

Users' Perceptions of Motivations and Risks in Crowdfunding with Financial Returns

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Abstract: Using a unique database of survey respondents from three countries (Spain, Germany and Poland) on crowdfunding with financial returns (equity crowdfunding and peer-to-peer lending), this paper: (a) explores the profile of the average crowdfunding investor, (b) examines users' perceptions of motivations and risks while investing via crowdfunding, and (c) evaluates the relative importance of risks and motivations in users' decisions whether and how much to invest. Results show that there are clear differentiations between equity crowdfunding and p2p lending; the average profile of an equity crowdfunding investor is a young and highly educated male, but no clear demographic profile was found for the p2p lending investor. We also show that, compared to equity crowdfunding investors, p2p lenders care more about financial returns, and information is an important factor, while equity investors seem to be driven mainly by their excitement or interest in the project. Finally, equity crowdfunding investors who invest based on their interest/excitement, seem to invest relatively lower amounts of money when compared to investors seeking higher returns.

Keywords: equity crowdfunding, peer-to-peer lending, risks and motivations

JEL Codes: G00, O30

Funding: The dataset that this paper uses was created in the context of a study, commissioned and funded by the Financial Services Users Group (FSUG), an Expert Group of the European Commission (EC).

1. Introduction

The Global Financial Crisis and the subsequent world economic downturn exacerbated persistent and fundamental problems in the market for entrepreneurial finance, since financial institutions were reluctant to lend to each other, and restrictions in lending fed through into the wider economy (Cowling et al., 2012; Lee et al., 2015). In this environment of severe capital rationing in the entrepreneurial sector, a new paradigm was emerging, that of the 'crowd' funding entrepreneurial ventures in both the for-profit and not-for-profit sector. The

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'crowd' in crowdfunding consists of a wide range of participants, such as users and consumers, amateurs, and individuals seeking for commitment (Bouncken et al., 2015). In general, it involves relatively inexperienced individuals that tend to make emotion-based evaluations (Yang et al., 2013); it is only recently that institutional investors have started being involved in crowdfunding with financial returns.

The interesting feature of the 'crowd' engaging with the entrepreneurial sector is that they are able to channel cash directly to entrepreneurs. This excludes the financial intermediation sector (banks, venture capital funds, etc.) from the whole entrepreneurial investment process and expands access to finance for entrepreneurs. However, national and supra-national regulators are facing several dilemmas, which remain largely unresolved today, the most important being their natural tendency to regulate financial markets and their desire to protect users of financial services. More specifically, financial regulators face a trade-off between economic efficiency and investor protection. To develop a bespoke regulatory framework for crowdfunding, it is necessary to understand investor characteristics of crowdfunding. In this context, the distinct characteristics of the 'crowd' are of great importance.

The inherent differentiations of the main crowdfunding types make research efforts generally fragmented and impossible to generalize. For example, there are major differences between motives and behavioural patterns across the main four types of crowdfunding, namely donation, rewards, p2p lending and equity crowdfunding. Cholakova and Clarysse (2015) use self-determination theory and its extension cognitive evaluation theory to explore the extent to which financial or non-financial motivations determine the decision to invest in equity or to pledge. They apply an experimental methodological approach and show that nonfinancial motives play no significant role in equity crowdfunding. This last finding of Cholakova and Clarysse (2015) contradicts the implications of Belleflamme et al. (2014) that factors other than financial returns are also important when investing via equity crowdfunding. Such contradictions are expected in a relatively early phenomenon like crowdfunding. In fact, Kaartemo (2017) performs a systematic literature review of crowdfunding performance and finds that there are still substantial gaps in our knowledge of crowdfunding performance, and that many intuitive suggestions made by crowdfunding platforms need to be subjected to rigorous academic research.

In this paper, we extend the scope of the afore-mentioned debate as follows: (a) we simultaneously investigate and compare both types of crowdfunding with financial returns, namely equity crowdfunding and peer-to-peer lending, (b) we simultaneously explore both motivations and risks perceptions, and (c) we explore how motivations and risks perceptions affect investment willingness and the relative investment volume. Understanding of these basic facts regarding the crowd, such as who are the crowd, what is the profile of the funder/investor, how the crowd perceives certain risks associated with crowdfunding and the determinants of the crowd's investment willingness, is limited. Exploring the main features of the crowd and understanding how the crowd thinks, perceives risks and rewards and acts, is crucial for a number of reasons: (a) it helps project owners in designing their crowdfunding campaigns, (b) it helps platforms to adjust their own strategies in mitigating specific types of risks, and (c) it provides important information to regulators in their effort to design a framework meeting their consumer protection goals. To this end, our aim is to apply a relatively broad analytical approach, comparing investor profiles and financial decision making between the main two types of crowdfunding with financial returns.

In the present paper we perform an empirical analysis using survey data from three countries: Spain, Germany and Poland. Our main finding is that there are clear differentiations between equity crowdfunding and p2p lending in terms of investment behaviour. We find that an average investor profile for equity crowdfunding can be determined, but people that invest via p2p lending seem to cover a broader spectrum of demographic characteristics, so that no typical investment profile can be designed for p2p lending. We also find that different sets of motivators and risks seem to shape investor behaviour for equity crowdfunding and p2p lending respectively. Finally, we do observe inter-country differences, mainly on the level of trust of funders to the industry.

Our findings offer several contributions to extant literature. First, to the authors' knowledge, this is the first study to simultaneously explore users' perceptions of risks and motivations in crowdfunding with financial returns, while using a representative sample of the population dataset from three different countries. Second, our results contribute to our understanding on how crowdfunding is perceived by its users, and provides useful knowledge to all remaining stakeholders in crowdfunding, namely the platform owners, the fundraisers and the regulators. Third, we extend the stream of literature concerning funders' perceptions of risks and motivations in crowdfunding. Lastly, by analysing the behavioural profile of crowdfunding users, we provide insightful information to regulators, in the context of one of the main pillars of their regulatory design, i.e. consumer protection.

In addition: section 2 reviews the current literature in motivations and risks in crowdfunding, section 3 describes the methodological approach, section 4 presents the empirical results, and section 5 concludes the paper.

2. Motivations and Risks in Crowdfunding

2.1. Motivations

Crowdfunding disintermediates traditional financing channels and targets directly all types of investors, who can be either professional or retail investors.

