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The Missile Defense Agency and the Color of Money

Fewer Resources, More Responsibility,
and a Growing Budget Squeeze

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A REPORT OF THE
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Introduction

Over the past 15 years, missile defense has gone from an idea largely restricted by treaty, to a kind of infancy with initial defensive capabilities, to what now might be termed a kind of adolescence. Along the way, a confluence of several trends has put the Missile Defense Agency (MDA) budget under increasing but underappreciated strain. Evaluating the overall missile threat environment, the desired capabilities and quantity of missile defenses, and MDA's particular role in combating these threats will be important for the next administration.

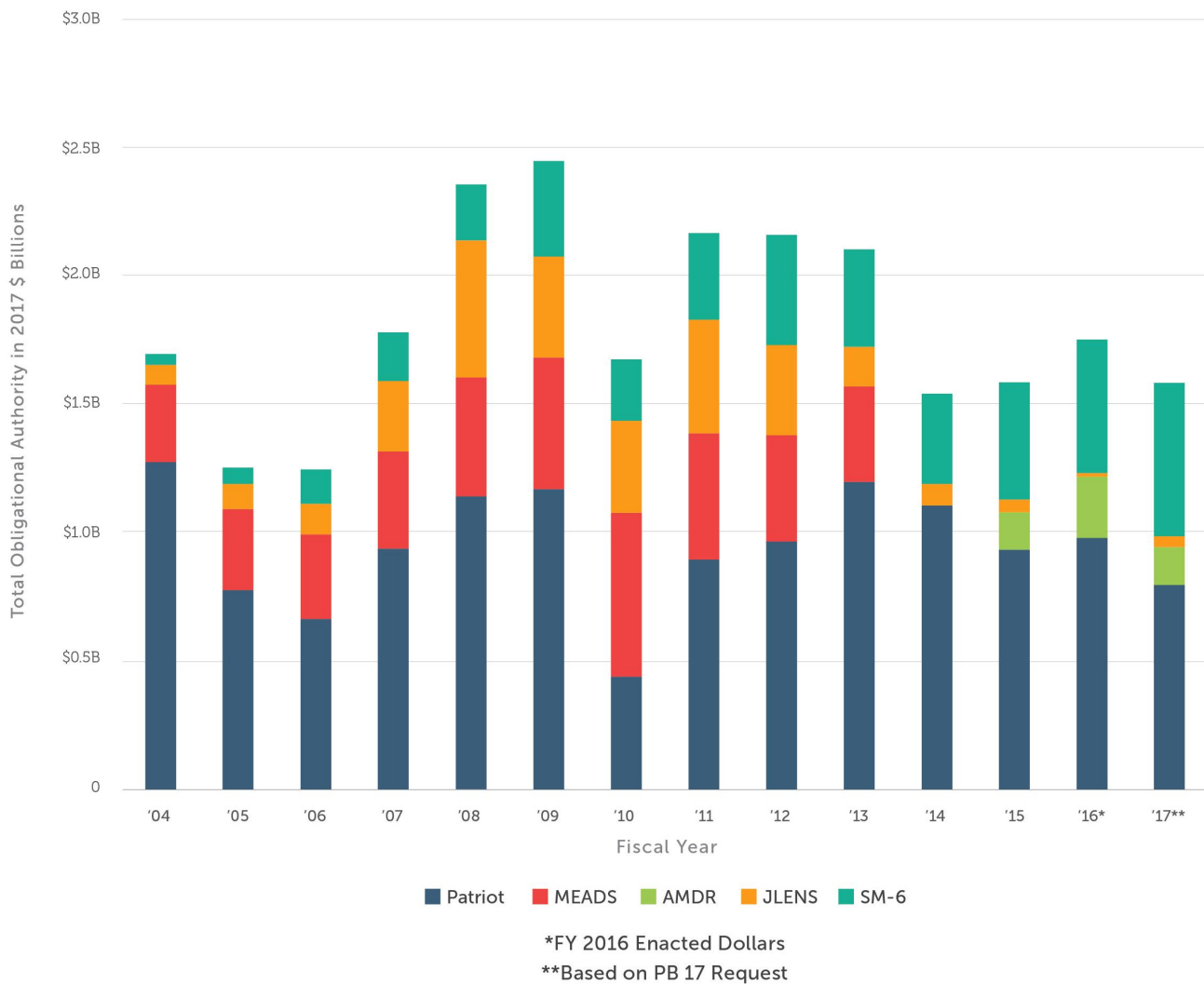
Created in 2002, MDA is the successor to the Strategic Defense Initiative Organization (SDIO, 1984–1993) and the Ballistic Missile Defense Organization (BMDO, 1994–2001).¹ Both SDIO and BMDO existed under the Anti-Ballistic Missile (ABM) Treaty of 1972, so while work was done on theater systems such as PATRIOT, they never moved much beyond research and development (R&D) for national or homeland missile defense.² Indeed, when President Ronald Reagan launched the Strategic Defense Initiative (SDI) in 1983, its first task was “to define a long-term research and development program.”³ MDA, by contrast, was created with the intention of real-world

