FSB FINANCIAL STABILITY BOARD

Committee on the Global Financial System

BANK FOR INTERNATIONAL SETTLEMENTS

22 May 2017

# FinTech credit

## Market structure, business models and financial stability implications

Report prepared by a Working Group established by the
Committee on the Global Financial System (CGFS) and the Financial Stability Board (FSB)

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ISBN 978-92-9259-051-2 (online)

## Preface

FinTech credit – that is, credit activity facilitated by electronic platforms such as peer-to-peer lenders – has generated significant interest in financial markets, among policymakers and from the broader public. Yet there is significant uncertainty as to how FinTech credit markets will develop and how they will affect the nature of credit provision and the traditional banking sector.

Against this background, a group of representatives from the membership of the Committee on the Global Financial System (CGFS) and the Financial Stability Board (FSB) Financial Innovation Network, together with the Secretariats of the CGFS and FSB, undertook this study of FinTech credit. The study draws on public sources and ongoing work in member institutions to analyse the functioning of FinTech credit markets, including the size, growth and nature of activities. It also assesses the potential microfinancial benefits and risks of these activities, and considers the possible implications for financial stability in the event that FinTech credit should grow to account for a significant share of overall credit. Conduct and prudential regulatory policies in selected countries are also outlined.

This report provides several key messages. The nature of FinTech credit activity varies significantly across and within countries due to heterogeneity in the business models of FinTech credit platforms. Although FinTech credit markets have expanded at a fast pace over recent years, they currently remain small in size relative to credit extended by traditional intermediaries. A bigger share of FinTech-facilitated credit in the financial system could have both financial stability benefits and risks in the future, including access to alternative funding sources in the economy and efficiency pressures on incumbent banks, but also the potential for weaker lending standards and more procyclical credit provision in the economy. These considerations are explained in more detail in the report.

The emergence of FinTech credit markets poses challenges for policymakers in monitoring and regulating such activity. Having good-quality data will be key as these markets develop. We hope that the information and analysis contained in this report will assist policymakers with their efforts.

William C Dudley

Chair, Committee on the Global Financial System
President, Federal Reserve Bank of New York

Klaas Knot

Chair, FSB Standing Committee on Assessment of Vulnerabilities
President, De Nederlandsche Bank

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## Executive summary

FinTech credit refers to credit activity facilitated by electronic platforms. This usually involves borrowers being matched directly with investors, although some platforms use their own balance sheet to lend. FinTech platforms facilitate various forms of credit, including consumer and business lending, lending against real estate, and non-loan debt funding such as invoice financing. There is also variation in the creditor base of FinTech credit platforms: some source funding mostly from retail investors, while others use significant funding from institutional investors, banks and securitisation markets. Banks originate loans for FinTech credit platforms in several jurisdictions.

The availability of official data on FinTech credit is limited, so most analyses of these markets rely on non-official sector surveys and financial disclosures of platforms. Data availability and quality may warrant increased attention as FinTech credit markets develop.

Academic surveys on lending volumes in 2015 show considerable dispersion in FinTech credit market size across jurisdictions. In absolute terms, the largest FinTech credit market is China, followed at a distance by the United States and the United Kingdom. In general, FinTech credit is a small fraction of overall credit across jurisdictions, but it appears to be growing rapidly, and it may have much larger shares in specific market segments. For example, in the United Kingdom, FinTech credit was estimated at 14% of equivalent gross bank lending *flows* to small businesses in 2015 (CCAF and Nesta (2016)), but only 1.4% of the outstanding *stock* of bank credit to consumers and small and medium enterprises as of end-2016.

Relative to traditional banks, FinTech credit platforms' heavy digitalisation of processes and specialised focus may lower transaction costs and entail convenience for end users. It may also increase access to credit and investments for underserved segments of the population or the business sector. Notwithstanding these benefits, there are a number of potential vulnerabilities that might impede the future growth of the industry. The financial performance of platforms could be substantially buffeted by swings in investor confidence, given their agency lending models. Moreover, financial risk in platforms may be higher than that at banks due to greater credit risk appetite, untested risk processes and relatively greater exposure to cyber-risks.

