Crowdfunding's Role in the Rate and Direction of Innovative Activity

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Crowdfunding is transitioning from a curiosity to a legitimate source of early stage capital. Consider inventor Eric Migicovsky. Despite being an experienced entrepreneur, based in Silicon Valley, in residence at a high profile incubator (Y-Combinator), and having raised $375,000 in seed capital from leading early-stage investors (e.g., Tim Draper), he was unable to raise additional capital to advance his new smartphone watch from the design phase to production. On April 11, 2012, he turned to crowdfunding and launched a 40-day campaign to raise $100,000. As of this writing, with 21 days left, he has raised $6,810,166. He initiated this campaign six days after President Obama signed into law the Jumpstart Our Business Startups (JOBS) Act, which included legislation specifically designed to facilitate crowdfunding by exempting certain types of small offerings from the requirement to register public offerings with the SEC. (The new legislation did not affect Migicovsky's project directly since he sold pre-orders of his watch rather than securities in his company.)

Despite the growing policy and user interest, we know surprisingly little about the economics of crowdfunding. In this paper, we study how crowdfunding affects the rate and direction of innovation. In other words, what types of projects are financed via crowdfunding? This examines a distinct set of questions from our first crowdfunding paper (Agrawal et al, 2011), that studies how funding relates to geographic distance.

To answer which projects are financed by crowdfunding, we will focus on the elasticity of substitution between crowdfunding capital and personal wealth. We exploit the fact that many inventors begin the early stage of their work by self-financing (e.g., credit cards, mortgages) and will estimate the correlation between the regional propensity to finance projects by way of crowdfunding and the regional variation in house price changes over time. Using panel data on projects funded on a prominent crowdfunding platform, we will employ location-month as the unit of observation in our main analysis and we will examine how changes in housing prices relate to changes in crowdfunding investments.

We will then examine variation in the elasticity of substitution between crowdfunding capital and personal wealth. In other words, what types of crowdfunded projects appear to use crowdfunding as a close substitute for other forms of financing? Specifically, we will examine the extent to which the type of incentive offered to funders (pre-purchase, recognition, "good karma") mediates this relationship between changes in crowdfunded

projects and personal wealth. Furthermore, we will examine how the type of project (e.g., publishing, technology, film, music, fashion) mediates this relationship.

Finally, we will examine the extent to which crowdfunding decreases (or increases) the geographic concentration of activity in a particular category (e.g., publishing, technology, film, music, fashion) relative to the offline economy. On the one hand, to the extent that both funders and individuals who produce products in a particular category are less geographically concentrated than offline production and traditional sources of capital for that industry (e.g., angels and VCs in the case of technology, publishers in the case of books) one might predict that crowdfunding will increase the geographic diversity of funded projects. On the other hand, if agglomeration forces complement capital from crowdfunding, then crowdfunding might further accentuate the geographic concentration of production.

Specifically, we have collected data on all projects funded on Kickstarter (over 10,000) between April 2009 and March 2012. Kickstarter is the world's largest crowdfunding platform by both the number and volume of transactions as well as the number of projects funded. Therefore, by examining the projects facilitated by Kickstarter we will gain some understanding of the responsiveness of crowdfunded projects to changes in access to capital (as measured through changes in house prices). This is our first time using these data as Agrawal et al (2011) uses data from a different crowdfunding platform, Sellaband, which is dedicated exclusively to recorded music. While the project is still in an early phase, we have the necessary data and experience running similar analyses.

Reference

Agrawal, Ajay, Christian Catalini, Avi Goldfarb. "The Geography of Crowd-Funding" Working paper 16820, *National Bureau of Economic Research*, Cambridge, MA, 2011.