Chapter 8

What happens after a successful crowdfunding campaign?

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ABSTRACT

While a successful crowdfunding campaign represents a key milestone, it only represents the beginning for entrepreneurs to (hopefully) realize their ambitions with the fresh money raised. In this chapter, we provide an overview of the relatively scant literature that examines what happens after a successful crowdfunding campaign, differentiating between reward-based, lending-based, and equity-based crowdfunding. Specifically, we focus on the failure rate of crowdfunded ventures, the ability of crowdfunded ventures to secure follow-on funding, the performance of crowdfunded ventures, whether crowdfunded ventures deliver rewards (on time), and returns for crowdinvestors. We conclude with avenues for future research.

8.1. Introduction

The promise of crowdfunding, defined as "the efforts by entrepreneurial individuals and groups—cultural, social, and for-profit—to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the Internet, without standard financial intermediaries" (Mollick, 2014: 2) is significant. Scholars have highlighted that crowdfunding represents "a valuable alternative source of funding for entrepreneurs seeking external financing" (Belleflamme et al., 2014: 585), "a democratic funding context" (Allison et al., 2017: 707) that exploits the "wisdom of crowds" (Mollick and Nanda, 2016: 1551), and "has been greeted with enthusiasm by entrepreneurs, policymakers, and the general public alike" (Fleming and Sorenson, 2016: 6).

Following the stunning growth of crowdfunding markets across the globe (see KPMG, 2016; Massolution, 2015), scholars have increasingly examined the crowdfunding phenomenon and—as highlighted in the previous chapter—have primarily focused on the factors that facilitate funding success on crowdfunding platforms (e.g., Ahlers et al., 2015; Allison et al., 2015, 2017; Block et al., 2017; Butticè et al., 2017; Chan and Parhankangas, 2017; Colombo et al., 2015; Courtney et al., 2017; Davis et al., 2017; Giudici et al., 2017; Josefy et al., 2017; Mollick, 2014; Parhankangas and Renko, 2017; Skirnevskiy et al., 2017; Vismara, 2016, 2017; Vulkan et al., 2016). Scholars have also suggested that it is important to differentiate between different crowdfunding types, including reward-based crowdfunding, lending-based crowdfunding and equity-based crowdfunding (Fleming and Sorenson, 2016; Mollick, 2014; Vismara, 2017).

It is interesting to note that "success" in current crowdfunding research is frequently defined as raising funds on crowdfunding platforms. Raising funds definitely represents an important milestone for entrepreneurs, who often require external financing to form and scale their ventures (Cassar, 2004; Cosh et al., 2009). Still, it typically only represents the very

beginning because after entrepreneurs have raised funds from the crowd, the real challenges are to build viable businesses, that create innovative products or services, generate employment, and provide the promised rewards or financial returns (Signori and Vismara, 2017). While the promise of crowdfunding might be significant, several scholars have also raised caution in that many firms or projects might get funded that should not get funded, that the crowdfunding market might be vulnerable to fraud, and that particular types of crowdfunding, such as equity-based crowdfunding may not provide sufficient returns to be attractive in the future (Blanding, 2013; Isenberg, 2012).

In this chapter, we review the literature that investigates firms or projects after they have successfully raised funds on crowdfunding platforms. For this purpose, we first focus on firm outcomes, including firm failure, follow-on fundraising, and firm performance. When governments embrace crowdfunding this is primarily because policymakers expect that crowdfunding will allow firms with innovative ideas to form, grow, and flourish. Second, we take the perspective of entrepreneurs and focus on the promises they made to the crowd, such as the delivery of rewards or the provision of returns. Last, we switch to the supply of capital and examine the returns granted by crowdfunding to backers. When the general public and investors embrace crowdfunding this is primarily because they expect that crowdfunding will provide them with non-financial and financial benefits. Finally, we provide a roadmap for scholars by providing an overview of important topics that warrant more attention in future research.

8.2. What happens after the campaign?

In this section, we first focus on firm outcomes after a successful crowdfunding campaign, including firm failure, follow-on fundraising, and firm performance. Second, we focus on the promises made by entrepreneurs to the crowd, including the delivery of rewards or the provision

of returns. Differentiating between these two types of outcomes is important for at least two reasons. First, by definition, firm outcomes only relate to firms but not all proponents of crowdfunding platforms are firms. For instance, contrary to equity-based crowdfunding where proponents are by definition firms, projects on reward-based crowdfunding platforms do not necessarily relate to firms and are actually often launched by individuals (Colombo et al., 2015; Vismara, 2017). Second, outcomes that are "good" for the crowd might not necessarily be "good" for firms and vice versa. For example, while firms might provide rewards to the crowd, the firms themselves may remain simple "mom and pop" businesses that do not innovate, grow, generate employment or create significant value added or may eventually go bankrupt.

