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AN ALGORITHM FOR ASSESSING THE RELATIONSHIP BETWEEN THE SUBPRIME CRISIS
AND THE SPACE INDUSTRY

Abstract

The global economy is contracting following the Subprime Crisis but there are still more countries in the space industry now than ever before. A variety of returns have been documented including: advancement in science, technology and inspiration as well as prospects for international cooperation. Satellite applications and communications in many countries are already mature markets, with accepted economical justification. However, when it comes to other segments of the space industry, such as manned spaceflight, the debates continue regarding the high cost of space missions and its relative benefits compared to other industries.

The aim of this research was to assess the relationship between the Subprime Crisis and the major segments of the space industry.

The study was carried out based on quantitative economic and financial analyses of the Subprime Crisis and recent space programs. The economic returns of manned and unmanned space missions were recorded. An analytical framework and algorithm were developed for demonstrating the relationship between the subprime crisis and the space industry.

The results demonstrate that while the budgets of space agencies can grow even in a period of crisis and many of the major launch activities may remain, the highest toll in a shrinking economy is paid by the small- and medium-sized enterprises. In addition, this research found that the effects of the crisis on space programs of the developing nations will be comparatively more severe than in developed countries due to a greater proportional cut in their space-science budgets and less education opportunities in this area. In non-space-faring nations, the benefits of space programs are outweighed by the financial commitments in a much greater proportion. As an economy grows and space-science becomes a possibility, spending is first channeled to short-term economic benefits such as basic satellite applications such as communications. Building the necessary infrastructure to help the domestic space industry now (notably, a broad range of satellite applications in disaster control, security, climate change, energy generation, communications, remote sensing and exploration) is shown to be economically beneficial in future.

In conclusion, it was found that the space industry displays an overall positive and stabilizing effect on economic development. The outcomes of this research are likely to be of particular use for future strategies in crisis management, economic development and the space industry.