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Crowdfunding Markets in the European Union – Exploratory Assessment of Development Patterns

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Abstract

The topic of the paper subscribes to the broader field of digital finance or alternative finance, by focusing on crowdfunding as an emerging source of financing that is implemented through a new, distinct business model compared with the mainstream financial intermediation ones. In particular, the research aim is to identify the degree of fragmentation or of similarity in the EU crowdfunding market. It is conducted a cross-country analysis among the 27 EU member states, covering three particular years (2019-year end, 2021-year end and 2023-year end) to uncover whether there is presence of some groups of countries that tend to persistently exhibit homogenous features of their crowdfunding activity. Country's profile in terms of crowdfunding is assessed based on three key input variables: number of projects launched, the success rate and the average amount raised. Hierarchical cluster analysis is employed, as a reliable unsupervised learning technique that allows the identification of a pattern of similarity or increased dissimilarity among the countries considered and merges them into smaller but meaningful clusters.

Keywords: crowdfunding, success rate, amount raised, cluster analysis
JEL Codes: C38, O16

1. Introduction

Crowdfunding platforms have consecrated as a form of technology-enabled alternative finance against more traditional sources of finance like bank loans or debt finance. Fintech credit (also known as digital credit) is associated with the emergence of new business models that use modern technology to digitalize at least some aspects of the credit supply process, in order to facilitate the digital interaction between lenders and applicants for financing. Specifically, it comes in the form of crowdlending, where a digital crowdfunding platform is developed to directly match lenders with borrowers (Bazarbash and Beaton, 2020).

In practice, at international level, the term crowdlending is used frequently and interchangeably with peer-to-peer lending, marketplace lending, loan-based crowdfunding or social lending. In the acceptation of the World Bank (2021), peer-to-peer lending is associated with one of the most significant developments in Fintech. The online platforms have facilitated this innovation that develops a meeting point between prospective borrowers, particularly consumer borrowers, and potential lenders. Crowdlending has emerged as an alternative source of financing against the conventional channel of financing represented by bank lending.

Increased interest and popularity of crowdfunding is documented by both authorities (more details are provided in the next section) and academia. For example, Mora-Cruz & Palos-Sanchez (2023) conducted a systematic review of the literature followed by a bibliometric analysis of existing research in the field and uncover a consistent trend: the number of studies conducted in the field of crowdfunding platforms is increasing.

Against this background, the aim of the paper is to perform a comparative cross-country analysis on the development of domestic crowdfunding market. The research conjecture is that a dynamic crowdfunding market can stimulate the development of business projects that cannot be funded through the traditional bank lending channel, with beneficial effects for the local communities and economy. More in detail, the statistical analysis aims to reveal how fragmented or similar is the European crowdfunding market, or whether there is presence of some groups of countries that tend to persistently exhibit homogenous features of their crowdfunding activity (in terms of key indicators such as number of projects launched by online platforms, the overall success rate etc.). The structure of the paper is: the second section briefly illustrates the functioning mechanism of crowd platforms and outlines the current context including some market development trends. The third section presents the list of variables employed, their statistical features and the unsupervised exploratory method used. The fourth section describes the main findings of the cluster analysis, for each year of reference, while the last section concludes.

1. Literature review

Despite the large diversity of business models underlying the crowdfunding industry, their basic functioning mechanism follows similar, common steps in preparing, launching, and following up after a crowdfunding campaign. The crowdfunding platforms are responsible for ensuring this smooth transition between the various campaign stages, by providing the technical infrastructure to enable a project to be visible online, as well as the assurance that the funds are raised through an authorised payment provider (European Crowdfunding Network and the European Investment Bank, 2020). A simplified overview on the succession of stages associated to a crowdfunding project campaign is presented in figure 1.

