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Crowdfunding as a New Financing Tool

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2.1 Introduction

The lack of access to finance is well recognized as being one of the main difficulties for many start-ups, especially risky and innovative ones (Carpenter and Petersen 2002). While much of this difficulty stems from the severe information asymmetries and agency costs that many start-ups face, others may be due to the lack of fit with the investors' investment objectives. When external finance is required, selecting the right form of finance is crucial for successfully developing an entrepreneurial activity, and this choice involves different trade-offs, owing to different pros and cons for each type of financing source (Cosh et al. 2009). For example, in general, start-ups with an intermediate level of growth prospects are not eligible for venture capital finance, as managers seek investments in risky

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but high-growth companies. These start-ups may then receive funding from business angels or friends and family. Similarly, while most traditional start-ups rely on bank loans (Robb and Robinson 2014), candidates for bank loans need to provide collateral and sufficient cash flows to sustain interest payments, two elements that research and development (R&D)-intensive start-ups typically do not have.

The digital revolution, combined with social media and structured crowdfunding platforms that act as intermediaries between fund seekers (entrepreneurs) and small fund providers (the crowd), offers new opportunities to raise capital to develop a company or launch a project, and sometimes even to finance risky R&D expenditures in existing entrepreneurial companies (Belleflamme et al. 2014; Mollick 2014). Internet-based crowdfunding now allows even small entrepreneurs to raise funds from a large crowd, as communication costs have virtually disappeared with the Internet. In countries with a lack of sufficient seed and start-up capital such as angel finance and friends and family, crowdfunding has the potential to help fill the funding gap because it allows nonqualified individuals to also invest in innovative start-ups (Hornuf and Schwienbacher 2017). In the case of reward-based crowdfunding, the amount of funds collected during the campaign may further offer valuable feedback on the market prospects of the product being produced by the entrepreneur (Chemla and Tinn 2016; Schwienbacher 2014).

While research on crowdfunding still offers a largely incomplete picture of the phenomenon, existing studies indicate that crowdfunders participate for very different reasons and that these reasons also vary across the different types of crowdfunding. Moreover, entrepreneurs launching a crowdfunding campaign may self-select to do so, as crowdfunding may not be the best choice for all entrepreneurs. Therefore, in this chapter we argue that while crowdfunding may fill a funding gap, specific types of entrepreneurs are more likely to benefit, as they are better able to match crowdfunders' preferences for participating in a crowdfunding campaign and reap the benefits of crowd participation.

In this chapter, we first discuss how crowdfunding fits into the traditional financing cycle of small businesses and start-ups. We then raise the question as to whether crowdfunding solves a specific funding gap, a necessary condition to justify crowdfunding as a viable source of entrepreneurial finance in the long run. Finally, we elaborate on the type of

entrepreneurial activities and entrepreneurs who are more likely to benefit from crowdfunding. Many of these issues are covered in more detail in subsequent chapters.

2.2 The New Financing Cycle

Start-ups get financed under what is commonly described as the so-called financial growth-cycle paradigm, proposed by Berger and Udell (1998). This paradigm largely considers a linear relationship between sources of funding and stages of development, in which the type of funding is a function of the start-up's stage of development. In this framework, each funding source is characterized by its relative capacity to deal with information asymmetries and moral hazard and, most crucially, by its funding capacity in terms of size. Start-ups at their initial stage may rely on friends and family, bootstrap finance, and business angels, all of which may provide limited amounts of capital. For larger amounts, venture capital funds may be tapped, as they often make staged investments of several millions of dollars or euros. Much larger and more developed companies may go public through an initial public offering as a means to raise money on a regulated, public stock market. These firms, however, are already at a more mature stage, with lower technological and market risks, and thus are prone to less information asymmetry problems. Bank finance may be available for any amount (Schwienbacher 2013) but is not suitable for start-ups exhibiting high levels of information asymmetry or moral hazard problems or start-ups with a lack of collateral and insufficient revenues to support interest payments.

