Exploring the lending business crowdfunding to support SMEs' financing decisions

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ABSTRACT

Lending business crowdfunding (LBC) is an innovative financing tool for small and medium enterprises (SMEs) and is especially useful in vulnerable and risky markets. To date, little is known about the information transparency and management dynamics of these new platforms, partly as a result of a lack of harmonization in the crowdfunding sector. This article draws on a qualitative multicase approach to map and classify the main characteristics of the credit supply provided by nine LBC platforms. The database is unique and makes this analysis particularly original. The study found some limitations to the information transparency on services offered to SMEs who could access LBC. Alongside this, some advantages emerged, such as the timeliness of the service, and some critical points, such as the high interest rates and the numerous fees applied to the crowd-borrowers. The study also has practical implications, allowing SMEs to carefully assess the costs and benefits of the LBC model.

Introduction

The uncertain economic scenario aggravated by the COVID-19 pandemic is worsening firms' conditions, compromising their financial sustainability and limiting access to bank credit (International Monetary Fund, 2020).

Digital innovation in finance is playing a fundamental role in supporting companies in difficulty; in fact, traditional banks joined by FinTech, BigTech, and TechFin are expanding and diversifying their credit offer through technological platforms (Consob, 2018). These digital players are introducing new business models (Stulz, 2019) penetrating into market segments typically underserved by incumbent banks (Jagtiani & Lemieux, 2018) or in countries characterized by inefficient financial systems and regulatory vacuums (Ding, Kavuri & Milne, 2021). FintTechs are changing the structure of financial services through digital models, such as peer-to-peer lending (P2PL) (Frost, Gambacorta, Huang, Song Shin, & Zbinden, (2019). Funds granted through these new instruments can improve the financial sustainability of small and medium enterprises (SMEs), encouraging the implementation of innovative and sustainable projects.

Specifically, in a postcrisis economy, the architecture of entrepreneurial ecosystems must evolve and focus on new financing alternatives (e.g., Crowdfunding and P2PL), ensuring the survival of successful businesses (Cicchiello, 2019a). Crowdfunding (hereafter 'CF') is intended as an "alternative" financial circuit to the traditional banking system, useful for economically supporting small firms (Fenwick, McCahery, & Vermeulenm, 2018; Havrylchyk & Verdier, 2018). Some studies highlight CF as a driver to encourage investment in new technologies (Brema, Bilgram, & Marchuk, 2019) or as a valuable tool to support social initiatives related to sustainability (Bento, Gianfrate, & Thoni, 2019).

In a complex scenario, using purely app-based customer-supplier interaction (Buchak, Matvos, Piskorski, Seru, 2018; Fuster, Plosser, Schnabl, & Vickery, (2019), CF offers consumers the opportunity to become investors and finance projects, firms, or ideas, providing even just small amounts of capital (Ahlers, Cumming, Guenther, & Schweizer, 2015).

Beyond traditional forms of financing, CF has recently emerged as a new player in entrepreneurial finance (Block, Colombo, Cumming, & Vismara, 2018). However, the lack of information transparency of the credit platforms could limit the knowledge and use of the Lending Business Crowdfunding (hereafter 'LBC') model by firms, creating problems of moral hazard or information asymmetries, as noted by the theories of Akerlof (1970) and Stiglitz (1975).

Based on our knowledge, there are no studies that explore this important issue in a complex banking system. This paper expands the current literature on CF by comparing analytically the existing LBC offers to further understand the operational characteristics and

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the information disclosed on the financial services offered to firms by digital platforms. The issue of information transparency is emphasized in line with the regulatory actions of the European Commission-EC (e.g., European Crowdfunding Services Provider-ECSP; EC, 2018a and 2018b) and the European Banking Authority-EBA (e.g., Regulatory Technical Standard-RTSs; EBA, 2022). As a result, this study aims to enrich the debate on the complementary role of Fin-Tech within a turbulent banking system.

The Italian market is characterized by a banking system in which traditional credit is a primary source for the development of firms (Siclari, 2015). However, many SMEs have been subjected to strong credit rationing (European Central Bank (ECB), 2020), especially during the current pandemic (WHO, 2020). For this reason, this study focuses on the Italian LBC market, investigating how FinTech platforms can act as a substitute for bank credit and provide funding in a digital environment (Hodula, 2021).

The empirical analysis is based on a qualitative multicase study approach (Quero & Ventura, 2019). An original hand-collected dataset was used, based on the universe of Italian LBC players. The data analyzed were taken from different sources: official documents published on portals, brief interviews with platform managers, and consultation of two additional databases ("Crunchbase" and "P2PMarketData").

The results lead to a comparative map that highlights services, information, and business access requirements for the LBC model, as well as the opportunities and limitations of these platforms. This study contributes to the lending-crowdfunding literature in two ways: i) this paper is the first to simultaneously compare LBC platforms on three different profiles: platforms, crowd investors, and crowd borrowers; ii) the overall assessment shows limited transparency and greater information asymmetry for crowd borrowers than for crowd investors. Consequently, the results highlight the need for regulators to minimize these information gaps to ensure the development of the LBC model. From a political and managerial perspective, our findings could improve the knowledge of firms and investors regarding LBC platforms as a complementary tool to traditional banking channels.

The paper is structured as follows. Section 2 explores the background and the literature review on digital credit for businesses. Section 3 offers the characteristics of a credit market for SMEs' category. Section 4 illustrates the empirical framework. Section 5 describes the research design. Section 6 discusses the results. Finally, the conclusions, limitations, and implications of the study are outlined in Section 7.

Background, literature review and aim of the study

Several authors have investigated the topic of access to credit for businesses (Beck, Demirgüç-Kunt, & Maksimovic, 2008; Cumming & Hornuf, 2018); some studies also show the difficulties in accessing credit for riskier and more opaque SMEs (Cowling, Liu & Ledger, 2012; Bianco, Bontempi, Golinelli & Parigi, 2013). This gap is strong in geographical contexts where financial markets are less developed than the banking system (Beck & Demirguc-Kunt, 2006).

Alongside these, more recent studies analyze digital innovation in the financial sector, examining the benefits brought by new financing tools, such as marketplace lending and CF (Agrawal, Catalini, & Goldfarb, 2014; Ziegler & Shneor, 2020), as well as the difficulty for SMEs to access digital tools due to their operational peculiarities (Fisch, 2019).

Other scholars have focused on policy and regulatory aspects, examining the crucial role of regulators in enabling cross-border CF (Zetzsche & Preiner, 2018) or the need to ensure regulatory harmonization in Europe (Cicchiello, 2019a). According to Cicchiello (2020), these actions are useful for providing a level playing field for all market actors and creating a more open CF ecosystem. Alongside the literature, the European Commission with ECSP Regulation has emphasized the need to: i) outline a single set of rules under the authorization and supervision of the European Securities and Markets Authority (ESMA); ii) ensure greater protection for European investors through clearer rules on information disclosures; and, finally, iii) give greater supervisory powers by ESMA over crowdfunding service providers (EC, 2018a and 2018b).

For all these factors, it is important to investigate the CF tool, which uses web platforms to bring together the supply and demand for online money. In this process, the key components are the crowd of investors, the proponents of the projects to be funded, and the platform partner network (Pekmezovic & Walker, 2016). The LBC platforms enable "open call" credit, whereby individuals and firms can receive liquidity to support their projects in exchange for prizes, participation, other benefits or simply recognition (Mollick, 2014). In relation to this aspect, the literature has identified different forms of CF (see Hervé & Schwienbacher, 2018, for a detailed description). Our analysis focuses on Crowd lending platforms, which are two-sided markets, and the lending process is an interaction between the two sides (lenders and borrowers) and the platform. The platforms enable an innovative loan compared to the banking channel, identified as Lending Business Crowdfunding (or LBC) (Fenwick et al., 2018).

The existing studies focused on the LBC model investigate its ability to disintermediate banks (Havrylchyk & Verdier, 2018) and to satisfy the demand for retail credit (Dore & Mach, 2022), especially in areas that may be poorly served by banks (Jagtiani & Lemieux, 2018).

Other scholars have focused on the LBC model to highlight the benefits a firm can gain by using digital loans as an alternative to bank loans, business angels or funds (Ramsey, 2012). Empirical findings show that the collection approach used by the CF model is attractive to entrepreneurs, using collective decision-making to evaluate and raise funds (Bruton, Khavul, Siegel, & Wright, 2015), known as the "wisdom of the crowd" (Boutillier, 2019). Furthermore, according to Boot, Hoffmann, Laeven & Ratnovski, (2020), LBC scale the information asymmetry problem on SME behavior, as investors require less business information and less detailed contracts (Macht & Weatherston, 2014). This is particularly advantageous for SMEs, which are not very transparent due to a lack of skills (Pekmezovic & Walker, 2016).