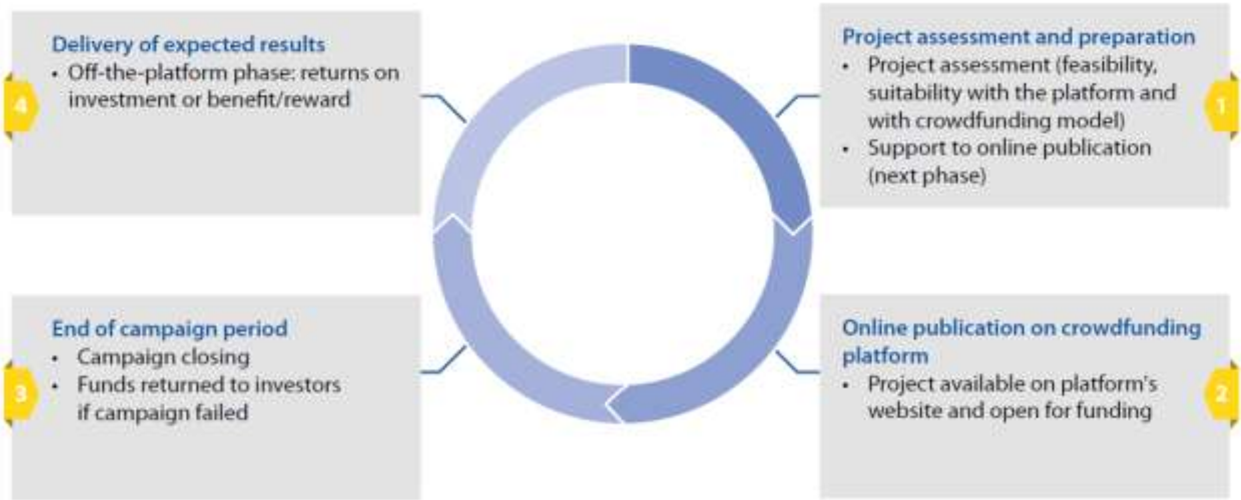

Figure 1. Lifecycle of a crowdfunding campaign

Source: European Crowdfunding Network and the European Investment Bank (2020)

Despite its growth potential and the design of new regulation laying down uniform rules of authorization and functioning across the EU (the EU Crowdfunding Service Providers Regulation (EU) 2020/1503 that entered into force in November 2021), the European Commission highlights that the EU crowdfunding market is still underdeveloped compared with other major world economies. In a report published in 2017, the European Commission argues that the alternative finance market in Europe is growing slowly than in other geographical regions. It is mainly represented by the peer-to-peer lending model, the financing being mostly channeled to innovation-oriented projects that research ones. By comparing the market share held by various European countries, the picture is highly unbalanced with the UK holding the most developed and active market for alternative finance services.

The European Digital Finance Association (EDFA, 2025) and its national partner associations have formulated a series of strategic priorities that are meant to shape the future of EU Crowdfunding: i) create a coherent Digital

Finance regulatory framework; ii) appoint a Commissioner for Digital and Innovative Finance; iii) support Innovation with EU Digital Finance Labs; iv) promote and support Crowdfunding-based match funding mechanisms to boost investments; v) increase financial literacy and investor education; vi) launch a European high-level digital finance advisory board.

Complementary initiative belongs to the European Securities and Markets Authority (ESMA) that had published in early 2025 a first market report on the EU Crowdfunding Market. Its objective is to perform a detailed analysis of the size of this market and to present how the European crowdfunding sector has developed and consolidated in some jurisdictions, as an alternative form of financing and investment. The report is based on data provided by the national competent authorities for the 2023 financial year and reveals that about 159 crowdfunding providers received the authorisation within the European Union. Some key data shows that "loan-based crowdfunding projects were by far the most popular and numerous (see figure 2), with almost 5 000 such projects offered in 2023 in which over 1.7 million investors participated. The average amount raised per loan-based project was around EUR 15,000". Interestingly, around 87% of investors are classified as retail investors.

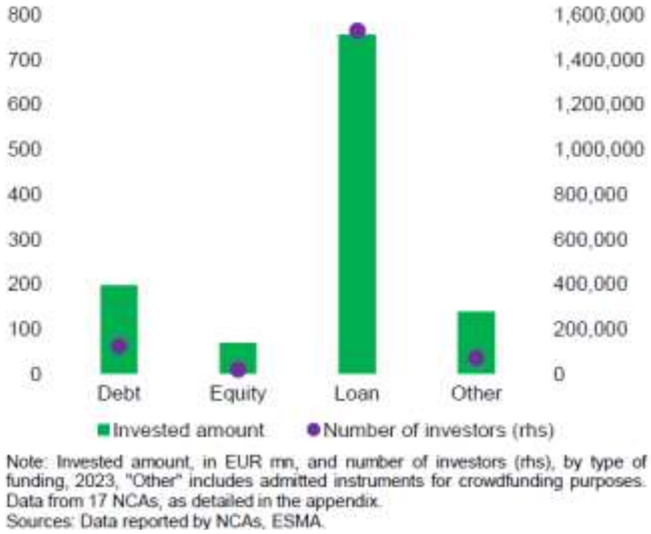

Figure 2. Invested amount and number of investors by crowdfunding type

Source: ESMA (2025)

