Rethinking National Security
in an Era ofDeclining Budgets Seminar Series

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Mr. Ajay Patel & RADM Ben Wachendorf, USN (Ret)
Monitor National Security

Anticipated Budget Cuts: Long-Term Outlook for DoD & the Defense Industry

Notes:
Below are informal notes taken by a JHU/APL staff member at the Seminar.

Budget Overview and Implications for DoD
RADM Wachendorf began by noting that he would not be advocating for any particular military program or any specific political party’s views. He would be addressing the issues from a military perspective and Mr. Patel would follow with views related to the concerns of the defense industry. As a starting point, RADM Wachendorf displayed a slide showing some of the underlying factors of the expected Defense recession as it related to the American gross domestic product (GDP.)
The chart above shows that the US has a large deficit which is growing
- Something will have to happen to change this
- The upcoming train wreck of revenues, spending and policies is visible
- This situation has major implications for DoD

The slide below shows the historic ups and downs of the Defense budget adjusted for inflation.
- Defense spending goes up and down in cycles
- When times are good, growth increases for several years
  - Defense spending shows sustained periods of both growth and decline
  - The latest growth cycle appears to have peaked last year
- Cycles can be seen to run in about 10-year increments
- Defense budget is about $1.5 trillion above where it was on Sept 10, 2001
  - Current budget calls for about $487 billion in cuts over next 10 years
  - Assuming Congressional approval, that cut would be about 1/3 of the decade’s growth

Expect a Deep and Lengthy Downturn

*Beyond the structural challenges brought on by the global recession, defense spending has historically declined sharply and rapidly following draw-downs from previous conflicts*

The Budget Control Act from August 2011 called for more automatic defense cuts through Sequestration, which would total an estimated $1.1T
- Think in $500B increments: nearly $500B in cuts already announced and possibly another $500B will be required by Sequestration
  - Would leave DoD with $500B more than expected on Sept 10, 2011 or about $50B/year
• Not just the number of dollars that is important
  o Current laws requires Congressional agreement on $1.2T in deficit reduction
  o Conversations with lawmakers, others indicate that bipartisan agreement is not likely
  o Polarization and gridlock are expected to remain until 2012 elections
• Highly inefficient cuts forced by Sequestration would likely go into effect 1 January 2013
  o Even within the Administration there are some legality debates on how the cuts would have to be applied
  o Congressional Research Service reports that that the overall cuts could be aimed against major accounts such as ship construction or aircraft buys, not individual programs
  o The President also has the authority to spare manpower programs but funding must be made up from other programs

Requirements and Acquisition Complications
• Requirements officials work 2-3 years out (some even longer) for their budget inputs
  o Inputs then must go through internal channels for about a year
  o Another year is required for Joint Staff, OSD, Combatant Commander, etc. approvals
  o Congress is supposed to decide over 6 months, but they have passed no budget recently
• If Sequestration is imposed, the problems will not come as much from the dollar number as from what will be done to the structure of the programs
  o Lawyers are likely to have a field day
  o Senators Leven, Warner, and others agree that this is bad situation, but it is the law until it can be changed

Sequestration is not the only problem – after the election a lame duck Congress will need to deal with:
• Raising the debt ceiling, which has been shown to be a matter of brinksmanship in recent years
• Expiration of the Bush tax cuts and the payroll tax holiday
• Decisions on the Transportation and Farm bills with their subsidies essential to the economy

Bottom line: all these economic crises will come to a head at the same time and all will be contentious

On the positive side, several recent studies have suggested ways to cut about $1T of the Defense budget
• Would meet the Administration’s goal and the requirements of Sequestration
• But there are smart and not-so-smart ways of handling these cuts (See Patel remarks below)

Part of the Problem:
DoD’s POM (Program Objective Memorandum) looks out 5 years and must consider things like optimizing the utilization of the industrial base while Congress only focuses on a single year
• The “Fishhook” chart below shows that planners always assumed things would get better during downturns, with the POM usually taking about 5 years to catch up with Congressional budgets
• Bottom line: Downturns are sustained for many years until another event changes the direction
Another budget issue to remember: the deficit today is about $15.6T of which $5.1T is foreign-owned