Consequently, in LBC platforms, the issue of information transparency (i.e., clear and exhaustive loan information, including the characteristics and risks of financial operations) is simplified and relies on feedback to certify the validity of a project to be financed. However, as highlighted in the study of Nowak, Ross, & Yencha, (2018), an extensive business loan description by borrowers increases funding opportunities, while the platform's feedback allows the firm requesting the funds to easily know the investor's perception of its reliability.

In a context characterized by a diversity of opinions, independence, and the decentralization of information, as in the LBC, decisions can be more efficient than if a single person were to make them. According to Surowiecki (2005), opportunistic or fraudulent behavior on the part of those who raise money is "censored" by the crowd, in addition to the usefulness of innovative financial contracts, which can mitigate the financial frictions affecting SMEs (Wang, Zhang, & Zhao, (2021).

Similarly, the use of FinTech lending platforms can mitigate information frictions in the loan, improve the choices of applicants and at times bridge the credit gap created by the traditional banking channel.

On the borrower's side, the evidence suggests that proximate knowledge (direct or inferred) brings out weak information and, as a result, the FinTech lending platform should be able to price and/or access benefits for potential borrowers.

Additionally, Voelker & McGlashan (2013), analyzed the benefits of the tool and showed how SME owners can use LBC to raise capital and finance future efforts without running into debt or diluting assets, while Ingram, Teigland, & Vaast, (2014) show that the entrepreneur could use LBC as proof of market demand to apply for a bank loan. Conversely, if the applicant firm is already excessively indebted, LBC can be considered a flexible and time-saving solution as an alternative to bank credit (Maier, 2016).

Some studies report the limitations of LBC. For example, Valanciene & Jegeleviciute (2013), used a SWOT analysis to highlight administrative and accounting challenges as criticalities, such as the risk that ideas and business models presented to the public can be easily stolen and the various inefficiencies in the flow of information between investors and borrowers. On the investors' side, some scholars have analyzed investment criteria, motivation, and lender profile (see Pierrakis, 2019, for a detailed description); among these, the study by Dorfleitner, Hornuf & Weber, (2022) shows that investors are paralyzed by the shock they experience when a loan in their portfolio defaults; as a result, they invest less and stop diversifying their portfolios.

Critical aspects pointed out in the literature also include an average annual interest rate that is 3 to 7 percentage points higher than the loans granted to SMEs by banks (Palladino, 2021). Researchers have pointed to a greater liquidity risk and default risk of the platform compared to the banking channel (Yoon, Li, & Feng, 2019) or a moral hazard that reduces investor confidence in LBC (Yan, Lv, & Hu, 2018). In addition, Gallo (2021) and Lyócsa, Vašaničová, Hadji Misheva, & Vateha, (2022) have shown a lower level of caution taken by the lending platform in terms of the borrower screening activity or credit risk assessment. However, according to more recent studies (Darmon, Oriol & Rufini, 2022), this problem can be mitigated with the integration and interaction of different types of decision support systems (rating-based and bidding agents), which facilitate the process and minimize risks, especially when the crowd has low financial literacy. To improve investor protection, EBA has recently outlined RTSs with the aim of reducing information to the detriment of lenders' category in the LBC model and strengthening this form of financing. Specifically, RTSs define the requirements and model that which platforms should adhere to; present the necessary information for investors to make informed investment decisions (e.g., cost, charges, financial ratio); and require platforms to inform investors of the robust processes for credit scoring (EBA, 2022). Hence, regulatory actions aim to reduce potential information asymmetries between project owners, crowdfunding service providers, and investors.

However, considering these regulatory changes of the LBC model, further insights are needed to facilitate its development in the credit market, such as the level of information provided, commercial aspects, loan risks, orderly resolution of platform failure, and security and operational risks (Milne & Parboteeah, 2016).

Taking the specificities, advantages and limitations of LBC into account, some studies have carried out comparative analyses of the "cross-cultural" and "cross-territorial" type to investigate the factors that contribute to the success of the platforms. For example, Cosma, Pattarin, & Pennetta, (2020) analyzed an original world sample of 30 LBC platforms by identifying four distinct business models for strategies, financial services, risk positions and target customers. Similarly, other Canadian market analyses investigated 51 equity-based CF platforms, finding that the due diligence services offered by the platforms positively influence the ability of funding initiatives to be successful (Cumming & Zhang, 2016).

Based on previous studies, this paper explores the characteristics of LBC through a vulnerable and bank-centric credit market, such as the Italian market, and answers the following research questions:

RQ1: What are the services and information that LBC platforms offer to firms?

RQ2: Is the offer of services and information on the LBC platform specialized by the industrial sector or customer (lender and/or borrower)?

Bank credit and Lending Business Crowdfunding in a troubled market

The peculiarity of this study is linked to the credit market examined and the many SMEs with financial problems featured, such as the Italian case (Botero, Cruz, DeMassis, & Nordqvist, 2015; ISTAT, 2019). Exogenous and structural factors, such as worsening economic conditions, the pandemic, restrictive prudential supervisory regulations for banks and the growing volume of nonperforming loans (NPLs), have generated severe pressure on the banking system and triggered credit rationing mechanisms for SMEs and microenterprises (McKinsey & Company, 2020).

Consequently, the Italian credit market is characterized by (Bank of Italy, 2019): i) a contraction in the demand for loans by businesses; ii) an increase in the rate of rejection of loan applications; and iii) a reduction in the amount of credit granted to SMEs.

In response to liquidity needs, aggravated in the pandemic scenario, the government and various institutions have outlined specific measures with the aim of offering economic support to the entrepreneurial system (Bank of Italy, 2020).

In this critical context, the development of alternative lines of credit has assumed importance, such as lending CF, which can provide financial support to SMEs. Due to peculiarities, such as flexibility and small size, SMEs are the core of economic growth and employment in countries impacted by the pandemic. In addition, sustainability and well-being are issues more closely linked to FinTech operators, given the new technologies and the business model they use (OECD, 2017). In relation to this, the latest data available on the Italian market highlight a significant development of credit through the LBC model, as represented in Fig. 1. Specifically, Fig. 1 illustrates the number of LBC platforms active in Italy, as reported by the Entrepreneurship & Finance Observatories Italian Report on CrowdInvesting by PoliMI (hereinafter, PoliMi Report) from 2016 to 2021. The increase in LBC platforms, reaching 10 operators in 2021, confirms the growing importance of new digital credit tools for businesses.

The development of the LBC model in Italy, along with the difficulty of accessing credit for SMEs, justifies this research into the characteristics of this financial tool to improve services. In fact, better transparency and completeness of services allows FinTechs to finance SMEs in difficulty, redesign the link between people and businesses and support the development of social and inclusive finance.

The empirical framework of this analysis

To answer the research questions, a specific empirical analysis path was developed that starts with the LBC platform service and identifies the operational process and the actors involved, understood as the pillars of interest (Rossi & Vismara, 2018). The framework for this analysis is illustrated in Fig. 2. It schematizes the key steps of the LBC process in a FinTech platform, the three pillars (named A, B, and C) and the connections between them. Therefore, the subjects of this analysis are the LBC platform (pillar A); crowd investors, who are looking for investment opportunities (pillar B); and crowd borrowers looking for funding (pillar C). The characteristics that describe each pillar, considered as a whole, offer an exhaustive picture of the information on LBC services offered in Italy, which provides the basis of information for answering the research questions.

