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Online Peer-to-Peer lending to finance business growth: Evidence from Funding Circle

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Online Peer-to-Peer lending to finance business growth: Evidence from Funding Circle

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***Mike Wright, Professor of Entrepreneurship and world-renowned academic, was a Fellow of both the British Academy and the Strategic Management Society. He died on 25 November 2019 following a short illness. Mike was a much-appreciated colleague and a very valuable ERC Research Associate. The work on this paper was one of his ongoing projects. He will be very much missed.

About ERC
The Enterprise Research Centre is an independent research centre which focusses on SME growth and productivity. ERC is a partnership between Warwick Business School, Aston Business School, Queen's University School of Management, Leeds University Business School and University College Cork. The Centre is funded by the Economic and Social Research Council (ESRC); Department for Business, Energy & Industrial Strategy (BEIS); Innovate UK, the British Business Bank and the Intellectual Property Office. The support of the funders is acknowledged. The views expressed in this report are those of the authors and do not necessarily represent those of the funders.

ABSTRACT

Evidence on the business segment of Peer-to-Peer (P2P) lending is still scarce due to the relative novelty of the phenomenon born in 2010. In this paper, we use data from the Funding Circle (FC) loan book over the period 2010-2017 to emphasise the growing importance of this type of alternative finance as a source of funding for growth of small businesses. Loans for growth purposes represent the most significant part of the FC loan portfolio, the largest marketplace platform for business loans in the UK, before working capital loans and asset finance. Therefore, there is evidence that small businesses turn to online platforms to fund their growth.

A typical P2P borrower is a small business of 8 years old seeking an unsecured loan of £50k for a duration of 5 years. More than 50% of loans are provided to businesses in four sectors: property and construction, retail, professional & business support and manufacturing & engineering. Roughly 75% of the loans are assessed as very low to average risk. In line with previous research findings on consumer P2P market, the results of the analysis show that risk assessment by the platform was a good predictor of the default.

In the current situation of the COVID-19 outbreak, small businesses face unprecedented challenges and lack financial resources where the need for easy and, most importantly, rapid access to finance comes under a completely new light: for many businesses it is a question of survival. Ease of application and speedy decision making was the main reason why small businesses were attracted to P2P lending in the first place. On the 17th of April, Funding Circle became the first marketplace platform accredited for the Coronavirus Business Interruption Scheme (CBILS) acknowledging the role played by online platforms in providing crucial finance to many micro and small businesses. Whether the platforms will be able to pass the crisis test and retain investors while facing an increased demand for loans is yet to be discovered. Arguably, the most well-grounded platforms are in a good place to build on this opportunity by capitalising on their digital offering and to establish themselves for good as one of the major actors of SME finance.

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BACKGROUND

There is a growing evidence that financial constraints faced by small businesses are one of the major barriers to growth. Previous research also showed that perceptions about access to finance play an important role in financing decisions of SMEs[1]. Small firms often underestimate their chances to obtain finance through the traditional route of bank lending and find the process of application lengthy and cumbersome. This might result in financial discouragement[2], and, consequently, push firms to reduce their growth ambition and postpone investment. One crucial question is to understand if recently emerged alternative sources of finance represent a viable solution to fill SMEs funding gaps and reduce number of small businesses not seeking finance.

One of these sources is *online peer-to-peer* (P2P) or *marketplace lending*[3]. Since its origin in 2010 with the launch of Funding Circle, the first platform offering loans to businesses, online *P2P Business Lending* became the largest alternative finance model in the UK[4] after a spectacular increase in volumes of lending to SMEs during these ten years. According to the British Business Bank and Brismo estimations[5], a substantial amount of at least £2.37bn was channeled to businesses through platforms in 2018. This represents more than 4% of gross bank lending flows. Other estimates show that P2P business lending was equivalent to 9.5% of total new loans issued to SMEs by UK banks

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[1] For an overview, see Fraser, S. & Wright, M. (2014), "Financing Growth", *ERC Insights*, Enterprise Research Centre, url: https://www.enterpriseresearch.ac.uk/wp-content/uploads/2014/06/ERC-Insight-Conf-2014-Finance.pdf and

[2] See, for instance, Brown, R., Linares-Zegarra, J. & Wilson, J. (2018), "Discouraged Borrowers: Measurement, Determinants *and* Impact", *ERC SOTA Review*, No 2: September 2018, Enterprise Research Centre, url: https://www.enterpriseresearch.ac.uk/wp-content/uploads/2018/09/No2-SOTA-Discouraged-Borrowers-R.-Brown-Revised.pdf and Fraser, S. (2014), "Back to Borrowing? Perspectives on the 'Arc of Discouragement'", ERC White Paper, No. 8, March 2014, Enterprise Research Centre, url: https://www.enterpriseresearch.ac.uk/wp-content/uploads/2014/03/ERC-White-Paper-8-Discouragement-Stuart-Fraser-Full-March-2014.pdf

[3] For definition of P2P (marketplace) lending and literature review, see ERC SOTA review: Ri, A. (2020), Online Peer-to-Peer lending – what do we know and what we do not?, *ERC SOTA Review*, No 39: 2020 url: https://www.enterpriseresearch.ac.uk/our-work/publications/?type=sota-review.

[4] For a comprehensive overview of alternative finance industry, see the reports by Cambridge Centre for Alternative Finance (CCAF): Zhang, B. et al. (2018) "5th UK Alternative Finance Industry Report".

[5] Small Business Finance Markets Report 2019/20, British Business Bank https://www.british-business-bank.co.uk/wp-content/uploads/2020/02/Small-Business-Finance-Markets-2019-20-report-FINAL.pdf

in 2017 and even up to 29% (upper-bound estimate) if the size of business is taken into account (Zhang, B. et al., 2018).

The intention here is to examine the characteristics of online business P2P lending in the UK. The analysis is based on Funding Circle (FC) loan book data which covers all successful business loan applications over the period from August 2010 (i.e. from the birth of FC and of business P2P lending as phenomenon) to September 2017. The dataset consists of 39,268 loan observations.