A first-order question is where crowdfunding is situated in this framework. We suggest that the answer depends largely on the type of crowdfunding considered. Reward-based crowdfunding more closely resembles supplier finance, while crowdlending resembles bank finance, an equity-based crowdfunding angel (Hornuf and Schwienbacher 2016), and, to a lesser extent, venture capital finance (and perhaps even an initial public offering on smaller stock market segments, such as the *Marché Libre* in Paris or the *Alternative Investment Market* in London, though only for some outliers for the time being). Indeed, recently, some start-ups have raised several millions of euros on equity-crowdfunding platforms in

Germany, making it a potentially credible alternative to venture capital (Hornuf and Schwienbacher 2017). Donation-based crowdfunding may at times resemble bootstrap finance, insofar as bootstrap finance sometimes involves relying on “free” resources. Considering these distinctions, crowdfunding typically fits with early stage and expansion-stage finance in terms of stage of development.

Still, crowdfunding needs to fill a funding gap to be a viable source of funding (for a general discussion on funding gaps in the context of entrepreneurial finance, see Cressy 2002). If it only substitutes for another source such that it merely crowds out the existing source without offering some specific benefits (either lower transaction costs or reduced contractual inefficiency), its economic value is limited. Research, however, suggests that this is not the case. While crowdfunding may generate its own transaction costs and risks (Griffin 2013; Hazen 2012; Hildebrand et al. 2016; Mollick 2013), it may provide efficient funding for some types of entrepreneurial initiatives. One possible source of gains is the extra information obtained in reward-based crowdfunding campaigns on possible demand for the product (Chemla and Tinn 2016; Schwienbacher 2014). In this type of crowdfunding, the entrepreneur typically produces the product as a reward so that it resembles “prepurchase.” Then, the crowdfunding campaign gives a better view of market demand, similar to a market analysis—except that, here, individuals do not simply claim to be willing to buy the product but already prepurchase it, making it a more credible source of information than a simple market analysis. Moreover, under an all-or-nothing funding model, risk may be reduced for the entrepreneur, because the threshold level for undertaking the project provides a call option to the entrepreneur, who will then not undertake the project if demand does not cover costs (Cumming et al. 2016). This model reduces operational risk of the project because no financial resources have been engaged yet; they are only engaged if enough demand is secured during the reward-based crowdfunding campaign. Relatedly, Hakenes and Schlegel (2014) show that in equity-based crowdfunding, investors are willing to reveal private information about their interest to invest if the campaign is run under the all-or-nothing funding model, as then they are guaranteed that their commitment will be canceled in case of lack of sufficient interest by other potential investors. The generation of valuable

information through the aggregation of individual preferences is often referred to as a manifestation of “wisdom of crowds,” which leads to information that cannot become available with traditional sources of finance.

Crowdfunding may further help entrepreneurs access venture capital funds. Recent studies show that successful crowdfunding campaigns tend to attract follow-up funding more easily in the form of venture capital. In the subsample of projects that raised more than USD 100,000 on Kickstarter or Indiegogo, Shafi and Colombo (2016) find that these entrepreneurs were significantly more likely to raise venture capital. This means that crowdfunding is a valuable first step in attracting the attention of larger investors, if necessary.

A final reason for the possible viability of crowdfunding as a distinct source of entrepreneurial funding involves the lack of seed capital available in the economy, as often argued in Europe, due to the lack of angel finance. In this case, crowdfunding may help reduce the gap between available seed capital and availability of valuable investment opportunities. Hornuf and Schwiendbacher (2017) argue that this point makes equity-based crowdfunding even more important in Europe than in the United States. Considering these different arguments, it seems plausible that crowdfunding is helping fill a funding gap.

2.3 The Crowd as Financier

In this section, we take a closer look at the crowd as fund provider. The crowd represents a pool of potential funders, each with a different profile and expectations but sharing the same willingness to finance a project or an entrepreneur. While some members may be part of a specific community of fans sharing common interests and preferences (especially for art and music projects), most often these individuals do not know one another. In what follows, we discuss some profiles of crowdfunders for the different crowdfunding types (donation-/reward-based crowdfunding, crowdfunding, and crowdlending) and their motivation to participate in crowdfunding campaigns. Then, we discuss mechanisms offered by crowdfunding to investors to evaluate their decision to back a project or a proposed investment opportunity, including risk sharing, herding behavior, and informational cascade.