For financial stability, FinTech credit activity could present a range of benefits and risks should it grow to account for a significant share of overall credit. Among potential benefits are access to alternative funding sources in the economy. A lower concentration of credit in the traditional banking system could be helpful in the event there are idiosyncratic problems at banks. FinTech platforms may also pressure incumbent banks to be more efficient in their credit provision.

At the same time, if FinTech credit achieves a significant share of credit markets, it may give rise to systemic risk concerns. Some factors that contribute to increased financial inclusion associated with FinTech credit could also lower lending standards in countries where credit markets are already deep. Moreover, FinTech credit provision could be relatively procyclical; most notably, there is the potential for a pullback in credit to certain parts of the economy because of a loss of investor confidence during times of stress. Incumbent banks might take on more credit risk in response to increased lending competition, while an abrupt erosion of their profitability could generate broader difficulties for the financial system, given banks' provision of a range of systemically important services. Lastly, FinTech credit poses challenges to the regulatory perimeter and authorities' monitoring of credit activity.

# 1. Introduction

"FinTech" can be broadly defined as technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets, financial institutions and the provision of financial services (Carney (2017)). FinTech innovations are emerging in many facets of finance – retail and wholesale payments, financial market infrastructures, investment management, insurance, credit provision and equity capital raising. This report focuses only on FinTech-enabled credit provision. In doing so, it complements a range of other studies recently released or being prepared by official bodies on other aspects of FinTech.[1]

FinTech credit has generated significant interest in financial markets, among policymakers and from the broader public. Some commentators have suggested that FinTech credit innovations could transform lending markets by reducing costs, improving customer experience and enhancing credit risk assessments.[2] An alternative view holds that future growth in FinTech credit could be constrained by business models that are vulnerable to changing financial conditions or investor and consumer protection considerations.[3]

This study aims to help policymakers understand the functioning of FinTech credit markets, including the size, scope and growth of these activities. It also assesses the potential microfinancial benefits and risks of these activities, and considers the possible implications for financial stability in the event that FinTech credit should grow to account for a significant share of overall credit. Conduct and prudential regulatory policies in selected countries are also outlined, but broader regulatory issues surrounding information technology (such as those related to data privacy) are outside the scope of this study.

The study strives to provide as accurate a picture of the extent and nature of current FinTech credit activity as possible. Nevertheless, some findings and conclusions in this paper may be hampered by information gaps. Moreover, because the market is still in the early stages of development, FinTech credit business models and practices are likely to continue to evolve.

For the purposes of this study, the term "FinTech credit" encompasses all credit activity facilitated by electronic platforms whereby borrowers are matched directly with lenders. These entities are commonly referred to as "loan-based crowdfunders", "peer-to-peer (P2P) lenders" or "marketplace lenders".[4] Such electronic platforms can facilitate a range of credit obligations, including secured and unsecured lending, and non-loan debt funding such as invoice financing. In addition, some electronic platforms go beyond a P2P matching business model by using their own balance sheet for lending activities.

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1 See eg CPMI (2017), IAIS (2017) and IOSCO (2017). The FSB will also publish a report, by the time of the G20 Summit in Hamburg in July 2017, on the financial stability implications of FinTech, identifying regulatory and supervisory issues that merit authorities' attention from a financial stability perspective.

2 For this view, see *The Economist* (2015).

3 For this view, see Deloitte (2016).

4 These terms are used in different contexts: loosely to describe all FinTech lending activity, or more narrowly to describe certain aspects of FinTech lending. "P2P lending" and "loan-based crowdfunding" are used in this report synonymously, as the main category of FinTech credit. "Marketplace lending" is a broader term, which includes lending financed to a greater extent from wholesale sources. FinTech credit is the broadest category, which includes both marketplace lending and non-loan obligations such as invoice trading.

This report was prepared by a group of representatives from the membership of the CGFS and the FSB Financial Innovation Network, together with the Secretariats of the CGFS and FSB.[5] The analysis in this report draws on several sources: (i) the results of a CGFS-FSB Secretariat survey of CGFS and FSB members on FinTech credit (collected in August–September 2016); (ii) data on FinTech credit activity from academic studies and private sector providers; (iii) publicly available data from platforms; and (iv) public sector, academic and private sector studies on the FinTech credit sector. The report also builds on existing work at member institutions.[6]

The report is structured as follows: Section 2 discusses the factors influencing the development of FinTech credit activity. Section 3 outlines the size and structure of FinTech credit markets across jurisdictions. Section 4 describes the nature of FinTech credit activity, including platform business models and the characteristics of borrowers and investors. Section 5 contains a micro-assessment of the efficiency and vulnerabilities of FinTech platforms and markets. Section 6 analyses the potential financial stability implications of FinTech credit, considering its possible impact on credit provision in the economy and the banking sector. Section 7 then provides an overview of current regulatory and other policy frameworks for FinTech credit, focusing in particular on how FinTech credit is treated within existing frameworks and whether there have been specific policy initiatives for FinTech credit.