This diversity of investors implies that the motivation for participating is not purely financial. Belleflamme and Lambert (2014) denote that contributors are not regular investors and that they also value non-monetary benefits; feeling that they are part of a community of "special" or "privileged" investors/consumers. As mentioned before, Cholakova and Clarysse (2015) dispute this latter argument by finding support on their hypothesis that extrinsic financial motives, such as return on investment is a stronger determinant of the decision to invest in an equity-based crowdfunding project than intrinsic non-financial motives (such as to help others, to be a part of community, etc.). Davis et al. (2017) also explore funders' perceptions but in a different context and using a different methodology; they focus on the rewards-based model, asking from 102 participants to assess ten different product pitches made by ten different entrepreneurs and find that perceived product creativity is positively related to crowdfunding performance.

Bretschneider et al. (2014) identify 10 motives based on related literature in their effort to develop a research model to identify the crowd's motivation for investing in start-ups. These motivations include "fun to make investments", "curiosity about crowdfunding" etc., and their aim is to test the relative importance of these factors. Kuppuswamy and Bayus (2017), using data from campaigns on Kickstarter, find that people support projects financially when they believe that their contributions matter, i.e. if the project is nearing its funding deadline, if the target is relatively small or if the project has limited early support. Boudreau et al. (2015) find that non-pecuniary benefits rather than consumer surplus and private gifts play a key role in incentivizing backers' contributions by using observational and survey data from the crowdfunding of a popular online game. Allison et al. (2017) find that issue-relevant information, such as the entrepreneur's education, matters most for funders that make careful evaluations, while cues, such as adopting a group identity, are more important for inexperienced, first-time funders. Kgoroeadira et al. (2018) find that lenders focus on personal characteristics of entrepreneurs (such as their credit scores and if they are employed), and ignore business characteristics. Finally, Hervé et al. (2017) discuss the role of gender and location in investment decisions in crowdfunding and find that women invest less in riskier investments and more in safer ones than men and that investors located in an area considered more "sociable" also invest more, especially if the investor is a woman.

Another core angle to view crowdfunding with financial returns is from the perspective of "morality", "trust" and "transparency", especially in the context of financial intermediation. Scott (2015) builds on the "moral economy" term, where moral economy describes "the social expectations, emotional investments, and cultural transactions that create a shared understanding between all participants within an economic exchange" and links moral economy with crowdfunding in fan investments. Hossain and Oparaocha (2015) mention that trust and transparency are core fabrics of crowdfunding, when evidence shows that transparency in European banks is limited to the extent that the banking union

worsens the democratic deficit (Gandrud and Hallerberg, 2015) and that 'banking services' have remained in the lowest performing quartile in the latest Consumer Markets Scoreboard of the EC (European Commission, 2016). This gives rise to another interesting possible motivation on crowdfunding with financial returns, namely the disappointment of the traditional finance.

Finally, some studies examine the existence and extent of whether lenders' decisions are influenced not only by the standard risk-return trade-off but also by borrower characteristics such as gender, race, beauty, and age. After controlling for *ex-ante* riskiness, Pope and Sydnor (2011) and Ravina (2012) find that black borrowers were less likely to get loans in the early years of Prosper (2006-2007), but Duarte et al. (2015) find no discrimination against black people by using a larger sample on Prosper (2006-2008). Pope and Sydnor (2011), Ravina (2012), and Duarte et al. (2015) find no discrimination against female borrowers on Prosper, similarly to Barasinska and Schäfer (2014) by using data from a German platform.

2.2. Risks

As mentioned before, the "crowd" mainly consists of relatively inexperienced individuals that tend to make emotion-based evaluations; in this context, the exclusion of financial intermediation expose these individuals to certain risks, and it is this perception of risks that we are exploring. Mollick (2014) offers a description of the underlying dynamics of success and failure among crowdfunded ventures, suggesting that personal networks and underlying project quality are associated with the success of crowdfunding efforts, providing an implication in the context of trust. Ahlers et al. (2015) examine the impact of venture quality (human capital, social capital, and intellectual capital) and uncertainty on fundraising success and find that providing more detailed information about risks can strongly impact the probability of funding, while social capital and intellectual capital have little or no impact on funding success. This contradicts the findings of Giga (2017) who finds that investors place more emphasis on human capital than on other sources, as funding probability increases with management size and experience; it is worth noting though that Giga (2017) focuses on the venture capital area, not on the crowdfunding area.

Knyazeva and Ivanov (2017) find that the issuer's hard information, such as asset and financial condition, contributes little to funding success on equity crowdfunding, while soft information, measured as social media and third-party certification about issuer quality, plays a significant role in campaign outcomes. This may be partially explained by the notion that investors seek non-pecuniary payoffs and/or view the crowdfunding investment as a gamble rather than as a standard financial investment. However, the analysis of Lin and Pursiainen (2017) seems to disagree with this, as they find that social capital, a proxy for the level of institutional weakness that can mitigate entrepreneurial moral hazard, is positively associated with the probability of campaign success. However, Lin and Pursiainen (2017) do not control for soft and hard information as do Knyazeva and Ivanov (2017), which might lead to biased estimations.

In the broader context of information asymmetry, Vismara (2018) shows that fundraisers with a public profile increase the appeal of an equity crowdfunding offer among early investors, who in turn attract late investors. In this context, and in p2p lending, borrowers' financial profiles have been shown to be important in determining funding probability (Duarte et al. 2012), while lenders' decisions were significantly affected by a stream of different pieces of information such as past records of borrowers' default rate, the debt-to-income ratio and the number of loan requests that the borrower had made in the previous six months (Iyer et al., 2015). Furthermore, funders seem to respond to quality signals, such as disclosure of detailed information about risk and internal governance information, as shown in the study of Ahlers et al. (2015). Finally, Gerber and Hui (2013) note that distrust of a project owner's use of funds deters crowdfunders, while Wan et al. (2016) point out that trust is a crucial element in their decision-making model in p2p lending.

