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Finance and Investment: The Practitioners' Perspectives (2)

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PREFERRED POLICY INSTRUMENTS TO ACHIEVE U.S. GOVERNMENT GOALS FOR HUMAN
SPACE FLIGHT AND PRIVATE SECTOR SPACE MARKETS

Abstract

This paper assesses the utility of policy instruments to achieve two U.S. policy goals for space: (1) reducing the costs and time it takes to develop and procure systems for human space exploration; and (2) fostering the growth of private space markets. We identify nine key challenges to achieving these U.S. policy goals for space, including the cost and time needed to procure systems for human exploration using requirements-based, cost-plus contracting; the lack of proven demand for products and services that space companies are attempting to develop; and the high cost to companies of testing products in space. We analyze several policy instruments to address these challenges, which fall into five categories: capital subsidies (e.g., instruments such as tax subsidies and government loans and loan guarantees, or strategic investment funds); RD subsidies (e.g., research grants for university and business research); input subsidies (e.g., access to ground and space-based facilities for testing and demonstrations); contracting mechanisms (e.g., fixed price contracts, advanced purchase agreements, prizes); and use of facilitating organizations (e.g., organizations that facilitate technology transfer). The paper finds that to achieve the policy goal of reducing costs and accelerating the development and procurement of systems for civil space exploration, NASA should employ “solutions-based” contracting: the use of competitively bid, fixed price contracts for space systems. To foster the growth of private space markets, NASA should increase the number, diversity, and size of its RD grants and contracts. To reduce costs to space companies of testing their products, NASA should expand the provision of in-kind subsidies such as launches and testing facilities.