8.2.1. Firm outcomes

One of the firms in the crowdfunding "hall of fame" is Pebble Technology Corporation, which developed and sold smartwatches including the Pebble Smart Watch (e.g., Mollick and Robb, 2016; Thürridl and Kamleitner, 2016). In line with insights from the literature on financial bootstrapping (Winborg and Landström, 2001), Canadian engineer Eric Migicovsky and several friends developed an early version of the smartwatch in their garage. In 2011, the project was accepted into Y Combinator—an American seed accelerator—that provided seed funding. After experiencing difficulties in raising additional "traditional" funding (e.g., venture capital [VC]), Eric Migicovsky turned to reward-based crowdfunding. On Kickstarter, with a campaign running from April 11, 2012, through May 18, 2012, Pebble Technology raised over 10 million USD from more than 68,900 backers, thereby breaking the Kickstarter record for raising the most money at that time. In 2013, the firm was able to raise a Series A round of 15 million USD from Charles River Ventures—a VC firm focused on early-stage investments in technology and new media companies. By the end of 2014, Pebble sold its one-millionth smartwatch. In 2015, Pebble

launched the Pebble Time, again with Kickstarter, now raising over 20 million USD. In December 2016, however, Pebble filed for insolvency. Fitbit acquired most of Pebble's assets and employees and paid some 23 million USD for Pebble's intellectual property. This anecdotal case evidence shows that successfully raising initial crowdfunding indeed only represents a first milestone.

Below, we provide more systematic evidence from academic research on the failure, follow-on fundraising, and performance of crowdfunded firms. This evidence is summarized in Table 1.

[Insert Table 1 about here]

Firm failure

For reward-based crowdfunding, Mollick and Kuppuswamy (2014) use survey evidence from project creators of design, technology, and video games projects who attempted to raise money on Kickstarter between 2009 and mid-2012. They investigate these three specific categories of projects to obtain projects that resemble conventional start-ups. Responses are obtained from 230 (39% response rate) projects that raised funding on Kickstarter and 128 (23.3% response rate) projects that failed to raise funding. In December 2013, 90% of projects that raised funding remained ongoing ventures (thus, for 1 to 4 years after funding). Moreover, 60% of projects that failed to raise funding remained ongoing ventures. Obviously, these percentages need to be interpreted with care as ventures that failed before the survey are less likely (unlikely) to participate in the survey. Few factors are statistically related to the probability that projects remain active. Among them, the most significant is the project creators' self-assessment of the completeness of their pre-campaign financial plan detailing how funds would be spent.

Signori and Vismara (2017) provide fine-grained insights on failures of equity crowdfunded firms. For this purpose, they use the population of 212 firms that successfully raised initial equity crowdfunding on the UK's largest equity crowdfunding platform Crowdcube from inception (2011) to 2015. In terms of the drivers of failure, they show that those equity crowdfunded firms that eventually fail are the ones that are less likely to have positive sales at the time of the crowdfunding campaign and provide voting shares. Equity crowdfunded firms that raised their target capital quickly and those that are funded by professional investors are less likely to subsequently fail. Indeed, interestingly, none of the equity crowdfunded firms that professional investors backed eventually failed. With respect to the prevalence of firm failure, Signori and Vismara (2017) find that 18% of the firms failed by the end of April 2017, with 80.7% of firms that did not realize an exit yet. For firms that raised financing between 2011 and 2013 the failure rate is 32.1% (with 64.3% of firms that did not realize an exit yet), while for the more recently funded firms that raised financing between 2014 and 2015 the failure rate is 12.8% (with 86.5% of firms that did not realize an exit yet).

