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Updating the Crowdfunding Narrative

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As the 2020 election cycle progresses, presidential and congressional candidates will soon be debating their plans for stimulating small business and entrepreneurial growth.

In 2019, an important channel of that growth is crowdfunding. Although this is not the first election cycle since the advent of crowdfunding, this relatively new means for raising entrepreneurial capital has matured to the point that policymakers should more thoroughly understand its benefits and downsides in order to make or support better policy. Unfortunately, the current narrative around crowdfunding fails to take into account the full picture.

The general intuition and conventional wisdom around crowdfunding holds that raising cash is always good for entrepreneurs, just as establishing signals of market demand is always good for both entrepreneurs and the venture capitalists (VCs) looking to invest their money prudently. But this logic is incomplete. It does not consider the interactions *between* entrepreneurs and the suppliers of financing. In reality, both entrepreneurs and VCs may actually be *worse off* after a successful crowdfunding campaign. The cash raised and the observable increase in the probability that a crowdfunded project will be successful collectively alter not only the competition between investor classes (e.g., VCs and banks), but also the incentives of entrepreneurs and VCs to exert effort—a so-called moral hazard problem. The bottom line is that entrepreneurs

SUMMARY

- Policymakers concerned about stimulating small business and entrepreneurial growth need to better understand the dynamics of crowdfunding as a vehicle for that growth.
- The conventional wisdom is that raising cash through crowdfunding always benefits entrepreneurs. But that is not the complete picture. In reality, there are ways in which entrepreneurs, as well as VCs looking for new investments, may actually be left worse off after a successful crowdfunding campaign.
- This issue brief examines the potential pitfalls of a successful campaign. These include a moral hazard problem that comes into play when entrepreneurs explore both crowdfunding and venture capital investment, which can lead to a breakdown in negotiations between entrepreneurs and VCs, leaving the VC without a potentially lucrative project and the entrepreneur without the VC's essential financial support, expertise, and guidance.
- While the brief focuses on reward-based crowdfunding platforms, the pitfalls described herein likely apply as well to peer-to-peer lending, real estate, and equity-crowdfunding platforms too.

should not ignore the broader consequences that crowdfunding can have on outside financing sources because the possibility exists that crowdfunders could leave economic value and future innovation on the negotiating table, if VCs, as potential sources of operational expertise, walk away after a successful campaign. Empirically, we know this happens, and there are several reasons for it.

In this Issue Brief, we discuss the full benefits and costs of crowdfunding to entrepreneurs and venture capitalist investors.¹ It behooves policymakers to understand the dynamics of this burgeoning part of the U.S. economy, especially as crowdfunding develops to include newer technologies and types of rewards (e.g., equity) for investors.²

THE PITFALLS OF A SUCCESSFUL CAMPAIGN

Crowdfunding alone typically does not raise all the capital that entrepreneurs need. In 2015, crowd-funded efforts raised \$2.7 billion, which pales in comparison to VC and bank investments—\$58.8 and \$240 billion, respectively—made that same year.³ But it is widely acknowledged that capital is only one of two key benefits of crowdfunding, with the

other being information in the form of demand signaling. Entrepreneurs use crowdfunding as a public indicator of market demand. VCs and banks can evaluate this information to determine project-payoff probability (PPP). For successful projects, public information can open up access to financing that would otherwise be unavailable, and it can improve an entrepreneur's options when VCs and banks compete over financing.

The visible success or failure of a crowdfunding campaign can be a very beneficial feature. Consider Oculus Rift, the virtual reality visor launched on Kickstarter in 2012. The firm raised \$2.4 million through crowdfunding, almost 10 times its original target. This success generated a lot of interest and culminated in a sizable \$75 million investment from Andreessen Horowitz VC. In this case, the combination of crowdfunding success and VC involvement turned this startup, seeking to raise \$250,000 in 2012, into a \$2 billion company acquired by Facebook just two years later, providing VCs with a handsome payoff on their investment. Oculus Rift is just one of many examples that highlight the complementarity of crowdfunding to other forms of early stage financing.

But there are drawbacks to such

freely available information. If a project raises too much capital or a PPP is deemed to be too high, the incentives for VCs to invest at all—or to exert project-improving operational effort if they do invest—may be reduced, potentially undermining negotiations with entrepreneurs. VCs prefer to invest early in order to capture a larger share of future profits, so a significant crowdfunding capital raise may make an otherwise attractive venture unappealing, especially if an entrepreneur were to use the crowdfunded capital as the basis for making demands of VCs that they would not otherwise make.