**Another Goldwater-Nichols Style Restructuring of the Whole Government?**

- Senator Ike Skelton has advocated a government-wide restructuring
- Joint Forces Command once had a Strategic Advisory Group look at goals and mission
  - The diverse group included then-Senator Hillary Clinton, Newt Gingrich, Norm Ornstein, Max Boot, and other dignitaries
  - All agreed that US needed to do a better job integrating its hard and soft power tools
    - US usually waits too long to act, then must fall back on kinetic military solutions
- Big problem: how to implement a Goldwater-Nichols style government restructuring
  - A possibly useful example of how to make significant changes rapidly was the closing of Joint Forces Command
    - Eliminated a 4-star billet and 50% of the workforce in 6 months
    - GAO was amazed that they could do it that fast
  - Savings might come from:
    - The Defense Intelligence Agency, which doubled in size since 9/11
      - Still needed but some functions duplicate those of other agencies
    - Office of the SECDEF grew from 175 under McNamara to thousands now
    - There are probably other JFCOM-like agencies that could be similarly eliminated

**Each of the Services Is Facing Its Own Challenges**

- US Army: has been working very hard for many years but still faces financial challenges
  - Already cut several major programs but requirements remain and must be met
  - Example problem: tactical vehicles – flat bottoms were found to be vulnerable to IEDs
    - But V-bottom vehicles come at a much higher price
  - People are both the best asset and the highest costs
    - Chairman, JCS, wants to avoid hollowing out the force as was done before
- US Navy: fleet is already down to about 285 ships but there are still problems
  - The new carrier, USS Ford, is already $1B over budget
  - Good news story – 2 Virginia class SSNs are coming in under budget, ahead of schedule
  - Littoral Combat Ship final costs not yet known
    - Has payload vs platform issues
• Coming in behind schedule, above budget because of weapons systems issues
  o Must build new amphibs without the well-decks that the Marines wanted
  o Problems with the new Arleigh Burke class and its air missile defenses radar system – how big does it need to be and how much power will it need
  o Aviation – never had so many changes in generations of aircraft at one time
• US Air Force depending on Raptors while so many other aircraft are aging
  o F-15 lost in Afghanistan was not brought down by enemy action
  o Long-standing tanker issue has not been resolved but the Air Force needs new ones
  o Future bombers need to be developed given the age of existing aircraft
  o Air Force also investing heavily in cyber warfare efforts
• US Marines want to get back to expeditionary warfare after a decade of land war
• Overall problems with the F-35: as unit price goes up, foreign sales go down
  o This then causes the unit cost to go up more creating a cycle

The Nuclear Triad
By 2042 much of the strategic force will have reached its shelf-life limits
• Ohio Class SSBN hulls will be phasing out
• Air Force ICBMs will reach the limits for their solid rocket motors
  o The industrial base for rockets is already in bad shape
  o US had to buy Russian rocket engines and is now building them here to Russian specs
  o US must use Russian systems to get to the Space Station
• Trident D-5 program is continuing but at a high cost to support the industrial base
  o So SECDEF listed land-based ICBMs as a potential loser in the Sequestration reductions
  o Navy will cut back on the number of tubes on future SSBNs from 24 to 16 but without changing external dimensions of the rocket engines
  o Cost is estimated to be about $80B and still climbing
  o CNO has asked whether this could be considered a national defense item like missile defense
    ▪ Would remove cost of the hulls from the overall ship construction budget
    ▪ SECDEF currently disagrees
  o Two-year delay in ship building indicates platforms will probably be reduced in size
  o SSBNs remain the most survivable leg of the Triad
    ▪ If US gets down to one type of nuclear weapon, it will be on a sub
• Bombers: B-52s can’t last forever but there are no nuclear-capable aircraft in production now
  o Any replacement won’t be like the B-2 (would have been cheaper to make it in gold)
  o Speaker’s opinion: the next bomber will be a bus for an assortment of payloads

Missile Defense
SECDEF Gates noted that some missile defense zealots almost treat it as a religion
• Cutting even a dollar is seen as sacrilegious to them
• Missile defense has been supported at about $10B a year for the last decade
  o Have had some great successes – Navy shot down falling satellite
    ▪ Like shooting a bullet with a bullet but had months to work out the trajectories
    ▪ Not sure they would have as much success in a real world situation
    ▪ How many would it take to really be sure of taking out the threat?
• Looking at the situation from Iran or North Korea missile attacks without WMD
Would have great impact on the immediate population
Would not have much impact on the battlefield

- It may not be worth the effort to try to deliver a nuclear weapon with a missile
  - Have to deal with all the elements of space, vibration, etc.
  - However, it would be hard to defend against them
  - It would be easy to identify missiles sources so must be prepared for massive retaliation
  - Many other easier ways to deliver a nuclear weapon exist (e.g., cargo containers)
    - Has been said they would be best hid inside a bale of marijuana

- Bottom line: the requirement for missile defense may be overstated

Mr. Patel – The Defense Industry View
Mr. Patel asked the audience questions about their views of the future but avoided predictions since they are always wrong. There are challenges and decisions that are all too often made so poorly. Bureaucracies endure because they are self-healing.

