



Assessing the potential for crowdfunding and other forms of alternative finance to support research and innovation

Final Report

Executive Summary



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EY

Open Evidence

Politecnico di Milano

European Crowdfunding Network

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LIST OF ACRONYMS

AF	Alternative Finance
AF RI	Alternative Finance for Research and Innovation
AoN	All or Nothing
BA	Business Angels
COSME	EU programme for Competitiveness of Enterprises and Small and Medium-sized Enterprises
EC	European Commission
EU	European Union
EUR	Euro
FG	Focus Group
IPR	Intellectual Property Rights
MOOC	Massive Open Online Course
P2P	Peer-to-peer
R&D	Research & Development
R&I	Research & Innovation
SMEs	Small and medium-sized enterprises
VCs	Venture Capitalists

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ABSTRACT

This report provides an assessment of whether alternative finance has the potential to help Europe address the problem of access to finance for innovative companies and bridge the gap in terms of access to risk capital, and if EU action is needed to support development of the sector. To this aim, the study produced the following results: 1) an estimation of the size of the alternative market for research and innovation, together with a typology of sectors and of alternative finance funding models suitable for research vs. innovation; 2) an analysis of the European alternative finance landscape for research and innovation; 3) an analysis of the challenges limiting development of the alternative finance, and alternative finance for research and innovation in particular; 4) an assessment of policy options addressing those challenges; 5) a final recommendation of priority action at EU and national level to exploit the opportunities of alternative finance for research and innovation.

1. PURPOSE AND CONTEXT OF THE STUDY

Access to finance is one of the main challenges for European companies, in particular those that are smaller, younger and more innovative (European Commission, 2015h).¹ Studies show that the total Small and Medium-sized Enterprise (SME) financing gaps for European countries are three to five times bigger than for the US (Silanes et al., 2015). At the same time, innovative companies face more limited access to business angel (BA) capital (EBAN, 2014) and venture capital than their US counterparts. In this context, alternative finance (AF) can play an important role in helping to fund innovative companies in their early growth and scale-up phase (Filippov and Hofheinz, 2016). Alternative finance in Europe is growing fast, but its size is still small compared to other world regions. The total value of the European AF market was estimated between EUR 4.2 billion (Crowdsurfer-EY, 2015) and EUR 5.4 billion (Cambridge-KPMG, 2016) in 2015 - around one fourth of the US alternative finance market and 18 times the cumulative value of the Asian and Chinese AF market (Cambridge-KPMG, 2016) report. It is growing more slowly than these regions and its pace of growth is slowing down, whilst others are accelerating. The Peer-to-peer (P2P) lending model is the dominant AF model in Europe (72% of the alternative finance EU market in 2015), however, the equity model registers the most rapid growth, and its importance is mostly attributed to innovative companies.

Within the growing phenomenon of AF, it is still unclear how much funding is going to research and innovation (R&I). This study aims to deliver a holistic picture on the potential of alternative finance to improve access to risk finance for research and innovative ventures in the EU, together with the assessment of the need for EU policy action in support of AF for R&I. It is structured along three main objectives that cover a long list of research questions (as included in the Annex):

- 1) To quantify and qualify the potential of alternative finance in Europe with regard to research and innovation;
- 2) To identify key challenges influencing the development of AF, and AF for research and innovation in particular;
- 3) To recommend actions to overcome those challenges and to exploit the opportunities of AF for R&I.

This study is unique in terms of scope, as it concentrates on R&I only, so that the analysis and policy recommendations focus on the specific aspects relevant for R&I funding by default. Nevertheless, in many instances, it touches upon general AF trends, where they are relevant.

2. SCOPE AND METHODOLOGY

Methodology

The study adopted multiple methods with the aim of cross-analysing results from different sources, and reaching out to a variety of stakeholders, in line with the Better Regulation approach. It is important to highlight the innovative nature of the study itself. At the core of the study lies the **platform data analysis**, a unique methodological approach developed by the Politecnico di Milano, based on the computerised content analysis of the project descriptions. In total, the 10 platforms that were analysed² included 263,781 projects that were launched between 2009 to 2016 by fundraisers located in 161 countries and using six languages.