At the outset, it is important to underline some limitations of this analysis. One limitation is that it does not cover the entire segment of P2P business lending but only loans issued by one platform. However, FC is arguably the largest on the market and therefore may be considered as the best candidate for this analysis. Indeed, in 2018, the total amount of loans under FC management reached £2.2bn or, in terms of net lending, £723m[6]. Available data also only covers a limited number of variables, and therefore confines our analysis somewhat. However, it does provide enough valuable information to give a good overview of P2P lending in the UK.

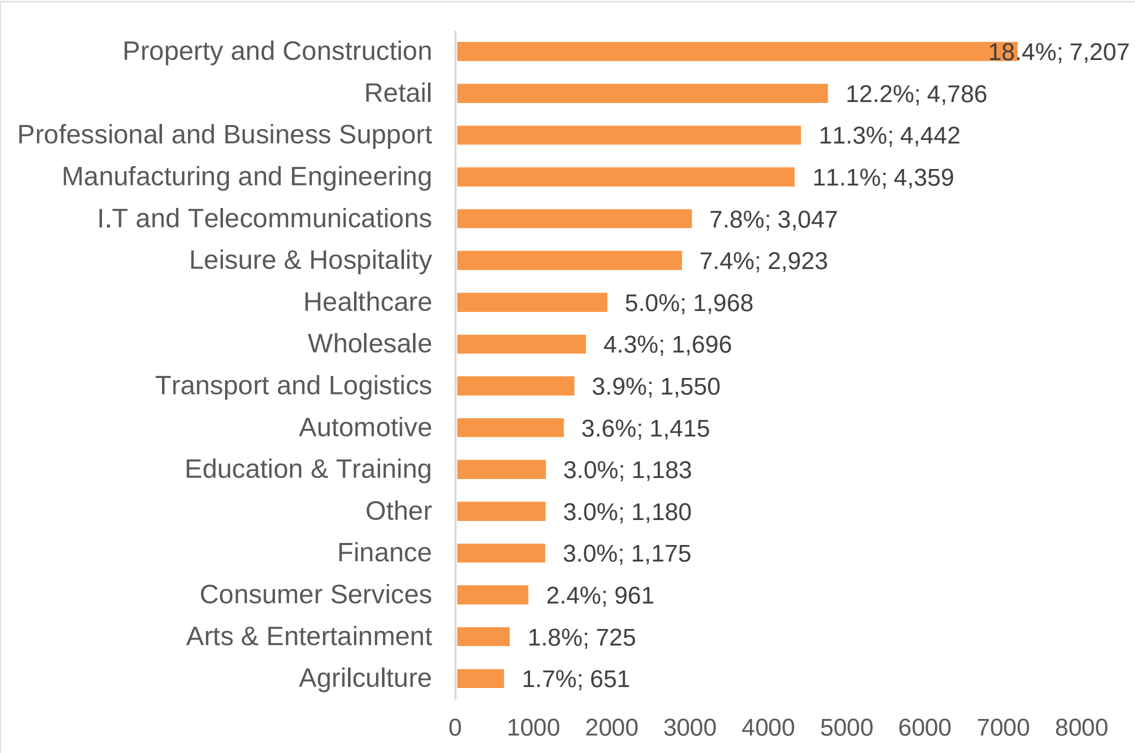
The following questions are addressed here: who are business P2P borrowers? How a typical business P2P borrower and loan look like? For what purposes do businesses seek finance from P2P platform? And how often do businesses default on loans?

[6] Oxford Economics (2019), "The Big Business of Small Business", April 2019.

TYPICAL BUSINESS P2P BORROWERS AND LOANS

Firms who obtained loans from FC during 2010-2017 are predominantly limited companies (92.1%), while a small fraction are partnerships/limited liability partnerships (3.6%) and non-limited companies (4.3%). Around 53% of P2P borrowers represent four sectors: property and construction (18.4% of all loans), retail (12.2%), professional and business support (11.3%) and manufacturing and engineering (11.1%). I.T. & telecommunications (7.8%) and Leisure & Hospitality (7.4%) come at 5th and 6th place respectively (see *Fig 1*).

Fig 1. Distribution of FC business P2P loans by sector, 2010-2017
(Number of loans and % of total)



Source: Funding Circle Loan book August 2010 – September 2017

Interestingly, the sectoral distribution of business P2P loans remained relatively stable over the time, with the following exceptions. The number of loans provided to the property and construction sector increased not only in numbers but also in share: from only two loans in 2010 (2.7% of total deals) to 2,463 (19.4% of all new loans) in 2017. Although the number of new loans to manufacturing firms continued to grow over the period (from 14 to 1,381 new loans), their share dropped from 18.7% in 2010 to 10.9% in 2017 as P2P lending started to attract more borrowers from other sectors.

More than 75% of businesses which secured P2P loans were less than 15 years old (*Table 1*). A third (34%) of the businesses were between 5 and 9 years old when they obtained the loan. Overall, in the sample, the average ***age*** of businesses was 10 years old.

Table 1: Firm age

(by the year P2P loan was secured)

Age	No.	%
0-4 years old	8,352	21.30%
5-9 years old	13,397	34.10%
10-14 years old	8,233	21.00%
15-19 years	3,442	8.80%
20-30 years old	1,995	5.10%
more than 30 years old	3,849	9.80%
Total	39,268	100.00%

Source: Funding Circle Loan book August 2010 – September 2017

Average ***loan amount*** across all sectors was £69k varying from £5k to £776k. However, as the distribution is skewed to the right by a small number of large loans, the median value gives a better idea of a “typical” loan value which was £50k. When looking at sectoral differences, property and construction sector is characterised by larger loan amounts (£108k – mean value and £53k – median value). By contrast, consumer services, education & training and arts & entertainment borrowed, on average, lower value loans. (Cf. *Table 2*).