1. To be sure, many U.S. missile defense activities preceded SDI. The 1984 Homing Overlay Experiment (HOE), for instance, the first successful exoatmospheric hit-to-kill intercept test, was conducted by the U.S. Army. The creation of the SDIO resulted, however, in the consolidation and central management of missile defense efforts spread across Service budgets. General Accounting Office (GAO), *Strategic Defense Initiative Program: Controls Needed Over Construction and Operational Support Funds* (Washington, DC: GAO, 1986), <http://www.gao.gov/assets/210/208598.pdf>.

2. The end of the Cold War heralded a change of course in the program, including renaming SDIO as the BMDO and a reorientation toward theater as opposed to strategic or homeland defenses. The former would include real-world deployments; the latter would remain a research and development effort. The 1994 BMDO charter reflects this priority, identifying the responsibilities to “*Enable deployment of an effective and rapidly relocatable advanced theater missile defense capability,*” and “*Develop options for, and deploy when directed, an antiballistic missile (ABM) system that is capable of providing effective defense of the U.S. homeland.*” Emphasis added. DoD *Ballistic Missile Defense Organization Charter*, DoD Directive 5134.9 (August 18, 1994), <http://fas.org/spp/starwars/offdocs/940824.htm>.

3. Ronald Reagan, “Address to the Nation on National Security by President Ronald Reagan” (speech, March 23, 1983). National Security Decision Directive-119 clarified that SDI would be a “committed technology development and

Figure I.1. Selected Missile Defense Funding outside MDA, 2004–2017



deployments in the absence of the ABM Treaty. So, while R&D would remain key to outpacing ever-evolving missile threats, there now existed an agency charged with actually fielding these capabilities, at least in their initial configurations.

As both regional and homeland missile defense programs have matured from R&D concepts to deployed and operational systems, MDA has acquired missions and roles well exceeding those of BMDO and SDIO. In a sense, MDA has acquired new “colors of money,”⁴ or rather new tasks, over and above its traditional R&D focus. Over the past decade, MDA’s budget has come to include increased percentages of procurement, operations and maintenance (O&M), and foreign assistance to Israel, at levels well beyond what was intended at the agency’s creation. To be sure, much

demonstration effort.” Ronald Reagan, *Memo on the Strategic Defense Initiative*, National Security Decision Directive-119 (January 6, 1984), <http://www.thereaganfiles.com/8416-nsdd-119.pdf>.

4. The phrase “color of money” refers to an appropriation category for a DoD financial account. The types of accounts include Procurement; RDT&E, O&M; Military Construction, and others. See “PPBE Process: Color of Money,” *AcqNotes*, <http://www.acqnotes.com/acqnote/acquisitions/color-of-money>.

important air and missile defense work occurs outside of MDA (see Figure I.1). The considerable majority, however, is centralized in MDA, and that is the focus of this study.⁵

All this has happened amid a declining topline budget and still steeper imposed cuts from budget caps. As with many other parts of the Department of Defense (DoD), MDA is expected to do more with less. This combination has had a variety of adverse effects, but in particular puts a special squeeze on MDA's research, development, testing, and evaluation (RDT&E) budget. These investments in technology will be important to outpace future missile threats. New technologies and challenges include greater mobility and survivability, more sophisticated countermeasures, longer ranges, the proliferation of cruise missiles, hybrid boost-glide vehicles, other forms of hypersonic threats, and greater means of deception. Had not significant, long-term R&D efforts been maintained in the decades prior to the 2002 withdrawal from the ABM Treaty, it would simply not have been possible to deploy a limited homeland defense capability in 2004, or to field regional systems like Aegis and Terminal High Altitude Area Defense (THAAD), which are now in high demand by combatant commanders and other allies and partners around the world.

