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THE WAVES OF SPACE COMMERCIALIZATION

Abstract

This paper evaluates the past instances of space commercialization and offers into what lessons we have learned from the past waves of commercialization and applies those lessons to the current "third wave of space commercialization." The paper uses process tracing of technology, economics(markets), geopolitics and institutional development to offer insights into the critical processes and gaps in the three waves of space commercializations. Ultimately I conclude that institutional developments have been lacking and and least in part responsible for the failure of the first two waves. I will further observe that the current wave appears to have a more robust institutional and market foundation, which provides some reason for optimism.

The first wave began (and ended) with the Space Shuttle. The Space Shuttle was going to revolutionize commercial space. Many of the technical innovations proposed today, have their antecedents in this first wave. Unfortunately, the first wave never came ashore. The Challenger accident cut short this first wave of commercialization.

The second wave was the wipeout. Over $70B of proposed investment in over 8 constellations was largely wipedout by a comb

Today we are just starting to catch the third wave. It is indeed even larger than the wipeout of the late 1990s. But the institutional structure is far more robust than either of the previous waves. However, questions remain about the strength of the markets.

The paper will conclude by positing positive and negative signposts for the future based on analysis of economic, technological, institutional and geopolitical processes.