Table 2: P2P business borrowers and loan characteristics by sector: age and loan amount

	Firm age (in the year loan was accepted), years					Loan amount, £'000s				
	Min	Mean	Median	Max	Sd	Min	Mean	Median	Max	Sd
Agriculture	0	11.2	9	103	10	5.0	61.2	50.0	500.0	54.2
Manufacturing and Engineering	1	13.6	11	114	11.3	5.0	68.3	50.0	416.7	61.6
Automotive	0	10	8	101	8.3	5.0	59.6	42.4	369.3	55.1
Property and Construction	0	8.8	7	93	8.1	5.0	108.5	53.2	650.0	118.0
Wholesale	0	11.2	9	98	10	5.0	74.3	52.1	434.6	67.2
Retail	0	9.5	7	100	8.9	5.0	55.7	40.0	525.0	55.9
Leisure & Hospitality	0	9.6	8	66	7.4	5.0	56.5	40.0	500.0	55.4
Transport and Logistics	0	10.3	8	70	8.6	5.0	57.8	41.6	369.3	57.0
Finance	0	8.8	8	56	5.8	5.0	54.2	32.1	515.5	56.8
Professional and Business Support	0	9.4	8	80	6.5	5.0	59.7	41.2	515.5	59.3
I.T and Telecommunications	2	9.7	8	45	6.1	5.0	68.7	50.0	776.3	69.7
Consumer Services	0	9.6	8	82	7.5	5.0	51.0	31.8	364.0	52.9
Education & Training	1	9.1	8	60	5.6	5.0	52.8	35.9	376.4	53.8
Healthcare	0	9.3	8	107	7.4	5.0	64.2	50.0	374.5	58.0
Arts & Entertainment	2	9.3	7	49	6.5	5.0	49.6	30.0	359.7	54.7
Other	2	11.6	9	77	8.9	5.0	55.8	50.0	429.0	39.7
Total	0	10	8	114	8.4	5.0	69.5	50.0	776.3	75.8

Source: Funding Circle Loan book August 2010 – September 2017

Table 3: P2P business borrowers and loan characteristics by sector (suite): loan term and interest rate

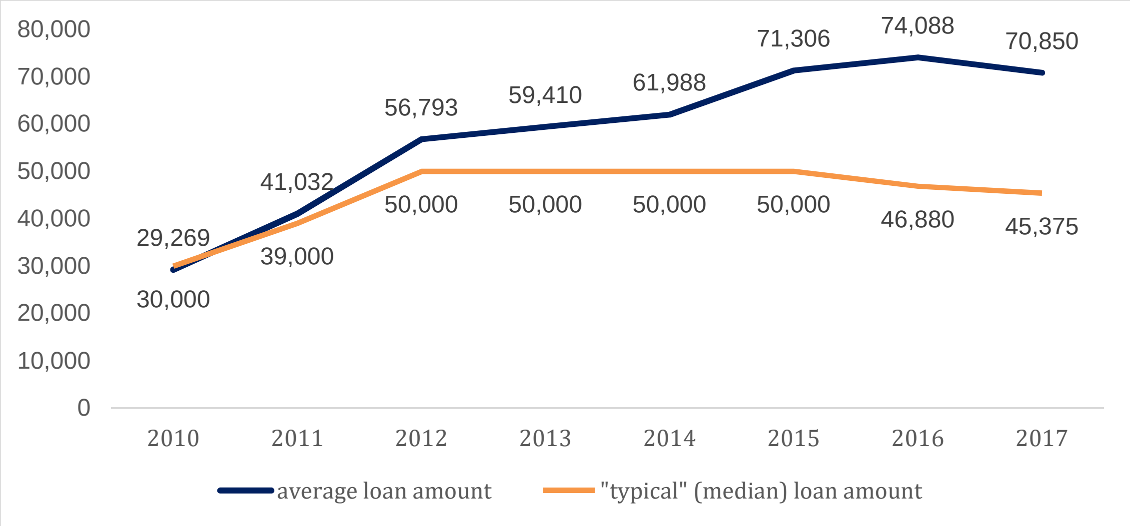
	Loan term, months					Interest rate, %				
	Min	Mean	Median	Max	Sd	Min	Mean	Median	Max	Sd
Agriculture	6	49	60	60	14.9	5.3	10	9.5	21.9	2.7
Manufacturing and Engineering	6	46.7	48	60	15	4.7	9.7	9.2	21.9	2.7
Automotive	6	50.4	60	60	13.4	4.9	10.2	9.5	21.9	2.9
Property and Construction	2	40.3	36	60	19.5	4.7	9.9	9	21.9	2.8
Wholesale	6	46.9	48	60	14.9	4.5	9.9	9.3	21.9	2.7
Retail	6	48.8	60	60	14.6	4.7	10.3	9.5	21.9	2.9
Leisure & Hospitality	6	49	60	60	14.3	5.3	10.2	9.5	21.9	2.8
Transport and Logistics	6	48.1	60	60	14.6	5.5	10.4	9.5	21.9	3.1
Finance	6	46.7	60	60	15.8	4.7	9.6	9	21.9	2.7
Professional and Business Support	6	45.7	48	60	15.7	4.7	9.8	9.2	21.9	2.7
I.T and Telecommunications	6	45.9	48	60	15.7	4.7	9.7	9	21.9	2.6
Consumer Services	6	50.9	60	60	13.1	4.9	10.4	9.5	21.9	3.2
Education & Training	6	48.5	60	60	14.5	5.5	9.9	9.2	21.9	2.9
Healthcare	6	48.2	60	60	15.1	4.7	9.8	9.2	21.9	2.7
Arts & Entertainment	6	47.6	60	60	15.4	4.9	10.1	9.5	21.9	2.8
Other	6	43.6	36	60	14.2	5.5	9.3	9.1	14	1.7
Total	2	46.2	60	60	16.1	4.5	9.9	9.3	21.9	2.8

Source: Funding Circle Loan book August 2010 – September 2017

As *Fig 2* shows, the average loan amount was growing over the period from £29k in 2010 to £71k in 2017 driven by the higher occurrence of larger loans. Median values remained relatively stable after the increase in the first two years.

