

ISSUE BRIEF

Martin J. Bollinger

INTERNATIONAL SECURITY PROGRAM

A Global Industrial Base for 21st Century Security Needs

For decades the United States has exploited an exceptional set of domestic industrial capabilities to help meet its security, defense, and intelligence challenges. That industrial base has provided American warfighters and security experts with world-beating technology, life-saving innovations, and advanced weapons that help the US deter and defeat aggression.

These industrial capabilities have persevered through two major market downturns in the past fifty years. They have withstood—and in many aspects have led—our economy's transition from the industrial age through the electronic age and now well into the information age.

It is therefore easy to assume that this domestic industrial capability will always be there to provide US forces with the right tools for the missions they must execute. That would be a grave mistake. Such an assumption glosses over the major changes that have taken place since the Second World War and the challenges that await the defense industry as we begin the third major downturn in defense acquisition spending since the 1950s.

Where We Are Today

Our current industrial base is comprised of three quite different types of business operations, each a result of major trends of the past twenty years:

- Since 1990 the wholesale exit from defense of traditional American industrial conglomerates, leading to a new set of companies specializing in legacy markets for exquisite defense systems such as nuclear

submarines, manned combat aircraft, complex spacecraft, etc. Defense Secretary Robert M. Gates once referred to these systems as “99% solutions” that take years to develop. Most of these legacy exquisite equipment specialists have no appreciable consumer, commercial, or industrial business units, in sharp contrast to their Cold War predecessors.

About the International Security Program

For decades, the Atlantic Council's International Security Program has shaped and influenced the strategic debate by facilitating dialogue through critical analysis and policy-relevant programming concerning the greatest security challenges facing the United States and the transatlantic community. On the occasion of the Council's 50th anniversary, the International Security Program will officially be renamed the Brent Scowcroft Center on International Security and will expand the breadth and depth of its programming and expertise to address the new array of security challenges and opportunities facing the transatlantic community around the globe. The Brent Scowcroft Center will build on the Atlantic Council's rich transatlantic heritage by developing strategies for the United States and its Atlantic allies to strengthen and broaden their security relationships with key allies and partners from outside the Atlantic area to best address both traditional and non-traditional security challenges.

For more information about the International Security Program or the Brent Scowcroft Center, please contact the Center's Director-designate **Barry Pavel** at bpavel@acus.org.

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- Since 1995 the emergence of new, large, US government service specialists, providing technical expertise, IT skills, and staff to help the government execute its defense, intelligence, and security missions. Most but not all of these contractors are also US-government centric, with minimal commercial and consumer businesses. (Notably, many legacy exquisite equipment specialists have migrated into this space, typically via acquisition.)
- Since 2000 the entry into US defense markets of non-traditional suppliers, who, unlike those in the two categories above, primarily serve global and commercial markets, but who are able to provide needed capabilities almost “off the shelf.” These suppliers have established themselves in markets for systems that are less sophisticated and expensive than the highly exquisite systems often associated with traditional defense procurement. Fueled by the urgent needs of combat operations in Iraq and Afghanistan, these systems provide, in the words of Secretary Gates, “75 percent solutions in months” as opposed to “99 percent solutions in years.” Most of these non-traditional suppliers have relatively small US government sales and do not think of themselves as being in the defense business.

Emerging Challenges

We are about to enter a major downturn in defense spending. While there remains significant uncertainty about the future, most informed observers expect a real-dollar decline of 15 percent to 20 percent from recent DoD budget peaks (including so-called “Supplemental/ Overseas Contingency Operations” funding; the dollars look the same to industry) and others forecast still deeper reductions.