Furthermore, crowdfunding platforms play two roles in the investment process: information producers and matchmakers. This means that platforms not only facilitate transactions but also generate risk profiles of crowdfunding projects. Cumming and Hornuf (2017) note that in lending to SMEs, the platform ratings of the firms have more predictive power of funding success than do the firms' financial variables, suggesting that the platforms play a more important role in influencing lenders' decisions. Based on this finding and assuming that there is conflict of interests between crowdfunding platforms and investors, this gives crowdfunding platforms incentives to overstate project quality, generating a moral hazed issue, very similar to that in credit rating agencies or investment banks, which is well documented in both theoretical and empirical literature (Chemmanur and Fulghieri, 1994; Bolton et al., 2012; Fulghieri et al., 2014; Mathis et al., 2009; Keys et al., 2010, etc.). Therefore, in a rational expectations framework, investors' risk perception incorporates both project riskiness and crowdfunding platforms' creditability. This intuition is formalized by a recent theoretical work of crowdfunding (Wu et al., 2016).

Finally, turning our approach to the regulatory perspective, the European Banking Authority published in 2015 a detailed opinion on lending-based crowdfunding, making extensive reference to different types of risks (European Banking Authority, 2015). Specifically, the European Banking Authority identifies the following six risk categories: (a) counterparty [or credit] risk, (b) risk of fraud, (c) lack of transparency/misleading information, (d) legal risk, (e) liquidity risk, and (f) operational risk; and it discusses how these risks interrelate with the three main stakeholders of crowdfunding, namely the lenders, the borrowers and the platform owners. Most of these risk categories and respective

individual risk factors are common for equity crowdfunding and peer-to-peer lending, offering valuable insights for our research, since most of these types of risks are included in our methodological approach and consequently in our results and conclusions discussion.

2.3. Summary

The afore-mentioned literature review reveals several motivators and risks in crowdfunding. Regarding motivators, an obvious core distinction to explore in the area of crowdfunding with financial returns is the financial vs. non-financial decision drivers, such as financial returns and risk diversification vs. non-financial features like interest, excitement and curiosity. Trust and morality in crowdfunding, as opposed to mistrust of traditional finance is also another motivator worth exploring. Regarding risks, information issues – or, better said, the lack thereof – are important, while fundraiser and platform risk drivers are worth exploring, together with financial risks. Finally, demographic characteristics (such as age, gender and education) are also important when exploring the crowdfunding investor's profile.

In this paper, we approach the motivators and risk drivers and the demographic characteristics from a user's perspective. We thus adjust our methodology to explore the relative importance and the interlinkage of these factors in the area of crowdfunding. We further deepen our analysis exploring potential differences between the two main types of crowdfunding with financial returns, namely equity crowdfunding and peer-to-peer lending, while we are also looking at inter-country differences. Our methodological approach is described in detail in the section that follows.

3. Methodology and Data

Regarding the methodology, the dataset used in this paper was created in the context of a study (Oxera, 2015) to explore crowdfunding from the users' perspective. The study was commissioned by the Financial Services Users Group (FSUG)², an Expert Group of the European Commission, to consulting company Oxera. The dataset covers Germany, Poland and Spain, surveying 1,000 people in each country and using the same methodology throughout. These specific three countries were selected because of their relatively different inherent features to allow testing on possible differentiations in results. Germany was at the time of the survey the biggest market for crowdfunding with financial returns in

^{2.} The Financial Services Users Group (FSUG) is an Expert Group of the European Commission that represents users of financial services (i.e. consumers, micro entrepreneurs and retail investors).

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continental Europe; Spain is a southern country and had at that time the highest growth rate of crowdfunding with financial returns; Poland was selected as one of the most advanced and big markets in Eastern Europe. It is worth noting that the UK was left out the survey, despite the fact that the country is the European leader in crowdfunding, because a similar study had already been conducted for the country (Baeck et al., 2014). It is worth clarifying that the 1,000 people surveyed in each country fall into the definition of retail investors, namely funders who contribute to projects that offer financial returns, without necessarily possessing professional experience in investment decision making.

Describing the dataset in detail, survey data were derived by a market research conducted during January-February 2015 and comprised of two stages. The first stage consists of two questions asked within an omnibus survey conducted by computer-assisted telephone interviews (CATI). The first question asks about awareness of crowdfunding, and the second question enquires whether the person has experience of investing in crowdfunding.³ Specifically, an introductory sentence and the two CATI questions are the following:

Introductory sentence: Peer-to-peer lending and crowdfunding are Internetbased methods for individuals and companies to raise funds for specific projects QA1. Are you aware of peer-to-peer lending or crowdfunding as a means of getting a financial return?

QA2. Have you actually invested in peer-to-peer lending or crowdfunding?

Respondents were also asked questions on a series of demographic characteristics (age, gender, location, income level, education) in both survey stages. The respondents range from 18 to 75 years of age⁴, and are a representative sample of the different genders, social classes and regions. A total of 3,282 responses were collected, covering at least 1,000 per country.

In the second stage, multiple questions (including QA1 and QA2 and demographics) are included in an online survey or computer-assisted web interview (CAWI) for the same three countries. This piece of research surveys both a general sample of the population and a targeted sample of people whose profile meets the criteria established in the first phase of the analysis (in order to target the respondents who are most likely to know about crowdfunding). This online study is designed as an ad hoc survey to be disseminated through the market research company's database. As many surveys as needed are completed in order to identify 400 respondents who are familiar with crowdfunding, and thus capable of answering the rest of the survey.

As mentioned by Cholakova and Clarysse (2015), at present, there is no scale that measures crowdfunding investors' motivations in an accessible manner.

^{3.} The CATI methodology involves asking questions over the telephone and recording the answers in a computer system.

^{4.} In the case of Poland, the lower limit is 18 years of age but there is no upper limit.

Regarding risk assessment, existing literature shows that small investors are likely to lack the financial sophistication and experience of institutional investors about valuing start-ups and assessing founding teams (Freear et al., 1994) and that experts and laypeople disagree in their risk judgements (Sachse et al., 2012). Specifically, experts' judgements are based mainly on quantitative facts, while judgements of laypeople are influenced by qualitative features (McDaniels et al., 1997, Slovic, 1986); however, studies comparing risk perceptions of experts and laypeople in the financial domain are rare (Sachse et al., 2012) in general, and inexistent in crowdfunding.

In this context, the CAWI questionnaire was designed in an attempt to strike the most efficient balance from among the following three factors: (a) posing questions understandable to laypeople, since the main focus of the study is retail investors, (b) accounting for the most important common motivations and risks in crowdfunding with financial returns, to allow comparisons between equity crowdfunding and p2p lending, and (c) attracting as many responses as possible. Prior to being used, the questionnaire was discussed with the following stakeholders: (1) EC officials responsible for monitoring regulation in crowdfunding across EU Member States, (2) FSUG members who represent users of financial services, and (3) crowdfunding platforms' representatives. A description of the questions is provided in the paragraphs that follow.