Fig 2. Evolution of loan amount, 2010-2017

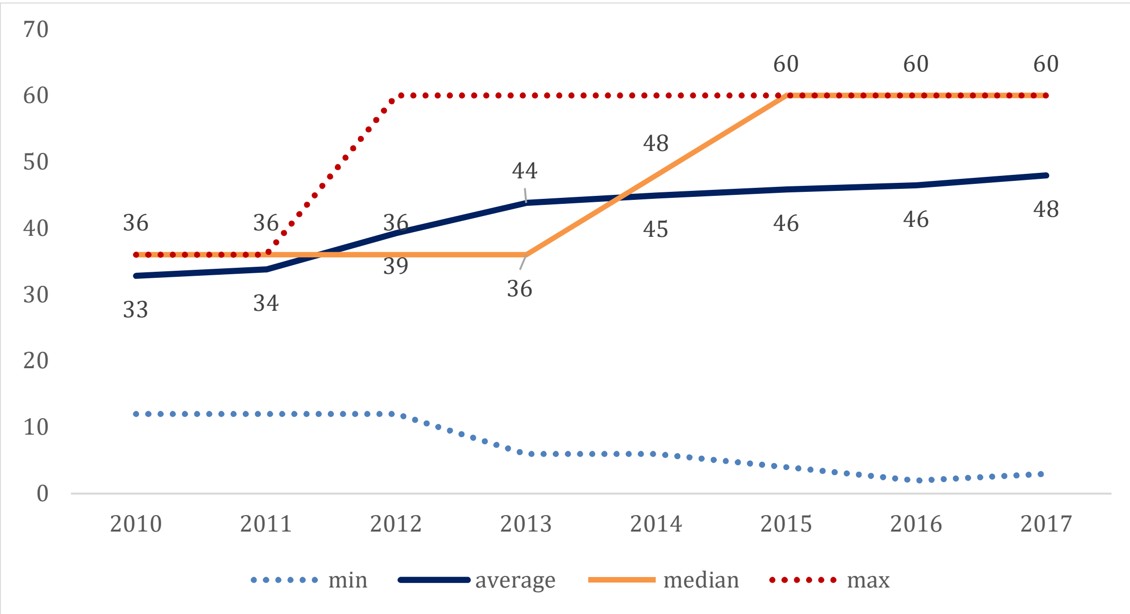
(Average and Median, £)



Source: Funding Circle Loan book August 2010 – September 2017

Fig 3. Evolution of loan term, 2010-2017

(Minimum, Maximum, Average and Median, months)



Source: Funding Circle Loan book August 2010 – September 2017

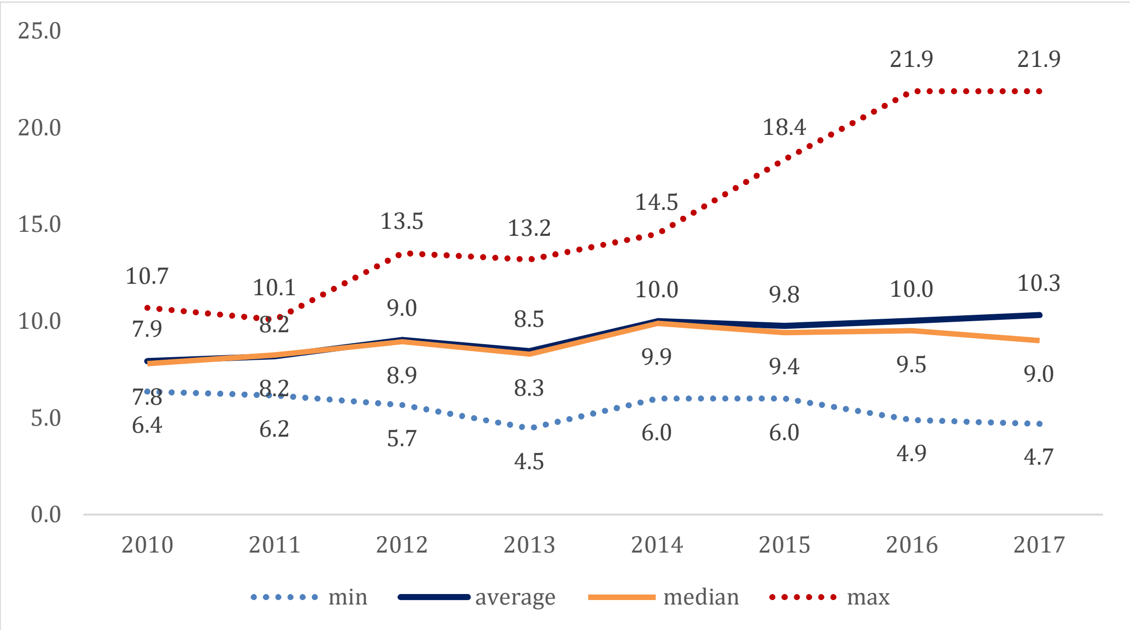
Loan duration ranged from 2 to 60 months. The average loan term increased from 33 months to 48 months over the period from 2010 to 2017. Since 2015, the "typical" business P2P loan is contracted for 5 years (60 months) as shown by the median value distribution (*Fig. 3*). This holds for all the sectors with a noticeable exception of property and construction sector where loans tend to be shorter (see *Table 2*).

Over the period, average interest rate on loans was 9.9% and increased from 7.9% in 2010 to 10.3% in 2017. *Fig 4* demonstrates how the range of interest rates widened overtime. This is explained by the evolution of loan portfolio in terms of risk. Until 2013, there were no loans in categories higher than "average risk" and until 2015, there were no loans in the "very high risk" category.

Table 3 shows the distribution of loans depending on risk category attributed by FC as a result of risk assessment. Around 10% of loans are classified as "high" and "very high" risk, while the largest part of the loan book is constituted by low risk categories: 75% of loans are split between "very low", "low" and "below average" categories. As it should be expected, higher interest rates and lower loan amounts are associated with higher risk grades. Younger firms tend to be associated with higher risk categories.