Given the impervious nature of other defense needs, ranging from military health benefits and other personnel costs to operations and maintenance, funding for equipment development (RDT&E) and procurement will bear the brunt of this downturn. Quite reasonable assumptions yield scenarios involving cuts to budget authority for DoD equipment acquisition on the order

A Short History of the US Defense Industrial Base

In the late 1930s and early 1940s American industrial might was drafted into the wartime effort alongside its civilian workforce. Most of America’s industrial giants operated defense units as an adjunct to much larger consumer, commercial, and industrial operations. By 1988, there were thirty-one equipment and hardware companies each earning more than \$1 billion (in 2012 dollars) in DoD prime contracts for hardware and equipment. However, in aggregate, the commercial, industrial, financial, and consumer business units in those conglomerates generated four times as much revenue as did the defense-related units.

Following the end of the Cold War, almost all of these conglomerates sold off their defense-focused business units, providing the grist that enabled the remaining industry to restructure and remove fixed costs as demand fell. Real industrial capacity was removed. For many defense systems we are now down to one, two, or three credible suppliers whereas in the 1970s and 1980s there were five or ten. This wholesale exit by conglomerates led, for the first time, to a new set of defense suppliers focused on the US defense market and its immediate adjacencies.

of 40 percent. A decline of such magnitude is not unprecedented ; the last two downturns (after the US exit from Vietnam and the end of the Cold War) were deeper, with real cuts to acquisition budgets of over 50 percent in each case.

For most service companies and for those companies fortunate enough to have substantial non-defense markets for the products they sell to DoD, the decline in defense funding, while certainly not positive news, does not challenge their underlying economic viability. The situation is different for some of the legacy suppliers of advanced defense-specific platforms and systems such as ships, aircraft, intelligence spacecraft, and combat vehicles. Many of these industries have high fixed costs. Sharp drops in volumes can lead to ever increasing overhead rates applied to the remaining production base, potentially making their products unaffordable—further reducing volumes and driving up costs.

But we've been through this before and come out just fine, right? Well, not really.

In the last downturn, from 1988 to 1996, the rationalization of the defense industry—following the exit of industrial conglomerates and consolidation of defense specialists—provided the mechanism for the reduction in these fixed overheads. Today, the industrial conglomerates have all but left, leaving consolidation amongst major defense specialists as the only available option to support rationalization. There are no peripheral players to take out this time. Further industry restructuring would force DoD to confront an increasing number of monopoly suppliers—in effect, driving the United States to a privately-owned “arsenal” model.

We may find that some form of industry always rises to the occasion when DoD has dollars to spend. But what kind of industry? And with what capabilities?

The real danger arises when entrepreneurial and innovative talent starts to migrate from the defense industry in search of more stimulating and rewarding careers. We might face a “soft kill” of defense capabilities: gradual erosion of talent and capabilities, leading to gradually rising costs, difficulties in executing major programs, and a loss of technical innovation. We might not even know the industrial base has become “hollow” until we need, at some point in the future, to exercise it once again against an immediate and challenging threat.

Some would argue, quite correctly, that defense capabilities have evolved beyond traditional platforms and are now enabled by cutting-edge commercial technologies embedded in advanced IT systems, C4ISR networks, and precision weaponry. Perhaps it is time to let the legacy industrial base fade away and use these new suppliers to meet our future needs? If so, then the challenge becomes one of sustaining the engagement of non-traditional global and commercial suppliers at a time when the DoD market is shrinking and DoD is not a vital customer for these suppliers.

A Role for Global Partnerships?

Global partnerships offer one mechanism for expanding our engagement with non-traditional suppliers. For years the US has been at the center of global defense industrial partnerships, almost all of which involved the export sale or support of US-developed defense products and systems. It was quite unusual, and quite unnecessary, for the US to look overseas to fill its own defense needs. This has changed over the past decade. The rise of non-traditional global suppliers is a notable shift in recent years, one underappreciated by many industry observers. For example:

- Both versions of the US Navy's Littoral Combat Ship are built in US shipyards owned by non-US companies with a commercial, non-DoD heritage. The radars on both ships are products of foreign factories and design teams.
- The Army's newest helicopter (the UH-72 Lakota) has its heritage in a commercial helicopter designed in France and DoD's most recently acquired transport plane (the C-27J) was designed in Italy. (The US Air Force has proposed taking this aircraft out of inventory.) The last three fixed-wing trainer aircraft acquired by DoD were originally designed overseas (in Japan, the United Kingdom and Switzerland).
- About 80 percent of mine-resistant armored vehicles acquired to support operations in Iraq and Afghanistan have their heritage in non-US products.
- Most of the helicopters owned by the US Department of Homeland Security (that is, the US Coast Guard and Customs & Border Patrol) were designed overseas.
- The Marine Corps is acquiring a new howitzer initially designed in the United Kingdom.
- The Army's light anti-tank weapon was designed in Sweden.

Likewise, US-based producers of commercial products have leveraged their own global supply chains and operational scale and become major suppliers to DoD:

- Global IT equipment companies such as Cisco have displaced traditional defense suppliers for such items as network servers. DoD's new secure phone is a product of Dell and Google technology.
- Commercial truck builders such as Navistar and Oshkosh have ridden a wave of defense procurements, in some cases beating legacy defense suppliers.
- Six large commercial IT and service companies, none of which even report a business unit engaged in defense markets, each earn more than \$1 billion in DoD prime contract awards.

Most of these suppliers, even those based overseas, are quite comfortable creating US-based entities (and jobs) to manufacture and support products originally developed for global or commercial customers. This is the customary,

commercial approach to penetrating a new, well-developed market.

Some cautions should apply here. There are some highly specialized products that just do not exist outside the legacy defense industrial base, at least in any form that meets US defense requirements. Examples include nuclear submarines, advanced spacecraft, and sixth-generation fighters. Moreover, while commercial and global suppliers can provide excellent products and services, they cannot be relied upon to restrict their activities just to the US and our close allies. Most also are keen to sell equivalent products and services to other nations, including China. Since these are often off-the-shelf commercial (or dual-use) items involving buyers, sellers and technology outside the United States, it is hard to see how US laws can restrain this commercial activity. Thus, non-traditional global suppliers will not serve as a differentiating source of technical advantage for the US.

What would complicate things would be if these non-traditional suppliers also decided to withdraw from a declining US defense market. Unlike the defense specialists, many of these companies do not exist to serve US defense markets and some see DoD as a difficult-to-serve, relatively small, highly unpredictable and generally low-margin customer. These non-traditional suppliers entered defense markets in response to urgent DoD needs to buy non-traditional systems during the conflict in Iraq and Afghanistan, forced upon DoD by the inability of the legacy defense specialists to meet these needs in a timely and cost-effective manner. Their entry was facilitated by the emergence of innovative and experimental acquisition models in DoD over the past decade. Yet there is skepticism as to whether these new acquisition models will continue in the face of declining wartime urgency accompanied by pressure from the DoD acquisition bureaucracy and desires by legacy suppliers to increase barriers to entry.

DoD Policy vs. Activist Shareholders

While DoD may hope that its industrial-base policy ensures continued access to private-sector capabilities, the reality is that investors have a veto over any such policies. Notable in the last downturn was the rise of "activist" investors who sought to overturn "stay the course" strategies of defense companies. Such investors typically seek to maximize cash flows and will look askance at investments to maintain or enhance capabilities in declining markets. An effort to break up Boeing failed while defense contractors Singer, ConDiesel and ATK fell under the control of activist shareholders who replaced boards and management. More recently, activist shareholders spurred the breakup of ITT and forced the sale of units of L-3 Communications. More broadly, investors no longer see defense stocks as sources of future growth. As of late 2011, the entire specialist US defense industry is valued by investors less than Google alone. eBay is worth more than Lockheed Martin and Northrop Grumman combined. Apple could acquire Lockheed Martin, Northrop Grumman, General Dynamics and Raytheon with the cash it has in the bank.