Following the respective literature, our aim is to categorize the various individual motivations and risks into broader groups that can be easily perceived by the respondents, while allowing for comparisons between equity crowdfunding and p2p lending. In this context, respondents are asked to rate the motivations for participating in equity crowdfunding/P2P lending on a scale of 1 to 5 (where: 1 = no importance, 2 = low importance, 3 = some importance, 4 = high importance, 5 = very high importance) as follows:

a. Higher expected financial returns

b. Interest/excitement/curiosity about specific companies or start-ups

c. Disappointment/mistrust of traditional finance

d. Taking advantage of a new form of investment (increased diversification)

while, to measure risk perceptions, respondents are asked to rate on a similar 1 to 5 scale (where: 1 = no importance, 2 = low importance, 3 = some importance, 4 = high importance, 5 = very high importance) the following risks associated with crowdfunding:

QB2. How would you rate the risks (if any) associated with P2P lending/equity crowdfunding?

a. The fundraiser may prove to be fraudulent

QB1. How would you rate the following reasons by importance in your choice to invest in these platforms rather than investing elsewhere?

b. The platform may prove to be fraudulent

c. Poor information about the ongoing performance of the investment

d. Poor returns or losses on the investment

One of our main objectives was to link motivations and risks with investors' willingness to invest via crowdfunding and the relative investment volume. We thus asked the following questions:

QB3. Have you actually invested on equity crowdfunding platforms?/ Have you actually lent on peer-to-peer lending platforms? (Yes/No)

QB4. What proportion of your savings have you invested in equity crowdfunding/ P2P lending? a. Less than 10%, b. 11%- 25%, c. 26%-50% and d. more than 50%.

We combine respondents' answers to the motivation and risk factors (QB1, QB2) with the questions above (QB3, QB4), to explore investment willingness and the determinants of relative investment volume respectively. To account for the effects of personal characteristics, we control for gender, age, and education levels. Our detailed methodological approach is discussed in the results section that follows.

4. Results

Results' outlay and presentation derive from the three areas we aim to explore, namely: (a) what are the main characteristics of the crowd, (b) how does the crowd perceive certain motivations and risks when investing via crowdfunding and, (c) how these motivations and risk perceptions affect willingness to invest and the relative investment volume.

4.a. Investor Profile

We first look at demographic characteristics of crowdfunding investors. Table 1 reports distributions of age, gender and education for investors who are aware and have actually invested in equity crowdfunding and p2p lending respectively (QA1 and QA2). Results show that awareness levels are higher for men when compared to women, higher with education, while the age band that scores the highest awareness level is that of 25-34. Regarding usage, percentages shown in Table 1 are conditional in that respondents have already responded that they are aware of

crowdfunding or p2p lending. Results show that equity crowdfunding usage scores higher when compared to p2p lending, that usage percentages of men are slightly higher than those of women for equity crowdfunding, while very close to one another for p2p lending, that, in general and looking across all four age categories, younger respondents (18-34) tend to show higher usage levels, and that lower education is linked with higher levels of usage for both types (note that the absolute number of low-educated users is low though, reflecting lower awareness among this group).

			Awareness (QA1)		Invested in		Invested in		
					P2P Lending (QA2)		Equity Crowdfunding (QA2)		
		Total Responses	Are aware	Percentages	Have invested	Percentages	Have invested	Percentages	
Gender	Male	1565	668	42.68%	94	14.07%	190	28.44%	
Gender	Female 1717 533	533	31.04%	79	14.82%	127	23.83%		
	18-24	366	168	45.90%	33	19.64%	47	27.98%	
A = -	25-34	688	341	49.56%	59	17.30%	116	34.02%	
Age	35-44	673	281	41.75%	40	14.23%	75	26.69%	
	45+	1555	411	26.43%	41	9.98%	79	19.22%	
	Low	122	13	10.66%	3	23.08%	5	38.46%	
Education	Medium	1408	387	27.49%	58	14.99%	95	24.55%	
	High	1745	794	45.50%	110	13.85%	213	26.83%	

Table 1: Demographic characteristics per awareness and usage

Note: The percentages in columns QA2 (P2P lending and Equity crowdfunding) only relate to those respondents answering they were aware of crowdfunding in the first place.

The above analysis focuses on respondents that have already invested in either equity crowdfunding or p2p lending. However, our database allows us to create another additional two groups of respondents: people that are aware of crowdfunding but have not invested so far, plus people who have already invested in both forms of crowdfunding. We thus expand our analysis to test statistically significant differences between all four groups of respondents. Table 2 reports these results. In Table 2 "(a) P2P investor" refers to investors who only invest in p2p lending, "(b) Equity crowdfunding investor" represents investors who only invest in equity crowdfunding, "(c) P2P and equity crowdfunding investor" refers to investors who invest both in p2p lending and equity crowdfunding, and "(d) non-investor" refers to respondents who are aware of both types of crowdfunding but have not invested yet.

	Type of investor	F-statistic	Difference in Mean		/lean
	Type of investor	(p-value)	(p-values)		
			(a)	(b)	(c)
	(a) P2P investor				
	(b) Equity crowdfunding investor	7.90	-0.121 (0.593)		
Gender	(c) P2P and equity crowdfunding investor	(0.0000)	-0.039 (0.979)	0.082 (0.556)	
	(d) non-investor	(d) non-investor		0.171 (0.000)	0.089 (0.250)
	(a) P2P investor				
	(b) Equity crowdfunding investor	- /	-0.035 (0.998)		
Age	(c) P2P and equity crowdfunding investor	24.73 investor (0.0000)		-0.228 (0.304)	
	(d) non-investor		0.377 (0.176)	0.412 (0.000)	0.639 (0.000)
	(a) P2P investor				
	(b) Equity crowdfunding investor	8.08	0.046 (0.977)		
Education	(c) P2P and equity crowdfunding investor	8.08 (0.0000)	-0.026 (0.996)	-0.072 (0.756)	
	(d) non-investor		-0.142 (0.509)	-0.188 (0.000)	-0.116 (0.160)

Table 2: Scheffé multiple-comparison test on demographic differences

Note: 'Non-investors' only include respondents who are aware of both types of crowdfunding in the first place; Information regarding numbers of observations in each group can be found in Table 1.