Fig 4. Evolution of interest rate, 2010-2017

(Minimum, Maximum, Average and Median, months)



Source: Funding Circle Loan book August 2010 – September 2017

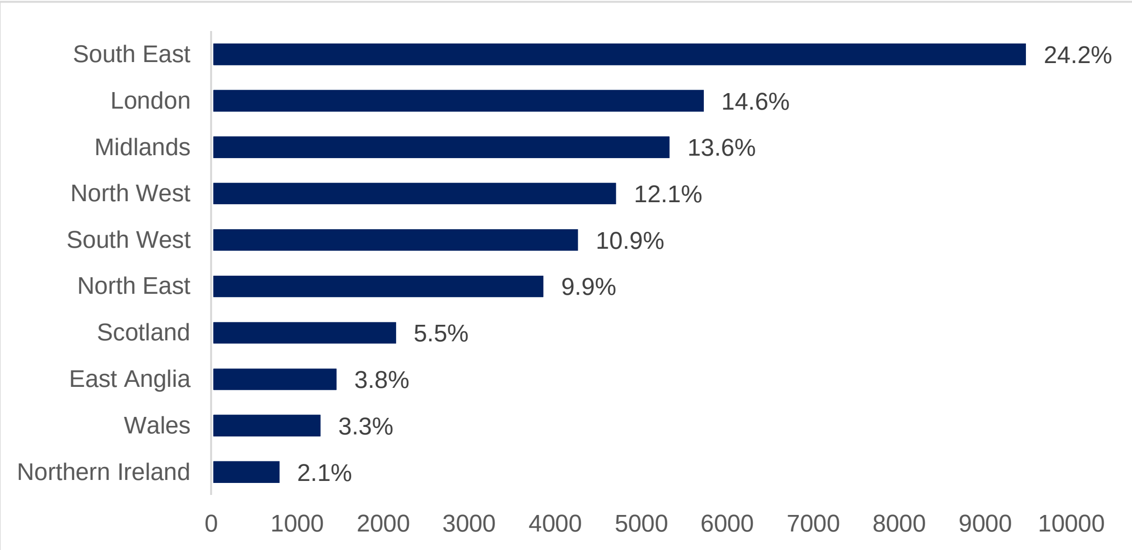
Table 3: Characteristics of loans depending on risk categories
(by the year P2P loan was obtained)

	No.	%	Age	Loan amount, £		Interest Rate	
			Mean	Mean	Median	Mean	Median
A+ (Very low risk)	10,605	27.0%	12.8	96,215	52,250	7.6	7.8
A (low risk)	10,697	27.2%	10.5	69,661	50,000	8.9	9
B (below average risk)	8,171	20.8%	8.7	57,708	41,680	10.1	10.5
C (average risk)	5,843	14.9%	8.1	52,558	40,000	11.7	11.9
D (high risk)	3,117	7.9%	6.8	46,973	31,800	15.1	14.1
E (very high risk)	835	2.1%	6.7	45,846	30,000	19.7	18.2
Total	39,268	100.0%	10	69,493	50,000	9.9	9.3

Source: Funding Circle Loan book August 2010 – September 2017

The distribution of loans by region show that the South East dominates the P2P business loan market, accounting for 24.2% of all loans granted by Funding Circle, while loans obtained by firms in London and the Midlands account for 14.6% and 13.6% of all funded loans respectively (see *Fig 5*).

Fig 5. Geographic distribution[7] of FC business P2P loans, 2010-2017
(Number of loans and % of UK total)



Source: Funding Circle Loan book August 2010 – September 2017

[7] Geography provided here is based on the “regions” variable from the loan book available to the authors, and is different from ONS regions. In particular, it should be noted that the data in our possession does not contain any information on loans originated in Yorkshire and the Humber.

On the other hand, Northern Ireland, Wales and East Anglia are the least represented in the market. This is consistent with previous research showing that the South East and London are the largest recipients for P2P flows and they are also the largest providers of funds on online platforms. Thus, south regions (London, South East and South West, and East Anglia) appear as net lenders while all other UK regions appear as net borrowers[8]. This evidence is in favor of the argument that marketplace platforms may alleviate South-North regional funding gap.

Table 4. Loan characteristics by region, 2010-2017

	Firm age (in the year loan was accepted), years					Loan amount, £'000s				
	Min	Mean	Median	Max	Sd	Min	Mean	Median	Max	Sd
North East	0	10.3	8	102	9.4	5	62	42	525	61
North West	0	10.4	8	114	9	5	68	49	572	73
Midlands	0	10.8	9	101	8.8	5	64	45	776	66
East Anglia	0	10.6	9	68	8.5	5	65	42	616	66
London	0	9.1	7	96	7.7	5	85	52	650	97
South East	0	10	8	107	8.1	5	75	50	620	84
South West	0	9.7	8	103	7.8	5	63	42	616	67
Scotland	0	9.9	8	80	7.8	5	56	38	368	54
Wales	0	10.6	9	70	7.9	5	60	42	435	59
Northern Ireland	0	9.2	7	87	8.4	5	62	50	369	48
Total	0	10	8	114	8.4	5	69	50	776	76
	Loan term, months					Interest rate, %				
	Min	Mean	Median	Max	Sd	Min	Mean	Median	Max	Sd
North East	6	46.8	60	60	15.6	4.9	10	9.4	21.9	2.8
North West	3	46.4	48	60	15.9	4.5	9.9	9.3	21.9	2.8
Midlands	3	46.7	60	60	15.5	4.9	9.9	9.3	21.9	2.8
East Anglia	3	46.4	60	60	16	4.7	9.6	9	21.9	2.5
London	3	44.3	48	60	17.5	4.7	10.1	9.5	21.9	2.9
South East	2	45.4	48	60	16.5	4.7	9.8	9.2	21.9	2.7
South West	5	46.9	60	60	15.8	4.7	9.8	9.2	21.9	2.6
Scotland	6	47	60	60	15.4	4.7	9.9	9.5	21.9	2.6
Wales	6	48.2	60	60	14.9	5.3	9.8	9.1	21.9	2.6
Northern Ireland	6	51.6	60	60	13.3	5.3	11	10.5	21.9	3
Total	2	46.2	60	60	16.1	4.5	9.9	9.3	21.9	2.8

Source: Funding Circle Loan book August 2010 – September 2017

[8] See, Atz, U. & Bholat, D. (2016), "Peer-to-peer lending and financial innovation in the United Kingdom", Staff Working Paper No. 598, April 2016, Bank of England.

In terms of business and loan characteristics, we observe only slight differences between regions (*Table 4*). P2P borrowers are somewhat younger in London and Northern Ireland than in other regions (median age is 7 years old). Average loans are higher in London and South East, while the highest average term and interest rate are observed in Northern Ireland.