In terms of the economic sectors of activity that are supported by crowdfunding fundraising projects, figure 3 illustrates that the professional, scientific and technical activities are leading the ranking, with EUR 390 million of investments raised at the end of 2023.

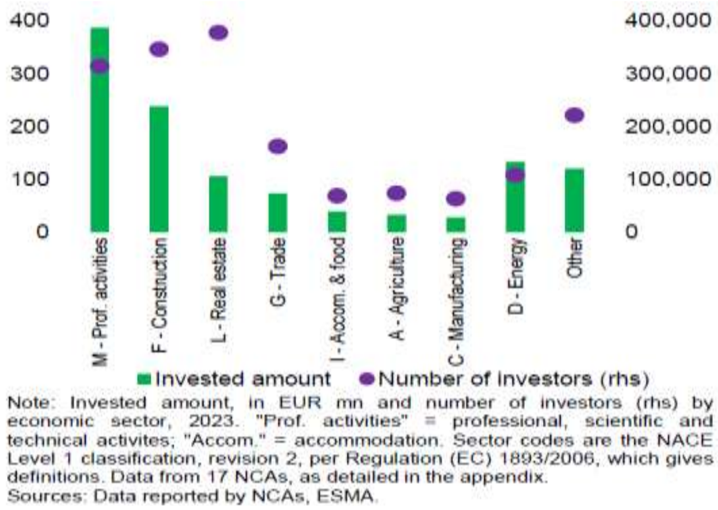

Figure 3. Invested amount and number of investors by economic sector

Source: ESMA (2025)

2. Data and method

To determine how fragmented the EU crowdfunding market is, each country's individual profile has been established, in terms of three key input variables that characterize the crowdfunding segment: the number of projects launched, the success rate (%) and the average amounts raised (in $ dollars). The data is collected from the Crowdfunding Center and is available with annual frequency, for the years 2019, 2021 and 2023. Although the most recent year for which data is available is 2024, its reporting is discontinued and still missing for several European countries. Bazarbash and Beaton (2020) observe too that few cross-country studies were conducted, and point that data availability/scarcity is an important drawback that has limited the number and depth of cross-country analyses.

Table 1. Main descriptive statistics

Descriptive Statistics for year-end 2019				
	Minimum	Maximum	Mean	Std. Deviation
No of Projects	42	7532	623.07	1443.00
Success rate %	5	46	26.04	13.63
Average amount raised $	1044	205564	53856.41	47627.57
Note: the sample comprises 27 European countries that have launched crowdfunding campaigns				
Descriptive Statistics for year-end 2021				
	Minimum	Maximum	Mean	Std. Deviation
No of Projects	12	4922	508.18	1044.34
Success rate %	8	65	35	12.82
Average amount raised $	7484	178137	57567.32	47041.09
Note: the sample comprises 22 European countries that have launched crowdfunding campaigns				
Descriptive Statistics for year-end 2023				
	Minimum	Maximum	Mean	Std. Deviation
No of Projects	11	4073	420.67	823.67
Success rate %	0	50	30.79	14.98
Average amount raised $	0	129219	37680.25	37915.51
Note: the sample comprises 24 European countries that have launched crowdfunding campaigns				