We can benchmark these numbers against evidence from VC, for instance. Puri and Zarutskie (2012) illustrate that after the length of a typical VC investment, 39.7% of US VC-financed firms fail and 78.9% of non-VC-financed firms fail. After the length of a typical VC investment, most firms have realized an exit with only 10.7% of VC-financed firms that are active without an exit event and 20.04% of non-VC-financed firms without an exit event. Cumulative failure rates of VC-financed firms equal 4.9% and 12.8% for 1 and 2 years after the VC investment, respectively. These statistics suggest that failure rates will likely be higher for equity crowdfunded firms relative to VC-financed firms. Walthoff-Borm et al. (2017a) examine the failure of equity crowdfunded firms using a sample of UK firms that raised financing through Crowdcube and Seedrs and a matched sample of UK non-equity crowdfunded firms. They show

that the failure rate of equity crowdfunded firms is significantly higher than the failure rate of similar UK non-equity crowdfunded firms matched on firm age, size and industry.

Follow-on fundraising

Relative to other firm outcomes, there is a somewhat richer literature on the consequences of crowdfunding for follow-on fundraising both from studies using real-life data as well as studies using an experimental design.

Several studies have focused on the occurrence of and the factors related to follow-on fundraising in crowdfunded firms. Mollick and Kuppuswamy (2014) highlight that in their sample of projects that raised reward-based crowdfunding on Kickstarter, some projects raised additional funds. Specifically, over 20% used self-funding, over 15% used funding from family and friends, and some 15% raised angel finance. Over 5% used follow-up crowdfunding. VC was raised by less than 5% of projects. Mollick and Kuppuswamy (2014) further show that projects with larger goals that were funded, and projects that were overfunded the most, were more likely to attract additional external funding (i.e., VC, angels, banks, companies). Project creators' self-assessment of the completeness of their pre-campaign financial plan was also correlated with raising external funding. Finally, projects where the creators had specific industry experience were three times as likely to get external funding compared to those that did not have such backgrounds.

Signori and Vismara (2017) show that in their sample of firms that raised equity crowdfunding through Crowdcube, some 35% raised follow-on funding in the form of either private equity injections (9%) or follow-on crowdfunding offerings (25%). They further show that firms with more dispersed ownership are less likely to issue further equity, while those that

reach the target capital more quickly in their initial crowdfunding campaign are more likely to launch a follow-on offering.

The evidence of the above studies shows that many crowdfunded ventures do raise additional funding but also that many do not raise additional funding. However, these studies do not address whether crowdfunding facilitates or hampers the attraction of VC relative to firms that did not raise crowdfunding. Using experimental designs, Drover et al. (2017) show that the volume of crowdfunders has no significant influence on the willingness of VCs to conduct a due diligence—a necessary step before firms can obtain funding—in the lending and equity models. However, there is an overall higher willingness of VCs to conduct a due diligence on a reward-crowdfunded firm with a high volume of crowdfunders. VCs also favor conducting a due diligence on investment opportunities funded through platforms that have an established record of investment success. These findings suggest that ventures can "borrow" the reputations of more established crowdfunding platforms. Also using an experimental design, Mödl (2017) highlights that crowdfunding is generally is a negative signal for professional VCs. However, high sums of reward-based crowdfunding, collected fast by startups with a Business-to-Consumer (B2C) business model, can have a positive effect on VC managers' investment decisions.

Consistent with the evidence from experimental studies, Sorenson et al. (2016) shows that a 1% increase in the annual number of Kickstarter campaigns in 1 year predicted a 0.097% increase in the annual number of VC campaigns in the following year, a 0.092% increase in the subsequent year, and about a 0.067% increase in the third year. Overall, there seems to be relatively consistent evidence that successful reward-based crowdfunding facilitates the subsequent receipt of VC, particularly from established platforms and in a B2C context. However, for other forms of crowdfunding such as lending-based or equity-based crowdfunding studies fail to find an effect or point towards a negative effect.

Firm performance

The impact of crowdfunding on more continuous, dynamic firm outcomes, such as firm financial performance, firm innovative performance or firm growth, is probably the least explored of the long-term outcomes of crowdfunding.

For reward-based crowdfunding, Mollick and Kuppuswamy's (2014) survey data illustrates that projects funded through Kickstarter added, on average, 2.2 employees—with a particularly high standard deviation of 9.6—since their campaign ended. Moreover, 32% of ongoing firms that successfully raised funding reported yearly revenues of over $100,000 a year after their campaign, where 10% of these were firms that had already been making that level of revenues before the campaign.