Implications for US Policymakers

Policymakers need to navigate a difficult course around the challenges of sustaining (or not) the legacy industrial base and the need to continue to embrace non-traditional

suppliers. With respect to the legacy industrial base, the following tasks necessarily arise:

- We need to identify which parts of the legacy industrial base cannot be sustainable at a cost commensurate with the potential value, especially where technology may make the old capability obsolete. We no longer build battleships, Zeppelins, masonry forts, or ships with battering rams. We no longer equip cavalry forces with horses and swords. Are there today equivalent systems (and industrial capacity) that we should just let fade away? Will we need a new-design main battle tank by the time our advanced M1 designs wear out? Will UAVs eventually displace manned motorcraft in scout and light attack roles?
- We need to pursue clear strategies for those segments that cannot be sustained except by aggressive restructuring, including actions to reduce industry overheads and eliminate redundant and under-exercised capabilities. Are there segments where we would be better off with a single state-of-the-art supplier operating at scale – a shareholder-owned “arsenal”—than with multiple suppliers who cannot be sustained in the absence of sufficient procurement volumes and new competitions? Was this not the rationale behind the Pentagon’s support for the formation in 2006 of the joint venture United Launch Alliance, which combined the assets of Boeing’s and Lockheed Martin’s capabilities to service the Evolved Expendable Launch Vehicle program? And finally, if domestic politics would allow, should the US work with its NATO allies through the so-called “Smart Defense” approach to achieve scale in such capabilities through common procurement?
- In the extreme, there may be cases where DoD will need to “vertically integrate” by assuming ownership and management of assets at risk or likely to evolve to monopoly positions, reverting to a more traditional government arsenal of the kind that supplied most US defense needs until World War II. (There are indications of this intent in the Pentagon’s Better Buying Power initiative.)

To institutionalize the role of non-traditional suppliers, the US government would need to address underlying impediments through a series of actions:

- Institutionalize some of the recent (and not-so-recent) innovations in DoD acquisition processes, such as Foreign Comparative Tests, Joint Rapid Acquisition Cells, Quick Reaction Fund, Technology Transition Fund, Joint Capabilities Technology Demonstration, and Rapid Reaction Fund. In effect, this means evolving these ad hoc initiatives to create a new acquisition process to stand alongside DoD Instruction 5000.2 (which guides the operation of the defense acquisition system), while focusing the latter around the acquisition of exquisite systems from the legacy industrial base.
- Restructure the process by which DoD underwrites independent R&D for defense contractors. Today the costs of such R&D are absorbed as overhead charges against existing DOD contracts, which means it tends to reinforce the role of legacy suppliers as opposed to those who seek to enter the DoD market anew. An alternative would be to expand direct R&D funding to entice non-traditional suppliers to develop solutions to meet specific DoD needs (which could also involve transfer of intellectual property to DoD).
- Harmonize certification requirements with international counterparts, analogous to what commercial companies have done. For example, the FAA has a bilateral relationship with EASA (its European counterpart) whereby we recognize their safety certifications for commercial aircraft. Yet DoD will not automatically accept EASA certification for those same commercial products when considering them for military use.
- Address regulatory hurdles established by the US Congress to guard against the loss of U.S. defense materials or industry, such as the Buy America Act, Berry Amendment, and Kissell Amendment that may at times restrict DoD options.

The Opportunity

There is an opportunity arising out of the impending defense downturn to build a new industrial base for the 21st century, leveraging the exquisite capabilities of the old with the innovation and talent of global industries. Our current defense industrial base has served us well for the past two decades but will be stressed, at least in some segments, to the breaking point in this upcoming set of cuts. The opportunity for US policymakers is to exploit this pressure to shape the future of its critical suppliers, consistent with industrial best practices for strategic sourcing. This implies an industrial strategy on steroids fully reinforced by acquisition strategy. After all, our real industrial policy is driven not by white papers, but by how, what and from whom we buy.

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