- Over 100 significant efforts have tried to improve upon how the government does business
- Results have only managed to improve things a little at the margins

Perspectives below will be informed by history but are speculative

Most people would agree that the US defense industry is in a recession

- The media and military leaders appear to believe that the implications of Sequestration would be so dire that the Congress and the Administration would not allow it to happen
  - Basically, they don’t want to believe it could happen
  - Need to look at the “Fishhook” chart above to overcome their unfounded optimism
  - Government may be a step ahead of industry in recognizing the problem
- Industry has not done the strategic planning it needs to do on this issue. Instead it is only:
  - Identifying economies and undertaking efficiency improvements in direct costs
  - Reducing indirect costs
  - Consolidating reporting entities to provide greater flexibility in IRAD (independent research and development) choices
- Generally, the defense industry has been conservative and optimistic
  - Competition for new contracts will be even more intense
  - This will make it even harder for the government to tease out the truth
    - Industry assessment will be so positive on all products by all competitors
  - Both competitors and customers will threaten existing programs
  - On-going political polarization will ensure inertia in many instances
  - New programs will include less than one for one replacements

Old strategies, even from the 1990’s, are not relevant now

- Want to plan but have imperfect knowledge of what the future will be
- So still need to look at what had been done in some instances
- Need to follow Socrates: the unexamined life is not worth living

Case study: General Dynamics

- In 1991-1993 GD went through various changes and divested themselves of various businesses
  - Data Systems, Cessna, missiles, electronics and even fighters and space systems
Kept only those businesses they led, or could contest for leadership – primarily land forces and sea power

- In 1990 GD had about $10B in revenues but soon dropped to about $4.5B but with an enviable backlog of $23B
  - Such a change would not likely happen today
  - GD’s leaders were not optimistic and not conservative
  - William Anders, GD’s CEO, had to go against conventional wisdom to make changes
    - Today, Industry generally plans to ride-out the bad times while getting smaller

- Results for GD
  - Market capitalization rose from $1B at the end of 1991, to $2.9B by the end of 1993
  - Net income went from $500M to $900M
  - Valuation went up using various measurements
  - Special distributions returned about $3.5B to shareholders
  - Finally, paid down debt and repurchased shares
  - But still had $600M in cash

- All this was done before any clear signals from the customer
  - Today, Industry seems to be waiting for those signals
  - Industry has not taken in the message of General Dynamics

**Bottom line:** Industry has not yet take up Socrates’ dictum about the unexamined life – need to be more introspective, self-critical, to get out of the gridlock imposed because the future is so unclear

Beliefs that helped General Dynamics

1. Needed a foundational model of how the industry would evolve, not just a belief in riding out the bad times
2. Needed to have an understanding of the risk of not investing sufficiently in the long-term and the risk of not divesting
   - In bad times there is a tendency to focus too much on the near term
   - In good times it is easy to align short-term demands and the long-term horizon
   - DoD planning cycles make this that much worse
     - Defense planners work three years ahead on budgets
     - DoD Acquisition needs 2-3 years or a decade to compete and award contracts
     - Industry can then take 10 to 15 years to deliver the capability
   - But DoD focuses on current year appropriation, and next year’s budget
     - Industry looks at quarterly results and annual operating plans and goals
   - Most people think of a five-year planning horizon
     - Should be more like 10-years but that is too uncomfortable for most people
3. Industry needs to make clear, deliberative choices
   - Not on how to win – which would be the question in good times
   - In bad times need to ask: what markets should we be in?
   - Need clarity, not on the future, but on strategic objectives
   - GD’s choice was pretty simple: either be the leader in a segment or be able to contest for that leadership
     - Any other activity destroys value in the business
The Defense Recession this time will be different

