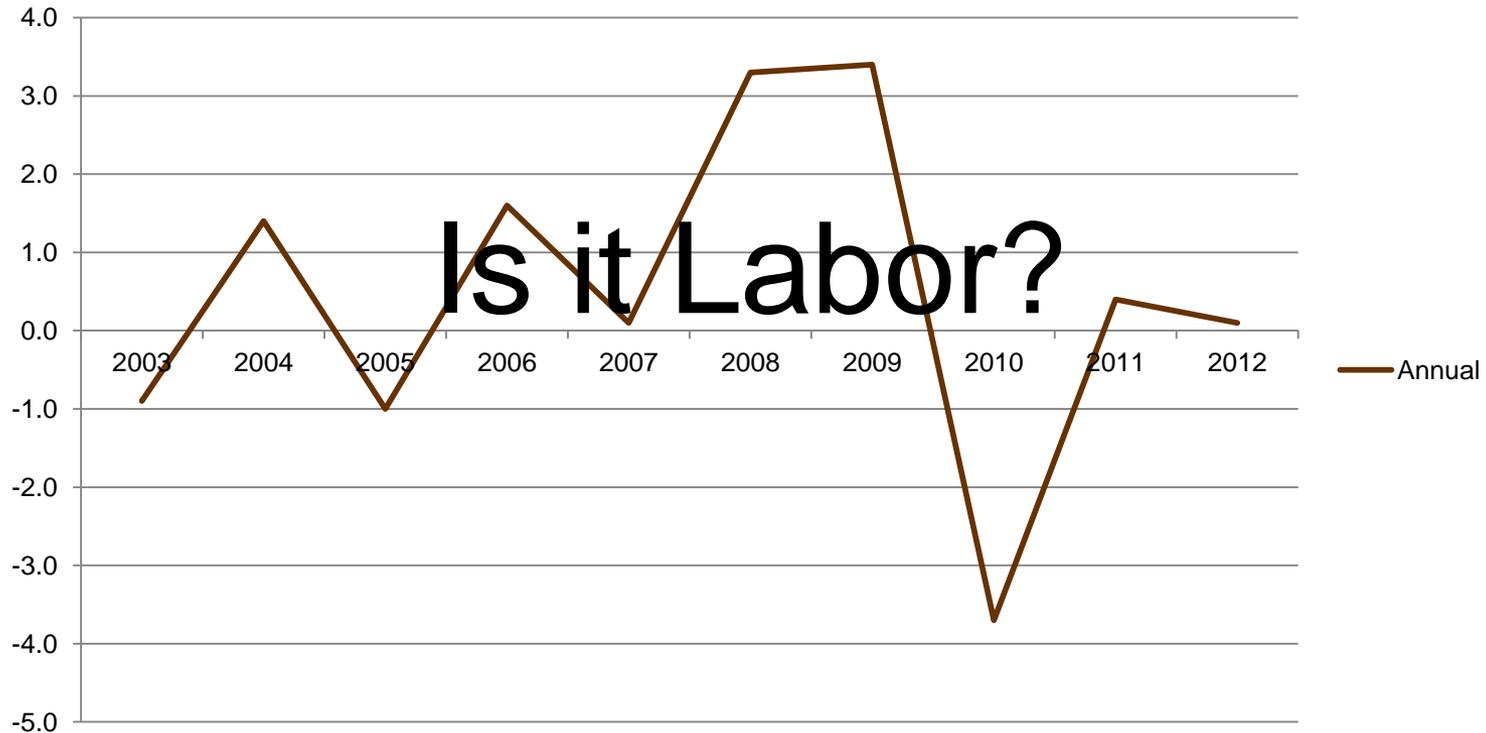
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- ASF Two-Side Expandable ISO's have gone from \$65-70K in the late 90's to \$225K currently (246% increase)
- Basic S280's have gone from approximately \$15K in the late 90's to \$28K (87% increase)
- Type I S788's have gone from approximately \$17K in 2000 to \$34K (100% increase) ... BUT ... it fell to \$26K (53% decrease, but 141% increase overall)
- A single Navy MF A have gone from \$54K in 2006 to \$47K (13% decrease, but this is only one data point)

What's Driving Costs?