Other methods employed by the study include:

- Desk research - over 260 literature sources have been used in the study; the study team performed an analysis of over 550 AF platforms, in order to create the final database of 232 European AF platforms with an R&I scope;
- Surveys - 55 responses received by a survey of platforms and 45 responses through a survey of users (fundraisers and potential fundraisers);
- Interviews - 60 interviews have been performed with AF stakeholders: investors, policy makers, regulators, fundraisers, AF platforms and eco-system players;
- Case studies - 10 detailed cases were performed (eight on AF projects & two on AF platforms);
- Focus Groups (FG) - four FGs were organised, structured around investors, platforms, fundraisers, and eco-system players;

¹ According to the recent ECB SAFE Survey: October- March 2016, 10% of SMEs declared it as an issue.

² Crowdcube (UK), DavinciCrowd (FR), Futsci (UK), Goteo (ES), Invesdor (FI), Kickstarter (US), OnePlanetCrowd (NL), RocketHub (US), Ulele (FR), Derev (IT)

- Country fiches - 43 country fiches were prepared³, focusing on the snapshot of the AF market, and AF for R&I in particular;
- A website presenting country fiches and a database of AF platforms with an R&I scope was created;
- Extensive online stakeholder engagement was delivered throughout the study, through the website crowdfunding4innovation.eu and social media presence.

Finally, the findings of the study were further validated through the final European Policy Workshop (26 participants).

Scope of the study

The study focused on projects whose main aim is 1) scientific research, 2) initiatives aimed at generating products and services that address new and unsatisfied market needs, and 3) initiatives aimed at satisfying existing market needs by adopting novel combinations of services, methods and technologies, including organisational and social innovation. Thus, the study excluded from the analysis all of the AF initiatives a) directed at artistic or cultural endeavours; b) which do not entail a sufficiently creative or innovation aspect; c) initiatives of personal causes and d) funding whose primary benefit is individual-specific.

For the purpose of the study, the definition of research in accordance with the Frascati Manual (OECD, 2002) was adopted. Research and Development (R&D) is defined as: "*creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications*". With regard to innovation, according to the OECD Oslo Manual (OECD, 2005), innovation is defined as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.

The study covers all kinds of AF funding models based on the common taxonomy used by both (Cambridge-EY, 2015) and (Crowdsurfer-EY, 2015) report: Peer-to-peer consumer lending, P2P business lending, equity-based crowdfunding, rewards-based crowdfunding, donation-based crowdfunding, mini-bonds and invoice trading. However, not all methods cover all of these instruments. Platform data analysis has only been applied to instruments that, according to the literature, are most relevant for R&I, such as equity, rewards and donation-based crowdfunding. Mini-bonds and invoice trading have not been included in the data gathering because of their limited potential for R&I, according to the exploratory interviews and literature review.

3. KEY FINDINGS

The role of alternative finance for R&I

The estimated aggregated value of AF investment in R&I in the EU was approximately EUR 755.1 million in 2015, which constitutes between 1/6 and 1/8 of the total value of the European alternative finance market⁴. AF plays a significant role in funding European R&I, especially when compared to the Horizon 2020 budget of approximately EUR 10 billion annually. However, whilst considering the strong difference in size and growth rate of AF between Europe and the rest of the world,⁵ it is clear that European innovators are not benefiting from AF to the same extent as their competitors from other regions of the world. The development of AF is very unbalanced between Member States, and AF for R&I follows the same trend (81% of the volume is represented by the UK and 78.1% of the R&I projects are based in the UK). Moreover, AF for R&I remains mostly domestic (70% of the platforms indicated that the percentage of funding coming from a different country is less than 20%) and less than 10% of cross-border activity happens between EU countries (Crowdsurfer-EY, 2015).

Looking at the different types of R&I, it appears that AF is more suitable for:

³ 28 EU Member State; each country associated with COSME; each country associated with Horizon 2020; Switzerland, Ukraine, US and China.

⁴ Depending on the AF market estimations used.

⁵ While analysing non-EU data is beyond the scope of this project, our platform data analysis report "innovation intensity" rates at global level in line with the EU average, if not slightly superior.

- 1) Later stages of the innovation cycle, when the results are easier to anticipate and evaluate by the “crowd” (according to the study results, there are on average 3 times more innovation-oriented projects than research-oriented projects),
- 2) Innovation related to the improvement of life-conditions (energy, environment, food, health),
- 3) Less capital-intensive initiatives (e.g. not for nanotechnology and research in space).