Results reveal some significant gender, age and education differences between equity crowdfunding investors and non-investors. Specifically, there are less female equity crowdfunding investors compared with non-investors (in line with Hervé et al., 2017, assuming that equity crowdfunding is riskier than p2p lending). On average, an equity crowdfunding investor has a higher education level than a non-investor. Also, crowdfunding investors (particularly equity crowdfunding investors) are younger than non-investors. A first conclusion can thus be that the average profile of an equity crowdfunding investor is a young and highly educated male, but no conclusion relating p2p lending with demographic characteristics can be drawn for the p2p lending investor.

4.b Investment Motivations and Risk Perceptions

After discussing the crowdfunding average investor profile, we turn to their motivations' and risks' perceptions. Table 3 reports the overall mean as well as the % of respondents that answered 4 (high importance) or 5 (very high importance) in QB1 and QB2 respectively. Table 4 shows whether there are statistical significant differences between factors "within" each individual type of crowdfunding, while Table 5 shows whether there are statistical significant differences between factors "across" the two crowdfunding types.

	Equity crowdfun (N=31	0	P2P investor (N=173)		
Investment motivations	Significance %*	Mean score	Significance %	Mean score	
Higher return	48.58	3.24	60.11	3.55	
Interest/Excitement	61.51	3.64	56.64	3.53	
Disappointment of traditional finance	42.27	3.23	53.18	3.50	
Increased diversification	50.16	3.34	55.49	3.46	
Risk perceptions					
Fraudulent fundraiser /borrower	44.17	3.35	42.77	3.29	
Fraudulent platform	34.7	3.13	34.1	3.06	
Poor information	29.66	3.09	46.24	3.35	
Poor returns	32.81	3.11	39.3	3.23	

Table 3: Relative importance of motivations and risks for equity crowdfunding and p2p lending users

* "Significance %" measures the percentage of "4" and "5" responses of the total 1-5 scale responses

Regarding the relative importance of motivations, results show (Table 3) that "interest and excitement" is the highest rated motivation for investors via equity crowdfunding, followed by "increased diversification", "higher returns" and "disappointment of traditional finance". On the other hand, "higher returns" comes first for p2p lender respondents, followed by "interest and excitement", "disappointment of traditional finance" and "increased diversification". Note however that after applying the Scheffé multiple-comparison test⁵ to look at statistically significant differences in mean per pair within groups (i.e. "interest excitement" vs. "increased diversification" etc.) our findings show that only in the case of equity crowdfunding respondents, "interest and excitement" is statistically more significant than all other motivations, while the differences are not significant when testing pairs of motivations for p2p respondents (Table 4). The latter finding leads to the conclusion that although differences in importance

^{5.} We use the Scheffé multiple-comparison test to reduce our overall chances of falsely rejecting each hypothesis than letting our chances increase with each additional test.

are observed among motivations for p2p lending respondents based on mean scores, these differences are not statistically significant, meaning that we cannot conclude that "higher returns" is significantly more important than "interest and excitement" for p2p lenders.

		Difference in Mean		
		(a)	(b)	(c)
	(a) Higher return			
	(b) Interest /excitement	0.401		
	(b) interest /excitement	(0.000)		
Equity (Motivations)	(c) Disappointment of traditional finance	-0.009	-0.410	
	(c) Disappointment of traditional finance	(1.000)	(0.000)	
	(d) Increased diversification	0.100	-0.300	0.110
	(u) increased diversification	(0.743)	(0.012)	(0.686)
	(a) Fraudulent fundraiser /borrower			
	(h) Fraudulant platform	-0.218		
	(b) Fraudulent platform	(0.065)		
Equity (Risks)	(c) Poor information	-0.265	-0.047	
	(c) Pool information	(0.013)	(0.952)	
	(d) Deer returns	-0.237	-0.019	0.028
	(d) Poor returns	(0.036)	(0.997)	(0.989)
	(a) Higher return			
	(b) Interest /excitement	-0.017		
	(b) interest /excitement	(0.999)		
P2P (Motivations)	(c) Disappointment of traditional finance	-0.046	-0.029	
	(c) Disappointment of traditional finance	(0.983)	(0.996)	
	(d) Increased diversification	-0.087	-0.069	-0.040
	(u) increased diversification	(0.901)	(0.946)	(0.989)
	(a) Fraudulent fundraiser /borrower			
		-0.231		
	(b) Fraudulent platform	(0.184)		
P2P (Risks)		0.058	0.289	
	(c) Poor information	(0.959)	(0.057)	
		-0.063	0.168	-0.121
	(d) Poor returns	(0.947)	(0.467)	(0.721)

Table 4: Scheffé multiple-comparison test - within each individual type

Turning our attention to risks, results show (Table 3) that "fraudulent fundraiser" comes first for equity crowdfunding investors, followed by "fraudulent platform", "poor returns" and "poor information", while this specific

last factor ("poor information") is the highest ranked risk for p2p respondents, followed by "fraudulent borrower", "poor returns" and "fraudulent platform". The Scheffé test (Table 4) shows that the "fraudulent fundraiser" risk is statistically more significant when compared with all other risks for equity crowdfunding respondents, while the differences between all other factors are not significant. In p2p lending, the only significant difference is between "poor information" and "fraudulent platform".

Comparing across equity crowdfunding and p2p lending respondents (combined results from Tables 3 and 5), regarding motivations, we do find statistically significant differences for "higher return" and "interest/excitement", meaning that respondents seem to be motivated more by higher returns in p2p lending and by interest and excitement in equity crowdfunding. "Disappointment of traditional finance" is weakly more important (10%) in p2p lending. As for risk perceptions, "poor information" seems to be a statistically more important risk for p2p lending than for equity crowdfunding, while poor returns are weakly more important (10%) for p2p lending.