2.3.1 Profiles and Motivations of Crowdfunders

The main objective of an entrepreneur who relies on crowdfunding is to raise capital from a large number of small investors. While donation- and reward-based crowdfunding can only rely on nonprofessional participants (fans, donors, or consumers), crowdfunding and crowdlending offer promises of possible capital gains and dividends (for equity) or interest payments (for loans), thus enabling professional investors to participate as well.

An important distinction between professional and nonprofessional participants is that the main goal of nonprofessional participants is not purely based on profits (Bretschneider et al. 2014; Cumming and Johan 2013). For example, the backers of a Kickstarter campaign may contribute to prepurchase an object (a consumption decision), to help a known entrepreneur (support of an entrepreneurial initiative), to support a cause they believe in (charity), or to obtain recognition by being part of a group. Conversely, professional investors need to generate profits from their investing activities, especially if they manage capital for clients, even if they may follow other goals such as promoting socially responsible investments and economic development. These latter goals will generally be of second order, however.

It is important to distinguish between donation- or reward-based crowdfunding and crowdfunding and crowdlending. In donation-based crowdfunding, backers do not receive any reward from their contribution. In reward-based crowdfunding, backers may be eligible to receive a reward, depending on the promises made by the entrepreneur and the amount pledged during the campaign. Entrepreneurs offer greater rewards for higher contributions. In contrast, in crowdlending and crowdfunding, entrepreneurs offer crowdfunders the possibility to earn financial returns and, thus, to become an investor. The possibility to earn financial returns is more likely to attract more traditional investors, including professional investors; for example, AngelList offers a program for professional investors, while Lending Club recently started with a pension fund. Table 2.1 illustrates the main motivations crowdfunders pursue based on their profile (professional or nonprofessional investors) and on the type of crowdfunding (donation-/reward-based

Table 2.1 Differences in motivation between professional and nonprofessional investors

	Donation- and reward-based crowdfunding	Crowdlending and crowdfunding
Professional investors	–	Financial returns (with or without secondary objectives, such as supporting entrepreneurial activities, networking, and portfolio diversification)
Nonprofessional investors	Reward, warm glow, altruism, recognition, reciprocity, identification	Financial returns, supporting entrepreneurial activities, fun to invest/participate, recognition, reciprocity, identification

Note: Adapted from Bretschneider et al. (2014), Cumming and Johan (2013)

crowdfunding or crowdfunding/crowdlending). While professional investors tend to limit contributions to profit-generating crowdfunding types (crowdlending and crowdfunding), we find nonprofessional participants in both categories (profit-generating and donation-/reward-based). Although we know that warm glow, altruism, recognition, reciprocity, and identification have an impact on the decision to participate, the main motivation of investors is compensation in the form of either expected final returns or the promised reward (Cholakova and Clarysse 2015).

The overall number of backers may also affect the ultimate level of benefits accruing to individual backers. Belleflamme et al. (2015) discuss the different ways that network effects may affect the overall utility from participating in a crowdfunding campaign. Such network effects may occur between groups (cross-group effects between entrepreneurs and crowdfunders) and within a single group (within-group effects between entrepreneurs themselves or crowdfunders themselves). In the first case, a network effect may arise across projects of a same category, as more crowdfunders on the platform may attract more entrepreneurs (more crowdfunders means greater funding capacity overall), which in turn may attract even more crowdfunders (more entrepreneurs means a greater variety of projects). The second case considers network effects within the group of crowdfunders. Two opposing effects may occur. On the one

hand, more crowdfunders may make it more attractive for other individuals to join the platform because projects are more likely to be funded and, thus, successful; on the other hand, more crowdfunders can mean more competition for a limited number of rewards or securities. This negative impact is most likely to be severe in crowdinvesting, in which a limited number of securities are sold. Whether network effects have a positive or negative impact on group participation depends on the type of platform and its structure.

Next, it is possible to distinguish profiles of investors/backers according to their behavior in and active contribution to the project. Lin et al. (2014) classify crowdfunders into four groups: active backers, trend followers, altruistic backers, and the crowd. Active backers are those who invest early during the campaign in many projects and are less sensitive to the number of backers who have already invested in a project. Trend followers invest later in projects and are more sensitive to the number of backers who have already committed; they wait to see how funding dynamics evolve. Altruistic backers invest for reasons other than investment success; thus, they are the typical backers in donation-based crowdfunding. Finally, the broader crowd encompasses backers with no typical behavior of the three former groups.