Fig. 2 illustrates the main phases of the LBC process. The platform acts as an intermediary who, with its services, reduces information asymmetries and assesses risk, thus facilitating the exchange between crowd-borrowers and crowd-investors. In this process, the
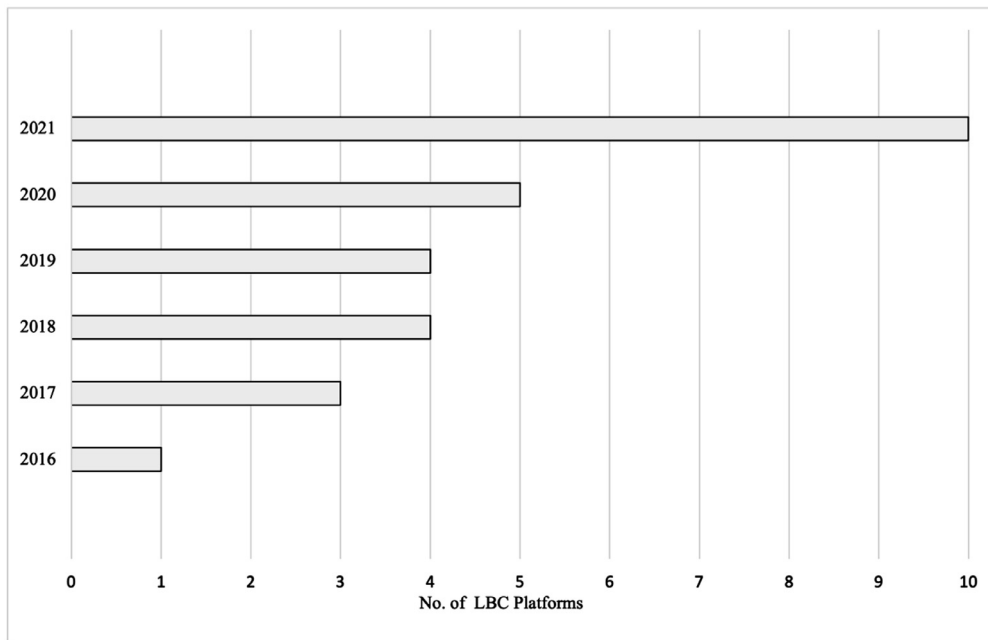
Fig. 1. The growth of the LBC platforms in the Italian credit market (period 2016-2021)
Source(s): Authors' elaboration based on PoliMi data.

innovation lies in the business model of the internet platform that facilitates the meeting between users (Omarini, 2018).

Specifically, the money transaction takes place through the following steps (upper side of Fig. 2):

- the registration of crowd-borrowers, including the complete textual information on the business project (objectives, risks and profitability), followed by the visualization of the same on the portal;

- the registration of crowd investors, which requires the evaluation of their risk and return profile (Mifid compliant), subsequently assigned to the most suitable;
- the crowd investors can decide the project on which to invest (direct model) or leave this choice to the platform (diffused model) after logging in; subsequently, the loan agreement is signed;
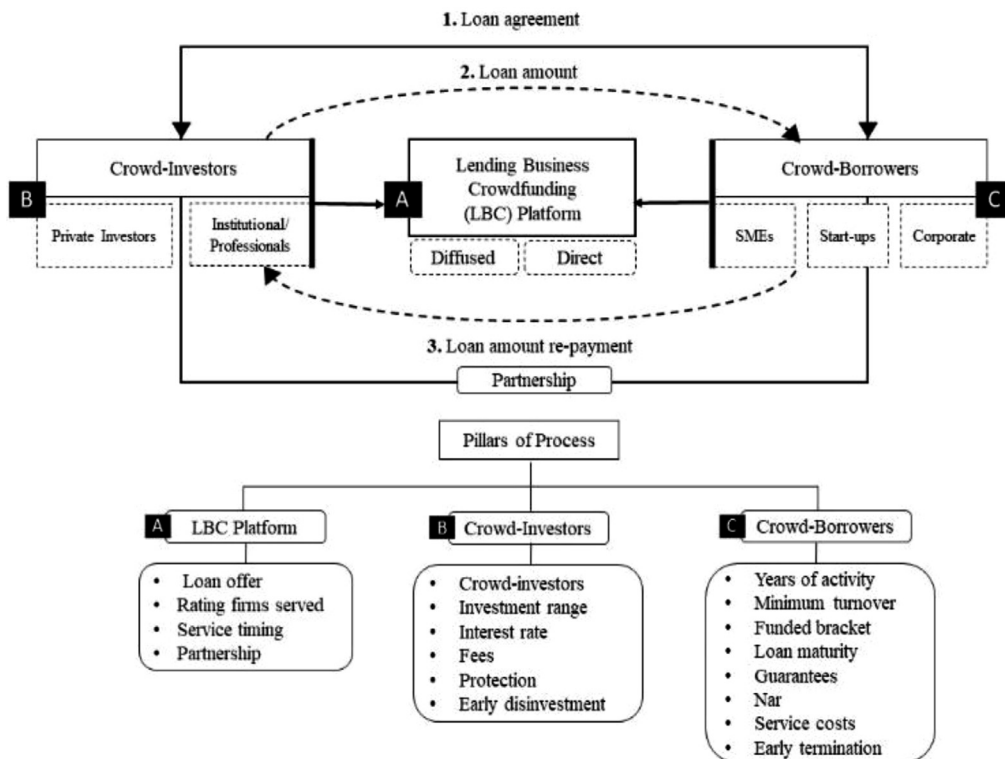- the money is deposited into a physical bank account of the applicant firm;

Fig. 2. The empirical framework of our analysis
Source(s): Authors' elaboration.

Table 1

The LBC case studies' institutional profile and characteristics.

c.1	c.2	c.3	c.4		c.5	c.6	c.7	c.8	Data Source
Case Study	Start Date	Legal Profile	Legal Headquarter		Platform Manager	Range of employees (units)	Business Model	Credit Granted (millions €)	
Alfa	2013	Payment Entities/ Asset Management Company	Milan (IT)	3 JSC	11-50	Diffused		391.194	c.1. and c.8 = PoliMi Report; c.2, c.3, c.4, c.5, c.6= web site;
Beta	2017	Agent for Payment Entities	Milan (IT)	1 JSC and 1 AS	51-100	Direct		159.746	c.1. and c.8 = PoliMi Report; c.2, c.3, c.4, c.5, c.6, c.7= web site;
Gamma	2017	Agent for Payment Entities	Milan (IT)	1 JSC and 1 AS	1-10	Direct		34.11	c.1= PoliMi Report; c.2, c.3, c.4, c.5, c.6, c.7= web site; c.8 = CrunchBase
Delta	2015	Financial Institution	Milan (IT)	3 JSCs	51-100	Diffused		1.7	c.1 and c.8 = PoliMi Report c.2, c.3, c.4, c.5, c.6, c.7 = web site;
Epsilon	2018	Agent outsourcer/ Electronic Money Institution	Bergamo (IT)	1 LC	1-10	Direct		7.476	c.1 and c.8 = PoliMi Report; c.2, c.3, c.4, c.5, c.6, c.7 = web site;
Zeta	2020	Payment Entities	Bergamo (IT)	1 LC	11-50	Direct		NA	c.1 = PoliMi Report; c.2, c.3, c.4, c.5, c.6, c.7, c.8= web site;
Eta	2021	Payment Entities	Milan (IT)	1 LC and 1 JSC	1-10	Direct		629.200	c.1 = PoliMi Report; c.2, c.3, c.4, c.5, c.6, c.7, c.8 = web site;
Theta	2020	Electronic Money Institution Agent	Milan (IT)	1 JSC and 1 AS	1-10	Direct		177.750	c.1 = PoliMi Report; c.2, c.3, c.4, c.5, c.6, c.7 = web site;
Iota	2015	Agent for Payment Entities	Udine (IT)	1 LC	1-10	Direct		0.141	c.1 and c.8 = PoliMi Report; c.2, c.3, c.4, c.5, c.6, c.7 = web site;

Legend: LC: Limited Company; JSC: Joint Stock Company; AS: Anonymous Society; NA: Not Available.
Source(s): Authors' elaboration.

- the LBC platform regulates money transactions between crowd-borrowers and crowd-investors and resolves any operational problems and late payments.

In addition, this framework identifies the characteristics of the three pillars: A, B, and C (lower part of Fig. 2). Pillar A, referring to the LBC platform, includes the type of loan disbursed (loan offer), the risk requirements for access to the loan (rating firms served), the response times (service timing) and other services offered (through partnerships). Pillar B, referring to crowd investors, includes the type of investors admitted, from the minimum and maximum amounts for the loan (investment range), the average interest rates on the loan (interest rate), the commissions (fees) to be paid by investors and by the mechanisms for their protection used by the platform (investor protection), as well as the right to disinvest before the contractual expiry (early disinvestment). Finally, pillar C, referring to crowd-borrowers of funds, includes the firm's seniority (year of activity), the performance (minimum level of annual turnover), the loan maturity, the guarantees to protect the investor (guarantees), the financing rate (Nominal Annual Rate, NAR), the costs and commissions (service costs and fees), and finally the early repayment of the loan (early termination).

This empirical framework, articulated in three pillars, is applied for the assessment of the LBC market in Italy. The aim is to capture exhaustive information on the credit supply by digital platforms.