For equity-based crowdfunding, Walthoff-Borm et al. (2017a) find that UK equity crowdfunded firms exhibit lower financial performance (i.e., return on assets) but higher innovative performance (i.e., higher intangible assets ratios, patent applications and patents granted) relative to matched UK non-crowdfunded firms. They further examine differences between firms funded through Crowdcube and Seedrs. This distinction is interesting because Crowdcube uses a direct shareholder model (e.g., crowdinvestors become legal shareholders of the business they support), while Seedrs uses a nominee structure (e.g., the equity crowdfunding platform holds and manages the shares of the supported firms on behalf of the crowdinvestors). Equity crowdfunded firms financed through a nominee structure make smaller losses and the worst performing firms seem to be pushed towards failure more quickly relative to equity crowdfunded firms financed through a direct shareholder structure. Equity crowdfunded firms financed through a nominee structure also invest significantly more in intangible assets after the campaign, but those financed through a direct shareholder structure have more patent

applications, including foreign patent applications. Thus, it does not seem that one specific platform structure is universally better for firm performance relative to another platform structure.

8.2.2. The promises made by entrepreneurs

In reward-based crowdfunding, entrepreneurs promise to deliver a specific reward to their backers. In lending-based and equity-based crowdfunding, entrepreneurs promise their backers financial gains. Below, we provide systematic evidence on the delivery of rewards and the realization of financial returns in crowdfunding. We summarize this evidence in Table 2.

[Insert Table 2 about here]

Mollick (2014) reports that fraud—a first concern related to delivery—is very rare in reward-based crowdfunding. A finding that is corroborated by more recent research by Cumming and colleagues (2017). Mollick (2014) shows that in only 3.6% of the campaigns there are direct signs of fraud. He further shows that the vast majority of founders seem to fulfill their obligations, but that many deliver later than expected. In the Design and Technology categories on Kickstarter, for projects that delivered goods, the mean delay was 1.28 months. Of the projects that were delayed, the mean delay to date was 2.4 months. Only 24.9% of projects delivered on time and 33% had yet to deliver. In the Film, Food, and Theater categories in Kickstarter similar statistics are observed: only 23.4% of projects delivered on time and for the projects that were delayed, the mean delay was 2.7 months. Overall, the reward-based crowdfunding market seems very fraud resistant and entrepreneurs often do provide rewards but generally with delays. Mollick (2014) and Mollick and Kuppuswamy (2014) show that these delays are correlated with

project size (goal) and the degree to which it was overfunded. In addition, the project creator's assessment of having a complete project schedule before the launch of the campaign is correlated with reduced delays.

8.2.3. Returns for investors

For lending-based crowdfunding, returns can be generated when firms repay the interests and principal amount to their backers. Evidence from the Netherlands (Crowdfundmarkt, 2015) shows that in 2015 the average interest rate on lending-based crowdfunding projects equaled 7.15% and the average duration of a loan equaled 52.7 months. Obviously, the average 7.15% interest rate is *not* equal to the realized return of crowdinvestors, which can be substantially lower due to defaults (e.g., firm failures) and costs that lending-based crowdfunding platforms transfer to their investors. Iyer et al. (2015) focus on peer-to-peer lending and use a large-scale sample of over 194,000 listings on Prosper. The average annual lender interest rate equals 16.6%. But as indicated before defaults are not uncommon. Indeed, over 30% of the funded listings default in the three-year duration of the loan. As one can expect, the default rate varies significantly with the credit category, where the default rate is 14.7% for the most creditworthy borrowers and 51.6% for the least creditworthy borrowers. It is noteworthy that the delinquency rate on consumer loans for all commercial banks has been substantially lower in the last decade in the US (with a peak of 4.85% in the second quarter of 2009) (Board of Governors of the Federal Reserve System, 2017). The fraction of the principal repaid at the end of the loan term is on average 79.7% and ranges from 91.0% for the most creditworthy borrowers to 62.5% for the least creditworthy borrowers.

For equity-based crowdfunding, returns can only be realized when crowdinvestors exit firms (or receive dividends). Ahlers et al. (2015) demonstrate that at the time of the campaign

48% of the entrepreneurs in their sample listed on the Australian ASSOB platform envisaged an IPO as the most likely exit and 48% envisaged a trade sale as the most likely exit. Signori and Vismara (2017) show that of the 212 firms that raised initial equity-crowdfunding on Crowdcube between the inception of the platform in 2011 and 2015, only 3 exits were realized by the end of April 2017. All these exits were merger and acquisition (M&A) exits, which provided an average return of 48.8%. One example of an M&A exit is Camden Town Brewery that got acquired by Anheuser Busch InBev. The acquisition at the end of 2015—some 8 months after the closing of Camden's crowdfunding equity campaign—delivered an annualized internal rate of return of 111.9% to crowdinvestors.