# 2. Factors influencing the development of FinTech credit

## 2.1 Drivers

There are numerous factors driving FinTech innovations. These are discussed below as they relate to FinTech credit, separated into supply factors (from the perspective of the platforms) and demand factors (borrower or lender perspective). The importance of individual drivers is likely to differ across jurisdictions.

### *2.1.1 Supply factors*

- **Technological advances** in computing power, the internet, data storage and mobile technology have underpinned an **innovation spiral** in electronic platforms, including file sharing and cloud computing services and online marketplaces such as eBay or Alibaba.[7] The online connectivity provided by these innovations has reduced individuals' transaction costs and disrupted some traditional business models.

  FinTech credit innovations have emerged more recently.[8] While digital innovations have been forces for change in banking and credit markets for some time (for example,

[5] The FSB Financial Innovation Network reports to the FSB Standing Committee on Assessment of Vulnerabilities (SCAV).

[6] The report draws on some examples from specific private firms involved in FinTech. These examples are not exhaustive and do not constitute an endorsement by the CGFS, the FSB or their members for any firm, product or service. Similarly, they do not imply any conclusion about the status of any product or service described under applicable law. Rather, such examples are included for purposes of illustration of new and emerging business models in the markets studied.

[7] An innovation spiral is where multiple new products emerge from a single new technology or one innovation leads to additional related new products.

[8] The first P2P lender was UK platform Zopa in 2005. It was followed in 2006 by Lending Club in the United States.

by underpinning deeper quantitative risk assessment and online and mobile banking), **FinTech lenders may make more intensive use of digital innovations**. For instance, FinTech lenders automate far more processes than traditional credit providers and thus provide a relatively convenient and quick service to customers.[9] Moreover, FinTech lenders may make use of new data sources.

- A typical feature of platform-based business models is their **ability to scale**, reflecting low incremental investment costs and digital contact with their potential customer base. One reason for this scalability is that the underlying financial activity is **easy to standardise** – for example, through the use of digital identification and standardised digital contracts. However, the extent of standardisation that can be achieved may differ across jurisdictions, in part due to different legal frameworks and credit market segmentations.
- Traditional lenders have a relatively high fixed cost base due to their branch networks and their need to maintain existing IT systems. They also face higher capital and liquidity requirements on loans than lending through FinTech credit platforms outside the prudential regulatory perimeter. These factors represent **cost advantages** for new online lending platforms. To the extent that they structure their activities in fundamentally the same fashion as banks, FinTech credit platforms could be considered to be benefiting from **regulatory arbitrage**.[10]
- **Traditional lenders have left room for new lending market entrants.** Traditional lenders withdrew from some market segments in the post-crisis period. In addition, banks often "underservice" certain market segments, such as micro business loans (De Roure et al (2016)). In some cases, tax policies and regulations may encourage lending by alternative platforms to these segments (see Section 5.3). In other cases, the level of rents earned by incumbents can encourage entry of platforms (Rau (2017)).

### *2.1.2 Demand factors*

- Real-time transacting capability of internet-connected devices has given rise to **higher customer expectations** with regard to convenience, speed, cost and user-friendliness of financial services. Consumer comfort with online financial transactions has also grown as online business innovations have deepened.
- Related to the shift in customer expectations, there are **demographic factors** driving demand, such as rising acceptance of new technologies and the growing financial influence of the cohorts known as "digital natives" and "millennials".[11] These younger cohorts are more likely to adopt FinTech (EY (2016)). There are also **economic**

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[9] Notably, incumbent financial institutions also make extensive use of digital technology, as in credit cards, online and mobile banking, and a variety of other services in the realm of standard financial services.

[10] It is worth noting that most platforms do not bear direct credit or liquidity risk (see Section 4).

