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THE USE OF EXCESS INTERCONTINENTAL BALLISTIC MISSILES FOR SPACE ACCESS

Abstract

Over the past fifty years, launch vehicles have evolved significantly, but costs remain extraordinarily high. The United States and other nations have grown increasingly dependent on space-based assets for security operations, as well as civilian day-to-day purposes. High launch costs are an obstacle to the development and quantity of new space assets. Reducing launch costs is a necessary step for continuing to improve the national space infrastructure.

The development of space launch vehicles was enabled by technologies produced for ballistic missiles, specifically intercontinental ballistic missiles (ICBM). Through international treaties, the United States has accrued a significant number of excess ICBMs. They have the capability of being converted into space access vehicles at a lower cost and faster pace than historically possible with traditional launch vehicles. However, the government supplying excess ICBMs rocket engines to commercial companies may hinder the further development of a purely commercial launch market. Furthermore, the implications of using ICBM technologies for space access must be considered in an era where the weaponization of space is being debated. Currently, the management of space for national security purposes in the U.S. government is not organized in a manner that can easily address this issue. After providing an overview of technical information, historical background and current U.S. and international policies on the use of ICBMs for space access, the advantages and disadvantages of doing so will be presented. Lastly, a set of policy and organizational recommendations are offered for how to best address this issue.