It is also worth noting the presence of another class of backers: peers. Indeed, many entrepreneurs in crowdfunding campaigns are also backers in other projects (Zvilichovsky et al. 2015). When supporting projects of others before starting their own campaign, entrepreneurs increase their chances to succeed. Through reciprocity, entrepreneurs are likely to receive pledges for their own project from other entrepreneurs they helped before starting.

2.3.2 Risk/Return Balance and Assessment of Investment Opportunities

Although the backers may be motivated by various reasons and the amount involved may be rather low in crowdfunding, the crowd remains responsive to the relationship between risk and success (or return) of the project. Cumming et al. (2016) show that the crowd responds to both

the level of the funding goal and the funding model used. By funding model, the authors are referring to the two important models “all-or-nothing” and “keep-it-all.” They investigate the context of Indiegogo, an international crowdfunding website on which entrepreneurs can choose between the two models. If a project requires a higher goal, the crowd could view the project as having larger fixed costs and thus having a lower chance to gather the amount required. In the same way, if an entrepreneur chooses the keep-it-all funding model, the project can be underfunded (as the entrepreneur receives the money even if the funding goal is not achieved), and the risk borne by backers is higher from the increased risk of never receiving the reward or any return on their investment.

Moreover, the crowd has other mechanisms to assess the quality (and the likelihood of success) of a crowdfunded project. As with any traditional investment, crowdfunders have access to the basic information provided directly by the entrepreneur on the crowdfunding platform (e.g., business plan, legal information). Depending on the platform, the information may be closely audited and formatted or, in contrast, exhibit great heterogeneity among projects. Still, Mollick (2013) finds that the crowd evaluates the quality of a project by using the same signals as venture capitalists. In addition, despite the persistence of traditional biases in investment decisions such as the home bias (Hornuf and Schmitt 2016; Lin and Viswanathan 2015), crowdfunding allows a significant reduction in gender and geographic bias (Agrawal et al. 2011; Mollick and Robb 2016). Compared with traditional venture capital financing, the geographic distribution is larger in crowdfunding (less limited to some specific areas such as the Silicon Valley), and recent studies show more women leading crowdfunding campaigns. Moreover, the crowd is able to evaluate the project quality at least as accurately as experts, with the advantage of providing good evaluation of the target market because, most of the time, members of the crowd are not only investors but also the final users (Mollick 2013).

As participation of others is often visible in real time during the crowdfunding campaign, a backer considering participating can estimate the willingness of others to support the same project. Alternatively, for crowdfunding platforms trying to reduce herding behavior by hiding previous participations, comments and/or testimonials are a good indicator

of crowd support. This leads to specific dynamics during the campaign in which the contribution of one individual is determined by the behavior of others. In this context, two effects may affect the decision to pledge: the number of previous backers and their reputation. First, the number of backers provides a good signal of the support gained from the crowd. According to Kuppuswamy and Bayus (2017), the crowd will be more prone to participate if the number of previous backers at the time of investment is already high. Second, some backers may decide to disclose their identity, while others keep their pledge anonymous. If an opinion leader or an informed backer decides to disclose his or her pledge, he or she will act as a certifier and attract other backers, in turn increasing the probability of campaign success (Parker 2014; Ralcheva and Roosenboom 2016). By aggregating both standard financial information and soft information about borrower quality, Iyer et al. (2015) show that the crowd can assess the risk of a project and predict failure at least as accurately as a traditional bank scoring system.

2.4 The Entrepreneur as Fundraiser

Most of the big successes in crowdfunding are closely linked to high-tech firms. Three-dimensional printers, virtual reality glasses, and smart watches are the most famous crowdfunded projects. Nevertheless, crowdfunding has existed for a long time, and nonprofit organizations were the first to use it as a financing source. With their reliance on altruism, charity, or warm glow, tapping a large crowd was the best way to collect significant amounts of money to finance their activities. When Internet-based crowdfunding began appearing at the end of 2000 as a result of the digital revolution, the first firms to use it were overwhelmingly cultural firms (e.g., film, music, games), which were then directly followed by design and technological projects. Today, crowdfunding has become an option for every kind of start-up. When a project may have global impact, some platforms offer a worldwide audience. For local projects, other platforms are available and target a specific country (or even a specific region) or industry (platforms specialized in music, clean technology, real estate, and even restaurant).