[11] "Millennials" are generally defined as the generational cohort born between the early 1980s and late 1990s, following "Generation X" (born between the mid 1960s and early 1980s) and the "baby boomers" (born between the 1940s and 1960s). "Digital natives" refers to those consumers who grew up with digital technologies. While millennials use FinTech more widely than other generational cohorts, this factor should not be overstated; US credit bureau data show that a majority of online marketplace borrowers were actually Generation X and baby boomers.

**development and convergence factors**, such as the rapid adoption of digital technology in some emerging market economies.

- Consumers may now be **more willing to use the services of lending market entrants** due to their reduced trust in existing lenders following the financial crisis. There may be a more general perception among some consumers that FinTech credit, and especially P2P lending, is more socially responsible and of greater social value than conventional banking (Milne and Parboteeah (2016)).
- In several large economies, a **desire for higher returns in the face of low yields** has provided FinTech platforms with a larger investor base, including from institutional investors. Investors may regard FinTech loans as an alternative asset class that can add to diversification of their portfolios.
- Technological innovations often display **network externalities** that drive demand. In the case of FinTech lending, in principle it is possible that the higher the investor demand to lend on platforms, the more borrowers may be attracted to use this lending.

## 2.2 Other factors affecting growth potential

Some factors, however, may impede the pace and scale of growth in FinTech lending.

- There could be **competitive responses from incumbent lenders** to FinTech activities. Banks have been building up their digital banking activities for some years, and the emergence of marketplace lending platforms has sped up this process. Where bank access is already high, clients may prefer digital solutions from incumbents. That said, there are also examples of cooperation among FinTech lenders and banks which may be of mutual benefit, such as knowledge sharing and funding.
- Growth in the FinTech lending industry could be impeded by **business models that are not robust in a less favourable credit or funding environment**. This might be because of some business models that are generally opaque and/or prove inherently risky. Moreover, most FinTech lenders have not experienced a full credit cycle, and how their lending and their platforms will fare in a downturn is an important uncertainty.
- Another factor is the **regulatory requirements** on lending activities in various jurisdictions, such as the need to be authorised and regulated as an online lending platform, or the need to be licensed and regulated as a bank or a credit intermediary, in order to originate consumer loans or retain loans on balance sheet. For example, in Japan, legislative caps on interest rates make it difficult for FinTech platforms to lend to riskier consumers.
- **There is uncertainty about regulatory frameworks given the rapid development of the industry.** Because FinTech innovations may change the nature of intermediation and introduce new processes not covered by existing bank regulation, there can be substantial uncertainty for market participants. In some countries, there is uncertainty about how legal frameworks will treat certain aspects of FinTech lending, such as consumer protection.

- Finally, as with any business, there is the risk that misconduct and/or the mismanagement within the industry could create **reputational damage**, particularly as many platforms are still establishing credibility with potential investors.

## 3. Size and structure of FinTech credit markets

Academic survey data on lending volumes in 2015 show considerable dispersion in FinTech credit market size across jurisdictions (Table 1). In absolute terms, the largest FinTech credit market is China (USD 99.7 billion in 2015), followed at a distance by the United States (USD 34.3 billion) and the United Kingdom (USD 4.1 billion). In each of these three markets, new FinTech credit volumes were USD 60–110 per capita in 2015 (Cambridge Centre for Alternative Finance (CCAF) and University of Sydney Business School (2016), CCAF and Chicago-Booth Polsky Center (2016), CCAF and Nesta (2016)). Lending volumes were very small in other countries.[12] It is noteworthy that the survey data for China are judged to have a lower platform coverage than other large markets (CCAF and University of Sydney Business School (2016)); activity in China may therefore be underrepresented in a relative sense.

Although there are limited data on the outstanding *stock* of lending, FinTech credit appears to represent an even smaller fraction of overall credit across jurisdictions. For example, in the United Kingdom FinTech credit is estimated to have been equivalent to 1.4% of the outstanding stock of bank lending to consumers and small businesses at end-2016.[13]

The available data suggest that FinTech credit market activity has grown rapidly from a very low base. Between 2013 and 2015, the volume of new credit expanded by multiples of around four or more, both in the largest markets, and in the smaller markets where there had previously been nascent activity. The main exception was the Nordic region, where activity declined in association with the failure of a Swedish consumer P2P lending platform (see Box B). According to more timely data provided by AltFi, annual growth in FinTech credit volumes has recently accelerated in Europe (excluding the UK), but slowed for the UK to around 35% per cent in March 2017 (Graph 1, left-hand panel). Data for the United States, based on only four large platforms, show a small decline in new credit volumes during late 2016; this may reflect a variety of effects, including a potential loss of market share for the largest players.