REASONS TO SEEK ONLINE P2P LENDING

Why do small businesses turn to P2P platforms and for what purpose do they seek finance? Surveys provide partial answers to the first part of this question: ease and speed of use is the main reason why businesses take the decision to choose this alternative source of finance[9]. A survey conducted by Nesta in 2014 showed that 79% of borrowers had attempted to get a bank loan before turning to P2P business lending platforms and 33% thought that it was unlikely that they could secure funding elsewhere. As the model gained greater awareness and reputation among population of small businesses over time, it seems that P2P platforms become the first place of call for many businesses in search of finance. Thus, the majority of Funding Circle's borrowers surveyed in the beginning of 2019 had not approached a bank before applying to Funding Circle because they believed that the decision would have taken too long (66%), thought it would be too expensive (15%) or feared the rejection (6%). When looking at overall SMEs population and analysing panel dataset from Longitudinal Small Business Survey over the period 2015-2017, Owen et al. (2019)[10] find that although businesses seeking finance via P2P platforms still represent a relatively small proportion of finance seekers, this part increased from 4.4% in 2015 to 5.6% in 2019 with a funding success rate of 87.9%.

But for what purposes do small businesses seek P2P lending? By analysing the FC loan portfolio over time we observe that while financing working capital is still one of the major reasons to seek P2P business loans, small businesses increasingly use this alternative source of finance to fund their growth. The number of loans for growth and expansion

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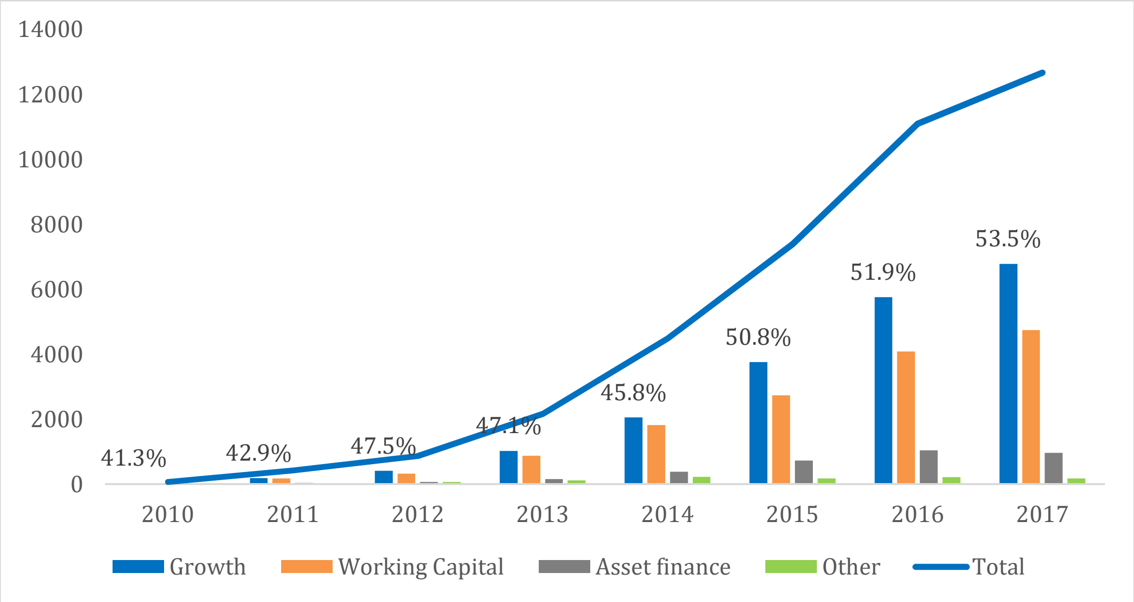
[9] Nesta (2014), "Understanding Alternative finance. The UK Alternative Finance Industry Report"; Oxford Economics (2019), "The Big Business of Small Business", April 2019.
[10] Owen et al. (2019), "An Investigation of UK SME Access to Finance, Growth and Productivity, 2015-2017", ERC Research Paper 79. url: https://www.enterpriseresearch.ac.uk/wp-content/uploads/2019/09/ERC-ResPap79-OwenHarrer-et-al-Final.pdf

purpose in FC loan book increased from around 43% in 2011 to 53.5% in 2017 (*Fig 6*). When looking at cumulative amount of loans provided, loans for growth represented 47.3% of the FC portfolio over the period 2010-2017 while the shares of loans for working capital & refinancing purposes and asset purchase were 32.6% and 18.3% respectively.

This rise is also reflected in increased maturities mentioned before: the median loan term for this type of loan is 5 years (60 months) - higher than the median term for working capital & refinancing purpose (48 months) and asset finance (24 months) loans.

Fig 6. Business P2P loans by purpose, 2010-2017

(Number of loans and % of total)



Source: Funding Circle Loan book August 2010 – September 2017

Table 5 provides descriptive statistics by loan purpose. The median age of the firm looking for finance for growth purpose is 8 years old. Although loan amounts range from £5k to more than £500k for all loans, typical loan amount for growth purposes was £50k, £42k for working capital and, the highest, £82k for asset finance.

Table 5. Loan characteristics by loan purpose, 2010-2017

	Firm age, years					Loan amount, £'000s				
	Min	Mean	Median	Max	Sd	Min	Mean	Median	Max	Sd
Growth	0	9.5	8	103	7.6	5	64	50	776	61
Working Capital & Refinancing	0	11.1	9	114	9.2	5	60	42	528	58
Asset finance	0	8	6	81	8	5	147	82	650	148
Other	0	11.2	9	66	8.6	5	52	35	450	49
Total	0	10	8	114	8.4	5	69	50	776	76
	Loan term, months					Interest rate, %				
	Min	Mean	Median	Max	Sd	Min	Mean	Median	Max	Sd
Growth	6	49.3	60	60	13.8	4.9	10	9.5	21.9	2.7
Working Capital & Refinancing	6	45.2	48	60	16.4	4.5	10	9.5	21.9	2.9
Asset finance	2	31.6	24	60	19.7	4.7	9	8.3	21.9	2
Other	6	47.6	60	60	14.4	5.3	9.7	9.2	21.9	2.4
Total	2	46.2	60	60	16.1	4.5	9.9	9.3	21.9	2.8

Source: Funding Circle Loan book August 2010 – September 2017

HOW DO BUSINESS P2P LOANS PERFORM?

