

27th SYMPOSIUM ON SPACE POLICY, REGULATIONS AND ECONOMICS (E3)

The space economy: what are the socio-economic impacts? (3)

Author: Mr. Paul Guthrie

Bryce Space and Technology, United States, paul.guthrie@taurigroup.com

Dr. Nicolas Rockler

United States, norockle@mit.edu

COMPARATIVE ANALYSIS OF NASA FIELD CENTER ECONOMIC IMPACT MULTIPLIERS

Abstract

This paper presents an analysis of the economic impact of NASA's space and flight research centers, identifying the distinctive nature of each with regard the consequences of its operations. The goal of the analysis was to calculate and compare the economic impact NASA centers have on their surrounding economies, and account for the difference.

Using government spending data, the authors have previously demonstrated sizeable variation across the Centers in terms of NASA's FY 2012 employment, income, and value-added impact—the traditional measures of economic impact using input-output modeling. This paper identifies the key differences in each center's "production function" (i.e., input-structure) that gives rise to such variation. By analyzing multiple years of NASA budget data, the authors further test whether NASA could affect these impacts (ideally upwardly) by changing contracting or purchasing behavior. Previous work indicates that NASA's Kennedy and Johnson Space Centers appear to generate the greatest multiplier effect, and that some of the research centers have significantly lesser ones. We investigate whether such differences are attributable to concentrated purchases in a handful of industries, to a highly diverse set of input requirements, or for some other reason.

The results will advance our knowledge of the immediate effects space agency activities have on their surrounding economies, and potentially provide insight into best practices for increasing those effects.