The composition of FinTech credit activity by borrower sector has varied noticeably across jurisdictions. In the United States, more than 80% of lending activity in 2015 was to the consumer sector (including student loans), while high shares of consumer lending were also evident in several other countries, such as Germany, Korea and New Zealand (Graph 1, right-hand panel). In contrast, in Australia, Japan and the Netherlands, FinTech credit was almost entirely directed to the business sector as measured to include invoice trading (a non-loan type

[12] In some jurisdictions there may be additional credit activity that closely resembles FinTech credit but falls outside the CCAF definition. For example, in Russia, microfinance loans up to a certain threshold are arranged fully online. The volume of total microfinance lending in Russia in 2016 was just over USD 100 million.

[13] This figure compares the figures of the Peer-to-peer Finance Association (P2PFA) for its members' outstanding lending with Bank of England data for outstanding UK Monetary and Financial Institution (MFI) lending to consumers and small and medium-sized enterprises. The precise figure is 1.37%.

of business credit). FinTech credit in the United Kingdom was also mostly extended to the business sector, with a significant portion of this in the form of secured real estate lending.

**Table 1: Size of FinTech credit market by jurisdiction**

In USD millions

| | Volume of new credit[1] | | | Credit outstanding[1] | |
|---|---|---|---|---|---|
| | **2013** | **2015** | ***Memo: % of new credit*** | **2016 (latest)** | ***Memo: % of credit*** |
| Australia | 12 | 276 | | | |
| Canada | 8 | 71 | | | |
| Central and eastern Europe | 14 | 70 | | | |
| China | 5,547 | 99,723 | | | |
| France | 59 | 201 | | | |
| Germany | 48 | 205 | | | |
| India | 4 | 20 | | | |
| Italy | 0 | 16 | | | |
| Japan | 79 | 326 | | | |
| Korea[2] | 1 | 38 | | 267 | 0.02 |
| Latin America and Caribbean | 14 | 76 | | | |
| Netherlands | 48 | 91 | | 180 | <0.1 |
| New Zealand | 0 | 245 | | | |
| Nordics | 112 | 84 | | | |
| Russia | 0 | 7 | | | |
| Singapore | 0 | 21 | | 7.4 | |
| Spain | 4 | 32 | | | |
| Sweden[3] | | | | 132 | |
| United Kingdom | 906 | 4,126 | <5.0 | | 1.4 |
| United States | 3,757 | 34,324 | 2.0 | | |
| *Memo:* | | | | | |
| *Asia-Pacific (ex China)* | *98* | *934* | | | |
| *Americas (ex US)* | *22* | *146* | | | |
| *Europe (ex UK)* | *266* | *744* | | | |

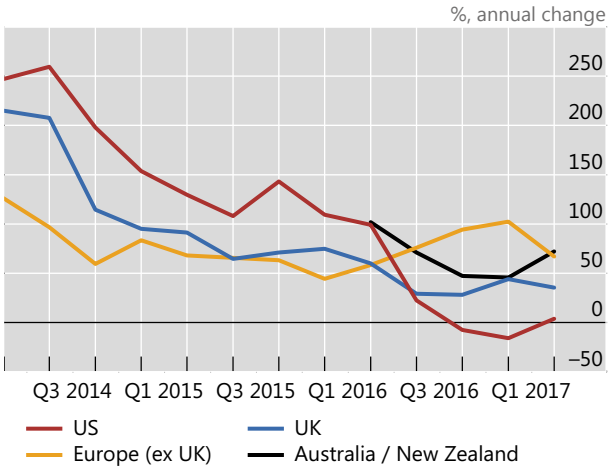
[1] Data on lending volumes come from academic surveys of market participants and cover the range of platforms shown in Graph 1. Data are adjusted to USD with average daily exchange rates for 2013 and 2015 where needed. Data on credit outstanding are from national responses to the CGFS-FSB survey on FinTech credit. [2] Credit outstanding data are adjusted to USD using average daily exchange rates for 2016. The denominator for the percentage of credit is loans by depository institutions. [3] Only consumer lending data are available.

