ENTREPRENEURSHIP & INVESTMENT SYMPOSIUM (E6)
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AN ANALYSIS OF THE SPACE TECHNOLOGY MARKET STRUCTURE DYNAMIC IN THE CONTEXT OF THE ACTUAL GLOBAL CRISIS

Abstract

The actual global crisis triggered by the US subprime could severally influence the market of space technologies and its structure. Space technology projects are typically long term, and the different timing than finance investments or other real investments (higher initial cost, higher funds blocked for a long period between the investment decisions put in practice). Typically in space technology market, barriers to entry are key determinant of the market structure. Barriers to entry arise from different sources and are important because in space technology the new entries require large sunk costs (costs that can not be recovered, once they be inquired and they may caused cost over run). The risk associated with post-entry profits is important in this emerging industry, but the actual crisis change significantly the global risk profile. The mechanism that influenced the effects of sunk costs in an equilibrium with relatively few firms are examined by using a dynamic model capable to suggest the interaction between global risk and sunk costs and the effects of industry concentration and market prices. Sunk cost barriers to entry depend on the nature and extent of the risks and each component of the global risk will raise barriers because of the uncertainty and the asymmetry of the future profits. The global risk is linked also on the number of firms that can be expected to enter/exit, the timing of entry/exit and the evolution of the market price and profit margins. The simplified model is based on the following assumptions: all firms including entrance have the same constant marginal cost and the same direct sunk cost of entry; there is a Cournot competition between firms with no strategic interactions; the risk of failure is constant and independent of market wide conditions or firm specific conditions. Space market risk, captured by stochastic fluctuations in market demand, the idiosyncratic of failure and exit will asymmetrically affects the post entry value of the investment and this fact will increase entry thresholds by magnifying the direct sunk cost of entry as critical determinant of the market structure. This analysis will give a better understanding on the different kinds of risk that influence space industry dynamics and concentration.