


To Infinity and Beyond: Financing Platforms with Uncapped Crypto Tokens

Rowena Gan ✉ 

Information Technology and Operations Management Department, Cox School of Business,
Southern Methodist University, Dallas, TX, USA

Gerry Tsoukalas ✉ 

Information Systems Department, Questrom School of Business, Boston University, MA, USA

Serguei Netessine ✉ 

Operations, Information and Decisions Department, The Wharton School,
University of Pennsylvania, Philadelphia, PA, USA

Abstract

Initial Coin Offerings (ICOs) are an emerging form of crowdfunding for blockchain-based startups. While ICO design varies greatly in practice, many service-based platforms (e.g., Ethereum), use “uncapped” structures that forego limits on token supply, subjecting early investors to dilution risk. In this paper, we examine the conditions under which such ICOs are optimal and provide guidance for their design. Despite their popularity in practice, uncapped ICOs are understudied and not as well understood as their capped counterparts. We model game-theoretic interactions among various stakeholders in an infinite-horizon setting with network effects, taking account of operational details. We show that uncapped ICOs weakly dominate capped ones in the context of service platforms. In terms of design, a platform commission and regulation are generally “substitutes” when it comes to overcoming moral hazard, but can also be combined to make ICOs more accessible, especially for platforms with high initial setup costs. ICO accessibility can also be increased by employing a dual token offering (security & transaction tokens), at the cost of reduced expected profit. The paper provides a theoretical underpinning for the use of uncapped ICOs in practice. At a high level, it shows that ICOs succeed more easily in the presence of regulation, and platforms with low (high) setup costs should preferably issue utility (dual token) type ICOs.

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