Research design: case-study selection and data

This study investigates the Italian LBC market using a qualitative multicase approach due to the small size of the market. Case studies are particularly relevant for questions related to recent and contemporary events in which there is no data length (Yin, 2009). Furthermore, the case studies offer a detailed understanding of a real-world scenario (Ridder, Hoon, & McCandless Baluch, 2014), which allows for bridging the gap between firm theory and practice, as qualitative methodologies are better suited for firm management (Massaro, Dumay, Garlatti, & Dal Mas, 2018).

The Italian market segment, the object of this analysis, is currently represented by ten operators, identifiable as pure for-profit lending platforms for business customers (PoliMI Report, 2016-2021). This study exclusively analyzes pure for-profit lending platforms to compare (cost–benefit analysis) with traditional bank loans. The evolution of LBC markets from 2016 to 2021 was observed, the first and last year of publication of the data from the PoliMI Report. The analysis found that one of the 10 LBC platforms has recently changed businesses, becoming a technology provider in 2021; for this reason, the player does not meet our selection criteria and has been excluded from the empirical analysis. The study reported an alternative credit offer as opposed to the traditional one based on nine LBC Italian platforms. For confidentiality purposes, the platforms' real names have been disguised and indicated as Alpha, Beta, Gamma, etc..[1]

Seeking to preserve the rigor of the research, data should be collected from multiple sources, as suggested by the literature (Voss, Tsikriktsis, & Frohlich, 2002). The information referring to each case study was updated in September 2021 and was hand-collected by the authors. The key documents analyzed were platform informational documents and regulatory examination reports available to the user with access to the platform. In addition, three different interchangeable methods were used to fill the information gaps: i) interaction with the platform's chatbots or direct dialog with the platform managers (in compliance with their internal policies); and ii) consultation of additional data platforms relating to CF, such as the "CrunchBase" Database and "P2PMarketData" Database.

Table 1 describes the institutional profile of the nine exploratory case studies. The main information is completed with the data in pillar A.

The nine LBC platforms are described as follows: anonymous identification of the case study (c.1); start date of activity (c.2); legal profile (c.3); legal headquarters (c.4); platform manager (c.5); range of employees (size of the platform) (c.6); business model (c.7); and volume of credit granted (from the start date of the activity to September 2021) (c.8). Finally, the last column indicates the source of the data.

The data collected show that the platforms have been active for several years in Italy, acting as intermediates in meeting the financial needs of firms in an innovative way. The legal profile of the platforms shows that six out of nine cases are recognized as "Payment Entities" or "Agents for Payment Entities". These players are subjects authorized by the banking supervisory authorities and, therefore, subject

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[1] The authors are able to provide the database of nonanonymous case studies upon request.

to public control to ensure transparent, sound, and prudent management to protect the customer investor.

The geographical position of the platforms' registered office is interesting and exclusively concentrated in northern Italy. This aspect can have important implications on the financial behavior of the firms that access the LBC and lead to different levels of innovation and social and economic development between Northern and Southern Italy, even if the digital offer is disconnected from the place of establishment of the firm. For the protection of customers, we highlight that the platforms manage the cash flows between the two categories of crowd investors and crowd borrowers through special debits and credits in "payment accounts" in the name of a specific platform manager. Consequently, the intermediary operates without acquiring the ownership of the administered sums for the principle of asset separation between the platform intermediary, the crowd funders, and the crowd borrowers. This constraint reduces the risk of fraud or bankruptcy for LBC.

In addition, three different size classes (No. of employees) of LBC platforms were identified: i) 1-10 employees; ii) 11-50 employees and iii) 51-100 employees; mostly, the portals belong to the first category and are typically identified as small-sized FinTech firms, as efficient operators. Another feature is the type of business model aimed at crowd investors in response to RQ2. In fact, the service model adopted by platforms is an important element of offering specialization. Our data reveal that two out of nine platforms adopt the "diffused" model, while the remaining seven adopt the "direct" model. In the first model, the platform has an active role. It associates the business project to be financed with crowd investors through "automatic diversification", based on the risk and return profile expressed by lenders (Mifid Directive compliant mode). In this case, the platform works for allocating money and minimizing risks, for example, with the implementation of a decision support system, as highlighted in the study of Darmon et al. (2022). In contrast, in the "direct" model, the platform operates in the "lender choice" mode, which allows the crowd investor to independently choose the project to be financed based on a short "identikit" of information on the project provided by the crowd borrower. The greater diffusion of this second model in Italy places the LBC as an investment service comparable to wealth management if one adopts the perspective of an evolved crowd investor, such as a trader. In fact, an investor's choice of LBC portal is based both on the risk and return profile of the business project and on the investor's choice to select their own assets.

Finally, the amount of credit assigned by each platform highlights the fact that LBC players are more developed and established in the Italian market.

Results and discussion

According to our empirical framework and research questions, this section presents and analyzes the main evidence collected in the LBC case studies against the background of the current literature.

The analysis of Pillar An illustrates the information and financial services offered by the nine pure-for-profit LBC platforms (c.1), as shown in Table 2.

Our comparative analysis highlights a credit offer of portals specializing in the granting of business loans, which, in all cases, includes SMEs' loans (c.2). In detail, Alfa, Delta, Eta and Theta offer a hybrid business model, expanding the range of services offered to customers. For example, the Alfa case offers a Software as a Service (SaaS) solution through a modular platform, which can be integrated into any financial tool already in use by crowd-borrowers. Beta case offers "digital factoring" and "supply chain finance" services. In the Eta case, the services offered include the purchase and collection of outstanding receivables from the Public Administration. Finally, the Theta case only admits real estate or energy projects to be financed (i.e., vertical specialization).

The distinctive aspects of these offerings of platforms' provide a primary answer to RQ1. The platforms are characterized by a high degree of diversification and customization of services offered as a result of their business strategy, often aimed at increasing market share. Moreover, in response to RQ2, this analysis showed that some players have also developed a specialized offer from the industrial sector, as in the Theta case mentioned above.

Hence, these diversification strategies confirm the evolution of the LBC model as an "alternative" financial circuit to the banking system, which could better respond to the financial needs of different types

Table 2
Analysis of Pillar A relating to the financial services offered by the LBC Platforms.

c.1 Case Study	c.2 Loan offer	c.3 Rating firms served (range)	c.4 Service timing	c.5 Partnership
Alfa	BL (Individual Enterprises Companies, SMEs, Professionals) SaaS	A - G	TTY= 24h TTC= 72h	Neo-bank, Independent Asset Manager Financial advisors, FinTech Incubator
Beta	BL (SMEs and Commercial Firms)	A+ - C	TTY= 24h TTC= 1 week	Financial Institutions Neo-bank Industrial group FinTech Incubator
Gamma	BL (Corporations, SMEs, Cooperatives, Start-ups, Franchising,)	A3 - C1	TTY= 72h TTC= Variable	FinTech Incubator, Tech Industry Digital financial services platform
Delta	BL (Individual Enterprises, SMEs Digital Factoring & Supply Chain Finance)	NA	TTY= 72h TTC= Variable	Credit Brokers, Accountants Suppliers, Incumbent-Bank, FinTech for Digital Score service, Leading companies
Epsilon	BL (SMEs)	A - D	TTY= 48h TTC= 1 week	FinTech Incubator, Financial Intermediation Risk Center, Financial Institution, Digital project incubator, API Provider
Zeta	BL (SMEs)	NA	TTY= few days (not specified) TTC= NA	Services Provider for credit scoring, Financial Intermediary
Eta	Financing of Public Administration Credit purchase operations	NA	NA	NA
Theta	BL (Individual Enterprises, SMEs, Corporate Companies for Real Estate or Energy Projects)	A3 - D	NA	Freelancers (financial advisors, techs experts, etc.), Services Provider for credit scoring
Iota	BL (SMEs, Corporations, Cooperatives, Individual Enterprises)	AAA - B	NA	NA

Legend: NA: Not Available; BL: Business Loans; TTY: Time to yes; TTC: Time to cash.
Source(s): Authors' elaboration.

of firms by size and sector (Fenwick et al., 2018; Havrylchyk & Verdier, 2018).