	F-statistic (p-value)	
	(a) P2P investor	8.11
Higher return	(b) Equity crowdfunding investor	(0.005)
	(a) P2P investor	4.86
Interest/Excitement	(b) Equity crowdfunding investor	(0.029)
Disappointment of tra-	(a) P2P investor	3.6
ditional finance	(b) Equity crowdfunding investor	(0.059)
Increased diversifica-	(a) P2P investor	2.36
tion	(b) Equity crowdfunding investor	(0.126)

Table 5: Testing statistical	v significant differences	between factors pe	er type - across the two types

	F-statistic (p-value)	
Fraudulent raiser/bor-	(a) P2P investor	2.09
rower	(b) Equity crowdfunding investor	(0.150)
D	(a) P2P investor	1.65
Fraudulent platform	(b) Equity crowdfunding investor	(0.200)
	(a) P2P investor	8.82
Poor information	(b) Equity crowdfunding investor	(0.003)
D. ((a) P2P investor	3.63
Poor returns	(b) Equity crowdfunding investor	(0.058)

Our results are consistent with Belleflame and Lambert (2014), who show factors other than financial returns are more important when investing via equity

crowdfunding, but seem to contradict those of Cholakova and Clarysse (2015), who conclude that non-financial motives play no significant role in equity crowdfunding. Furthermore, our finding that "poor information" and "fraudulent borrower" risks are ranked highest is also in line with Ahlers et al. (2015), Hossain and Oparaocha (2017), Iyer et al. (2015) and Wan et al. (2016).

However, the most interesting conclusion is again the clear differentiation in the drivers (motivations) and the concerns (risks) between equity crowdfunding and p2p lending. Our results imply that different sets of motivators and risks seem to shape investor behaviour respectively. P2P lenders care more about returns and information is an important factor, features that are easily discernible in a mainstream context of investing. On the other hand, equity investors seem to be driven mainly by their excitement or interest in the project and they seem to snub financial returns, which is a more "heterodox" approach of investing.

4.c. Investment Willingness

As already mentioned, our database allows us to differentiate between people who are aware of crowdfunding but have not invested yet, and people who have already used equity crowdfunding and/or p2p lending. We are thus able to explore whether and how risk perceptions and demographic characteristics have any effect in people's decision or willingness to invest. We estimate a probit model which relates potential investors' participation decisions to their risk perceptions. The model can be summarized as:

$P(invest_i | aware_i) = f(risk \ perceptions_i, demographic \ characteristics_i)$

Tables 6 and 7 report the estimated results for equity crowdfunding and P2P lending, respectively. The regressions are run within each country. For each country, we apply two specifications. In specification 1, only controls are included; in specification 2, control variables plus risk perceptions measurements are included.

Table 6: Probit estimates for equity crowdfunding investment willingness

A: Spain

	(1)			(2)		
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value
Variable						
Gender (male)	0.272	0.146	0.062	0.197	0.154	0.201
Age						
25-34	0.474	0.274	0.085	0.425	0.279	0.127
35-44	0.181	0.274	0.508	0.135	0.273	0.621
45+	0.019	0.271	0.943	0.023	0.273	0.933
Education Level						
Medium	-0.699	0.522	0.181	-0.377	0.479	0.432
High	-0.869	0.505	0.085	-0.692	0.455	0.129
Risk perception-fraudulent raiser				0.028	0.119	0.817
Risk perception-fraudulent platform				-0.441	0.123	0.000
Risk perception-poor information				-0.029	0.109	0.794
Risk perception-poor return				-0.040	0.103	0.698
No. of obs	401		401			
Pseudo R2	0.034		0.127			

B: Germany

	(1)			(2)		
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value
Variable						
Gender (male)	0.027	0.156	0.865	0.016	0.159	0.922
Age						
25-34	-0.062	0.225	0.783	-0.090	0.231	0.696
35-44	-0.228	0.240	0.342	-0.239	0.245	0.330
45+	-0.673	0.235	0.004	-0.691	0.240	0.004
Education Level						
Medium	-0.853	0.406	0.035	-0.888	0.412	0.031
High	-0.723	0.394	0.066	-0.738	0.403	0.067
Risk perception-fraudulent raiser				-0.405	0.126	0.001
Risk perception-fraudulent platform				0.060	0.114	0.595
Risk perception-poor information				0.203	0.115	0.078
Risk perception-poor return				-0.034	0.111	0.761
No. of obs	400		400			
Pseudo R2		0.046			0.089	

	(1)			(2)		
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value
Variable						
Gender (male)	0.222	0.134	0.097	0.197	0.141	0.161
Age						
25-34	0.154	0.192	0.424	0.130	0.205	0.526
35-44	0.048	0.214	0.824	0.035	0.226	0.876
45+	-0.248	0.197	0.208	-0.191	0.205	0.352
Education Level						
Medium	4.108	0.257	0.000	4.698	0.362	0.000
High	4.190	0.259	0.000	4.796	0.366	0.000
Risk perception-fraudulent raiser				-0.003	0.097	0.977
Risk perception-fraudulent platform				-0.292	0.093	0.002
Risk perception-poor information				-0.237	0.096	0.013
Risk perception-poor return				-0.028	0.088	0.748
No. of obs	400		400			
Pseudo R2	0.020		0.117			

C: Poland

These tables report probit regressions for investment willingness for equity crowdfunding. Standard errors are robust heteroskedasticity consistent.

Note that: Gender: 1 stands for male, 0 for female; Age: age band 18-24 is used as the reference group; Education Level: we re-classified education level as low, medium and high, the low level is used as the reference group.

Regarding equity crowdfunding (Table 6) results show that, in all three countries, gender is not significant when considering the full model (2). Younger respondents are also more likely to invest, but the finding is significant for Germany only. Similarly, although univariate analysis results, as Table 2, show that equity crowdfunding investors have higher education levels than non-crowdfunding investors, Table 6 shows that this result is completely driven by Poland (Germany even shows a reversed pattern). Turning to risk perceptions' effects we also find interesting differences across countries. In Germany for example, risk perceptions on the fraudulent fundraiser level significantly reduce willingness to invest in equity crowdfunding, while there is no such effect for other countries. On the other hand, the risk that the platform may be fraudulent significantly affects the decision to invest in equity crowdfunding in Spain and Poland. Poor information is another important factor for avoiding to invest in Poland. It is also worth mentioning that poor returns do not seem to be a factor that would discourage people to invest in any country.

