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Incremental innovation and competitive pressure in the presence of discrete innovation

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Abstract

Technical progress consists of improvements made upon the existing technology (*incremental innovation*) and innovative activities aiming at entirely new technology (*discrete innovation*). Incremental innovation is often of limited relevance to the new technology invented by successful discrete innovation. Previous theoretical studies have indicated that higher competitive pressure measured by product substitutability increases incremental innovation. In contrast, we find that intensified competition can decrease incremental innovation. A firm's market share upon its failure in discrete innovation decreases as competition intensifies. This effect decreases firms' incentives for incremental innovation because the innovation outcome can be applied to a smaller amount of units.

Keywords: Competitive pressure, incremental innovation, discrete innovation, location model, product substitutability, technical progress.

JEL classification numbers: L10, L60, M50, O30

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