Recent empirical evidence based on almost 200 successful Kickstarter campaigns suggests that crowdfunded projects still may lose out on subsequent financing, for numerous reasons.⁴ When VCs anticipate having to compete with other investors after a campaign, they may choose to increase their contributions before a campaign, so as to induce the entrepreneur to forgo crowdfunding. For example, the company 612Games was set to launch a \$250,000 campaign on Kickstarter in 2017, but it received additional funds from its current investors and canceled crowdfunding plans.⁵

Another potential drawback for entrepreneurs is that greater interest in

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- This Issue Brief is primarily based on the following paper: Volodymyr Babich, Simone Marinesi, and Gerry Tsoukalas (2018), "Does crowdfunding benefit entrepreneurs and venture capital investors?" M&SOM (*forthcoming*). Our main focus is reward-based crowdfunding, which is the most popular type.
- Equity crowdfunding is still a nascent form of entrepreneurial financing that will need to be studied over the coming years.
- Massolution.com Crowdfunding Industry Report, 2015.
- See, e.g., Ryu, S. & K. Kim (2017), "The effect of crowd-

- funding success on subsequent financing and exit outcomes of start-ups," Working Paper; and Colombo, M.G. & K. Shafi (2016), "When does reward-based crowdfunding help firms obtain external financing?" Working Paper.
- Donnelly, J. (2017), "Wild west online gets funding, will sidestep kickstarter and include female characters from outset," *PC Gamer*. Available at <https://www.pcgamer.com/wild-west-online-receives-funding-will-sidestep-kickstarter-and-include-female-characters-from-outset/>.
- Empirical support for this argument provided in Hellmann, T. & M. Puri (2002), "Venture capital and the profession-

- alization of start-up firms: Empirical evidence," *J. of Fin. L. VII*(1); and Aggarwal, R., D. Kryscynski, and H. Singh (2015), "Evaluating venture technical competence in venture capitalist investment decisions," *Man. Sci.* 61(11) 2685–2706.
- Teten, D. (2013), "Strategies for VCs to increase startup success odds," Techcrunch.com. Available at <https://techcrunch.com/2013/03/30/the-lower-risk-startup-how-venture-capitalists-increase-the-odds-of-startup-success/>.
- Supra* note 4.
- We treat bank investors and VC investors differently. Regu-

their project from banks is sometimes enough to make VCs walk away from investing altogether, if the competition with banks erodes the share of future profits that a VC firm seeks to secure. Although at first this sounds like a good problem for the entrepreneur to have, there are many businesses or products that need the other benefits offered by traditional VC investors much more than they need additional cash. For example, VCs can leverage existing connections with trusted supply chain partners to lower risk, facilitate the procurement of parts, reduce the need for costly monitoring, and shorten time to market. They can also offer management skills and experience.⁶ This operational expertise is especially important for first-time entrepreneurs and for those undertaking complex projects relying on navigating global supply chain networks and subcontractor relationships in countries like China. Any of these functions may be more valuable to entrepreneurs than extra capital,⁷ so they must be aware of what they actually stand to lose by embarking upon a crowdfunding campaign or by pitting investors against each other after a successful crowdfunding campaign.

INJECTING MORAL HAZARD INTO THE NARRATIVE

The majority of published crowdfunding studies focus on predicting campaign outcomes and on optimal campaign design. However, the broader questions of how crowdfunding alters entrepreneurs' financing preferences and how crowdfunding platforms fit in with the traditional startup financing sources, such as banks and VCs, have received relatively little attention. Our work demonstrates that entrepreneurial objectives can be more complex than simply designing campaigns to maximize payoffs—an implicit assumption that the majority of existing research makes. In reality, there seems to be a tradeoff between crowdfunding benefits and VC operational financing benefits for some projects.