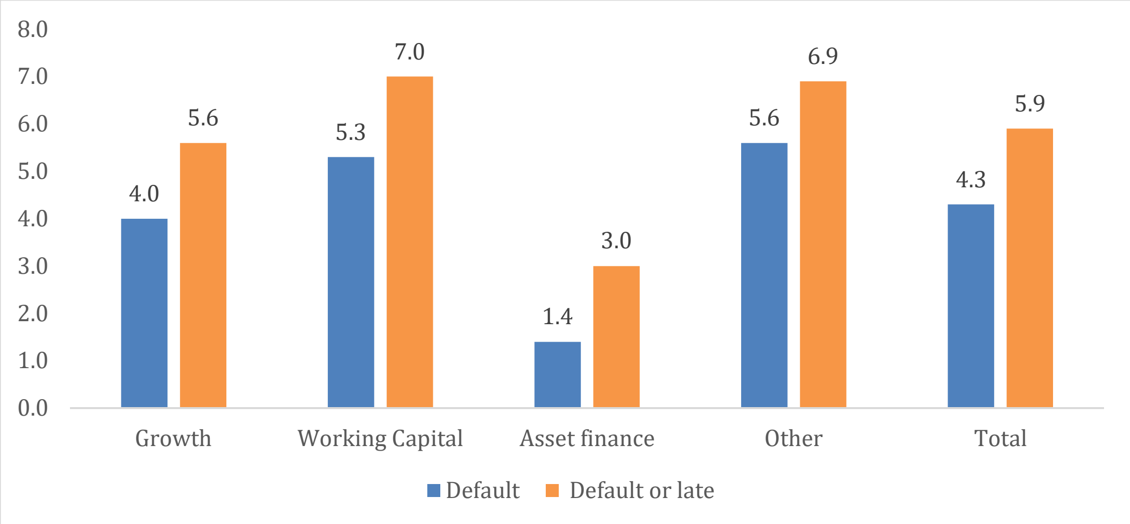
There is a growing evidence that pre-screening and risk assessment of P2P consumer loans by platforms are efficient and risk grades are a good predictor of default on loans[11]. However, there is an evidence gap regarding the performance of P2P business loans due to the lack of data. Here, we attempt to provide a brief look at this question.

Out of 39,268 loans in FC loan book, 1,694 defaulted (4.3% of loans) and 635 had late payment status. An interesting pattern emerges when looking at default rate by loan purpose (*Fig 7*). Loans for growth purpose had a lower than average default rate (4% and 5.6% if late payments accounted). Default ratio and ratio of non-performing ratio are higher in working capital loans (5.3% and 7% respectively) and lower in asset finance loans (1.4% and 3% respectively). However, it should be noted that 46% of asset finance loans were secured compared to only 0.4% working capital loans and 0.6% loans for growth purpose. In addition, the higher default ratio associated with working capital loans may be because a considerable number of working capital loans are taken as bridge

[11] See, ERC SOTA review cited before: Ri, A. (2020).

loans or to finance tax liability, loan consolidation and refinancing, and so borrowers are likely to be higher risk.

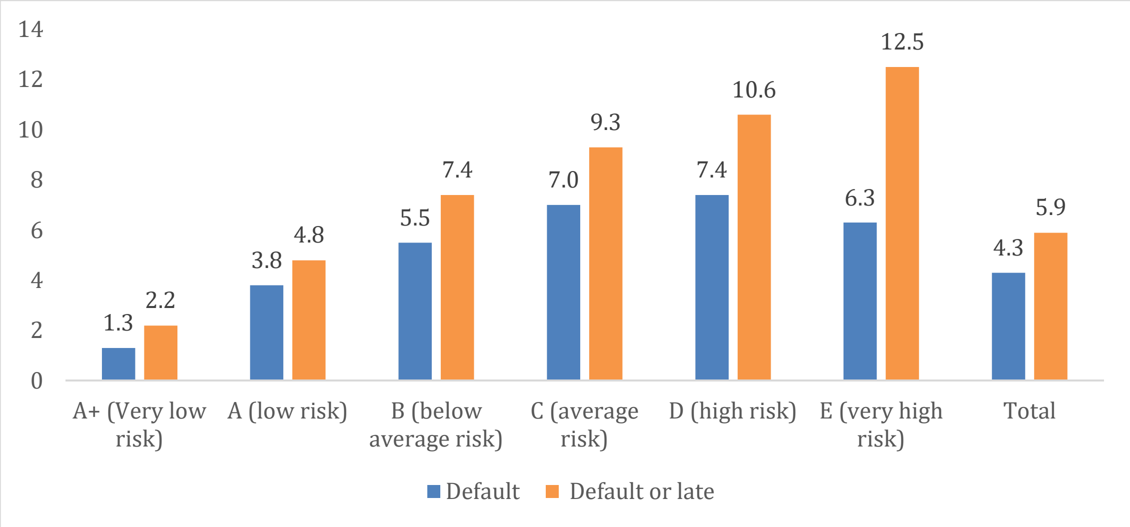
Fig 7. Default and default & late payment rates by loan purpose, 2010-2017
(% of total)



Source: Funding Circle Loan book August 2010 – September 2017

Fig 8 summarizes the ratio of default and default or late payment to the total loans provided to each risk grade of business borrowers. Out of 10,605 loans provided to business borrowers with the lowest risk, only 231 were defaulted or late payment status (2.2%). Out of the 835 loans provided to the highest risk category, 104 were defaulted or late payment status, representing 12.5% of all loans in that risk category. Interestingly, in this 'very high risk' category, although the share of late payments was much higher than in lower risk categories C and D, the share of default loans was lower.

Fig 8. Default and default & late payment rates by risk categories, 2010-2017
(% of total)



Source: Funding Circle Loan book August 2010 – September 2017

In summary, riskier categories seem to be associated with a higher occurrence of defaulted or late payment status loans, thus supporting the argument of an efficient risk screening by the platform during considered period[12].

