Firm Growth Dynamics: The Importance of Large Jumps

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Abstract

How a firm grows is one of the important themes in Industrial Organization literature. Recent empirical studies have demonstrated that the distribution of firm growth rates is not Gaussian as predicted by the celebrated Gibrat's law (Gibrat (1931)); rather, it closely follows the Laplace distribution. These findings challenge the existing theoretical models, as well as our understanding of the mechanism of firm growth. To explain the empirical distributions, we consider firm growth dynamics in the framework of the Lévy process and infinitely divisible distributions. Our analysis shows that the growth of a firm does not result from accumulation of small shocks as the existing models assume. Instead, it is characterized by a handful of large shocks to the firm, that is, jumps. This result has important implications for our understanding of the nature of innovations.

Keywords: Variance-Gamma process, firm growth, Gibrat's law

JEL: L1, C1, D2

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