Table 7: Probit estimates	for P2P	lending investme	nt willingness

A: Spain

	(1)			(2)		
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value
Variable						
Gender (male)	-0.081	0.200	0.687	-0.110	0.208	0.598
Age						
25-34	0.244	0.368	0.507	0.282	0.383	0.462
35-44	0.121	0.362	0.739	0.183	0.381	0.631
45+	-0.324	0.377	0.390	-0.268	0.399	0.501
Education Level						
Medium	-0.771	0.577	0.182	-0.737	0.573	0.199
High	-0.983	0.548	0.073	-1.002	0.529	0.058
Risk perception-fraudulent raiser				-0.278	0.169	0.101
Risk perception-fraudulent platform				-0.140	0.150	0.349
Risk perception-poor information				0.182	0.186	0.326
Risk perception-poor return				-0.029	0.126	0.821
No. of obs	401		401			
Pseudo R2	0.039		0.084			

B: Germany

	(1)			(2)		
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value
Variable						
Gender (male)	0.189	0.176	0.282	0.142	0.179	0.428
Age						
25-34	-0.185	0.238	0.438	-0.236	0.241	0.326
35-44	-0.514	0.262	0.050	-0.481	0.265	0.069
45+	-0.825	0.255	0.001	-0.792	0.258	0.002
Education Level						
Medium	-0.651	0.454	0.151	-0.628	0.435	0.148
High	-0.468	0.438	0.286	-0.446	0.418	0.287
Risk perception-fraudulent raiser				-0.151	0.139	0.278
Risk perception-fraudulent platform				-0.165	0.130	0.204
Risk perception-poor information				0.103	0.127	0.416
Risk perception-poor return				0.019	0.117	0.872
No. of obs	400			400		
Pseudo R2	0.057			0.080		

	(1)			(2)			
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value	
Variable							
Gender (male)	-0.041	0.143	0.775	-0.124	0.148	0.402	
Age							
25-34	0.017	0.209	0.936	0.125	0.214	0.560	
35-44	0.102	0.228	0.656	0.240	0.235	0.308	
45+	-0.077	0.208	0.711	0.128	0.212	0.546	
Education Level	-0.009	0.143	0.952	0.017	0.152	0.913	
Risk perception-fraudulent raiser				-0.258	0.101	0.010	
Risk perception-fraudulent platform				-0.289	0.091	0.002	
Risk perception-poor information				0.039	0.114	0.731	
Risk perception-poor return				0.125	0.099	0.207	
No. of obs	400			400			
Pseudo R2	0.002			0.093			

C: Poland

These tables report probit regressions for investment willingness for P2P lending. Standard errors are robust heteroskedasticity consistent. Note that: Gender: 1 stands for male, 0 for female; Age: age band 18-24 is used as the reference group; Education Level: we re-classified education level as low, medium and high, the low level is used as the reference group. In table C, we treat education level as a continuous variable instead of using dummies to overcome a convergence issue during iteration.

Regarding p2p lending (Table 7) a first conclusion is that most of the variables, either demographic or risk-specific, do not seem to affect the decision to invest, since most of them are not statistically significant. Exceptions in the set of demographic variables are "age", where younger respondents are more likely to invest via p2p lending in Germany, and education, where a negative association is found between high education and p2p lending for Spain. Regarding risk-specific variables, it seems that respondents from Poland are significantly affected by risks of a fraudulent borrower and a fraudulent platform. On the other hand, no other risk seems to significantly affect willingness to invest in Germany and Spain.

Comparing findings across equity crowdfunding and p2p lending, common findings are that younger people seem to be more likely to invest (but only in Germany), and that gender does not seem to matter. On the other hand, results on education are mixed, both across countries and across investment types (equity crowdfunding versus p2p lending). Another finding is that, overall, risk-specific factors affect the decision to invest relatively more in the case of Poland. This shows a relative lack of trust from the Polish respondents and may be explained by a number of reasons. First, the crowdfunding industry in Poland is the least developed when compared to the other two countries; Zhang et al. (2016) report a volume of $\notin 10$ m. for Poland for 2015, while the respective figures for Germany and Spain are $\notin 249$ m. and $\notin 50$ m respectively. Second, the overall level of trust in Poland is lower when compared to the other countries; Bjørnskov and Méon (2013) report trust levels per country, where trust is measured as the percent of respondents answering that "most people can be trusted" and the scores for Germany, Spain and Poland are 37.9%, 33% and 21.1% respectively.

4.d. Determinants of Relative Investment Volume

After having explored the main risk determinants of deciding whether to invest or not, our next and final step is to explore which factors contribute to the relative investment volume. Relative investment volume distributions are reported in Table 8.

	P2P Le	ending	Equity Crowdfunding		
Relative Investment Amount	Observations	Percentages	Observations	Percentages	
<10%	95	54.91%	202	63.72%	
11%-25%	62	35.84%	83	26.18%	
26%-50%	13	7.51%	26	8.20%	
>50%	1	0.58%	6	1.89%	
Total	173	100.00%	317	100.00%	

Table 8: Distributions for Relative Investment Amount

We estimate an ordered probit model which relates relative investment volume with investment motivations and risk factors. We use a pooled regression including the observations of all three countries, since the number of observations at country level is relatively small, not enough to give a robust estimate if we run the models separately. The model can be summarized as:

$P(investment _volume_i = i | invested_i)$

 $= f(motivations, risk perceptions_i, demographic characteristics_i, country_i)$

where the dependent variable investment volume is the proportion of savings invested via equity crowdfunding and p2p lending respectively (QB4); specifically, the investment volume is scored from 1 to 4: 1 (0-25%), 2 (25-50%), 3 (50-75%), 4 (75-100%). The independent variables are motivation and risk factors as well as demographic characteristics and country dummies. Results are presented in Table 9.

	Equity crowdfunding			P2P Lending		
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value
Gender (male)	-0.196	0.149	0.188	-0.227	0.181	0.209
Age						
25-34	-0.465	0.209	0.026	-0.074	0.256	0.772
35-44	-0.371	0.239	0.121	-0.385	0.272	0.156
45+	-0.493	0.228	0.031	-0.266	0.314	0.398
Education level						
Medium	1.449	0.506	0.004	4.944	0.395	0.000
High	1.358	0.509	0.008	4.929	0.396	0.000
Motivations-higher return	0.365	0.092	0.000	0.026	0.116	0.825
Motivations-interest excitement	-0.293	0.089	0.001	-0.033	0.127	0.793
Motivations-disappointment	0.163	0.090	0.071	0.170	0.124	0.168
Motivation- new form	-0.017	0.093	0.853	0.003	0.126	0.979
Risk perception-fraudulent raiser	-0.260	0.125	0.038	-0.346	0.126	0.006
Risk perception-fraudulent platform	0.224	0.111	0.044	0.049	0.114	0.664
Risk perception-poor information	-0.226	0.112	0.044	-0.039	0.161	0.806
Risk perception-poor return	-0.028	0.112	0.807	-0.040	0.145	0.784
Spain	-0.714	0.226	0.002	-0.469	0.282	0.096
Germany	0.257	0.184	0.163	-0.017	0.223	0.940
No. of obs	317		173			
Pseudo R2	0.182		0.081			

Table 9: Ordered probit regression results on factors affecting relative investment volume of equity crowdfunding and p2p lending

Standard errors are robust heteroskedasticity consistent.

