

**A game-changing strategy; Vulnerable forward bases; Up the drone ante; Sequestration a year later; Research takes a hit .....**

## AMERICAN ASYMMETRY

Defense Secretary Chuck Hagel has a dilemma: America's adversaries are arming up with the latest combat technologies, but the US can't or won't spend the money to comprehensively upgrade its military, which is heavily populated with worn-out or obsolete military equipment. Allowing the nation's enemies to catch up to—or surpass—the US in military prowess is unacceptable, though. What to do?

Hagel telegraphed the possible answer in a speech to an industry group in September. He said he'd directed his deputy, Robert O. Work, to find a "game-changing offset strategy" like those adopted by the US in the 1950s and 1970s to find some way around the conundrum.

An offset strategy can also be called "asymmetry." Rather than match an adversary tit-for-tat, it capitalizes on the nation's strengths while forcing adversaries to compete in technology areas where they are not strong or cannot win. It's also a page from the same playbook China has been using for the past 20 years to blunt US military advantages.

Work, in an August speech at the National Defense University, tipped to this effort, explaining that in the 1950s, President Dwight D. Eisenhower's "New Look" strategy sought to offset large Warsaw Pact conventional forces with nuclear weapons and delivery systems. In the 1970s, Defense Secretary Harold Brown's "Offset Strategy" sought to overcome quantity with quality in conventional arms through digital microelectronics, new sensors, precision, networks, and stealth.

A "third offset strategy," Work said, will require innovative thinking, new operational concepts, and organization.

Now, a Center for Strategic and Budgetary Assessments study, released in late October, details how such a "third offset" strategy might work. Titled "Toward a New Offset Strategy: Exploiting US Long-Term Advantages to Restore US Global Power Projection Capability," it was authored by Robert C. Martinage, who was acting undersecretary of the Navy until January, 2014. Martinage served under Work at the Navy, and Pentagon officials suggest Work strongly influenced the analysis.



*The still-notional LRS-B is a winner in Martinage's study.*

The review names names, choosing platforms to accelerate or beef up while cutting back on areas deemed less relevant—or affordable—to the threats of the coming decades. If indeed Third Offset is the new American strategic blueprint, it will spell radical changes for all the services in the very near future.

Among the winners in the analysis are the new Long-Range Strike Bomber—which Martinage suggests be accelerated and increased beyond the planned 80 to 100 aircraft—a new family of stealthy, long-range and long-endurance remotely piloted aircraft for not only intelligence, surveillance, reconnaissance, and strike, but for aerial refueling. Submarines and new unmanned undersea vehicles also play a central role.

New operational constructs with different notions of how and when to use them would go with the new gear and all would be aimed chiefly at deterring an enemy with the threat of unbearable consequences instead of attempting to defeat an enemy with overwhelming force. Martinage suggests the Pentagon "shape the competition, shifting it to areas advantageous to the United States (e.g., the undersea domain) while imposing costs on rivals."

## DOING LESS WITH LESS

To pay for the adds, Martinage encourages cutting back on land forces, surface combatants, and fighters, which he deems are either too expensive, take too long to get to the fight, or are too vulnerable to modern precision weapons.

Burgeoning compensation costs mean large ground forces for the US are "untenable," Martinage said, while surface combatants—especially aircraft carriers—and forward-based airfields are too vulnerable to modern, long-range precision missiles. Current fighters also lack the range to get to their targets, Martinage asserted.

China "has a growing force of air interceptors with unrefueled combat radii between 600 and 900 nautical miles," he wrote. "This would require US tankers to stand off as much as 750 to 1,000 nautical miles. It is critical to note that this standoff distance exceeds the unrefueled radii of the F/A-18E/F, F-22, and F-35A/B/C and thus would effectively preclude an offensive strike role for the entire US fighter force."

Besides the vulnerability of forward bases and surface ships, Martinage said nonstealthy aircraft can't survive against modern integrated air defense systems, and "space is no longer a sanctuary from attack," dictating higher-stealth systems and a profusion of alternative network platforms.

Long-range strike capabilities with high stealth and survivability become a key asset, Martinage argued, because they don't require forward bases, have some liberty from a "tanker tether," and can operate, if necessary, from domestic bases. They can also hold at risk a potential enemy's most valued assets, heightening deterrence.

To make space assets a less-inviting target, Martinage follows other recent studies that add a lot of high-altitude, long-endurance RPAs to serve as communications nodes



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F-35s or drones: it's a tough call.

and ISR platforms. With a proliferation of such targets, an enemy would find less value in attacking any one piece, since the network could rapidly heal itself.

