TESTIMONY ON THE F-35 LIGHTNING II JOINT STRIKE FIGHTER

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Thank you for the opportunity to testify today on the important and impressive Lightning II aircraft. The bottom line of my testimony is that I favor purchasing roughly half the number of jets now scheduled to be acquired by the Department of Defense over the next two decades.[1]

In other words, while I am a supporter of the program, I am also a critic about the scale of the planned procurement. Even as drones have become much more effective, even as precision-guided ordnance has become devastatingly accurate, and even as real-time surveillance and information grids have evolved rapidly, plans for modernizing manned combat systems have remained essentially at previous quantitative levels.

All together, the Air Force, Navy, and Marine Corps still plan to buy nearly 2,500 F-35 combat jets at a total acquisition price of more than $300 billion in constant 2013 dollars. Production is just beginning at low rates, with the big ramp-up expected in the next few years. The Pentagon will spend about $15 billion annually on the plane starting in mid-decade. Three-fourths of the projected funds are yet to be spent. The Pentagon's independent cost assessment office believes the average unit procurement price could be 15 to 20 percent higher than official estimates, exceeding $115 million per plane in 2013 dollars. And once purchased, the same office estimates that the F-35 will also cost one-third more to operate in real terms than planes like the F-16 and F-18 that it is replacing.[2]

It is important to acknowledge some strengths of the F-35, though, and to challenge some common criticisms. Some have opposed the Marine Corps variant of the plane (the F-35B), with its extra engine as needed for short or vertical take offs and landings. But in fact, that variant has

[1] This testimony is drawn largely from my recent Brookings book, *Healing the Wounded Giant: Maintaining Military Preeminence While Cutting the Defense Budget.*

[2] Statement of Christine H. Fox, director of cost assessment and program evaluation, Department of Defense, before the Senate Armed Services Committee, May 19, 2011 (www.armed-services.senate.gov/e_witnesslist.cfm?id=5213); and Andrea Shalal-Ela, "Exclusive: U.S. Sees Lifetime Cost of F-35 Fighter at $1.45 Trillion," Reuters, March 29, 2012 (www.reuters.com/article/2012/03/29/us-lockheed-fighter-idUSBRE82S03L20120329).

value for an era in which airfields are increasingly vulnerable to precision ordnance of the types that countries such as Iran and China are fielding. The United States needs enough F-35Bs to be able to populate bases nearest potential combat zones, such as the Gulf states (for scenarios involving Iran) and Okinawa (in regard to China). As Marine Corps Commandant General James Amos has noted, there are ten times as many 3,000 foot runways in the world adequate for such short-takeoff jets as there are 8,0000 foot runways suitable for conventional aircraft—and the Marines can lay down an expeditionary 3,000 foot runway in a matter of days in other places.[3]

An alternative concept for F-35 production could be as follows:

- Purchase a total of 1,250 instead of 2,500.
- Leave the Marine Corps plan largely as is, scaling back only by 10 to 20 percent to account more fully for the proven capacity of unmanned aerial vehicles to carry out some missions previously handled by manned aircraft.
- Cancel the Navy variant (the F-35C), with its relatively limited range compared with likely needs—buying more F/A-18 E/F Super Hornets in the meantime while committing more firmly to development of a longer-range unmanned carrier-capable attack aircraft.[4] The X-47B unmanned system, which completed demonstration tests on a carrier in 2012, is scheduled to conduct flight operations from an aircraft carrier in 2013, so this capability is progressing.[5]
- Reduce Air Force numbers, currently expected to exceed 1,700 F-35 planes, by almost half.

Of the 800 planes that the Air Force was counting on, but would not get under this approach, the difference can be made up in the following ways. First, cut back 200 planes by eliminating two tactical fighter wings. Second, view the 200 large combat-capable unmanned aerial vehicles (UAVs) currently owned by the Air Force, together with the 300 or more on the way, as viable

[3]See Statement of General James F. Amos before the House Armed Services Committee on the 2011 Posture of the United States Marine Corps, March 1, 2011, p. 13 (http://armedservices.house.gov/index.cfm/files/serve?File_id=6e6d479e-0bea-41a1-8f3d-44b3147640fe).
[4]See Captain Henry J. Hendicks and Lt. Col. J. Noel Williams, "Twilight of the $UPERfluous Carrier," *Proceedings* (U.S. Naval Institute, May 2011) (www.usni.org/magazines/proceedings/2011-05/twilight-uperfluous-carrier).
[5]Northrop Grumman,"X-47B UCAS," (Washington: 2013) (www.as.northropgrumman.com/products/nucasx47b/index.html). An additional virtue of unmanned systems is the ability to conduct training for pilots less expensively.

replacements for some manned fighter planes. The Air Force is buying the equivalent of five wings of large UAVs; perhaps it could transform two manned combat wings into unmanned combat aircraft wings as a result.[6] For the remaining planes, employ further purchases of F-16 jets and refurbishments of existing F-16s to make up the difference as needed.[7]

This approach will produce net savings of some $60 billion in Air Force aircraft purchase costs. The F-16 option is still available since the production line is currently making aircraft for Morocco and Oman among others, but it may not remain open for more than a couple years, so this option could have to be exercised fairly promptly to make economic sense.[8] Additional savings in the Marine Corps and Navy will add up to another $20 billion to $25 billion.

Average annual savings from this alternative approach to F-35 production might be $5 billion. Over time up to another $2 billion a year or so in savings would be achievable in operating accounts from the sum total of all these changes in tactical aircraft. These savings will not kick in right away, since it is important to get the F-35 production line working efficiently to keep unit costs in check. More of the savings will accrue in the 2020s.

It should also be remembered that a fair amount of risk is inherent in this alternative plan, since entirely canceling the F-35C Navy version of the plane will leave the Navy with less stealthy aircraft over the next decade. This is probably a tolerable risk but is not a trivial one.[9] In an era of fiscal austerity and defense budget cuts, we need to take calculated risks in defense planning as a nation—not reckless risks, but calculated and reasonable ones. I believe that halving the size of the planned overall F-35 buy follows that philosophy properly and prudently.

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[6]See U.S. Air Force, Fact Sheet on MQ-9 Reaper, January 2012 (www.af.mil/information/factsheets/factsheet.asp?id=6405); and Congressional Budget Office, *Policy Options for Unmanned Aircraft Systems* (Washington: June 2011), pp. ix–x (www.cbo.gov/sites/default/files/cbofiles/ftpdocs/121xx/doc12163/06-08-uas.pdf).

[7]These are ongoing; see Bill Carey, "F-35 Delay Forces $3 Billion Upgrade Request for U.S. Air Force F-16s" AINOnline, November 4, 2011 (www.ainonline.com/aviation-news/ain-defense-perspective/2011-11-04/f-35-delay-forces-3-billion-upgrade-request-us-air-force-f-16s).

[8]Leithen Francis, "Mission Impossible," *Aviation Week and Space Technology*, August 15, 2011, p. 27.

[9]The chief of naval operations, while not abandoning support for the F-35C, has nonetheless voiced some doubts about the central role of stealth in future force planning. See Admiral Jonathan W. Greenert, "Payloads over Platforms: Charting a New Course," *Proceedings*, vol. 138, no. 7 (U.S. Naval Institute, July 2012) (www.usni.org/magazines/proceedings/2012-07/payloads-over-platforms-charting-new-course).