Sources: Cambridge Centre for Alternative Finance and research partners; national responses to CGFS-FSB survey on FinTech credit.

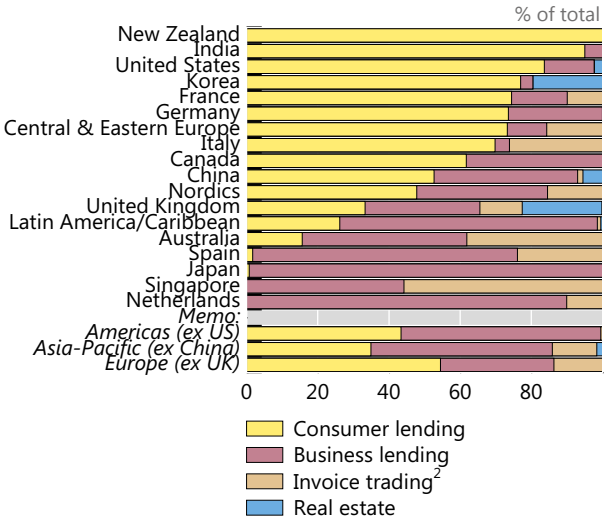
FinTech credit volumes

Graph 1

Growth in FinTech credit volumes[1]




Volumes in 2015 by sector, ranked by consumer lending




[1] Data are based on four large platforms for the United States (SoFi, Lending Club, Prosper and OnDeck), 29 platforms for the United Kingdom, 31 platforms for Europe and three platforms for Australia and New Zealand (SocietyOne, RateSetter in Australia, and Harmony). US data for Q1 2017 are projections. Australia and New Zealand data start in Q4 2015 based on data availability for all three platforms. [2] Includes a very small amount of debt-based securities for France, the Netherlands and the United Kingdom.

Sources: AltFi Data (left-hand panel); Cambridge Centre for Alternative Finance and research partners (right-hand panel).

The FinTech credit market structure also varies across those jurisdictions for which data are available. The Chinese market has by far the highest number of FinTech lending platforms (Table 2). In the United Kingdom, there are 21 platforms that have full regulatory authorisation, but a further 66 are being assessed for authorisation, of which 32 have interim permission to undertake activity. France also has a relatively high number of platforms, with a significant number of entrants after FinTech-specific legislation was introduced in 2014. In most jurisdictions, FinTech credit market activity appears to be reasonably concentrated among the five largest platforms, with the most notable exception being the Chinese market.

**Table 2: FinTech credit market structure**

| Jurisdiction | Number of platforms<br>Latest year[1] | Market share of largest platforms[2]<br>Latest year (in %) |
|---|---|---|
| Argentina | 6 | 100 |
| Australia | 29 | 90 |
| Brazil | 14 | 95 |
| Canada | 23 | 60 |
| China | 356 | 25 |
| France | 53 | 70 |
| Germany | 34 | 95 |
| Hong Kong SAR | 1 | 100 |
| India | 15 | 95 |
| Indonesia | 7 | 90 |
| Italy | 8 | 78 |
| Japan | 11 | 100 |
| Korea | 34 | 51 |
| Mexico | 13 | 90 |
| Netherlands | 25 | 78 |
| Russia | 4 | 100 |
| Singapore | 14 | 85 |
| South Africa | 13 | 95 |
| Spain | 10 | 75 |
| Switzerland | 12 | 40 |
| United Kingdom[3] | See footnote 3 | 68 |
| United States | 67 | 80 |

[1] Data for Argentina, Australia, Brazil, Germany, India, Indonesia, Japan, Mexico, the Netherlands, Singapore, South Africa and Switzerland refer to all alternative finance platforms (including credit as well as equity, donations-based and rewards-based models) in 2015. [2] Market shares are calculated as the volume of 2015 credit provided by credit platforms that are in the top five of all alternative finance platforms, divided by the volume of all credit platforms, rounded to the nearest 5 percentage points (for confidentiality purposes). Estimates for Hong Kong SAR, Italy, Korea, the Netherlands and the United Kingdom are sourced from national authorities for 2016. [3] The United Kingdom has 21 platforms with full regulatory authorisation; a further 66 are being assessed for authorisation, of which 32 have an interim permission.