8.3. Integration of Research Findings, Avenues for Future Research and Overall Conclusion

8.3.1. Integration of research findings

In this chapter, we have synthesized the literature on firm outcomes, the delivery of rewards, and the provision of returns after crowdfunding campaigns. Current research has extensively focused on the factors that determine funding success on crowdfunding platforms, but research on the question of what happens after a successful crowdfunding campaign is relatively scarce.

In terms of firm outcomes, there is some evidence related to firm failure, suggesting that failures are neither non-trivial nor excessive amongst crowdfunded ventures (Mollick and Kuppuswamy, 2014; Signori and Vismara, 2017). There is also evidence that successful reward-based crowdfunding—particularly from established platforms and in a B2C context—may facilitate the subsequent receipt of VC funds (Drover et al., 2017; Mödl, 2017; Sorenson et al., 2016). Although angel-backed firms have a greater probability of attracting subsequent VC relative to crowdfunded firms (Ryu and Kim, 2017). For other forms of crowdfunding, namely

lending-based or equity-based crowdfunding, studies fail to find an effect or point towards a negative effect of crowdfunding on the subsequent ability of crowdfunded firms to attract VC funds (Drover et al., 2017; Mödl, 2017). In terms of firm financial and innovative performance, there is some anecdotal evidence that specific crowdfunded firms have performed well (and others not so well on specific outcomes). Unfortunately, more general, comprehensive evidence using a matched sample approach (e.g., Puri and Zarutskie, 2012, for VC funded firms relative to non-VC funded firms) is limited. An exception is a study by Walthoff-Borm et al. (2017a) that illustrates that crowdfunded firms have lower financial performance but greater innovative performance relative to matched non-crowdfunded firms.

In terms of entrepreneurs' obligation to provide rewards, the literature is clear-cut. Specifically, crowdfunding platforms seem to be relatively fraud resistant (Cumming et al., 2017; Mollick, 2014). Rewards are generally provided to backers but this frequently occurs with a delay (Mollick, 2014; Mollick and Kuppuswamy, 2014). There is also anecdotal evidence on the returns promised to crowdinvestors, but the academic literature has not provided a clear-cut answer to the challenging question of how much net returns lending and equity crowdinvestors obtain and whether risk-adjusted returns are attractive. This lack of literature, particularly in the equity-based crowdfunding literature, is primarily driven by the limited exits realized on the platforms, the lack of (liquid) secondary markets, and the newness of the equity crowdfunding market.

From our literature review it becomes clear that we have only skimmed the surface in terms of understanding how crowdfunded firms develop after a successful campaign and how their development differs from non-crowdfunded firms or firm that raised financing through alternative sources of entrepreneurial finance. There remain many opportunities to broaden our understanding of the consequences of crowdfunding for firm outcomes and the factors that

explain why some crowdfunded firms are more successful than others. While the type of crowdfunding certainly matters, there is also evidence that more developed firms (e.g., with positive sales during the campaign) and more professional firms (e.g.., that receive support from professional investors, have better developed financial plans, have more complete project schedules) are less likely to subsequently fail and attract more extra financial benefits from crowdfunding,

8.3.2. Avenues for future research

It is clear that "we are still in the early days of crowdfunding, especially on the equity side, and its evolution will be exciting to watch" and research (Mollick and Robb, 2016: 86). Today, an increasing amount of data becomes available on the outcomes of crowdfunded firms, which opens important avenues for researchers. Below, we discuss several avenues for future research that we believe hold significant promise.

The entrepreneurial finance literature is characterized by significant segmentation (e.g., Cosh et al., 2009; Cumming and Vismara, 2017; Hanssens et al., 2016). One type of segmentation is by financing source. Largely separate streams of literature exist on banking, VC, angel investors, trade credit, and more recently crowdfunding. Focusing on a specific source of financing is needed to obtain a comprehensive understanding of that financing source, but it is also important to acknowledge that entrepreneurs do not generally limit themselves to one financing source and that distinct financing sources interact. Future crowdfunding research could more fully explore interactions between distinct types of crowdfunding and more 'traditional' sources of financing. For instance, what are the consequences of crowdfunding on the modus operandi of other financiers, such as angel investors, VCs or banks? What is the role of financial incumbents (e.g., banks) in the development of crowdfunding platforms? Do these platforms

initiated by incumbents operate differently and do the funded firms evolve differently? (Why) Do venture capitalists push some of their portfolio companies towards crowdfunding? When VCs (angels) and the crowd are joint shareholders, how can principal-principal conflicts be managed or minimized? Where do entrepreneurs that were unsuccessful in raising crowdfunding attract additional financing, if any? Bridging the segmented entrepreneurial finance literature may allow crowdfunding research to speak to a broader audience and make broader contributions.