Source: the author

The main findings associated to table 1 are as follows. It appears that during the year 2019 most European countries have launched crowdfunding campaigns (27 countries), compared with 2021 (22 countries) and 2023 (24 countries). The smallest number of projects launched (as indicated by the minimum value) is recorded by Romania in 2023 (11 projects) and Latvia in 2021 (12 projects). As for the maximum number of projects launched, the year 2019 leads with 7532 projects managed in UK. In the next two years the maximum number of projects exhibits a decreasing trend, the UK maintaining its leading place. As for the indicator success rate, is represents the percentage of campaigns/projects that got funded on crowd platforms. In other words, it's the number of successful, funded projects divided by the total number of launched projects. The highest success rate was achieved in 2021 (65% in Croatia), meaning that 65 out of 100 projects got funded. In 2023 the maximum value was of 50%, recorded by Netherlands, while in 2019, in Cyprus, 46 out of 100 projects got funded. At the opposite, with the smallest success rates are Cyprus in 2023 with 0%, Slovakia in 2021 with 8% and Romania in 2019 with only 5 out of 100 projects funded. In terms of the average amounts raised, the year 2021 appears to be the most favorable, as the sample's mean value (57,567.32 $/project) exceeds the one in the other two years. Having a look at the highest project average amounts raised, Poland leads in both 2019 (205,564$) and 2021 (178,137 $), being replaced by Switzerland in 2023 (129,219 $).

To develop an empirical classification of EU countries based on their crowdfunding platforms' patterns, it is performed a hierarchical cluster analysis based on an agglomerative technique that is particularly valuable in finding relatively homogeneous/similar clusters of cases based on the dissimilarity or distance between them. Cluster analysis belongs to the unsupervised learning field, aiming at identifying latent information in a set of input data and classifying it, based on successive computational algorithms, into smaller, meaningful and resembling groups according to data similarities (Hair et al. 2010). As the identification of clusters is empirically based, this method is able to sort different entities (countries, firms etc.) into groups by maximizing within-group similarities and between-group differences (Goethner et al. 2021). Another advantage of employing this method lies in facilitating the comparison among the different clusters identified (Özari et al. 2013; Sørensen and Gutiérrez 2006).

As a distance measure between individual countries it is used the squared Euclidean distance. Subsequently, the Ward linkage method is employed to successively merge the clusters identified at previous stages. Our choice is consistent with existing literature, as the results generated by Ward method seem to exhibit more homogenous and more balanced cluster sizes (Moritz et al. 2015), being superior to alternative approaches (Goethner et al. 2021). The outcome of the analysis, tested distinctly for each year, is summarized in the form of a hierarchical tree in which the clusters are linked at increasing levels of dissimilarity.

3. Classification of the countries' features and interpretation

The visual output of the cluster analysis consists in the hierarchical tree, generated for each year under study. For the interpretation of the results a cut-off distance of 5 has been chosen, in order to ensure the highest similarity among countries merged in the same cluster.

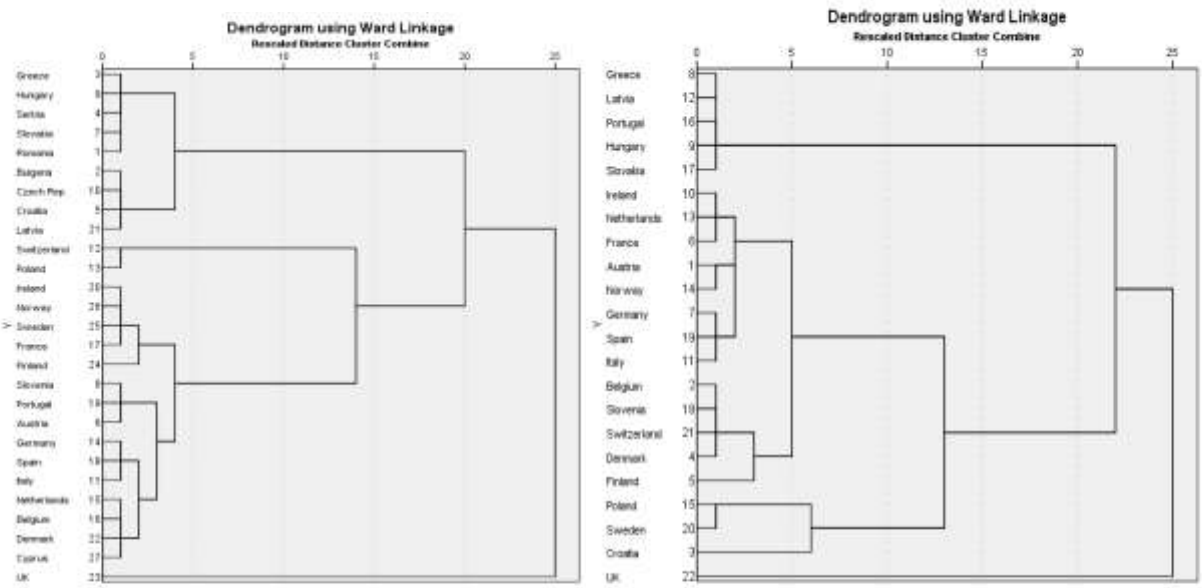

Figure 4. Clustering solution for 2019 data (left) and 2021 (right)