Moreover, there is a clear distinction between funding models for research vs. innovation. Donation and rewards-based funding models are mostly suitable for basic research, whilst equity and in part lending and reward, are useful for later stages of the innovation cycle, closer to market. Finally, projects funded by equity and lending platforms are bigger than those funded by rewards and donation, thus innovation AF campaigns are bigger than those focused on research. R&I projects (regardless of the platform) raise, on average, more funds than other projects but have lower success rates

Platforms and their business models

The AF market is highly competitive, with a clear advantage for the first-comers. Although the number of active platforms has been growing over the years, the number of platforms founded in a specific year has been steadily decreasing since 2014. The majority of AF R&I platforms are autonomous, profit-oriented companies (73% of surveyed platforms). Yet most of the platforms are relatively small with a turnover below EUR 500 thousand (78% of surveyed platforms) and, in particular, research oriented platforms have a problem in finding a sustainable business model.

An analysis of the database of relevant AF platforms revealed that there are, on average, two times more generic platforms than strictly R&I-oriented platforms. This is not surprising, taking into consideration the basic business model of AF platforms, which is based on the success fees charged to fundraisers and investors as a percentage of the sum gathered or invested (usually 5-10%). Most of the platforms do not charge any fee unless the project is successful. The broader the range of the platform, the stronger the ability to attract more projects and investors. Key success factors of AF platforms include a reliable network of fundraisers and investors, offering different AF models, and offering at least some form of mentorship for fundraisers. Thus, there’s a growing importance of the hybrid funding model (over 20% of all AF R&I platforms) as a way to accommodate the needs of diverse projects. Similarly, the “All-or-nothing” (AoN) funding model dominates (73% of surveyed platforms), being perceived as safer by investors (Oxera, 2015).

Another key success factor mentioned is the national/ international recognition of a platform. The latter is specifically important in the context of cross-border operations, perceived by platforms as a natural way to scale-up. However, regulatory fragmentation at EU level and the existence of different regulatory regimes amongst different countries are named as the main obstacles in cross-border operations. So far, nine countries introduced their own bespoke AF regimes (Austria, Spain, France, UK, Italy, Germany, Portugal, and most recently Finland and Lithuania).

Concerning platforms specialising strictly in R&I, the majority of the AF platforms adopt equity funding models (over 50%) followed by hybrid funding models (24% of platforms). The major distinctive categories of R&I-oriented platforms include: renewable energy and energy efficiency (32.5%); innovation, start-ups and SMEs (32.5%); health & life sciences (12.5%).

Project feasibility and economic impact are the main factors taken into account by platforms when selecting R&I projects. R&I-oriented platforms perform a pre-quality check of projects before listing them (usually through a scientific or advisory board, and according to a set of quality criteria), although there is no standard approach (it differs between platforms, funding models, area and degree of specialisation of AF platforms).

Key challenges of AF platforms

- Platform specific: profitable business model, network for crowd engagement, managing return expectations of investors, transparency around investors, crowd liquidity, gaining the trust of investors.
- Country specific: development of AF platforms is correlated with the maturity of alternative finance market, availability of AF, cultural readiness and the existence of support measures, as well as lack of impediments.
- Cross-border: regulatory fragmentation at EU level and the existence of different regulatory regimes amongst countries.

Fundraisers

Individual innovators and entrepreneurs (around 45-55%) along with SMEs are the main beneficiaries of alternative finance and AF for R&I. The uptake by universities is still very limited in scope. According to interviewees, they are neither aware of AF, nor too eager to experiment with it.

The main drivers for using alternative finance by fundraisers are the same for overall AF and AF for R&I: easier access to finance; validation of the product's market potential; and the use of AF platforms as marketing tools/ communication channels, and as a way to create a network of contacts and partnerships. Other drivers mentioned by fundraisers include personal interests and raising awareness of the project-specific cause.

The key success factors of the AF campaign are attributed to the strength of the communication strategy: depth of project description, frequency of project updates, provision of attractive video material and graphical visuals. For research projects, the credibility of the researchers behind the project is crucial.

The project related factors follow: size of the pledging goal, and duration of funding period. Finally, the choice of the appropriate platform, one with experience and a good reputation, as well as the adequate funding model, are particularly important for fundraisers.

Conversely, a key barrier for fundraisers is the lack of specific skills, such as creation of a business plan, communication experience, lack of know-how on relevant AF models and their suitability for different AF projects, and a lack of resources (time and financial). These factors might be attributed to a general perception that AF is more complex and requires higher level of expertise. Finally, the doubts about the credibility of a platform and the transparency of a platform's operations prevent fundraisers from using alternative finance.