To explore these trade-offs rigorously and identify projects where they apply, we modeled the interactions between crowdfunders, banks, and venture capital investors, in a multi-period setting, with competition between investor classes. This is the first attempt to understand the full crowdfunding picture theoretically and to support the empirical findings that negotiations between entrepreneurs

and VCs sometimes break down after successful campaigns.⁸

The main takeaway from our research is that there is a systemic moral hazard problem at play when entrepreneurs explore both crowdfunding and venture capital investment. Our model actually features a double-sided moral hazard dynamic, in that both the entrepreneur and the VC can exert operational effort to improve the outcome of the project, but because such effort is non-observable and non-contractible, both parties may be disinclined to expend the requisite effort on the heels of a successful crowdfunding campaign.⁹

Moral hazard is a recurrent problem in operations management. It can hurt the performance of a firm in many ways, and it is the missing piece of the current crowdfunding narrative. We model moral hazard by giving each party the choice of how much effort to exert. In our framework, the generic term “effort” is intentionally non-specific, in order to capture a broad spectrum of non-contractible operational decisions that startup firms need to make. Similarly, for the VC, effort can be a proxy for the operational expertise it can decide to bring to the table. In both cases, such actions lead to moral hazard because they

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lar bank investors simply provide capital and are in perfect competition with each other. However, VCs provide more than just capital, as noted previously.

¹⁰ Iancu, D., N. Trichakis, and G. Tsoukalas (2016), “Is operating flexibility harmful under debt?” *Man. Sci.* 63(6), 1730–1761.

usually cannot be contracted upon, as operational effort is not observable without costly monitoring.¹⁰

Our results raise an obvious question: Can entrepreneurs avoid the adverse consequences of successful crowdfunding by simply foregoing crowdfunding whenever it will be to their detriment? The answer requires solving a multi-stage game and comparing the equilibrium of this game with that in a hypothetical economy without crowdfunding. In short, it is extremely difficult to know in real time. It is likely impossible to eliminate all of the adverse effects of crowdfunding, particularly those resulting from the ongoing interactions between crowdfunders and banks. The fact that crowdfunding has the ability to intensify bank competition in the future can cause the initial negotiation with VCs to fail in the present, leaving both parties worse off—the VC without a project and the entrepreneur without the VC’s expertise.

A SUMMARY OF THE PROS AND CONS OF A SUCCESSFUL CAMPAIGN

Crowdfunding is a relatively recent phenomenon, but the interest in this addition to early-seed entrepreneurial financing has been remarkable. In the U.S. alone, over \$3 billion has so far flowed from backers to entrepreneurs, and success stories like that of Oculus Rift have only strengthened the narrative that crowdfunding presents new opportunities for startups. While our results support this narrative, they uncover a far more nuanced story, and one that is particularly relevant for successfully-crowdfunded projects.

What should not be lost in this discussion is the reality that crowdfunding can increase project value, as well as alleviate the classical under-investment problem due to moral hazard frictions. Crowdfunding may also foster competition between investors, benefiting the entrepreneur. All of these are positive developments. But the aim of this Issue Brief is to fill in the gaps of the current narrative. Namely, when crowdfunding leads to large enough changes in capital requirements, or when it increases the success probability of a project too significantly, it may undermine the incentives of entrepreneurs or VCs to provide operational effort, and this can (and does, observably) lead negotiations to break down. In addition, because crowdfunding may increase competition between banks and VCs, thereby reducing returns to VC investors, VCs may choose to drop out. When this happens, the entrepreneur can be worse off because they lose out on the expertise that VCs could have added to the project. These effects also operate across time. Notably, the threat of future bank competition (enabled by crowdfunding) could change the negotiation between entrepreneurs and VCs at earlier stages.

Beyond reward-based platforms, which are the object of our study, crowdfunding has expanded into many different directions in the last few years, including peer-to-peer lending, real estate, and equity-crowdfunding platforms. To the extent that all of these platforms can provide cash to entrepreneurs, but also valuable information to both entrepreneurs and investors, we expect our results, which are essentially driven by double-sided moral hazard and competition among

investor classes, to apply more generally. This is the complete picture of crowdfunding that policymakers should have in mind, if they are determined to help small enterprises and entrepreneurs thrive.

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Professor Babich's research interests are the interface of operations and finance, supply risk management, supply chain management, stochastic modeling, and risk management. His papers have been published in leading academic journals. He also serves as an associate editor for *Management Science*, *Manufacturing & Service Operations Management*, and *Naval Research Logistics*, and as a senior editor for *Production and Operations Management*.

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Professor Marinesi's research focuses on the study of innovative B2C business models, with much of it informed by practical issues faced by startup companies. Among the business models that his work explores are threshold discounts (e.g., Groupon), reward-based crowdfunding (e.g., Kickstarter), grocery e-tailing (e.g., Amazon Fresh), and fast fashion (e.g., Zara). In studying these models, he aims to understand how and why these new models generate value to the firm, and to society as a whole.

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