In order to further explore this relationship, we estimate loan default as a function of firm characteristics, loan characteristics and controls by employing binary logistic regression. Two alternative dependent variables are considered: a binary variable *Default* which takes value 1 if borrower have defaulted on loan (models (1) and (2)) and a binary variable *Default or Late* which takes value of 1 if borrower either late or have defaulted on a loan (non-performing loans) in models (3) and (4). Explanatory variables *are interest rate* on loan, *risk grade*, *firm age* (continuous variable in models (1) and (3) and categoric variable by age bands in models (2) and (4)), *loan purpose*, *loan amount*, *loan term* and

[12] This is very important in the light of the following event: in September 2017, Funding Circle introduced a balanced portfolio strategy, which is essentially a modified version of the auto-bidding feature (in which loan transactions are automatically executed according to investors' lending and risk preferences) and withdrew the manual choice functionality. Lenders are no longer able to choose which loans to fund or which loans to sell. Instead, the system lends investors' funds to all risk bands to balance lending risk and return. Lenders are encouraged to lend at least £2,000 (i.e. £20 to 100 businesses), so that no more than 1% of the investor's portfolio is allocated to any one business to reduce the risk of losses caused by bad debts. This new model implies that the platform is much simpler as Funding Circle no longer needs to publish any loan details or allow lenders to interact with borrowers, and there is no need to publish borrowers' accounts, credit ratings etc. but also much less transparent. Source: Funding Circle (2017) *Getting started as an Investor: A guide for investors.* Funding Circle.

a binary variable taking value of 1 if loan is *secured*. We also control for region, sector and year.

Table 6 summarises the estimation results for the variables of interest (instead of logit coefficients we report average marginal effects in order to have a sense of the magnitude of their effect). As expected, risk grades attributed by FC to loans are strong predictors of loan performance: higher risk grades are associated with higher likelihood of default or late payment. Thus, for example, grade C loans (average risk) are 2.43 percentage points more likely to default on loan compared to grade A+ (very low risk) and they are 3.44 percentage points more likely to be non-performing (default or late). Only the very high risk category (grade E) does not appear to have significant effect on probability of default what we suspected from the descriptive statistics presented earlier[13].

Unsurprisingly, a higher interest rate is associated with a higher probability of default. There is also a negative and significant relationship between the age of a firm and likelihood of default, i.e. the probability of default decreases with age. However, the magnitude of the effect is very small. Compared to mature firms of more than 30 years old, only the category of young businesses of less than 4 years old appear to be significant: they are more likely to default or to have late repayment. This is consistent with the general notion of "liability of newness" which states that younger firms have a higher probability to cease trading which decreases with increasing age. Loan amount does not appear to have any significant effect on probability of default, while loan term, as expected, has a positive and significant coefficient in all models although the magnitude of effect is low. If the loan is secured or not does not seem to have significant effect on probability of default (models (1) and (2)). However, when modelling the event of default or late payment in models (3) and (4), it is significant and negative: secured loans are less likely to be repaid late or default.

Finally, regarding the purpose of loan, asset finance loans are 3.1 percentage points less likely to default compared to working capital loans. Loans for growth and expansion are also slightly less likely to default (by 0.9 percentage points) than working capital loans.

[13] As discussed above, first loans in this risk grade appeared in 2015. Therefore, in 2017 many of these loans did not attain maturity.

Table 6. Estimation results: exploring performance of P2P business loans

VARIABLES	(1) Default	(2) Default	(3) Default or Late	(4) Default or Late
Interest rate	0.00686***	0.00654***	0.00845***	0.00808***
	(0.00115)	(0.00116)	(0.00125)	(0.00125)
Benchmark: A+ (Very low risk)				
A (low risk)	0.0173***	0.0174***	0.0183***	0.0183***
	(0.00308)	(0.00307)	(0.00343)	(0.00342)
B (below average risk)	0.0220***	0.0222***	0.0302***	0.0303***
	(0.00354)	(0.00353)	(0.00410)	(0.00409)
C (average risk)	0.0243***	0.0244***	0.0344***	0.0344***
	(0.00458)	(0.00458)	(0.00544)	(0.00544)
D (high risk)	0.0209***	0.0213***	0.0281***	0.0287***
	(0.00724)	(0.00727)	(0.00870)	(0.00875)
E (very high risk)	0.000527	0.00182	0.00914	0.0109
	(0.00895)	(0.00923)	(0.0118)	(0.0122)
Firm age	-0.000358**		-0.000652***	
	(0.000152)		(0.000185)	
Benchmark: >30 years old				
0-4 years old		0.0109*		0.0175**
		(0.00597)		(0.00686)
5-9 years old		0.00433		0.00987
		(0.00564)		(0.00655)
10-14 years old		-0.00177		5.14e-05
		(0.00572)		(0.00666)
15-19 years		-0.000696		0.00235
		(0.00628)		(0.00734)
20-30 years old		-0.00352		-0.00265
		(0.00665)		(0.00778)
Benchmark: Working capital				
Growth	-0.00880***	-0.00918***	-0.0115***	-0.0119***
	(0.00231)	(0.00231)	(0.00268)	(0.00268)
Asset finance	-0.0311***	-0.0314***	-0.0322***	-0.0326***
	(0.00354)	(0.00355)	(0.00422)	(0.00422)
Other	-0.00944*	-0.00936*	-0.0125*	-0.0123*
	(0.00564)	(0.00568)	(0.00685)	(0.00688)
Loan amount	4.89e-09	1.18e-08	7.27e-09	1.36e-08
	(2.30e-08)	(2.27e-08)	(2.32e-08)	(2.31e-08)
Loan term	0.000445***	0.000463***	0.000488***	0.000508***
	(7.32e-05)	(7.37e-05)	(8.48e-05)	(8.53e-05)
Secured	0.00445	0.00598	-0.0347***	-0.0327***
	(0.00923)	(0.00923)	(0.00815)	(0.00812)
Observations	36,523	36,523	36,523	36,523

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CONCLUSION

The main message of this paper is that more small businesses choose online P2P platforms to fund not only their short-term working capital needs but also growth. Ease of application, speed of decision, previous rejection by banks or the sentiment that traditional banks are disinterested in small businesses are behind this growing popularity of marketplace lending.

A more detailed view on loans delivered by FC over the period 2010-2017 shows that P2P borrowers are typically micro and small businesses looking for a loan of £50k for five years. Interestingly, P2P loans attract businesses of different stages of maturity – from newly established firms to mature businesses – with 34% falling in the bracket of 5 to 9 years old and median age of 8 years. Most of loans (75%) are assessed by FC as below average risk indicating that good quality borrowers choose this type of finance. The results also show that risk assessment by FC was effective as risk categories were a good predictor of default on loan or late payment.

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