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Labor Cost Fluxuations for Manufacturing

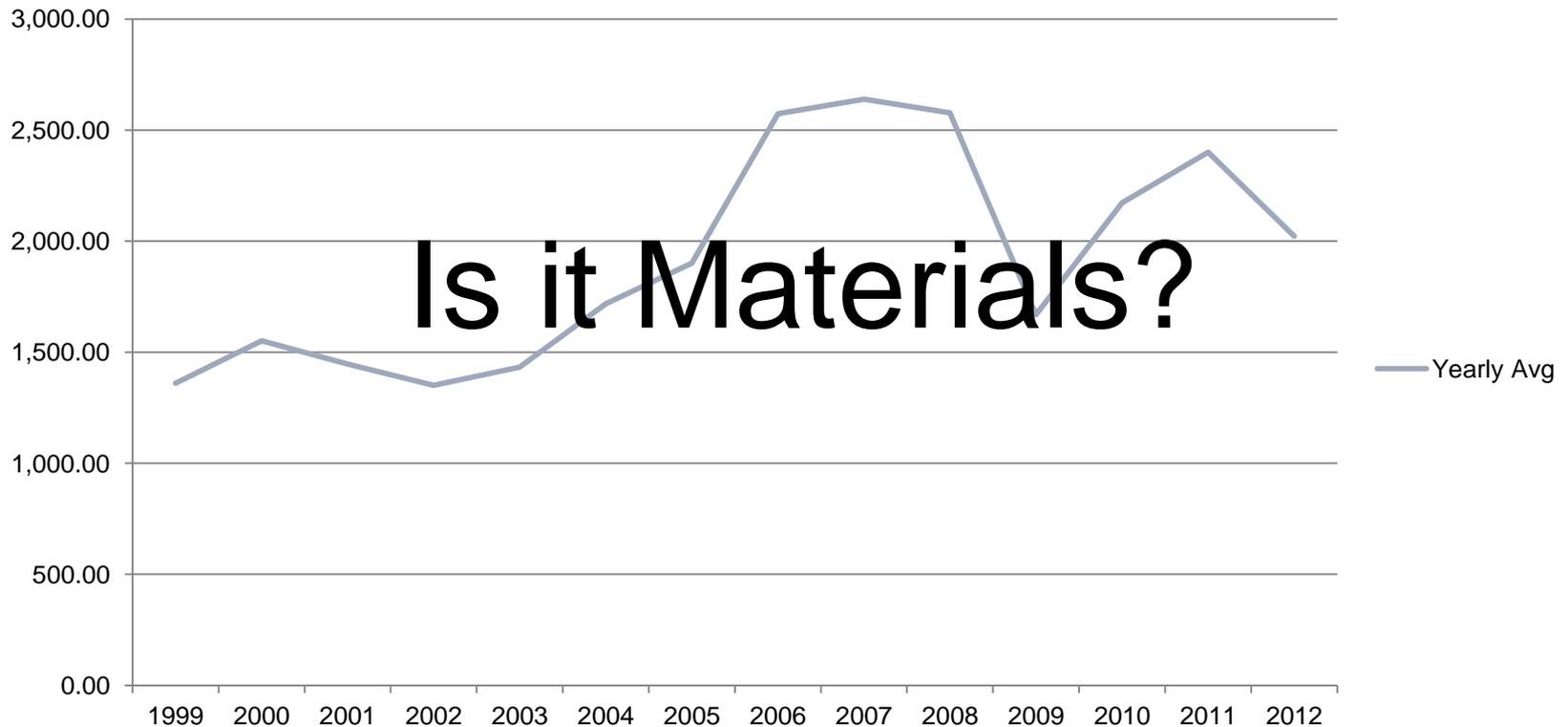


Source: Bureau of Labor Statistics

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Average Aluminum Commodity Prices per Metric Ton