Consistent with the estimated default risk, the platform assigns a risk rating ranging from A (best) to G (worst) with a corresponding interest rate for each loan. Looking at the admissible ratings (c.3) reported in the Alfa, Epsilon and Theta cases, contrary to the findings of Fuster et al. (2019), the LBC platforms offer credit to firms with a medium-high risk level. This confirms that LBC is an inclusive solution, especially in risky contexts characterized by credit rationing problems, such as the Italian case (Cowling et al., 2012; Bianco et al., 2013). Financial inclusiveness is another element that satisfies RQ2. The platforms' offer, in some cases, seems oriented towards high-risk firms. This aspect makes the LBC model very attractive for SMEs, as stated in the study of Bruton et al. (2015). In addition, as pointed out by Fuster et al. (2019), FinTech lenders use a less personalized loan process that relies on hard information, which could reduce credit to borrower applications that rely on soft information (e.g., exhaustive loan descriptions; Nowak et al., 2018). At the same time, this analysis revealed little evidence of transparency of rating information in the latest Delta, Zeta, and Eta platforms. This aspect can limit the development of LBC, generate inefficiencies and be a waste of time for operators who refuse funding, as it is excessively risky compared to the platform standards. To fill these information gaps on credit assessment, the EBA has acted with the abovementioned RTSs.

The data show a high efficiency of the LBC model in response times to the loan request (c.4): in six cases, the "time to yes" is equal to 24 hours, and the "time to cash" is between 48 and 72 hours. Response time is the real advantage of LBC platforms, achieved through a lean and digital organization to evaluate the requests of firms, in conformity with previous studies (Maier, 2016). For example, using loan-level data on mortgage applications and originations, Fuster et al. (2019) showed that FinTech lenders process mortgage applications 20% faster than other lenders. It is a strength of digital lending that is important for firms that manage business volatility.

The analysis of Pillar A was completed with the services offered through the partners (c.5), highlighting a commitment to the expansion of business services through close partnerships with other players (e.g., credit scoring service providers, financial consultants, lawyers). LBC has, in fact, become a broader and more complete service in favor of SMEs with limited organizational skills and financial resources (Pekmezovic & Walker, 2016). Partnership mapping is an element of further response to RQ1. Platforms are changing their business model, which is evolving toward the concept of digital ecosystems. These service ecosystems can improve the spread of the LBC model in response to financial needs. The FinTech development strategy in the credit segment is based on a cooperative and noncompetitive logic with traditional operators, as also highlighted by Hodula (2021). The partnerships range from incumbents to neo-banks, promoting the collaboration between traditional banks and FinTech operators. Through partnerships, the first can efficiently reshape their core business activities, integrating digital solutions developed by FinTechs. The second, instead, can improve their profitability by leveraging some of the bank's strategic assets, such as a loyal customer base. However, according to Fuster et al. (2019), in the long run, it is unclear whether technology-based lending will remain dominated by nonbanks or whether incumbent banks will be able to use technology to regain market share in the mortgage market.

Table 3 illustrates the characteristics of Pillar B, referring to crowd investors. The data collected show that seven platforms tend toward an "institutionalization" of their financial services, characterized by a double category of crowd investors (c.2), private and institutional/professional.

The seven players are also turning to investment funds to expand the credit offer to crowd borrowers beyond the financing capacity of private individuals. As a consequence, "investment range" (c.3) through LBC can vary from a minimum of 20 euros to a maximum of 2,000 euros per project. These investment thresholds can guarantee financial inclusion and good asset diversification to the benefit of the overall investment risk. In response to RQ2, the different categories

Table 3
Analysis of Pillar B relating to the crowd-investors' profile.

c.1 Case Study	c.2 Type of Crowd-Investors	c.3 Investment range (€)	c.4 Interest rate (Annual average value, %)	c.5 Fees	c.6 Investor Protection	c.7 Early disinvestment
Alfa	PI	≥ 1.000	5.00 gross		Credit Recovery	Possible
	II			Management Fees	Lender Protection" "MCC"Fund	
Beta		≥ 20, ≤ 2.000	≤ 9.90	NF	Credit Recovery	NP
	PI				Public Guarantee Fund for SMEs	
	I/PI				(at discretion)	
Gamma	PI	≥ 250	Min. = 2.50	Account Deposit Fees	Credit Recovery	NP
	I/PI		Max. = 9.50		Treasury Service	
					Management Control	
					Guaranty Policy	
Delta	II	NA	NA	NA	Public Guarantee Fund for SMEs	NA
Epsilon	PI	≥ 20	≤ 9.00	NF	Blockchain system to manage	Possible
	I/PI				contracts between actors	
	IF				Loans secured by shareholder	
					guarantees	
Zeta	PI	≥ 50	Min.= 7.00	NF	NA	Possible
			Max.= 11.00			
Eta	PI	≥ 500	Min. = 5.00	NF	NA	Possible
			Max. = 8.00			
Theta	PI	≥ 250	Min. = 9	Account Management	No protection	NA
	I/PI		Max. = 15	Fees		
Iota	PI	NA	NA	Account Opening Fees		Possible
	I/P				Personal Guarantee	
					Debt collection	

Legend: NA: Not Available; PI: Private Investors; I/PI: Institutional and Professional Investors; II: Institutional Investors; IF: Institutional Found; NP Not Possible; NF: No Fees.
Source(s): Authors' elaboration.

of investors and the variable amount of investment confirm the specialization of the LBC model by customer (in this case, the lender side).

Crowd investors can also benefit from an estimated return (c.4) equal, on average, to 8.2%, subject to taxation (Cicchiello, Battaglia, & Monferrà, 2019b). This result, however, must take into account the entry costs and managing costs the investments passed on to crowd investors in terms of "fees" in favor of the platform (c.5) (as emerged in cases Alfa, Epsilon and Iota). The business model of six out of nine LBC platforms is of the fee-based type; in some of these cases (Alfa, Gamma and Theta), management fees are charged (calculated on a daily basis and charged to the "payment account"), while in other cases (Beta, Gamma, and Iota), deposit fees for the account are charged (as a percentage of the sums paid).

The possibility of loan default is inevitable in the LBC process. For this reason, most of the platforms analyzed recommend that investors diversify their portfolio platform to offset some of the negative effects of default, as also stated in the study of Ziegler & Shneor (2020). Consequently, the focus here is on the crowd-investor protection measures (c.6), noting that no measures are indicated in three cases (Zeta, Eta and Theta). In contrast, in other cases, the "protection of the investors" is declared through guarantees from shareholders (Epsilon), guarantees from public funds (Alfa, Beta, Gamma and Delta) or private funds (Iota) to cover losses in the event of insolvency of the financed firms. These funds are financed by ad hoc commissions paid by crowd borrowers.

To protect crowd investors and promote the widespread use of this tool, it would be important for each platform to provide a "guarantee fund" to cover the risks of losing the investment, especially considering that the early disinvestment of the invested funds (c.7) is allowed only among the five longest-established players (Alfa, Epsilon, Zeta, Eta, and Iota).

Table 4 illustrates the analysis of Pillar C, referring to the crowd borrower requirements set by the nine platforms (c.1). We remark that some players carry out an initial screening of loan applications

by adopting the following admission prerequisites: "Years of Activity" in the market (c.2), at least equal to two; "Minimum Turnover" (c.3), € 50,000 or above. This is an important aspect to mitigating default or liquidity risks, as pointed out by Yoon et al. (2019) and Gallo (2021), but it is also an element of "discrimination" of potential customers. Once again, in response to RQ2, the offering is specialized by customer (in this case, the borrower side). Moreover, it is inferred that crowd borrowers are also allowed in the start-up phase. LBC's willingness to finance start-up firms is important when we consider that these firms' category is rationed by commercial banks. The item relating to the "Funded Bracket" (c.4) is significant: in most cases, the platforms finance a minimum amount (from € 10,000 to € 30,000) and a maximum amount (from € 250,000 to € 5,000,000). In reference to this, it is assumed consistent that the Beta's case grants loans up to the threshold of 5,000,000 euros (the maximum cut of the market), highlighting its orientation to a wider segment, representative of SMEs, start-ups, and corporate firms. Regarding the "Loan Maturity" (c.5), it is normally not more than 60 months, except for the Beta (84 months) and Iota (120 months) cases.

The "guarantees" for the repayment of the loan (c.6) are required in a few cases (Alfa, Gamma, Zeta and Iota) to promote greater financial inclusion of firms. A crucial aspect is the pricing on the LBC model (c.7). The average ranges of the "Nominal Annual Rate (NAR)" show that the LBC costs approximately 6.82% to the crowd borrower, reaching the maximum value of 10.15%. These are estimated values, as the NAR is related to the risk of the firm and does not include additional costs for the crowd borrower (commissions and penalties). Therefore, the actual cost of the LBC can only be assessed at the maturity of the loan.