The first goal for an entrepreneur using crowdfunding is to raise funding, but other motivations may also be at play (Gerber et al. 2012). For example, by using reward-based crowdfunding, an entrepreneur can raise funding but also test the market for the future product. A lack of support for the project may indicate a too narrow market for the final product. Another advantage of a crowdfunding campaign is the ability to use a cheaper marketing campaign. By taking advantage of the platform's popularity and traffic, a new product will have an initial audience and will benefit from a word-of-mouth effect to reach the most likely customers.

Another motivation is the willingness to replicate the successful experience of others (Gerber et al. 2012). However, using an Internet platform to present a project publicly may also have some drawbacks. During a traditional funding process involving banks, angel investors, or venture capital funds, an entrepreneur can easily try to find other investors (e.g., another bank or venture capital fund) in case the first attempt fails. For example, if a bank rejects a loan request, the entrepreneur can approach another bank. Restricted by the confidentiality of bank businesses, this second bank will not know about the first rejection or the changes the entrepreneur made to his or her project presentation (business plan) in response to the received feedback from the first attempt. In the case of venture capital and angel finance, entrepreneurs typically contact many investors at the same time to attract attention from a few of them. In crowdfunding, entrepreneurs almost never get a second chance to make a first good impression. The Internet is decentralized by nature, and any information becomes rapidly replicated on many other websites, even if this information originates from a single source. When something becomes public on the Internet, it is very difficult to remove all traces of that information. This rule also applies to crowdfunding campaigns. First, many crowdfunding platforms keep track of previous campaigns launched and often allow access to the presentation page of all previous projects, even failed ones. Second, even when the platform removes (or limits access to) the information about a past failed attempt, plugging the name of the project leader into a search engine will sometimes bring to the surface many external sources of information that may disclose the entrepreneur's history. Though requiring some effort on the part of the investor/backer, the reputation of the entrepreneur leading the project

may play an important role in a second campaign success. For these reasons, entrepreneurs who experience a first success are more likely to launch second campaigns. These findings are also in line with theories on entrepreneurial self-confidence (Bandura 1982; Hayward et al. 2010). After a first success, the self-confidence of the entrepreneur will increase, and he or she will more likely reenter with a new project. However, an entrepreneur who undergoes a first failure will lose self-confidence and be less likely to undertake a second crowdfunding campaign. Nevertheless, recent studies show that the campaigns launched by entrepreneurs with a first success tend to underperform the first campaign by attracting fewer backers and collecting less money (Leboeuf 2016; Yang and Hahn 2015). These studies argue that when the first campaign is successful, people assume that many of the interested backers have already participated in the new venture. However, when an entrepreneur launches a second campaign shortly after the first, new participants (i.e., other than those who participated in the first campaign already) may represent a smaller fraction of the backers. Thus, the surprise effect becomes less pronounced, making any “hype” related to the second campaign less likely.

For the entrepreneur with a first failed crowdfunding experience, the stigma of failure (Landier 2006) plays a central role in how the non-professional crowd will assess the opportunity to invest in a crowdfunding campaign. Even if the number of backers and the amount pledged are higher than those during the first attempt, and even if the entrepreneurs try to mimic successful campaigns in terms of characteristics (e.g., size, funding model, campaign duration) and disclosure (e.g., length of text, number of pictures provided), the probability of success of the second campaign will be lower than any first campaign (Leboeuf 2016). Most of the time, these efforts are insufficient to overcome the negative reputation gained from the first failure.

A vibrant stream of research on the entrepreneurial perspective of crowdfunding investigates the extent to which entrepreneurs rely on their relatives, close friends, and social networks, often labeled as “social capital” and proxied by the number of LinkedIn and Facebook connections of the entrepreneur. These studies show that the success of a crowdfunding campaign strongly relies on the entrepreneur’s capability of mobilizing his or her social capital (Agrawal et al. 2011, 2015; Colombo et al.