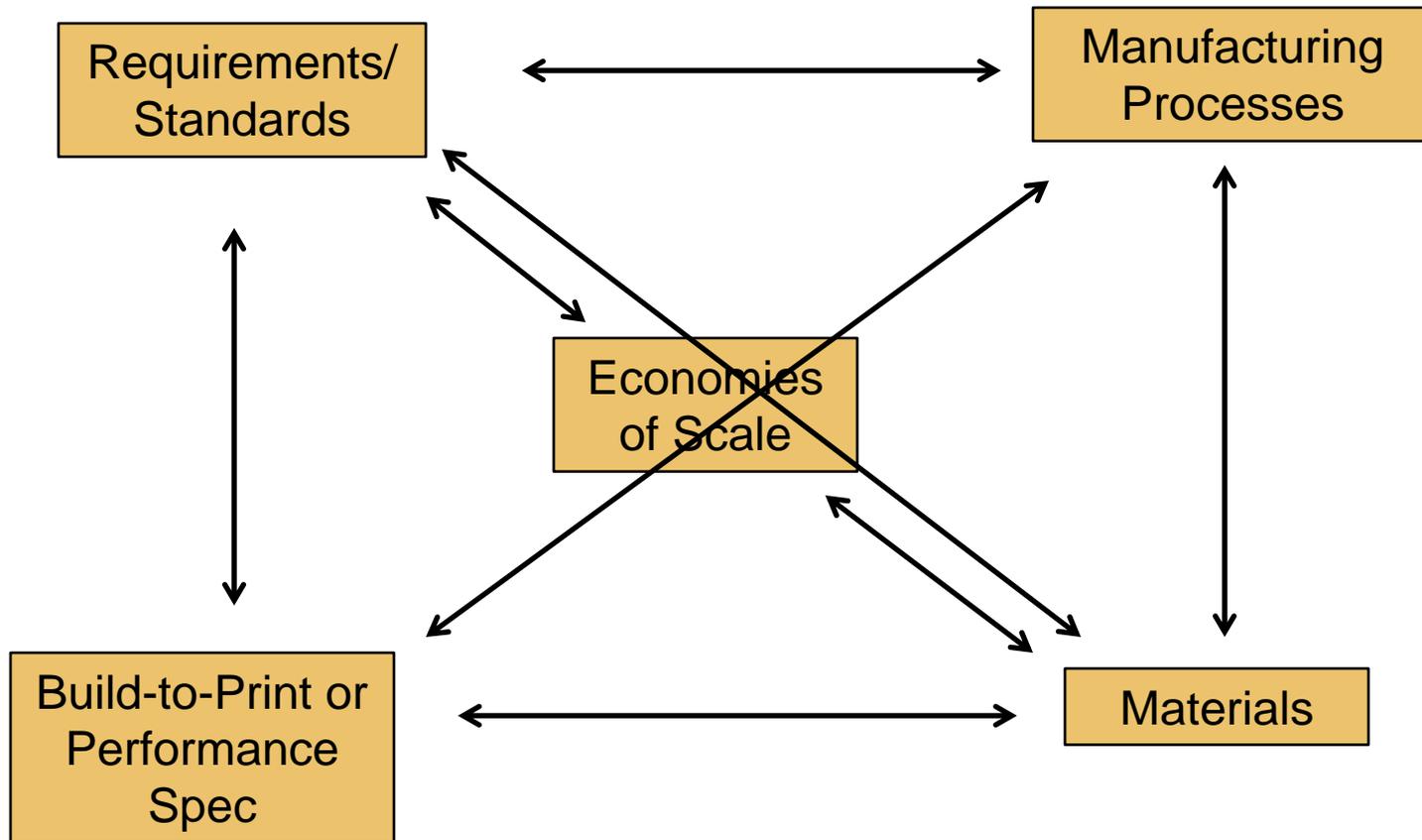


Source: Index Mundi

What's the Solution?

- Areas that seem to drive cost
 - Economies of Scale
 - Materials
 - Manufacturing Processes
 - Build-to-Print or Performance Specification
 - Requirements and specifications

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- Economies of Scale
 - In a study Tactical Shelters Team commissioned in 2001, DoD shelters make up less than 5% of the total market for shelter manufacturers ... rigid wall shelters make up only a fraction of that.
 - Given the small market share, costs cannot be driven down unless large quantities are bought on a continuing basis, hence the move toward “converted containers”
 - Short-term effect: Lower up-front cost
 - Long-term effect: Higher long-term maintenance or “use once and replace”

- Materials
 - Materials driven by requirements
 - Costs continue to rise
 - Alternate materials may offer better performance, but may not significantly reduce cost
 - Increased material purchases will help mitigate the cost increases which leads us back to Economies of Scale

- Manufacturing Processes
 - Increase automation to reduce handling
 - Processes driven by material selection, requirements and standards
 - Investment in new processes will not happen without sufficient Return on Investment (ROI)
 - ROI driven by quantities which lead to Economies of Scale

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- Build to Print
 - Locks in materials and processes
 - Does not easily allow material substitution (e.g., aerospace hardware vs non-aerospace)
 - Discourages innovation
 - Provides consistency across contractors
- Performance Specifications
 - Increases risk to company (e.g., every acquisition is a mini-R&D program)
 - Increases risk to industry and risk will increase cost
 - ROI must be sufficient for proposer to take risk
 - ROI increased by increasing quantities which lead to Economies of Scale

- Requirements and specifications
 - These drive material and processes
 - The materials and processes are driven by Economies of Scale
 - Military has unique requirements
 - What can we learn from analogous industries which face similar issues as military (e.g., oil and gas)?
 - Can we move to commercial standards to accomplish our unique mission?
 - What are we willing to trade? (e.g., lower upfront cost for more maintenance, less capability, etc.)

- Everything revolves around Economies of Scale which DoD cannot achieve in any significant way
 - What are we willing to trade off?
 - Can companies which serve other industries serve DoD without compromising performance or creating long-term maintenance issues?
 - Can DoD drive the commercial shelter industry so that our standards becomes the standard for other industries?
 - Is DoD willing to go the “use once and replace” route?

- These issues/questions **MUST** be addressed in order to stem the tide of proliferation and reduce shelter cost.
 - Propose meeting between Government and Industry (not just the usual suspects) to get their input as to what they feel drives their cost or what commercial standards are used.
 - Based on input, put together strategy to plan a way forward to put cost effective shelters into the hands of the Warfighter and keep JOCOTAS relevant.
 - Resources are required
 - TRADOC
 - Joint Services
 - Support from above