Table 4 also shows the "service coast and fees" requested from crowd borrowers (c.8), the revenue of the platforms. In five cases, there are various types of commission, such as requested fees (% on credit); various fees (for feasibility analysis, drafting of the project sheet, flows management and the repayment plan); exceptional fees (% of the residual amount amortized in advance), fees for late

Table 4
Analysis of Pillar B relating to the crowd-borrowers' profile.

c.1 Case Study	c.2 Years of Activity	c.3 Minimum Turnover (€)	c.4 Funded Bracket (€)	c.5 Loan Maturity (months)	c.6 Guarantees	c.7 Nominal Annual Rate (NAR, %)	c.8 Service Costsand Fees	c.9 Early Termination
Alfa	≥2	≥ 1mln / ≥ 500 k	F ≥ 10 k F≤ 2 mln	Max. 72	PG	Min. 3.4 Max. 7.4	Institute Fees Payment Collection Fees Provider Protection Fund Fees Exceptional Fees	Possible
Beta	NA	≥ 250 k	F ≥ 30 k F≤ 5 mln	Min. 3 Max. 84	No PG	Min. 4.00 Max. 9.9	Requested Fees Flow Management Fees Exceptional Fees	Possible
Gamma	NA	NA	F≥ 30 k F≤ 3 mln	Min. 12 Max. 60	Possible	Min. 2.5 Max. 9.5	Various Fees Success Fee	Possible
Delta	≥ 2	≥ 50 k	F ≥ 12 k F ≤ 1.5 mln	Min. 3 Max. 60	No Guarantees (Presence of Guarantee Fund)	Min. 1.00 Max. 10.9	Payment Fees Unpaid expenses for failed charge Agreed delay Fees Platform usage Fees	Possible
Epsilon	≥3	Not required	F ≥ 35 k F ≤ 5.mln	Min. 4 Max. 60	No PG	Min. 7.00 Max. 9.00	Success Fees (at the end of the capital raising process)	NA
Zeta	NA	NA	NA	Min. 1 Max. 12	Possible	12.00	NA	Possible
Eta	NA	NA	NA	Min. 18 Max. 24	NA	NA	NA	Possible
Theta	NA	NA	NA	Min. 6 Max. 12	No PG	15.00	NA	Possible
Iota	NA	NA	NA	Min. 6 Max. 120	PG	Min. 3.50 Max. 7.50	NA	NA

Legend: NA: Not Available; PG: Personal Guarantees.
Source(s): Authors' elaboration.

Table 5
The AOERs applied by the banking sector versus the NARs applied by the LBC platforms.

Type of Loans	Average Overall Effective Rates (AOER) (Bank of Italy, IV quarter 2021, %)	Average Nominal Annual Rate (NAR) (LBC platforms case studies, %)
Loans with mortgage guarantee (fixed rate)	1.94	6.82
Loans with mortgage guarantee (variable rate)	2.18	
Advance of trade receivables (funds ≤ 50k €)	6.88	
Advance of trade receivables (50k € ≤ funds ≤ 200k €)	4.96	
Advance of trade receivables (funds ≥ 200k €)	2.97	

Source(s): Authors' elaboration.

payment; and success fees (paid at the end of the capital raising process). In the remaining four cases, there is a lack of transparency of LBC costs. In response to RQ1, the platforms analyzed show a high degree of unevenness in the information transparency of service management costs. Finally, the "Early Termination" of the loan (c.9) is always guaranteed, without additional costs for the crowd borrower, except for two cases (Beta and Delta).

Although the NAR is a nominal value, given the lack of information on the effective interest rates in the platforms, to evaluate the cost of the LBC, in Table 5, we report a comparison between the Average NAR on the LBC and the Average Overall Effective Rates (AOER) applied to the traditional bank loans granted in the same period (Bank of Italy, 4th quarter 2021).

Table 5 lists the AOERs relating to "Loans with mortgage guarantee" (fixed rate and variable rate) and "Advance on trade receivables" (broken down by loan thresholds). We believe these types of loans are similar to LBC.

The comparison shows that the average AOERs applied to fixed (1.94%) or variable (2.18%) bank loans are always below the average NARs applied to the LBC (6.82%). The AOERs applied to banks' advances on trade credit (4.96% and 2.97%) are almost always below the average NARs applied to the LBC (6.82%), except in the case of lower trade credit advances to 50K euros (6.88%). Consequently, we deduce that loans granted through LBC platforms are more expensive than the loans provided by the traditional banking system. The cost of the LBC will be even higher if, in addition to the NAR, additional costs to be paid by the crowd borrowers (various and additional fees) are considered. This aspect therefore increases the cost of LBC for a firm.

The higher pricing of the LBC compared to traditional credit may depend on the characteristics of the firms financed: hypothetically, they may be riskier, "unbanked" borrowers (defaults or lack of guarantees) or more indebted. These firms turn to FinTech operators, which promote financial inclusion and are more sensitive to the ethical and sustainable nature of projects. Consequently, the main strengths of LBC (compared to the traditional banking channel) are the ability (a) to respond promptly and flexibly to loan applications, and (b) to satisfy "unbanked" customers and favor the sharing of collective and social interests between individuals. We believe these hallmarks of LBC justify the higher funding rate for borrowers compared to bank credit.

In a complex and risky market, such as the Italian market, this is a financing solution that the firm must evaluate, while also considering the expected profitability of the project to be financed. Moreover, to foster knowledge of LBC by firms, platforms need to improve customer information and be more transparent, as evidenced by previous studies (Pekmezovic & Walker, 2016; Wang et al., 2021). In this regard, in response to the initial RQ1, our analysis reveals that the information transparency of the platforms is uneven between crowd borrower and crowd investor: the information gap is more evident for the former because information on financial services and related costs are not always accessible. This is an important aspect to monitor and explore in future research, which represents a limitation for a firm's knowledge and development of FinTech credit.

With reference to the crowd investor, it is necessary for lenders-customers to demonstrate an adequate degree of financial education to understand the riskiness of the investment, especially if the LBC platform adopts a "direct" model. To mitigate these risks, RTSs outlined by the EBA aim to reduce potential information asymmetries between platform actors and ensure a minimum set of common standards in terms of credit risk assessment and risk management structure (EBA, 2022). These new measures, combined with the ECSP passport (EC, 2018a and 2018b), try to increase information transparency, improve security for users, and strengthen this form of financing with cross-border activity.

Conclusions, limitations, and implications

Using an original empirical framework, this study explores the characteristics of lending CF and creates a comparative map of the services and information that LBC platforms offer to crowd borrowers and crowd investors. Information asymmetries in the LBC model reduce the trust in the tool by potential users and, consequently, slow down the development of new financial products in the credit market.

The focus of this study is on FinTech platforms in the Italian credit market, which showed growth from 2016 to 2021, considering the data from the PoliMi Report. The current nine pure for-profit LBC platforms in Italy were analyzed as case studies. The results show that the LBC is an alternative financial circuit to bank credit, even though banks in Italy still play a crucial role in the economy. As smaller and riskier companies are subject to rationing, FinTech in the credit segment is therefore an innovative, complementary, and useful solution to finance entrepreneurial, ethical and/or sustainable projects.

Some specificities of credit platforms emerge from our original map. First, all platforms are subject to banking supervision and adopt segregated liability to protect customers. The players are concentrated in Northern Italy, highlighting a greater knowledge of the instrument by professionals and investors and the financial development of the area. It is not known whether this affects the geographic origin of customers, as there are no data on the matter and digital technology crosses geographic boundaries.

The results also highlight an evolution of the LBC platforms as, in addition to traditional credit, offering additional services, such as financial and legal advice and incubation. The diversification of services is achieved through strategic collaboration with banks, which allows LBC visibility on the market even in the start-up phase.

However, the results show limited transparency and greater information asymmetry for crowd borrowers compared to crowd investors because, in many cases, the platforms do not indicate the requirements for access to finance, interest rates, guarantees and costs applied to the service.

This finding is an import contribution to the Lending CF literature, which mainly highlights information gaps on the investors' side, analyzing their profile (Pierrakis, 2019) and behavior (Dorfleitner et al., 2022). Investor protection is also one of the priorities highlighted by the recent EBA's RTSs (EBA, 2022). Consequently, the analysis

emphasizes the need to improve information transparency, even on the borrower side. This is an important aspect of expanding the accessibility of tools by entrepreneurs with less financial and digital literacy.

On the pricing side, a first comparison shows a higher cost of LBC compared to traditional credit, which can be a disincentive for firms to use the CF model. This aspect could create distortions and inefficiencies in the credit market, wasting the trust of firms and investors. All these characteristics can compromise the development of the lending CF, alienating or betraying operators. On the other hand, in all cases there is a fast response time to the loan application, which is important in emergency and risky situations, such as the current one.