2015; Mollick 2013; Vismara 2016). Moreover, this stream of literature shows that the entrepreneur's willingness to keep the crowd updated by posting new comments and updates during the campaign helps raise more funds (Ahlers et al. 2015; Block et al. 2017). Thus, good preparation and continuous involvement during the campaign are crucial.

2.5 Concluding Remarks

In this chapter, we demonstrate that crowdfunding is a legitimate funding source for different types of entrepreneurs and that it fills a funding gap, ranging from seed capital to later-stage funding, depending on the type of crowdfunding considered. Moreover, this new form of funding is able to attract nontraditional investors thanks to its specific properties and mechanisms. A greater number of people may be more easily tempted to participate because of the small amounts involved for each backer, though this may also lead to herding behavior and self-implication due to the disintermediated nature of crowdfunding.

However, crowdfunding still needs to demonstrate strengths to become a sustainable funding model for entrepreneurs. First, it needs to increase the trustworthiness for investors (Cumming and Johan 2013) by reducing information asymmetry in the mechanisms of the various types of crowdfunding (to avoid investor concerns about where their money goes, under which legal form, liquidity issues that may arise, and so on) and by tackling the risks of fraud (false projects, wrong usage of the funds received by the entrepreneur) (James 2013). Second, the platforms need to keep in mind that they face nontraditional investors and that perhaps they should not engage in too much due diligence when the crowd is perfectly capable of assessing the value of a project (Mollick and Nanda 2015). That is, platforms need to prevent the risks of fraud but not the project's market risks.

Crowdfunding is now at a specific point in time in terms of development. During its first decade, crowdfunding experienced tremendous growth and developed under light regulation (leading to a high degree of freedom of actions and active experimentation). In addition, the crowdfunding market is still highly decentralized across many platforms and

many mechanisms. This form of decentralized development is similar to the situation the Internet faced upon its establishment some decades ago. Today, however, the Internet is mostly centered on big players (often called GAFAM, or Google, Apple, Facebook, Amazon.com, and Microsoft) that control much of the market and are suspected of reducing freedom (e.g., Google filters search results, Facebook censors some messages posted by users, Apple is highly restrictive of application developers, and Microsoft licenses prohibit some usages of its own software). A threat to crowdfunding as it is known today is the overregulation of the market and the overconcentration of platforms that will begin appearing as the market starts consolidating. An increase of regulations will mechanically enhance participants' protection; however, by tightening the restrictions imposed on investor profiles, overregulation may lead to a negative effect on investors' freedom. Concentration, for its part, will lower transaction costs at the price of reducing options for entrepreneurs to tap the right crowd. Fewer platforms mean fewer choices for specialized or local platforms. The next big challenge for crowdfunding will be to find a suitable equilibrium as it begins consolidating as a market.

References

- Agrawal, Ajay K., Christian Catalini, and Avi Goldfarb. 2011. The Geography of Crowdfunding. *National Bureau of Economic Research*. <http://www.nber.org/papers/w16820.pdf>. Accessed 17 Mar 2017.
- . 2015. Crowdfunding: Geography, Social Networks, and the Timing of Investment Decisions. *Journal of Economics & Management Strategy* 24: 253–274.
- Ahlers, Gerrit K.C., Douglas J. Cumming, Christina Gunther, and Denis Schweizer. 2015. Signaling in Equity Crowdfunding. *Entrepreneurship Theory and Practice* 39: 955–980.
- Bandura, Albert. 1982. Self-Efficacy Mechanism in Human Agency. *American Psychologist* 37: 122–147.
- Belleflamme, Paul, Thomas Lambert, and Armin Schwienbacher. 2014. Crowdfunding: Tapping the Right Crowd. *Journal of Business Venturing* 29: 585–609.