Results show that gender is not a significant factor in determining how much to invest via crowdfunding, for both types. Regarding age, the youngest group (18-24) is willing to invest a higher proportion of savings in equity crowdfunding, whereas no significant impact of age is found for p2p lending. Regarding education, there is a clear positive impact, for both types of crowdfunding, of medium and high levels of education, compared to low education. On the motivations' side, respondents that score high in "higher return" and "disappointment of mainstream finance" (at 10%) seem to invest higher proportions of their savings via equity crowdfunding, while, interestingly, respondents that score high in "interest/excitement" seem to invest relatively lower proportions of their savings. This latter finding is of high interest, since "interest/excitement" is the highest ranked motivation for investing via equity crowdfunding (see Table 3). Thus, a combined conclusion is that respondents that invest via equity crowdfunding based on interest/excitement, tend to invest relatively smaller amounts when compared to investors that seek high returns. No motivation is statistically significant for p2p lending and a reason might be the relatively low number of observations in our model for p2p (173 observations), while R² is also considerably low.

Regarding risks, the negative and significant relationship of "fraudulent fundraiser/borrower", in both types, and "poor information" for equity crowdfunding with the dependent variable shows that the higher respondents score in these risks, the lower amounts they tend to invest, a result that can be considered as expected. The unusual result of the positive sign of the fraudulent platform regressor (at 5% and only for equity crowdfunding) does not seem to have a justified explanation. Finally, respondents from Spain tend to invest relatively lower amounts as percentage of their savings for both equity crowdfunding and p2p lending, compared to Poland.

5. Conclusions and Policy Implications

Crowdfunding is a rapidly growing phenomenon that derived from a timed combination of technological progress in online services and the lack of supply of finance following the financial crisis of 2008. Being a relatively early phenomenon, the research field of crowdfunding is in a young state of scientific research; it is only in the very recent years that we begin to understand how the crowd thinks, behaves, perceives and evaluates information. However, to date, little attention has been given to the specific features of crowdfunding with financial returns (equity crowdfunding and p2p lending) and what the effects of the exclusion of the traditional financial intermediation to "the crowd" are. In this context, it is vital to analyse the main characteristics of the participants in this specific crowdfunding type and explore their investment motivations and risk perceptions. This is the main objective of this paper: to explore the main characteristics of the crowd, their investment motivations and behaviours, how they perceive certain motivations and risks when investing via crowdfunding, and how these perceptions affect investment willingness. We used a two-staged data collection methodology which ensures that we have adequate data to provide an analysis. The research covers Germany, Poland and Spain, and our sample is representative of the population regarding gender, social classes and regions. The questionnaire was designed to be easily understandable to respondents and to capture the relative significance of the most important motivations and risks of crowdfunding with financial returns.

One of the most striking conclusions of the paper is that there seem to be clear differentiations between equity crowdfunding and p2p lending. First, our results show that the average profile of an equity crowdfunding investor is a young and highly educated male, but no conclusion regarding the demographic

characteristics of the p2p lending investor can be drawn; put differently, there does not seem to be an "average" p2p investor and people that invest via p2p lending cover a broader spectrum of investors. Second, we find evidence that different sets of motivators and risks seem to shape investor behaviour for equity crowdfunding and p2p lending. P2p lenders care more about returns and information is an important factor, while equity investors seem to be driven mainly by their excitement or interest in the project and they seem to snub financial returns. This last finding contradicts Cholakova and Clarysse (2015) and is more in line with Belleflamme and Lambert (2014).

We also estimated a probit model to assess how risk perceptions and demographic characteristics have any effect in people's decision or willingness to invest and we ran regressions separately for each country to capture any intercountry differences. We found indeed several country differences, among others with respect to the role of education for investment willingness. Perhaps the most interesting finding in inter-country analyses is that, overall, risk-specific factors affect the decision to invest relatively more in the case of Poland, a finding that can be explained by a lack of trust at the industry level and at the general population level. We last explored which factors contribute to the relative investment volume and we found that equity crowdfunding investors who invest based on their interest/excitement, seem to invest relatively lower amounts of money when compared to investors seeking higher returns.

Our results have a series of implications for all remaining areas of stakeholders' interests across the broad context of the crowdfunding phenomenon. Crowdfunding platforms could use these findings to either focus on communicating their business activities to the average investor profile or to develop niche markets to attract other profiles. Platform owners can also get a better understanding of the investing drivers (motivations) and risks to be avoided so as to attract higher levels of investments. The fundraisers will also be potentially benefitted by the outcomes of this research effort, since they could adjust their campaigns to meet the main motivations per category of crowdfunding and to ensure higher levels of transparency and safeguards to minimize risks. Last, regulators can also use the results of this study mainly from the perspective of the different behavioural patterns that the users of these two crowdfunding forms seem to follow. This is crucial since the recent legislative proposal for a pan-European regulatory framework in crowdfunding (European Commission, 2018) does not differentiate between equity crowdfunding and peer-to-peer lending, while similarly, in some European countries, there are common rules that refer to both forms of crowdfunding with financial returns. Having shown that there are differences in the investment drivers of these two types, a different and more tailor-made regulatory approach could be explored.

The crowdfunding phenomenon still remains a relatively opaque area in terms of academic research. The complexity of this area, which simultaneously combines a vast range of very different projects to be funded, a series of different funders' profiles carrying different motivations, investment knowledge, experience and needs and perceptions, and a fragmented regulatory framework across different jurisdictions, contributes to the need – and excitement – of looking deeper in the specificities of this innovation of financial intermediation. Therefore, there are endless opportunities of future research that could focus on parts of this vast, but extremely interesting scientific area.

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