The study has some limitations, mainly referring to the source of the information, represented by the LBC platforms themselves. The lack of information providers and collectors limits research on LBC. Furthermore, the study explores only the business lending CF segment. Taking these aspects into account, future research could adopt a temporal and cross-country analysis to compare the results. Future works could also develop scale ratings of LBC based on the quality and ease of information accessible on platforms or could perform a panel study of the survivability and growth of platforms over time based on scale ratings.

Despite the limitations, thanks to a comprehensive analysis of the three profiles (pillars A, B, and C), this study contributes to the LBC literature and identifies benefits, limitations, and information gaps for all the stakeholders (crowd borrowers and crowd investors) involved in a CF lending process. The findings also have implications for different categories of actors: i) policy-makers; ii) investors and debtors; iii) LBC platforms; iv) traditional banks.

FinTech is a strong driver of change in the banking sector. Therefore, policy-makers must support this change, paying attention to monitoring the actions of the behavior, transparency and financial and operational risks of LBC platforms, as also highlighted in regulatory measures (EC, 2018a and 2018b; EBA, 2022). Furthermore, policy-makers must monitor the partnerships of incumbent FinTechs to avoid systemic risks and ensure a level playing field in the credit market. These measures create a valuable and alternative tool to the banking channel, which could increase access to credit for SMEs and start-ups. Another policy tool is digital financial education, to be promoted to raise the awareness of investors and borrowers on the use of the LBC model.

Investors and borrowers should take a critical and responsible approach to using these digital tools. In particular, the entrepreneur who wants to make use of the LBC must assess his business risk and the pricing of the loan.

The platforms involving "business customers" could provide more information on services, with greater consultancy support with "expert-based" analysis by specialized personnel.

Partnerships with incumbents allow platforms to streamline the preliminary assessment of the creditworthiness of potential borrowers using eligibility criteria and scoring models based on big data and artificial intelligence. However, with RTSs, the trend is to ensure a minimum set of common standards in terms of credit risk assessment.

Partnerships benefit incumbent banks, which quickly implement digital transformation strategies. On the other hand, traditional banks could support the financial services of the platforms, given their greater experience and expertise in credit (risk) management.

These behaviors can favor the development of the LBC model, supporting even riskier firms that are committed to making more ethical and responsible investments and capable of promoting the social and economic recovery of a country in a scenario characterized by uncertainty.

Declarations

References

Agrawal, A., Catalini, C., & Goldfarb, A. (2014). Some Simple Economics of Crowdfunding. *Innovation Policy and the Economy*, 14(1), 63–97.

Ahlers, G. K. C., Cumming, D. J., Guenther, C., & Schweizer, D. (2015). Signaling in Equity Crowdfunding. *Entrepreneurship Theory and Practice*, 39(4), 955–980.

Akerlof, G. (1970). The Market for Lemons: Qualitative Uncertainty and the Market Mechanism. *Quarterly Journal of Economics*, 84, 288–300.

Bank of Italy (2019) Financial Stability Report No. 2, available at: https://www.bancaditalia.it/pubblicazioni/rapporto-stabilita/2019-2/en_FSR_2_2019.pdf?language_id=1.

Bank of Italy. (2020). Financial Stability Report No.1, available at: https://www.bancaditalia.it/pubblicazioni/rapporto-stabilita/2020-1/en_FSR_1-2020.pdf?language_id=1.

Bank of Italy. (2021). Average Effective Global Rates Recorded Pursuant to LOW 108/96 and Threshold rates valid for the IV Quarter of 2021.

Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking and Finance*, 30(11), 2931–2943.

Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: are small firms different. *Journal of Finance Economics*, 89(3), 467–487. doi:10.1016/j.jfineco.2007.10.005.

Bento, N., Gianfrate, G., & Thoni, M. H. (2019). Crowdfunding for sustainability ventures. *Journal of Cleaner Production*, 237, 117751. doi:10.1016/j.jclepro.2019.117751.

Bianco, M., Bontempi, M. E., Golinelli, R., & Parigi, G. (2013). Family firms' investments, uncertainty and opacity. *Small Business Economics*, 40(4), 1035–1058. doi:10.1007/s11187-012-9414-3.

Block, J. H., Colombo, M. G., Cumming, D. J., & Vismara, S. (2018). New players in entrepreneurial finance and why they are there. *Small Business Economics*, 50(2), 239–250.

Boot, A., Hoffmann, P., Laeven, L., & Ratnovski, L. (2020). Financial Intermediation and technology: What's old, What's new?, IMF Working Paper. WP/20/161.

Botero, I., Cruz, C., DeMassis, A., & Nordqvist, M. (2015). Family business research in the European context. *European Journal of International Management*, 9(2), 139–159. doi:10.1504/EJIM.2015.067858.

Boutillier, S. (2019). The economics of the entrepreneur and the banker historical roots and contributions to the management of innovation. *European Journal of Innovation Management*, 23(2), 230–250.

Brema, A., Bilgram, V., & Marchuk, A. (2019). How crowdfunding platforms change the nature of user innovation - from problem solving to entrepreneurship. *Technological Forecasting and Social Change*, 144, 348–360. doi:10.1016/j.techfore.2017.11.020.

Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2015). New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer-to-peer innovations. Entrepreneurship theory and practice, 39(1), 9-26. 10.1111/etap.12143.

Buchak, G., Matvos, G., Piskorski, T., & Seru, A. (2018). Fintech, regulatory arbitrage, and the rise of shadow banks. *Journal of Financial Economics*, 130(3), 453–483.

Cicchiello, A. F. (2019a). Building an entrepreneurial ecosystem based on crowdfunding in Europe: the role of public policy. *Journal of Entrepreneurship and Public Policy*, 8(3), 297–318. doi:10.1108/JEPP-05-2019-0037.

Cicchiello, A. F. (2020). Harmonizing the crowdfunding regulation in Europe: need, challenges, and risks. *Journal of Small Business and Entrepreneurship*, 32(6), 585–606. doi:10.1080/08276331.2019.1603945.

Cicchiello, A. F, Battaglia, F., & Monferrà, S. (2019b). Crowdfunding tax incentives in Europe: a comparative analysis. *The European Journal of Finance*, 25(18), 1856–1882.

CONSOB (2018) The Development of FinTech - Opportunities and risks for the financial industry in the digital age, Preface to the series dedicated to FinTech.

Cosma, S., Pattarin, F., Pennetta, D., Cruciani, C., Gardenal, G., & Cavezzali, E. (2020). Business Models in the Lending-Based Crowdfunding Industry. Eds., *Banking and Beyond* Eds.. Cham: Palgrave Macmillan (pp. 191- 213) Palgrave Macmillan Studies in Banking and Financial Institutions.

Cowling, M., Liu, W., & Ledger, A. (2012). Small business financing in the UK before and during the current financial crisis. *International Small Business Journal, 30*(7), 778–800.

Cumming, D., & Hornuf, L. (2018). *The economics of crowdfunding: Startups, portals and investor behavior*. Cham: Palgrave Macmillan.

Cumming, D.J., & Zhang, Y. (2016). Are crowdfunding platforms active and effective intermediaries?. SSRN Working Paper (2882026).

Darmon, E., Oriol, N., & Rufini, A. (2022). Bids for speed: An empirical study of invest-ment strategy automation in a peer-to-business lending platform. *Decision Support Systems, 156*, 113732.

Ding, C., Kavuri, A. S., & Milne, A. (2021). Lessons from the rise and fall of Chinese peer-to-peer lending. *Journal of Banking Regulation, 22*(2), 133–143.

Dore, T., & Mach, T. (2022). Marketplace lending and consumer credit outcomes: evidence from prosper. *Applied Economics, 54*(4), 390–405.

Dorfleitner, G., Hornuf, L., & Weber, M. (2022). Paralyzed by shock: the portfolio formation behavior of peer-to-business lending investors. *Review of Managerial Science*, 1–37.

European Banking Authority (EBA). (2022). Final Report. Draft Regulatory Technical Standards on credit scoring and pricing disclosure, credit risk assessment and risk management requirements for crowdfunding service providers under Article 19 (7) Regulation (EU) 2020/1503.

European Central Bank (ECB). (2020). Survey on the Access to Finance of Enterprises in the euro area – October 2019 to March 2020 (accessed May 2020).