Sources: Rau (2017); responses to CGFS-FSB survey on FinTech credit intermediation; Cambridge Centre for Alternative Finance and research partners.

**Box A: Data sources used in the report**

Official national data on the size of FinTech credit markets are limited. In numerous jurisdictions, FinTech lenders are not subject to regulatory data reporting requirements, and instituting specific data collections may not yet be justifiable given the small size and emerging stage of the industry. In that context, analyses typically rely on the financial disclosures of individual lending platforms or academic and private sector surveys.

Studies coordinated by the **Cambridge Centre for Alternative Finance** (CCAF) provide the most comprehensive global data on FinTech lending and other online alternative finance platforms. In a series of regional benchmarking studies (so far completed for the United Kingdom, Europe, the Americas, Asia-Pacific and East Africa), the CCAF has teamed up with public, academic and industry partners (eg Nesta) to submit surveys to platforms. Primary data are cross-checked with public reporting and other secondary sources (including websites), and lending volumes are aggregated by geography, funding type, etc. A key advantage of the CCAF is its scientific approach, including a consistent platform business model taxonomy, as well as its relatively high coverage of platforms.

**AltFi Data** provide data analytics for the UK, European, US, and Australian and New Zealand FinTech credit and equity crowdfunding industries. AltFi Data produce a range of indicators such as volumes, interest rates, terms, bad debt, arrears and returns. These allow originators to represent asset performance to a verified standard and investors to perform like-for-like analysis.

The **Peer-to-peer Finance Association** (P2PFA) represents over 80% of the P2P lending market in the United Kingdom, including consumer lending, business lending and invoice financing. Its quarterly data cover new lending volumes, numbers of loans and borrowers, and selected financials for its member companies.

**PeerIQ** provides data on US FinTech securitisation issuance, including volumes, collateral type and issuance spreads.

This list is by no means exhaustive, and a number of other public, industry, academic and civil society surveys are available in different jurisdictions. For the purposes of this report, the CGFS and the FSB surveyed member authorities on FinTech credit in August–September 2016. In some cases, authorities have provided updates on data since that date.

## 4. Description of FinTech credit activity

The nature of FinTech credit activity varies significantly across and within countries due to heterogeneity in the business models of the online credit platforms. This section first describes the basic features of a "traditional" P2P lending platform, including the loan pricing and origination process. Several other stylised platform business models – the notary, guaranteed return, balance sheet and invoice trading models – are then outlined, drawing in part on the classification by the International Organization of Securities Commissions (Kirby and Worner (2014)). In various jurisdictions, these models may be combined, such as with the notary and balance sheet model. Model descriptions are illustrated with examples of prominent FinTech platforms, and country-specific differences are highlighted. Key characteristics of FinTech creditors, borrowers and loan structure are discussed, including the use of securitisation.