- Especially for anyone now working – no point of reference from the past
- Leaders need new tools for thinking about the situation

Reasons why this Defense Recession will be different

- There is a global economic recession going on at the same time
  - Deleveraging is greater than ever before
  - Last broad recession with a major impact on Defense was in the 1970s
  - The old standard level of yearly growth of about 3.5% is no longer achievable
    - Europe’s level is even lower than that of the US
  - The defense recession of the 1990s occurred during a time of great economic growth
    - Only punctuated by a couple of crises – Asian flu was sharpest
    - During one of the longest period of economic expansion
    - Always best to have a defense recession during the country’s expansion
- Firms that made strategic moves before 1995 were rewarded by the capital market
  - Did not matter if in first, second, or lower tiers
  - Those that tried to ride out the bad times were takeover targets
  - Unlikely to happen this time since markets will be less forgiving
- In the 1990s DoD paid for most of the restructuring
  - The phrase – or accusation – used at the time was “pay-offs or lay-offs”
  - Misgivings by Congress and DoD now exist about paying for restructuring industries that still are loaded with overcapacity in most areas
  - No invisible hand will be helping industry this time with supportive policies
- Because of the 1990s, no obvious choice about where to play and little visibility about options
  - Vertical integration won’t work because of the inability to retain captured profits from the supply chain
  - Horizontal diversification within the industry has already been played out
  - Hard to conceptualize how large companies can pare down and become more focused without leading to a more fragmented industry
  - In the 1970s the trend was toward conglomerates – often hugely diverse
    - Even experienced management teams were often unable to provide the necessary growth
    - Lacked coherence in both the scale and scope of the companies
  - The 1980s followed with an era of corporate raiders and leveraged buy-out firms
    - Need to examine whether industry really created value through economies of scale and scope
    - Results likely to be mixed

**Bottom line:** Something of a sad story with huge challenges for the industry right now

Searching for Growth Opportunities

- **Primary sources of growth:**
  1. Existing Platforms
  2. Pursuit of Market Adjacencies
  3. New Geographies – the International Market
- **Existing Platform Growth**
  - Problem 1: DoD is eliminating duplicative missions and ordering new systems at a less than one-for-one rate
Problem 2: DoD is disaggregating the big systems and finding novel ways to use existing platforms especially in space

Bottom line: Little to be gained here except providing strategic positioning for when DoD starts growing again

- Market Adjacencies
  - Not quite as bad as attempts at commercializing products, but fairly bad record
  - When times are good, defense companies occasionally invested heavily enough to make some headway (e.g., Lockheed Martin’s efforts with the health care system)
  - Opportunities are limited, however

- International Markets
  - Most sizable firms have considered international markets – with uneven success
  - US firms tend to use the exporter model when they need to think more like a global enterprise
  - A lot of thinking may be based on outdated geo-political constructs – may need to reconsider the underlying nationalistic issues that did work under the exporter model
  - For growth, these markets must become:
    - Predictable – need to know when contracts will be closed
    - Self-sustaining
  - To become a globalized firm, US defense companies need to
    - Recognize the need for some amount of restructuring
    - Diversify top management – not just ethnicity but also background experience
    - Investing in expertise in local areas of interest
    - Go beyond simply modifying existing products to identify customized products needed for specific overseas markets
    - Develop creative segmentation of the market
    - Develop new tools and structures for creating intimacy with new customers much like what they already have with their DoD customers
    - Get the cooperation of US policy makers (some efforts seem to be underway)

Bottom line: Need to go beyond these standard methods of growth

What else needs to be done

- As in the GD parable, companies need to reexamine their positions so that they are in the right markets when the inevitable rebound arrives
  - Must decide where to double down and where to divest
- Those who move first will do best
- Because the capital markets are different, they will be more demanding
  - Need to see a solid balance sheet (most now do)
  - Must have confidence in the firm based on a good track record of annual performance
- How companies articulate their strategy is important
  - Not just the usual methods of describing growth – protecting and expanding legacy markets, winning new competitions, providing superior financial performance
  - Need specific language about making choices of specific markets and investments, creating franchises, positioning for leadership in future markets