Today, nearly 30 countries maintain ballistic missile capabilities, with approximately 50 ballistic missile variants.⁶ The missile defense mission has also grown more challenging as antagonists now possess capabilities that are more robust, accurate, and diverse, threatening U.S. and allied forces both at sea and on land. In a November 2014 memorandum to the secretary of defense, Admiral Jonathan Greenert, chief of naval operations, and General Raymond Odierno, chief of staff of the Army, jointly wrote of "growing challenges associated with ballistic missile threats that are increasingly capable, continue to outpace our active defense systems, and exceed our Services' capacity to meet Combatant Commanders' demand."⁷ Looking ahead, the United States and its allies and partners may expect to encounter more multifaceted threats that could overcome current defense systems, including advanced cyber intrusions, electronic warfare, directed energy, and hypersonics.⁸ Future decisionmakers will have to consider whether MDA should retain its near-exclusive focus on the *ballistic* missile defense mission or expand to address the broader suite of cruise missile, air defense, and hypersonic threats.

R&D has always been at the institutional and conceptual center of ballistic missile defense development. In particular, the steady advancement of missile technology creates an imperative for missile defense technology to "outpace the threat." Straining MDA's R&D is one of several concerning manifestations of what Secretary of Defense Ashton Carter and others have called the

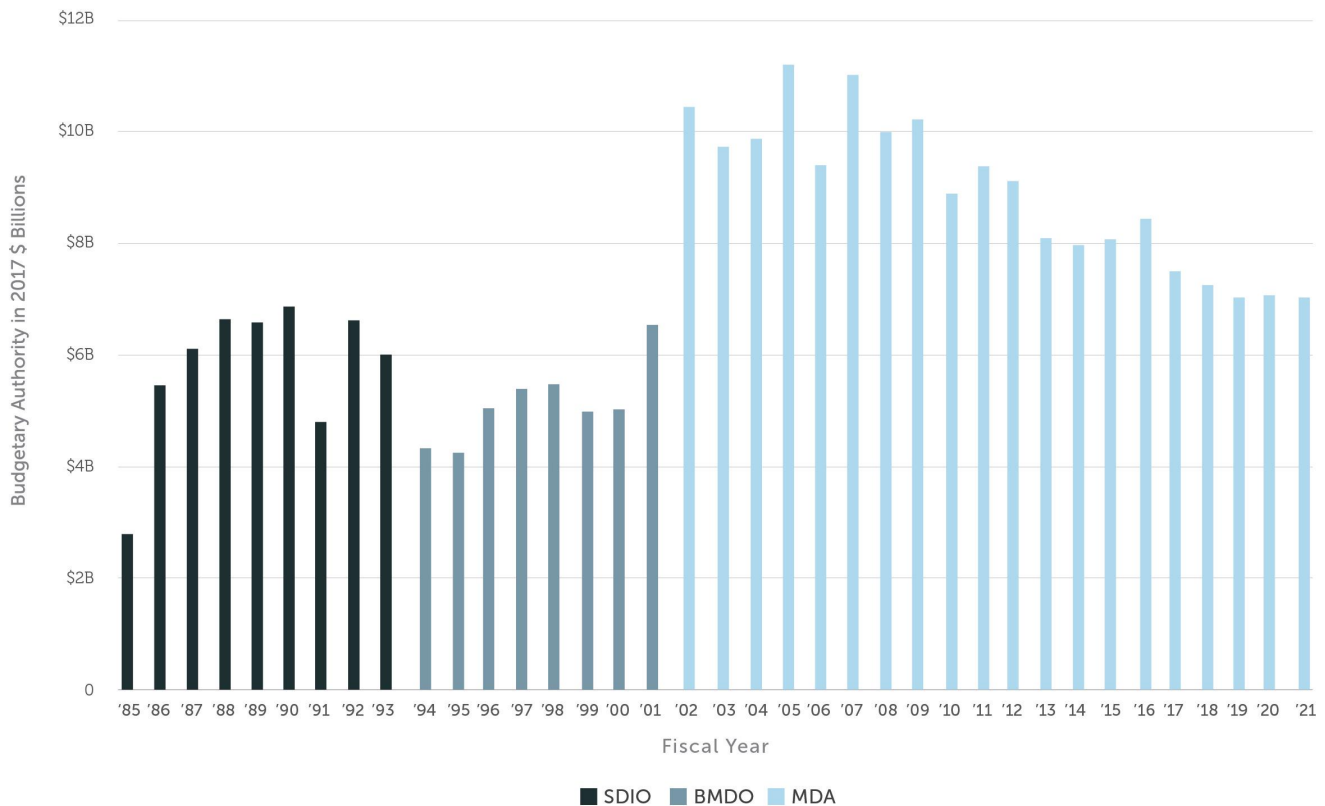
5. These include current and former Army and Navy programs, such as PATRIOT/PAC-3/MSE (in BMDO until transferred), MEADS, HEL-MD, SM-6 and SM-2 Block IV, LaWS, Phalanx, and other integrated air and missile defense work.