Key barriers for fundraisers

- Fundraiser-related: lack of specific skills (creation of a business plan, development of appealing communication), lack of awareness of AF and its specific models, lack of resources.
- Platform-related: credibility of platforms, transparency of a platform's operations.
- Project-related barriers: complexity of acquiring AF as compared to other financing options, disclosure/ Intellectual Property Rights (IPR) issues.
- Ecosystem-related: lack of sufficient integration of AF into financing pipeline.

Investors

The role of institutional investors remains limited when it comes to AF for R&I. Institutions were responsible for only 24% of peer-to-peer business lending investments, and only 8% of the investment on equity-based crowdfunding came from institutional investors in 2015 (Cambridge-KPMG, 2016). Similarly, surveyed platforms declared that, on average, 5% of investors are institutional investors and more than half of platforms reported not having institutional investors registered at all. Professional investors use AF platforms to test the market potential of projects (so called "proof of concept") before placing higher investments outside AF platforms in order to avoid platform fees.

Although investments through AF platforms are driven by expected higher financial returns, this is not the only motivation. Factors such as the diversification of an investment portfolio (investing small amounts in a larger number of projects) and risk sharing, due diligence and validation of the project by the market, play an equally important role. Moreover, a distinguishing feature of investments in AF projects is that they are driven by emotion and personal motivations (understood as the personal direct interest in the topic and philanthropic motivations). It is important to note that investors using equity and lending AF models, thus investing in innovations, are more driven by financial motivations. Those investing in rewards and donation-based crowdfunding are more purpose-driven, and are therefore more prone to invest in basic research.

Other than personal motivations and financial returns, investors take into consideration the size and scope of project, R&I stage of the project, team composition and the effectiveness of the platform, whilst deciding to invest in a specific AF project. Moreover, as far as equity and lending AF is concerned, investors prefer investments on local AF platforms, as different alternative finance regimes make investing cross-border riskier in terms of market knowledge, legal costs and complexity of the liability proceedings.

Overall, the transparency of a platform's operations is considered as a priority area for improvement.

Key barriers for investors

- Ecosystem-related risks: reliability of AF as a form of investment and lack of regulation.
- Project-related risks: financial aspects of projects, lack of collaterals, general liquidity of the market.
- Fundraiser-related risks: lack of expertise and management skills.
- Investor-related risk: no real understanding of the potential of the product raising money
- Platform-related risk: asymmetry of information, manipulation of credit scoring, and inappropriate due diligence checks.
- Exogenous factors: new market players, negative condition of the economy, regulatory changes.

Ecosystem and future trends

Alternative finance is perceived as a supplementary, rather than alternative, source to other forms of financing for R&I (about 63% of fundraisers tried to get funding from other sources before or during AF; 50% did so after AF). Investors and platforms mention a leverage effect for AF. Notably, obtaining initial funding through an AF platform attracts further investments from professional investors, business angels and institutions that follow the “crowd”. AF is considered as a way to bridge the equity gap that can be observed at the seed stage. However, it is also seen by some as a way to further promote the development, commercialisation and growth of innovation-oriented projects.

Nowadays, AF platforms with an R&I scope collaborate mainly with accelerators and incubators for project sourcing (48% of surveyed platforms), business angels (30%) and banks (29%). There is a growing consolidation and institutionalisation of the AF sector – 48% of P2P consumer lending platforms, 22% of P2P business lending and equity crowdfunding indicated at least some level of institutional ownership (Cambridge-KPMG, 2016). Indeed, incumbent players, such as banks; venture capitalists (VCs) and business angels channel their investments through AF platforms, either by developing collaborations with existing platforms, or by setting up / acquiring own platforms. Nevertheless, there is a need for the further development of sustainable links between ecosystem players.

4. CONCLUSIONS AND RECOMMENDATIONS

Policy options address the challenges of each of the four dimensions: platforms, investors, fundraisers and ecosystem. There are four layers of potential policy actions: 1) EU action in support of alternative finance in general; 2) actions in support of alternative finance for research and innovation (AF RI); 3) actions for AF for innovation only, and 4) actions for AF for research.

To further develop alternative finance for research and innovation, there is the need to address the underlying issues for alternative finance in Europe as a whole. Furthermore, whilst most of the policy measures are equally relevant for both research and innovation, AF for research would benefit more from additional tailor-made support or science-specific measures due to higher barriers and underdevelopment of the alternative finance market in that respect.⁶ Table 1 summarises the final recommended actions.

