US Expenditures on Ballistic Missile Defense Through Fiscal Year 2021

Prepared by Frank N. von Hippel for the APS Study Group on Ballistic Missile Defense

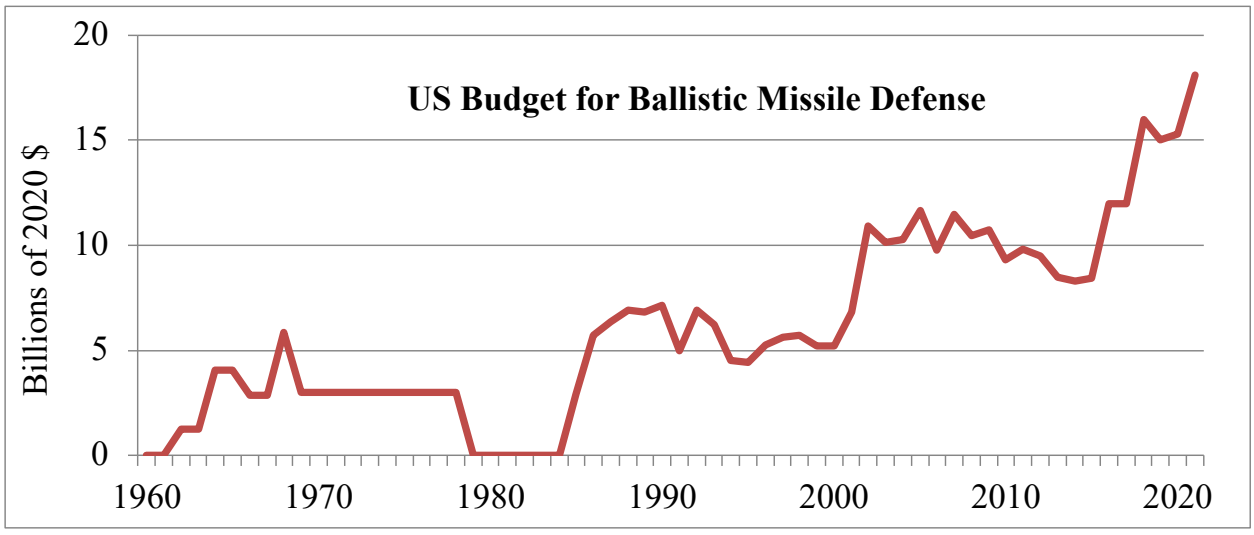
26 October 2021

Included here are expenditures by:

- The Missile Defense Agency and its two predecessor organizations: the Strategic Defense Initiative Organization (1983-1994) and the Ballistic Missile Defense Organization (1994-2002),[1]
- Other DOD agencies on missile-defense R&D and procurement during fiscal years 2016-21[2] (I have not found these numbers for earlier years), and
- Three major earlier ballistic-missile defense initiatives for which expenditure information in 1996 dollars is reported in the *Atomic Audit*: Nike-Zeus (1962-65); Nike-X (1968-75); and Sentinel-Safeguard (1967-75).[3]

Dollar figures have been converted to 2020$ using the U.S. Bureau of Economic Analysis GDP deflator.[4]

The expenditures accounted for here cumulate to $377 billion in 2020 dollars through FY 2021. The year-by-year expenditures are shown in the graph below. The expenditures shown prior to 1980 were associated with the programs launched prior to the 1972 US-Soviet Anti-Ballistic Missile (ABM) Treaty. The increase in the mid 1980s is associated with the Reagan Administration's Strategic Defense Initiative. The increase in the early 2000s was due to President G.W. Bush taking the US out of the ABM Treaty and ordering that deployment of a ground-based defense against future Iranian, Iraqi and North Korean strategic ballistic missiles begin by the end of 2004. The increase in starting in 2016 reflects enthusiasm for BMD in both Congress and the Trump Administration.



[1] Missile Defense Agency, "Historical Funding for MDA FY85-17 Fiscal Year (FY in Billions)" https://www.mda.mil/global/documents/pdf/FY17_histfunds.pdf; FY 2018-20 from Tom Karako and Wes Rumbaugh, "Inflection Point: Missile Defense and Defeat in the 2021 Budget," Center for Strategic and International Studies, 22 March 2020, Table 1, https://www.csis.org/analysis/inflection-point-missile-defense-and-defeat-2021-budget; and for FY 2021, US Department of Defense, *Defense Budget Overview, FY 2022 Budget Request,*

https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2022/FY2022_Budget_Request_Overview_Book.pdf, Figure 2.2, based on amount for missile defense and defeat, subtracting out $2.1 billion for hypersonic weapons R&D based on Congressional Research Service, *Hypersonic Weapons: Background and Issues for Congress,* 19 October 2021, https://sgp.fas.org/crs/weapons/R45811.pdf, Table 1.

[2] For FY 2016-20 "Inflection Point: Missile Defense and Defeat in the 2021 Budget," Figures 10 to14.

[3] Bruce G. Blair, Thomas S. Blanton, William Burr, Steven M. Kosiak, Arjun Makhijani, Robert S. Norris, Kevin O'Niell, John E. Pike, William Weida and Stephen I. Schwartz, editor, *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940* (Brookings, 1998) Figure 4-2 (p. 296).

[4] US Bureau of Economic Analysis, "Gross Domestic Product Implicit Price Deflator," https://fred.stlouisfed.org/series/GDPDEF, accessed 23 October 2021.