6. *Ballistic Missile Defense Programs in Review of the Defense Authorization Request for Fiscal Year 2017 and the Future Years Defense Program: Hearing before the Committee on Armed Services, Subcommittee on Strategic Forces*, U.S. Senate, 114th Cong. (April 13, 2016) (statement of Lieutenant General David L. Mann), http://www.armed-services.senate.gov/imo/media/doc/Mann_04-13-16.pdf.

7. Jonathan W. Greenert and Raymond T. Odierno, "Memorandum for Secretary of Defense—Subject: Adjusting the Ballistic Missile Defense Strategy" (November 5, 2014), <http://news.usni.org/2015/03/19/document-army-navy-memo-on-need-for-ballistic-missile-defense-strategy>.

8. *Ibid.*

Figure I.2. SDIO/BMDO/MDA Top-Level Funding, FY1985–FY2021



temptation to “eat our seed corn.”⁹ Under Secretary of Defense for Acquisition, Technology and Logistics Frank Kendall has likewise stressed the importance of R&D: “Just patching the things we’ve got is probably not going to be adequate. . . . We’re going to have to go beyond that.”¹⁰ MDA and congressional leadership have echoed these warnings.

The first element of strain on MDA’s budget is of course its reduced topline. Between FY2007 and FY2017, the MDA budget has fallen by over 20 percent, with no sign of near-term relief. The Bipartisan Budget Act of 2015 caps will continue to take a toll on future spending, reflected by MDA’s FY2017 request of \$7.5 billion. These lower levels now continue into the Future Years Defense Program (FYDP) (see Figure I.2).¹¹

9. Ashton Carter, “Remarks at National Press Club” (speech, National Press Club, Washington, DC, May 7, 2013), Department of Defense, <http://archive.defense.gov/Speeches/Speech.aspx?SpeechID=1775>.

10. Andrea Shalal, “Pentagon Plans Work on New Missile Defense Interceptor,” Reuters, February 25, 2014, <http://www.reuters.com/article/us-usa-budget-missile-idUSBREA1P03F20140226>.

11. Data for this study were compiled using budget materials on the Department of Defense Comptroller website. Each president’s budget includes an actual spent total from two fiscal years prior, a final congressional appropriated amount for the prior fiscal year, and a request along with the Future Year’s Defense Program (FYDP). For years the data are available, the actual spending total (total obligational authority) was used rather than appropriated or requested amounts. For inflation adjustments, the FY2017 Green Book was used to calculate figures in FY2017 dollars. Inflation adjustments were done using the overall GDP deflator.