Source: author, by using SPSS

For the 2019 year-end, the main findings retrieved from the clustering solution are:

- the 1st cluster groups countries facing the smallest number of projects launched by their crowdfunding platforms as well as the lowest success rate in the entire sample of countries. Latvia and Slovakia are the laggards with 42-47 projects and a success rate of only 7-8%;

- the 2nd cluster comprises Poland and Switzerland which exhibit the highest average amounts raised/project in the entire sample of countries (205,000 and respectively 156,900 $). The success rate is of 30-35%, however the number of projects launched is below the average (200-300 projects);
- the 3rd cluster gathers 15 countries, representing 55,5% of the total sample. The number of projects launched oscillates around the sample's average (623), with an average amount raised below sample's average (53,856 $) but the highest success rates (exceeding the sample's average of 26%);
- the last cluster is composed by a single country, UK as it shows high dissimilarity in comparison with all the other EU countries. The raw input data provide an answer in this regard: UK crowd platforms seem to be the most attractive as they launched more than 7,000 fundraising projects (ten times more the sample's average), with a success rate of 44%, well above the average level computed for the entire sample of countries.

In 2021, the clustering solution has identified six clusters, signaling that the heterogeneity between countries has increased. As such, the size of each cluster has decreased. In summary, the main findings are:

- two countries are identified as outliers, being placed in a distinct group: Croatia and UK. As in 2019, UK maintains its leading position with more than 4,000 projects launched and a high success rate (46%). As for Croatia, it records one of the lowest number of projects launched (21), but benefits of the largest rate of success (65%) in attracting funding.
- the 1st cluster comprises 5 countries exhibiting a low, below sample's average number of projects launched by their crowdfunding platforms as well as the lowest success rate and average amount raised/project in the entire sample of countries. Latvia and Slovakia are the laggards with 12-17 projects launched, while Slovakia registers the smallest success rate of only 8%;
- the 2nd cluster gathers 36% of the European countries in the initial sample, its profile being characterized by a number of projects launched that fluctuates around the sample's average (508.8), with an average amount raised below but close to sample's average (53,856 $) and success rates exceeding the sample's average of 35%;
- the 3rd cluster consists of 5 countries and features a number of projects launched below the sample's average (508.8), however both the success rate and the average amount raised are exceeding the sample's average;
- the 4th cluster comprises Poland and Sweden which exhibit the highest average amounts raised per project in the entire sample of countries (178,137 and respectively 168,267 $). The success rate is above the sample's average (between 38-42%), however the number of projects launched is below the sample's average (217-376 projects).