Table 1 Final policy recommendations

Policy recommendation	Description
	<ul style="list-style-type: none"> • Recommendations in support of Alternative Finance in general
Facilitating the clarity of cross-border operations for AF platforms	<ul style="list-style-type: none"> • Guidelines / recommendation on AF legislation for all Member States. The EU should come up with minimum standards to be included (e.g. pragmatic investor protection) and aspects to be avoided (such as prospectus requirement for smaller projects). • Guidelines on cross border investments for platforms, and platforms for R&I, to enhance the understanding of different regulatory and legislative regimes.

⁶ Suggested policy measures for innovation: guarantees and EU match funding are innovation specific due to the nature of relevant funding models that are more suitable for financing innovation, rather than due to the need of innovation field itself.

Promoting the standard for transparency of AF operations.	<ul style="list-style-type: none"> Facilitating the creation and promotion of the Code of Conduct for AF platforms. The EU facilitated system of self-regulation could strengthen trust between the stakeholders of the ecosystem. Promoting standardisation in the way results from AF campaigns are reported (Key Performance Indicators) and minimum standard criteria for the selection process of projects by AF platforms.
Creating a European AF information and advisory hub	One-stop shop for AF that provides information services on AF models for fundraisers and investors, and their suitability for specific projects and sectors; organises trainings and events on AF; shares best practice examples with regards to AF, and connects stakeholders on national and regional level, amongst others.
Financial education	Developing Massive Open Online Course (MOOC)-like trainings on AF, facilitating exchanges of good practices between countries, but also between platforms on how to raise awareness and education on AF.
Tax exemptions at national level for investments in AF	Tax deductibility of investments in AF at national level is considered the most effective way to increase the general uptake by investors. There is a crucial role for the EC, on the one hand, to encourage and support the adoption of similar measures at national level, and on the other, to ensure that it does not evolve into additional barriers to cross-border investment.

- Recommendations in support of alternative finance for research and innovation

Quality endorsement of R&I platforms	Open repository of science-related platforms based on the set of specific pre-set criteria, e.g. platforms should be active and have active projects, they should commit to the Code of Conduct and standardised reporting.
Support for AF campaign preparation – micro- grants	European micro-grants to finance preparatory costs of an AF campaign as a quick solution to the lack of fundraiser skills. The sort of costs covered could include the costs of consulting services for the creation of a successful campaign (advisory services of an AF consultant, PR services, video and graphic communication, business plan development).

- Recommendations in support of alternative finance for innovation only

EU Guarantee	Guarantee mechanisms for lending, managed by the platform, are considered a good way for promoting higher risk-taking investment whilst minimising drawbacks at national and regional level.
EU matching funds / co-investment	Platforms specialised in the field would pre-select projects which, after reaching a specific level of funding from the “crowd” / professional investors, would receive the remaining part from EU funds. In practice, that would mean that the EU would commit to contributing a certain percentage of the pledged amount (platforms mention 30% of a total sum pledged) or a certain sum from the start, up to a specific agreed level. Only after reaching this level, the EC would contribute.

- Recommendations in support of alternative finance for research only

EU support to science platforms for sustainable business models	Support for the creation of a scientific-board by 1) opening EC research / science expertise (database of experts) to assess projects; 2) EU using a pre-selection process of projects by the “crowd” for project validation; 3) demanding the involvement of AF in certain calls.
Education of research institutions on AF for R&I	<ul style="list-style-type: none"> Alternative Finance Service Package for Research Institutions on how to use the potential of alternative finance. It should: include an explanation of suitable alternative financing models for basic research, applied research, innovation; include info on existing R&I platforms as well as training materials for successful AF campaign preparation; promote best practices from the countries and provide a selection of platforms for proven cases. Pilot phase with a couple of research institution in order to promote real case examples.

Whilst there is no strong evidence of market failure justifying hard policy intervention, it is clear that there is lots of room for beneficial soft policy intervention. However, to be effective, this intervention will require careful design and extensive collaboration with stakeholders: alternative finance will require smart, data driven and collaborative policies.

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The study assesses if alternative finance has the potential to help Europe address the problem of access to finance for innovative companies and bridge the gap in terms of access to risk capital, and if EU action is needed to support development of the sector. The study is structured around three main objectives 1) quantifying and qualifying the size of the alternative market for research and innovation; 2) analysing the challenges limiting development of the AF, and AF for research and innovation in particular; 3) providing final recommendation of EU actions to address those challenges and to exploit the opportunities of alternative finance for research and innovation.

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