The crowdfunding literature in itself has also become segmented by the type of crowdfunding and crowdfunding platform. Research on reward-based crowdfunding has almost universally focused on US-based platforms Kickstarter and sometimes Indiegogo. Research on equity-based crowdfunding has, with some exceptions, focused on UK-based platforms Crowdcube and sometimes Seedrs. In many cases, studies on these platforms have investigated US-based or UK-based firms, respectively, to reduce unmeasured variance and control for country effects. Consequently, while there are hundreds of crowdfunding platforms active across the globe (e.g., Dushnitsky et al., 2016, for 15 European countries) our evidence is limited to a handful of platforms and countries. Future research that builds a longitudinal cross-country sample exploiting firm-level, platform-level and country-level data (similar to the VICO project on VC finance, see Bertoni and Marti, 2011; Colombo and Shafi, 2016; Vanacker et al., 2013) would have tremendous potential. It would allow scholars to examine how firm outcomes are dependent on platform structure? How country institutional (legal frameworks but also informal institutions such as culture) influence the development of crowdfunded firms differently from similar non-crowdfunded firms?

Another avenue for future research is to provide a more detailed insight into the potential selection and extra-financial effects in crowdfunding markets and to disentangle these effects when examining firm outcomes. Specifically, entrepreneurs do not appear at random on

crowdfunding platforms, they self-select themselves by actively searching for crowdfunding (Eckhardt et al., 2006; Walthoff-Borm et al., 2017b). Platforms also play an increasingly important role in selecting from the pool of entrepreneurs that are willing to raise crowdfunding those firms that will eventually list on their platforms (Younkin and Kashkooli, 2016). Finally, the crowd may also select the best firms or those with the greatest growth potential. Next to selection effects, crowdfunding may also bring extra-financial benefits, such as access to employees, increased media visibility, and the build-up of a robust customer base (Mollick and Kuppuswamy, 2014). Some potential questions include: How do different types of crowdfunding platforms select firms and which types are more successful in selecting the best ventures? How do crowdfunded firms perform relative to non-crowdfunded firms, and are differences in outcomes primarily driven by selection effects or value-added effects? Which types of entrepreneurial firms are able to capture more value added from crowdfunding? And what is the role of the entrepreneurial team in capturing extra-financial benefits?

8.3.3. Overall conclusion

In this chapter, we have provided an overview of the relatively scant literature on the consequences of raising different types of crowdfunding. More specifically, we have reviewed the literature on firm outcomes after a crowdfunding campaign (i.e., firm failure, follow-on fundraising, and firm performance) and the promises made by entrepreneurs (i.e., delivery of rewards and provision of returns). We have further discussed important avenues for future research, which we hope will stimulate scholars to further unravel the consequences of different types of crowdfunding and their interaction with other 'traditional' sources of entrepreneurial finance in different contexts.

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Table 1: Selected Studies on Crowdfunding and Firm Outcomes.

Authors	Data	Key findings
Drover, Wood and Zacharakis (2017, ETP)	Two experiments using 104 VCs making 1,036 screening decisions.	The volume of crowdinvestors had no meaningful certification effect. The volume of crowdfunders had almost no influence in the lending and equity models but there is an overall higher willingness to conduct due diligence on a reward-crowdfunded firm with a high volume of crowdfunders. VCs favor investment opportunities funded through platforms that have an established record of investment success.
Mödl (2017, Working paper)	A choice experimental design and data on 5,280 decisions of 120 venture investors.	Crowdfunding is a negative signal for professional venture investors but high sums of (reward-based) crowdfunding, collected fast by startups with a B2C business model, can have a positive effect on VC managers' funding decisions. Securities-based crowdfunding is in general regarded as highly negative by VCs.
Ryu and Kim (2017, Working paper)	Sample of 193 crowdfunded startups (Technology category on Kickstarter from 2011 until 2013) and 708 angel-funded startups.	Crowdfunded startups are less likely to receive subsequent VC investments relative to angel-backed startups. Obtaining crowdfunding is positively associated with the receipt of subsequent investments from corporate VC as opposed to independent VC.
Mollick and Kuppuswamy (2014, Working paper)	Survey data of 158 projects that raised financing and 128 projects that failed to raise financing on Kickstarter in the Technology, Product Design, and Video	Reward-based crowdfunding can support more traditional entrepreneurship: over 90% of successful projects remained ongoing ventures, and 32% of all these reported yearly revenues of over $100,000 a year since the Kickstarter campaign