Where defense companies stand today

- Projected EBITDA CAGR (a common measurement for profitability) ranges from -5% to > 10%, with defense firms clustering into 3 groupings:
Income stock group includes Northrup Grumman and BAE (provides dividends, low capex) have Price-Earnings (P/E) Ratios of 8
Group including GD, Raytheon and LM have P/E ratios of about 9.5 to 11.5 with GD appearing to be the value stock
Group with Boeing, UT, Textron, Honeywell and other largely diversified companies are potentially growth stocks with higher P/E ratios, some up to 30
- For comparison Dow Jones Utility Index has P/E of 14 because it is considered to have a lower level of volatility than does the defense industry

Speculation on the Post-modern Defense Industry
- Companies could be more pared down, with intensified investment in specific markets – possibly leading to a more fragmented industry which might be good for DoD
- New forms of more globalized companies could emerge
- Second tier companies could take advantage of the paring down of the first tier companies
- Some companies might still try to ride out the bad times but that would not be a good idea

Conclusion
- Excited about the future
- It will be a challenge to make lemonade from lemons
- Wish DoD and Industry would take time to think through their long-term strategies
- There are opportunities

QUESTION & ANSWER SESSION

RE: Sequestration
The Worker Adjustment and Retraining Notification (WARN) Act states that Congress must be notified 60 days before mass lay-offs. If Sequestration occurs on 1 Jan 2013, that would mean notification of Congress one week before the election.
- Senior military leaders fear that this will provide lawyers with a field day
  - Will also need to deal with implications for contracts, penalties, renegotiations, etc.
- Sequestration is seen as the equivalent of surgery with a chainsaw

Re: Department of Homeland Security Concerns
There are synergies between the tasks of DoD and DHS
- Historically, there are some specific separations between military and police responsibilities
  - Related to Bill of Rights
  - Not always efficiently handled
- Now there is a major police effort to make use of DoD surveillance technologies, etc.
- Fastest growing crime in Virginia is identity theft – very prevalent in Hampton Roads area because of vulnerability of the large military population
  - Not a problem of technology
  - There are 7 different bio-metric markers that could be used with credit cards
  - However, there are civil liberty issues to deal with
- London Olympics will employ a great deal of technology for protection
  - 3 million photos a day are taken on the streets of London for biometric uses
  - System was very useful for quickly identifying and capturing the bus bombers
  - Technologies like this could be used here
- Coast Guard is an unsung hero in this area
  - Biggest US cooperative effort with Russia: about North Pacific fisheries, done at low cost
  - But CG gets very little funding

**Re: Funding Concerns Compared to Other National Requirements**
- SECDEF Gates at West Point stated that any future SECDEF should get his head examined if he recommended an invasion to his president
- Special Operations Forces are growing significantly in number and funding
  - Even *USA Today* had a story recently about snipers
  - *Washington Post* and other media now often report on armed drones
- Need to look for ways to resolve problems before you need such forces
  - Including by working with non-traditional allies
  - Positive example: US working with China and Russia off the Horn of Africa about piracy
    - Done at tactical level without treaties, etc.
    - Very rare but need more such operations and arrangements

**Re: Acquisition Mistakes and Problems**
There is a mistaken assumption that R&D problems will be solved as part of the production of a new platform
- F-35, LCS, LPD-17 etc. have shown this is not the case
- Need to realize that the people (young sailors and officers) can now do breath-taking work, but at some point the number of platforms does have an impact
- Do not subscribe to concept of virtual presence and dependence on global strike capabilities
- There is something to be said for not taking technical risks with new platforms
  - There is talk of building a new class of the old Oliver Hazard Perry ship with only upgraded systems
  - Focus would be on low technical risk with good cost and schedule performance – something now missing in many newer programs

**Acquisition Side View**
- Have become very cynical about acquisition reform
  - After over 100 major acquisition reform initiatives, no dents have been made in the problem
  - There have been efforts to reform acquisition since the Revolutionary War
- Problems are usually very deep down
  - Using a systems dynamics approach, the issues are in the structure and behaviors level
  - Problems are usually mutually reinforcing
  - Changes that do occur can easily return to their old status
  - **Bottom line**: systemic attempts to make changes will always fail
- What’s needed: better leadership
  - There have been examples of new programs that came in on time and under budget
  - But most were led by a zealot – on both the government and industry side
  - Government zealot also had a substantial degree of freedom to get the system funded
  - Good example is Big Safari, which got exemptions for going outside the system early on
  - **Bottom line**: Leadership is important but the culture of the last few years has been driving the zealots out of government