- Belleflamme, Paul, Nessrine Omrani, and Martin Peitz. 2015. The Economics of Crowdfunding Platforms. *Information Economics and Policy* 33: 11–28.
- Berger, Allen N., and Gregory F. Udell. 1998. The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle. *Journal of Banking and Finance* 22: 613–673.
- Block, Jörn, Lars Hornuf, and Alexandra Moritz. 2017. Which Updates During an Equity Crowdfunding Campaign Increase Crowd Participation? *Small Business Economics*. Forthcoming.
- Bretschneider, Ulrich, Katharina Knaub, and Enrico Wieck. 2014. Motivations for Crowdfunding: What Drives the Crowd to Invest in Start-ups? Paper presented at European Conference on Information Systems (ECIS), Tel Aviv, Israel, June 9–11.
- Carpenter, Robert E., and Bruce C. Petersen. 2002. Is the Growth of Small Firms Constrained by Internal Finance? *Review of Economics and Statistics* 84: 298–309.
- Chemla, Gilles, and Katrin Tinn. 2016. Learning Through Crowdfunding. *Social Science Research Network*. <https://papers.ssrn.com/abstract=2804541>. Accessed 17 Mar 2017.
- Cholakova, Magdalena, and Bart Clarysse. 2015. Does the Possibility to Make Equity Investments in Crowdfunding Projects Crowd Out Reward-Based Investments? *Entrepreneurship Theory and Practice* 39: 145–172.
- Colombo, Massimo G., Chiara Franzoni, and Cristina Rossi-Lamastra. 2015. Internal Social Capital and the Attraction of Early Contributions in Crowdfunding. *Entrepreneurship Theory and Practice* 39: 75–100.
- Cosh, Andy, Douglas J. Cumming, and Alan Hughes. 2009. Outside Entrepreneurial Capital. *Economic Journal* 119: 1494–1533.
- Cressy, Robert. 2002. Funding Gaps: A Symposium. *Economic Journal* 112: F1–F16.
- Cumming, Douglas J., and Sofia A. Johan. 2013. Demand Driven Securities Regulation: Evidence from Crowdfunding. *Venture Capital: An International Journal of Entrepreneurial Finance* 15: 361–379.
- Cumming, Douglas, Gaël Leboeuf, and Armin Schwienbacher. 2016. Crowdfunding Models: Keep-It-All versus All-Or-Nothing. *Social Science Research Network*. <https://papers.ssrn.com/abstract=2447567>. Accessed 28 Feb 2017.
- Gerber, Elizabeth, Julie Hui, and Pei-Yi Kuo. 2012. *Crowdfunding: Why People are Motivated to Post and Fund Projects on Crowdfunding Platforms*. Paper

- presented at ACM Conference on Computer Supported Cooperative Work, February 11–15.
- Griffin, Zachary J. 2013. Crowdfunding: Fleecing the American Masses. *Case W. Reserve Journal of Law, Technology & the Internet* 4: 375.
- Hakenes, Hendrik, and Friederike Schlegel. 2014. Exploiting the Financial Wisdom of the Crowd—Crowdfunding as a Tool to Aggregate Vague Information. *Social Science Research Network*. <https://papers.ssrn.com/abstract=2475025>. Accessed 28 Feb 2017.
- Hayward, Mathew L.A., William R. Forster, Saras D. Sarasvathy, and Barbara L. Fredrickson. 2010. Beyond Hubris: How Highly Confident Entrepreneurs Rebound to Venture Again. *Journal of Business Venturing* 25: 569–578.
- Hazen, Thomas L. 2012. Crowdfunding or Fraudfunding? Social Networks and the Securities Laws—Why the Specially Tailored Exemption Must Be Conditioned on Meaningful Disclosure. *North Carolina Law Review* 90: 1735–1807.
- Hildebrand, Thomas, Manju Puri, and Jörg Rocholl. 2016. Adverse Incentives in Crowdfunding. *Management Science* 63: 587–608.
- Hornuf, Lars, and Matthias Schmitt. 2016. *Does a Local Bias Exist in Equity Crowdfunding? The Impact of Investor Types and Portal Design*. Max Planck Institute for Innovation & Competition Research Paper No. 16-07.
- Hornuf, Lars, and Armin Schwienbacher. 2016. Crowdinvesting—Angel Investing for the Masses? In *Handbook of Research on Venture Capital: Volume 3. Business Angels*, ed. Hans Landström and Colin Mason, 381–397. Cheltenham, UK: Edward Elgar.
- . 2017. Should Securities Regulation Promote Equity Crowdfunding? *Small Business Economics* 49: 579–593.
- Iyer, Rajkamal, Asim I. Khwaja, Erzo F.P. Luttmer, and Kelly Shue. 2015. Screening Peers Softly: Inferring the Quality of Small Borrowers. *Management Science* 62: 1554–1577.
- James, Thomas G. 2013. Far from the Maddening Crowd: Does the Jobs Act Provide Meaningful Redress to Small Investors for Securities Fraud in Connection with Crowdfunding Operations. *Boston College Law Review* 54: Art.7.
- Kuppuswamy, Venkat, and Barry L. Bayus. 2017. Does My Contribution to Your Crowdfunding Project Matter? *Journal of Business Venturing* 32: 72–89.
- Landier, Augustin. 2006. Entrepreneurship and the Stigma of Failure. *Social Science Research Network*. <https://papers.ssrn.com/abstract=850446>. Accessed 28 Feb 2017.