	Games categories between 2009 and mid-2012.	and added an average of 2.2 employees per successful project. Crowdfunding provided many potential benefits beyond the crowdfunded money itself, including helping provide access to customers, press, employees, and outside funders. Projects that are better prepared are more likely to gain benefits and deliver on time. Endorsements and having appropriate backgrounds is also helpful. Some of the factors found to lead to successful fundraising (having many Facebook friends, being featured by Kickstarter), were less useful in getting long-term benefits from Kickstarter.
Signori and Vismara (2017, JCF)	212 successfully funded initial equity offerings on Crowdcube from inception (2011) to 2015	17.9% failed. 45.8% are active with no subsequent events. 34.9% raised follow-on funding, either in the form of private equity injection or follow-on offering on a crowdfunding platform. 3 firms (1.4%) were targeted in M&A deals, with a 48.8% average realized return.
Sorenson, Assenova, Li, Boada, and Fleming (2016, Science)	Data from 2009 to 2015 on Kickstarter campaigns and on VC investments	A 1% increase in the annual number of Kickstarter campaigns in 1 year predicted a 0.097% increase in the annual number of VC campaigns in the following year, a 0.092% increase in the subsequent year, and about a 0.067% increase in the third year. Successful campaigns may attract the attention of VCs to innovators in the region or to the specific people running these successful campaigns.
Walthoff-Borm, Vanacker,	Successfully equity crowdfunded UK ventures from Crowdcube and Seedrs and	Equity crowdfunded firms exhibit lower financial performance but higher innovative performance relative to their non-crowdfunded matches.

Collewaert (2017a, Working paper)	matched non-crowdfunded ventures	Equity crowdfunded firms financed through a nominee structure make smaller losses and the worst performing firms seem to be pushed towards failure more quickly, relative to equity crowdfunded firms financed through a direct shareholder structure. Equity crowdfunded firms financed through a nominee structure also invest significantly more in intangible assets after the campaign, but those financed through a direct shareholder structure have more patent applications, including foreign patent applications.

Table 2: Selected Studies on the Delivery of Rewards and Provision of Returns.

Authors	Data	Key findings
Cumming, Hornuf, Karami and Schweizer (2017, Working paper)	All fraud cases from 2010 through 2015 on Kickstarter and Indiegogo that spans nine countries.	Fraud in donation- and reward-based crowdfunding remains limited, with detected scam rates of below 0.01%.
Iyer et al. (2015, MS)	A large-scale sample of over 194,000 listings on Prosper (peer-to-peer lending).	The average annual lender interest rate offered to lenders is 16.6%. Over 30% of the funded listings default in the three-year duration of the loan, where, the default rate varies with the credit category: 14.7% for the most creditworthy borrowers and 51.6% for the least creditworthy borrowers. The fraction of the principal repaid at the end of the loan term is on average 79.7% and ranges from 91.0% for the most creditworthy borrowers to 62.5% for the least creditworthy borrowers.
Mollick (2014, JBV)	471 successful Kickstarter projects in Design and Technology and 200 successful Kickstarter projects in Film, Food, and Theater.	[Design and Technology] 24.9% of projects delivered on time, and those that delivered, they did so with a delay of 2.4 months. Direct failure rate was 3.6%. [Film, Food, and Theater] 23.4% of projects delivered on time, and, of those that delivered, they did so with a delay of 2.7 months. Only 2.3% of projects showed indications of potential fraud. Larger projects and projects that most exceeded their goals were at the greatest

		risk for delays.
Signori and Vismara (2017, JCF)	212 successfully funded initial equity offerings on Crowdcube from inception (2011) to 2015	3 firms were targeted in M&A deals, with a 48.8% average realized return.