It's getting much more expensive to defend against an offensive capability—such as ballistic missiles and precision weapons—than the cost of those weapons. Israel's Iron Dome system, for example, costs tens of thousands of dollars to defend against mortars and rockets that cost mere hundreds of dollars. Martinage recommends a technology effort to reverse the equation and make defenses far cheaper than the attacking weapons. To this end, he suggests a big push toward lasers and other directed energy weapons, which have far less expensive magazines. The idea is to impose unacceptable costs on an aggressor, which would have to use expensive assets that achieve limited or no effect. Here is where Martinage posits an appropriate role for ground forces: establishing forward-area air defense, area denial for allies.

## RISE OF THE DRONE FLEETS

The US enjoys clear superiority in RPAs and should play to that strength. "No other country in the world can conduct sustained, high-tempo ISR and strike operations over *global* distances," Martinage wrote. It's also "a world leader in artificial intelligence" and should capitalize on the two to create autonomous unmanned systems that can loiter in the air or underwater, perhaps for extended periods, which would increase battlespace awareness and decrease reaction time. They would also be "indispensable" for hunting and destroying mobile or relocatable targets.

The CSBA study recommends more emphasis on stealthy, fighter-size unmanned aircraft instead of manned aircraft, citing long-term cost savings and longer sortie duration. It says the Navy's F-35C might be terminated to make room for a bigger fleet of the unmanned carrier-launched airborne surveillance and strike RPAs. The Navy is now in the middle of an internal debate over whether UCLASS should be more or less capable, given the other elements in carrier aviation such as the F-35C.

Overall, Martinage argued that the US must also convince enemies it is willing to take military action against a near-peer. US strategy should shift from threatening to "restore the *status quo ante*" by direct force in a conflict to "decreasing an adversary's perception of the probability of achieving its war aims in the first place (i.e., deterrence by denial) and increasing the anticipated costs" to an adversary "by threatening asymmetric retaliatory attacks against highly valued targets (i.e., deterrence by punishment)."

The goal would be to make the enemy doubt that he could achieve a *fait accompli* before the US had a chance to react—and might lose some valued assets in the bargain. Because modern foes have precision, long-range systems, the typical American pattern of war—building up a war force nearby and then unleashing it to reverse an aggression—won't work anymore, Martinage argued.

## A YEAR IN THE HOLE

The numbers are in, and it's official: Sequestration hammered the armed services budgets and the defense industry, particularly in research and development and products spending, according to a Center for Strategic and International Studies report released in October.

Defense outlays saw a drop of \$56 billion from 2012 to 2013, according to "US Department of Defense Contract Spending and the Industrial Base, 2000 to 2013," which was prepared under the direction of David J. Berteau. CSIS said gross defense outlays fell by eight percent, from \$702 billion in Fiscal 2012 to \$646 billion in Fiscal 2013, not including the effects of inflation. In contract obligations, the damage was worse, with a 16 percent decline, "four times as steep as was seen during the 2009 to 2012 budget drawdown."

During that period, the Air Force saw a 22 percent decline in defense contract obligations, taking the biggest cuts to research and development and products, while spending for services was "relatively preserved." Because the Air Force had actually seen a small uptick of four percent in 2012, "the sharp decline under sequestration [was] even more notable."

Research and development had a bad ride. Defensewide, "R&D contract obligations, which declined by 11 percent in 2012, fell by an additional 21 percent under sequestration."

In fact, "though defense R&D contract obligations had been declining steadily for years (-8.1 percent ... between 2009 and 2012), the decline observed under sequestration was both qualitatively and quantitatively different," according to the report. During sequestration, Air Force R&D fell 27 percent.

Moreover, the fall in spending wasn't driven by the cancellation of programs or R&D efforts progressing to production, CSIS said. "Rather, cuts to more fundamental R&D, particularly in the missile and space realm, accounted for the largest share" of [Pentagon] R&D contract declines."

## A QUARTER DOWN ON ADVANCED TECH

Basic DOD-wide research dropped 19 percent and applied research 18 percent. Disproportionately, the hit fell on advanced technology development (down 27 percent), advanced component development and prototypes (down 24 percent), and systems development and demonstration (down 21 percent).

"Under sequestration, the major DOD components (particularly the Army and Air Force) were forced to make significant cuts in the stages of R&D that are critical to identifying and developing future critical technologies," CSIS asserted.

In products, the story was a little different. "Air Force products contract obligations, which had been increasing at a three percent [compound annual growth rate] from 2009 to 2012, fell by 28 percent. The main drivers ... are cuts related to the C-17A (-\$3.5 billion), the Evolved Expendable Launch Vehicle (EELV) (-2.3 billion), and a \$3 billion decline for uncategorized fixed wing aircraft that the study team believes to be related to the F-35" strike fighter. ★

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