Figure I.3. MDA Budget Categories, 1998–2021

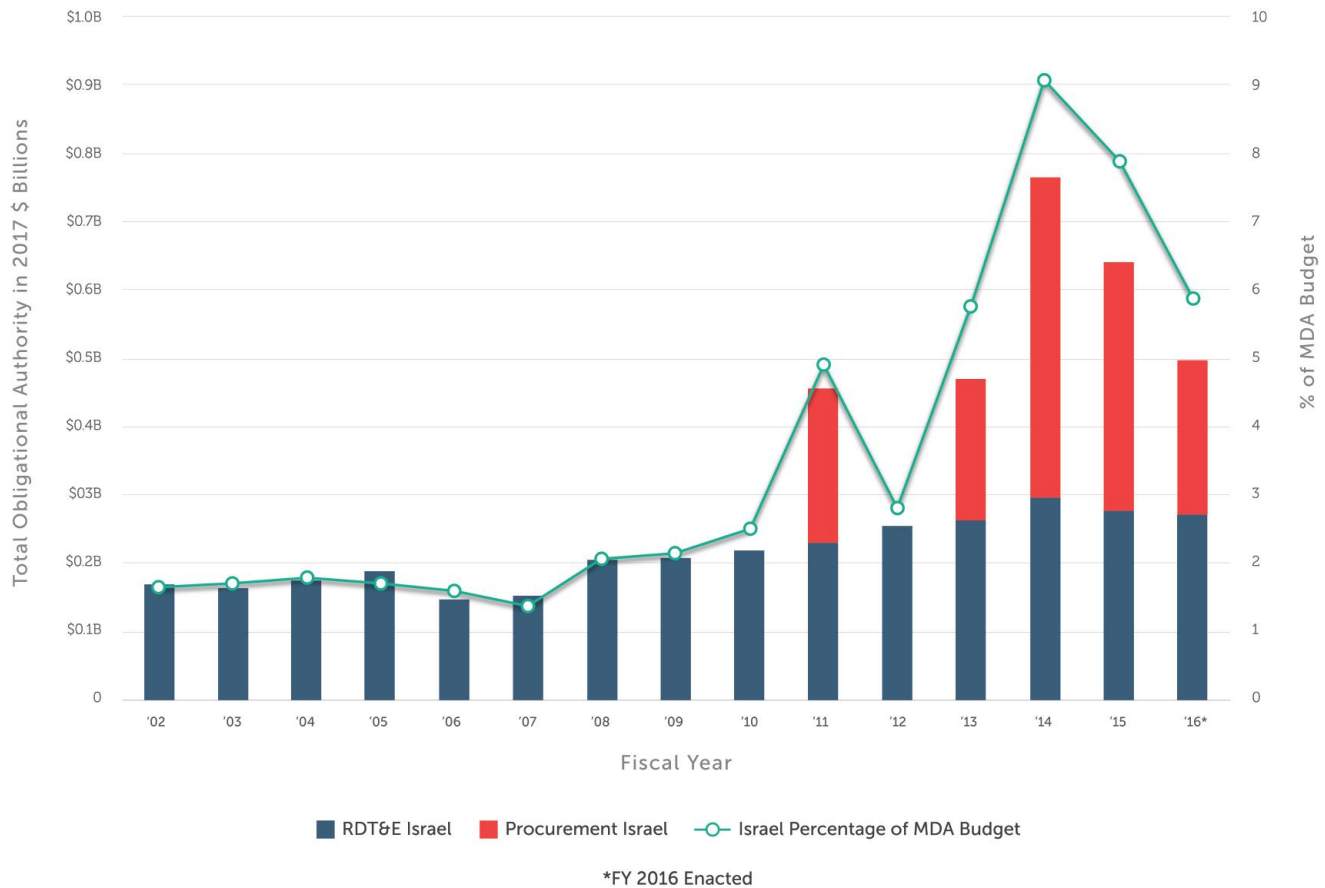


Major cuts to MDA topline funding were evident as early as 2006, when the agency’s budget was reduced by over a billion dollars, following heavy capital investments for fielding homeland defenses. Funding rebounded in 2007 to its peak historical level of \$9.4 billion, but optimistic projections of MDA’s budget growing in the outyears never materialized, despite being presented in the annual FYDP. Instead, MDA funding projections have steadily fallen, with the deepest one-year cut felt in 2010.