- Leboeuf, Gaël. 2016. Does the Crowd Forgive? *Social Science Research Network*. <https://papers.ssrn.com/abstract=2788483>. Accessed 28 Feb 2017.
- Lin, Mingfeng, and Siva Viswanathan. 2015. Home Bias in Online Investments: An Empirical Study of an Online Crowdfunding Market. *Management Science* 62: 1393–1414.
- Lin, Yan, Wai F. Boh, and Kim H. Goh. 2014. How Different are Crowdfunders? Examining Archetypes of Crowdfunders and Their Choice of Projects. *Academy of Management Proceedings*: 1–13309.
- Mollick, Ethan R. 2013. Swept Away by the Crowd? Crowdfunding, Venture Capital, and the Selection of Entrepreneurs. *Social Science Research Network*. <https://papers.ssrn.com/abstract=2239204>. Accessed 28 Feb 2017.
- . 2014. The Dynamics of Crowdfunding: An Exploratory Study. *Journal of Business Venturing* 29: 1–16.
- Mollick, Ethan R., and Ramana Nanda. 2015. Wisdom or Madness? Comparing Crowds with Expert Evaluation in Funding the Arts. *Management Science* 62: 1533–1553.
- Mollick, Ethan R., and Alicia Robb. 2016. Democratizing Innovation and Capital Access: The Role of Crowdfunding. *California Management Review* 58: 72–87.
- Parker, Simon C. 2014. Crowdfunding, Cascades and Informed Investors. *Economics Letters* 125: 432–435.
- Ralcheva, Aleksandrina, and Peter Roosenboom. 2016. On the Road to Success in Equity Crowdfunding. *Social Science Research Network*. <https://papers.ssrn.com/abstract=2727742>. Accessed 28 Feb 2017.
- Robb, Alicia M., and David T. Robinson. 2014. The Capital Structure Decisions of New Firms. *Review of Financial Studies* 27: 153–179.
- Schwienbacher, Armin. 2013. Financing the Business. In *The Routledge Companion to Entrepreneurship*, ed. Ted Baker and Friederieke Welter, 193–206. Abingdon, Oxon: Routledge.
- . 2014. Entrepreneurial Risk-Taking in Crowdfunding Campaigns. *Social Science Research Network*. <https://papers.ssrn.com/abstract=2506355>. Accessed 28 Feb 2017.
- Shafi, Kourosh, and Massimo G. Colombo. 2016. Does Reward-Based Crowdfunding Help Firms Obtain Venture Capital and Angel Finance? *Social Science Research Network*. <https://papers.ssrn.com/abstract=2785538>. Accessed 28 Feb 2017.
- Vismara, Silvio. 2016. Equity Retention and Social Network Theory in Equity Crowdfunding. *Small Business Economics* 46: 579–590.

- Yang, Lusi, and Jungpil Hahn. 2015. *Learning from Prior Experience: An Empirical Study of Serial Entrepreneurs in IT-enabled Crowdfunding*. Paper presented at International Conference on Information Systems (ICIS), Fort Worth, TX. Conference paper available at <http://aisel.aisnet.org/icis2015/proceedings/HumanBehaviorIS/21/>
- Zvilichovsky, David, Yael Inbar, and Ohad Barzilay. 2015. Playing Both Sides of the Market: Success and Reciprocity on Crowdfunding Platforms. *Social Science Research Network*. <https://papers.ssrn.com/abstract=2304101>. Accessed 28 Feb 2017.

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