European Commission (EC). (2018). "Proposal for a regulation of the European parlia-ment and of the council on European Crowdfunding Service Providers (ECSP) for business", COM (2018) 113 final, available at: https://eur-lex.europa.eu/resource.html?uri=cellar:0ea638be-22cb-11e8-ac73-01aa75ed71a1.0003.02/DOC_1&format=PDF (accessed 15 February 2019).

European Commission (EC). (2018). "Proposal for a directive of the European parlia-ment and of the council amending directive 2014/65/EU on markets in financial instruments", COM (2018) 99 final, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2017:537:FIN (accessed 12 March 2019).

Fenwick, M., McCahery, J. A., & Vermeulenm, E. P. M. (2018). Fintech and the financing of SMEs and entrepreneurs: From crowdfunding to marketplace lending. Cumming D, Hornuf L (Eds.), *The Economics of Crowdfunding: Startups, Portals and Investor Behavior* Cumming D, Hornuf L (Eds.). United Kingdom: Palgrave Macmillan Ltd. London.

Fisch, C. (2019). Initial coin offerings (ICOs) to finance new ventures. *Journal of Business Venturing, 34*(1), 1–22.

Frost, J., Gambacorta, L., Huang, Y., Song Shin, H., & Zbinden, P. (2019). BigTech and the Changing Structure of Financial intermediation. *BIS Working Papers* No 779, Mone-tary and Economic Department.

Fuster, A., Plosser, M., Schnabl, P., & Vickery, J. (2019). The Role of Technology in Mort-gage Lending. *Review of Financial Studies, 32*(5), 1854–1899.

Gallo, S. (2021). Fintech platforms: Lax or careful borrowers' screening? *Financial Inno-vation, 7*(1), 1–33.

Havrylchyk, O., & Verdier, M. (2018). The Financial Intermediation Role of the P2P lend-ing Platforms. *Comparative Economic Studies, 60*(1), 115–130.

Hervé, F., & Schwienbacher, A. (2018). Crowdfunding and innovation. *Journal of Eco-nomic Surveys, 32*(5), 1514–1530.

Hodula, M. (2021). Does Fintech credit substitute for traditional credit? Evidence from 78 countries. *Finance Research Letters, 46*, 102469.

Ingram C., Teigland R., & Vaast E. (2014, January). Solving the puzzle of crowdfunding: Where technology affordances and institutional entrepreneurship collide. In 47th Hawaii International Conference on System Science, (pp. 4556-4567) Waikoloa.

International Monetary Fund (IMF). (2020). Tentative Stabilization, Sluggish Recovery? ISTAT. (2019). Censimento permanente delle imprese 2019: i primi risultati.

Jagtiani, J., & Lemieux, C. (2018). Do fintech lenders penetrate areas that are under-served by traditional banks? *Journal of Economics and Business, 100*, 43–54.

Lyócsa, Š., Vašaničová, P., Hadji Misheva, B., & Vateha, M. D. (2022). Default or profit scoring credit systems? Evidence from European and US peer-to-peer lending markets. *Financial Innovation, 8*(1), 1–21.

Macht, S. A., & Weatherston, J. (2014). The benefits of online crowdfunding for fund seeking business ventures. *Strategic Change, 23*(1-2), 1–14.

Maier, E. (2016). Supply and demand on crowdlending platforms: connecting small and medium-sized enterprise borrowers and consumer investors. *Journal of Retail-ing and Consumer Service, 33*, 143–153.

Massaro, M., Dumay, J., Garlatti, A., & Dal Mas, F. (2018). Practitioners' views on intel-lectual capital and sustainability: From a performance-based to a worth-based per-spective. *Journal of Intellectual Capital, 19*(2), 367–386.

McKinsey & Company (2020) COVID-19: Implications for business.

Milne, A., & Parboteeah, P. (2016). The business models and economics of peer-to-peer lending. *Series: ECRI Research Report, 17*, 1–36.

Mollick, E. (2014). The dynamics of crowdfunding: an exploratory study. *Journal of Business Venturing, 29*(1), 1–16.

Nowak, A., Ross, A., & Yencha, C. (2018). Small Business Borrowing and Peer-to-Peer Lending: Evidence from Lending Club. *Contemporary Economic Policy, 36*(2), 318–336.

OECD. (2017). Enhancing the Contributions of SMEs in a Global and Digitalised Economy.

Omarini, A. (2018). Peer-to-Peer Lending: Business Model Analysis and the Platform Dilemma. *International Journal of Finance, 2*(3), 31–41 Economics and Trade.

Palladino, L. M. (2021). The impacts of fintech on small business borrowing. *Journal of Small Business and Entrepreneurship, 33*(6), 639–661.

Pekmezovic, A., & Walker, G. (2016). The Global Significance of Crowdfunding: Solving the SME Funding Problem and Democratizing Access to Capital. *Wm. & Mary Bus. L. Rev., 7*, 347.

Pierrakis, Y. (2019). Peer-to-peer lending to businesses: Investors' characteristics, investment criteria and motivation. *The International Journal of Entrepreneurship and Innovation, 20*(4), 239–251. doi:10.1177/1465750319842528.

PoliMi. (2016-2021). Entrepreneurship & Finance Observatories 5th Italian Report on CrowdInvesting, School of Management.

Quero, M. J., & Ventura, R (2019). Value proposition as a framework for value cocrea-tion in crowdfunding ecosystems. *Marketing Theory:* (pp. 47–63)*19*.

Ramsey, Y. A. (2012). What the heck is crowdfunding? *Business people, 25*(11), 54–57.

Ridder, H. G, Hoon, C., & McCandless Baluch, A. (2014). Entering a Dialogue: Positioning Case Study Findings towards Theory. *British Journal of Management, 25*(2), 373–387.

Rossi, A., & Vismara, S. (2018). What do crowdfunding platforms do? A comparison between investment-based platforms in Europe. *Eurasian Business Review, 8*, 93–118.

Siclari, D., & Siclari, D. (2015). Context, Specific Features and Potential Evolution of the Italian Banking and Financial Law. *Italian Banking and Financial Law* (pp. 3–42). London: Palgrave Macmillan Studies in Banking and Financial Institutions. Pal-grave Macmillan. doi:10.1057/9781137507532_2.

Stiglitz, J. E. (1975). The Theory of "Screening," Education, and the Distribution of Income. *The American Economic Review, 65*(3), 283–300.

Stulz, R. M. (2019). Fintech, bigtech, and the future of banks. *Journal of Applied Corpo-rate Finance, 31*(4), 86–97.

Surowiecki, J. (2005). *The Wisdom of the Crowds*. New York City, United States: Anchor Books, a division of Random House.

Valanciene, L., & Jegeleviciute, S. (2013). Valuation of crowdfunding: benefits and drawbacks. *Economics and Management, 18*(1), 39–48.

Voelker, T. A., & McGlashan, R. (2013). What is crowdfunding? Bringing the power of Kickstarter to your entrepreneurship research and teaching activities. *Small Busi-ness Institute Journal, 9*(2), 11–22.

Voss, C., Tsikriktsis, N., & Frohlich, M. (2002). Case Research in Operations Manage-ment. *International Journal of Operations and Production Management, 22*(2), 195–219.

Wang, Y., Zhang, H., & Zhao, Z. (2021). SME investment and financing under asymmet-ric information. *European Financial Management.*

World Health Organization (WHO). (2020) Coronavirus disease (COVID-19), Situation Report, 144.

Yan, Y., Lv, Z., & Hu, B. (2018). Building investor trust in the P2P lending platform with a focus on Chinese P2P lending platforms. *Electronic Commerce Research, 18*(2), 203–224.

Yin, R. K. (2009). *Case Study Research: Design and Methods*. Thousand Oaks: Sage Publi-cations.

Yoon, Y., Li, Y., & Feng, Y. (2019). Factors affecting platform default risk in online peer-to-peer (P2P) lending business: an empirical study using Chinese online P2P plat-form data. *Electronic Commerce Research, 19*(1), 131–158.

Zetzsche, D., & Preiner, C. (2018). Cross-Border Crowdfunding: Towards a Single Crow-dlending and Crowdinvesting Market for Europe. *European Business Organization Law Review, 19*(2), 217–251. doi:10.1007/s40804-018-0110-x.

Ziegler, T., & Shneor, R. (2020). Lending Crowdfunding - Principles and Market Devel-opment. In R. Shneor, L. Zhao, & B.-T. Flåten (Eds.), Advances in Crowdfunding: Research and Practice, (pp. 63-92). Retrieved from https://doi.org/10.1007/978-3-030-46309-0_4.