The second budget strain is from the expansion of MDA’s responsibilities to include an increasing proportion of system procurement and operations. The maturity of the systems has brought this on naturally. This expansion directed the result of MDA’s failure to transfer greater procurement and operations responsibility to the Services, as initially intended with MDA’s creation. Systems that have now been operationally deployed for years, indeed over a decade—Ground-based Midcourse Defense (GMD), THAAD, and Aegis/Standard Missile (SM)—are still occupying significant percentages of MDA’s budget, and as such are arguably squeezing out investments in new technology (see Figure I.3).

The third potential strain on MDA’s budget that this study has identified is from missile defense–related foreign assistance to Israel. Since 2009, the portion of MDA’s budget spent on Israeli missile defense programs has quadrupled. Much of the more recent increase has come from procurement of Israeli systems and interceptors like Iron Dome. While codevelopment, coproduction, and coinvestment with Israel can yield substantial benefits for American missile defenses, the

Figure I.4. Missile Defense Aid to Israel: Historical Amounts and Percentage of MDA Budget



current trends and sometime failure to increase MDA’s topline to fully cover increased assistance for Israel risk putting U.S. and Israeli missile defense priorities into competition (see Figure I.4).

These three sources of pressure—a shrinking budgetary topline; failure to transfer increasing procurement and O&M responsibilities to the military Services; and increased foreign assistance—have together created a source of competition within the MDA budget, squeezing R&D, and they show no signs of easing. Meanwhile, missile threats continue to grow, and “those interceptors need to be procured by somebody.”¹² The question, of course, is whether MDA is properly resourced to do all it is being asked to do.

Rather than a surprise, some elements of the current squeeze were predicted. In 2008, for instance, a congressionally mandated report noted that MDA’s rapid development and deployment of initial capabilities “has been less successful in fostering the planning and preparation needed to adequately address future operations of deployed systems and follow-on procurement and

12. Vice Admiral James Syring, “Ballistic Missile Defense System Update” (speech, Center for Strategic and International Studies, Washington, DC, January 20, 2016), http://csis.org/files/attachments/160119_ballistic_transcript.pdf.

sustainment.”¹³ The study furthermore identified some of the predictable consequences: “pressures for continued deployments of current capabilities can have an adverse impact on investments in RDT&E needed to increase capability to deal with a wide range of possible threats.”¹⁴ These warnings about competition among colors of money have not only proven out, they have been exacerbated by defense budget caps and increased foreign missile defense assistance.

Although MDA is hardly unique within DoD in being asked to do more with less, there are practical limits to what can be done under these strains. Indeed, a decision point is approaching, presumably leading toward one of three paths:

- **Evolution and Expansion:** One option is for MDA’s topline to be adjusted to reflect the addition and ongoing retention of these missions. MDA might thus more formally assume some of the characteristics of a Combat Support Agency (CSA). Still further consolidation might take the form of a ballistic missile defense command.
- **Back to basics:** A second path is for MDA to shed some of these new roles and missions, such as with the orderly transfer of procurement and operational responsibilities to the Services, and disaggregating missile defense foreign assistance funds. This would allow MDA to return to its traditional Defense Advanced Research Projects Agency (DARPA)-like focus on R&D.
- **Increased Risk:** A final possibility is that the current budget strains will not be resolved, and MDA’s ability to improve qualitative capabilities will further suffer, challenging its ability to “outpace the threat.” The ensuing risk to the U.S. homeland and deployed forces may be mitigated with other investments, managed in some way, or simply accepted.

When a new administration takes office in 2017, the time may be ripe to review the choices, priorities, and challenges facing MDA and embrace a version of one of these first two paths.

13. Larry D. Welch, et al., *Study on the Mission, Roles, and Structure of the Missile Defense Agency* (Alexandria, VA: Institute for Defense Analyses, 2008), ES-2.

14. *Ibid.*, III-2.