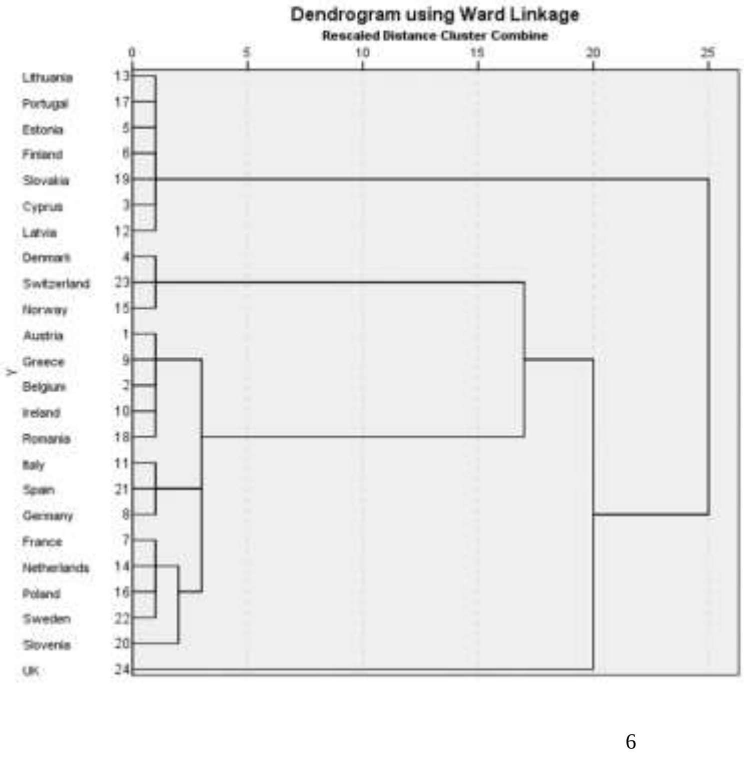

Figure 5. Clustering solution for 2023 data

Source: author, by using SPSS

For the 2023 year-end, the clustering solution generates four main clusters, a discussion of the clusters' profile retrieved from the clustering algorithm being presented below:

- the 1st cluster gathers 7 countries exhibiting the lowest number of projects launched by their national crowdfunding platforms as well as the lowest success rate and average amount raised/project in the entire sample of countries. Overall these countries record the less developed crowdfunding markets in the entire sample. Cyprus is the laggard with 13 projects launched, but with a success rate of 0%;
- the 2nd cluster consists of 3 countries that register a small, below average number of projects launched, however their success rate is exceeding the sample's average and the average amount raised per project displays the highest values in the entire sample;
- the countries included in the 3rd cluster account for 54.17% of the European countries in the initial sample, their profile being characterized by a number of projects launched that fluctuates around the sample's average (420), with an average amount raised below but close to sample's average (37,680.25$) and success rates exceeding the sample's average of 30.79%;
- the last cluster consists of a single country, UK that seems to maintain its broad dissimilarity in comparison with all the other EU countries. The raw input data supports this finding: UK crowdfunding platforms are still the most attractive as they managed over 4,000 fundraising projects (nine times more the sample's average), with a success rate of 47%, well above the average level computed for the entire sample of countries.

4. Conclusion

Crowdfunding platforms position themselves as an innovative opportunity for entrepreneurs or startups to obtain alternative financing. The study undertaken aimed at unveiling which are the most active countries in regard of the crowd market development.

The clustering solution (obtained by computing the squared Euclidean coefficient and using the Ward linkage method) for the year 2019 and 2023 indicates four main clusters, while the one for 2021 identifies 6 clusters.

A first conclusion suggests the increase in the heterogeneity across countries between 2019-2021, as they tend to exhibit dissimilar features that place them in more clusters, followed by an opposite trend towards 2023.

Second, the crowdfunding market in UK persistently positions as an outlier, being always assigned to a distinct group with no other peer. The raw input data provide an answer in this regard: UK platforms seem to be the most attractive as they launch yearly more than 4,000 fundraising projects (the sample's average being of around 500), with a success rate of over 45%, well above the average level computed for the entire sample of countries. At the opposite there is Romania and Cyprus (in 2023), Latvia (in 2019 and 2021) with the smallest number of projects launched and hence the lowest visibility and usage of crowdfunding as an alternative type of funding. These markets appear to be underdeveloped in respect of all the three input features considered.

Third, in terms of clusters' composition over time, it can be noticed that several countries tend to be placed into the same cluster, signaling a relative synchronization of their national crowdfunding markets key features. An example is the case of Belgium and Slovenia (in each of the three years considered), or of Belgium, Slovenia, Denmark and Finland (in 2019 and 2021 only), of Greece, Hungary, Latvia and Slovakia (in 2019 and 2021). A consistent group of countries that is always merged in the same cluster regardless the year of reference is comprised by Austria, France, Germany, Ireland, Italy, Netherlands, and Spain.

Fourth, it appears that the largest number of countries included in the same group is showcased by the 3rd cluster in 2019, the 2nd cluster in 2021 and the 3rd cluster in 2023. Having an in-depth look into the cluster's profile features (in terms of the minimum, maximum and average values), it can be concluded that these countries are generally characterized by a number of projects launched that fluctuates around the sample's average, with an average amount raised placed below but close to sample's average and the highest success rates in the sample.

By correlating all these preliminary findings, we may conclude that crowdfunding market dynamics largely fluctuates across countries and across years, as it is developing at an uneven rate in Europe. There is evidence of steep differences across European countries, in terms of key market indicators such as the number of projects launched, of the market volumes and success rate in attracting funding.

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