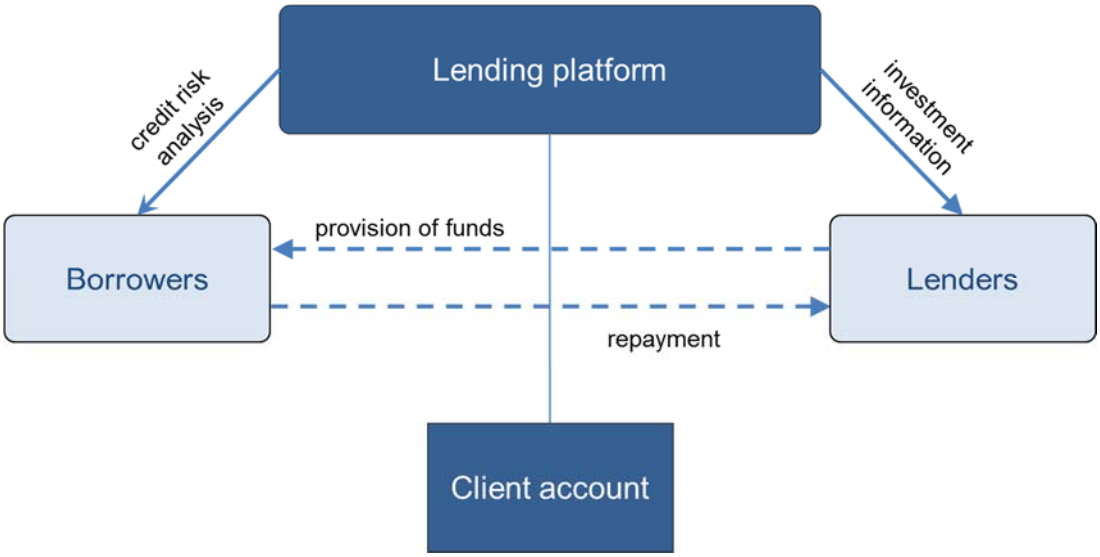
## 4.1 FinTech credit platforms

### *4.1.1 Traditional P2P lending model*

The overarching idea of P2P lending platforms is to provide an online market that allows lenders to trade directly with borrowers. P2P lending platforms involve a range of features – outlined below – that go beyond the quality assurance provided by most other peer-based platform markets.

The P2P lending process begins with a prospective borrower applying or registering for a loan on a platform. Borrowers provide a range of credit information, which is posted on the platform after it has been verified and approved by the platform.[14] Prospective creditors can choose to fund loans available on the market. Importantly, individual loan contracts are established between borrowers and creditors, rather than with the platform. Funds and contractual loan repayments are segregated from the platform's own account, with the platform operator earning its revenue from fees levied on the transacting parties, such as those for account setup, loan origination and ongoing loan repayment. This basic model is summarised in Graph 2.

**Graph 2: Stylised traditional P2P lending model**




The basic lending model can vary across platforms. In a pure matching model, investors directly select prospective loans based on a range of credit information, such as general loan purpose (or specific projects being funded), borrower industry, loan term, borrower income and other credit quality indicators. Loans are only originated if the borrower's funding target is met within a predefined time frame.

Platforms often contribute to the creditor's loan selection process by providing a credit risk assessment, usually condensed into a single credit rating or score sourced from an external provider or generated by an in-house grading system. It is difficult to ascertain the

[14] However, some online lending platforms in the United States will accept borrower self-reported financial information such as income range.

methodologies used for platforms' own loan risk assessment, as these are proprietary and disclosure is limited. Overall it appears that, compared with banks, platforms generally make use of a greater number of data sources and, in some cases, non-traditional data sources and new types of data analytics. For example, the website of Indian P2P platform LendBox states that it takes into account thousands of data points, including online spending behaviour and other non-traditional data points.[15] In China, platforms such as Dianrong couple online infrastructure used for the provision of funds with offline processes. This includes sales agents and physical offices to obtain comprehensive credit information that is harder to come by in China (Deer et al (2015)).

Most platforms encourage investors to invest in multiple loan applications to spread their risk. Some provide exposure to multiple loans automatically, or "auto-select" loans, based on the risk category and loan term selected by the investor. For instance, CCAF (2016) finds that, in Europe, around 80% of P2P consumer lending platforms and 40% of P2P business lending platforms use an auto-selection functionality. To maintain the P2P character of the relationship, the platform can generate a large number of contracts to reflect each individual relationship. Alternatively, investments can operate more like shares in a pooled loan scheme (economically akin to a securitisation without tranches). Indeed, in Japan all platform loans must be packaged together; this is because legislation does not allow retail creditors to lend directly to a borrower.

The process of setting the interest rate on loans is central to the efficient functioning of an online market. Davis and Murphy (2016) identify three general approaches. In the first approach, investors place interest rate bids for the loans in an auction process, within the bounds of a maximum acceptable rate set by the borrower and a minimum risk-related rate set by the platform operator. In the second case, platforms set a rate based on the credit risk grade assigned to the loan (but may have incentives to adjust interest rates when demand and supply are not aligned). The third approach involves borrowers receiving an indicative rate that they could obtain in the online market based on their risk profile; investors can then compare these indicative rates for different loan options on the platform. Borrowers and investors, respectively, set the maximum and minimum rates they are willing to receive. The platform operator matches compatible bid and offer rates to generate the required level of funding, similar to a stock market order book (Davis and Murphy (2016)).

Most platforms offer free early loan repayment options to borrowers, often without prepayment penalties. Moreover, as long as loan repayments are regularly made as agreed upon, no additional risk monitoring is carried out after the provision of funds. As such, some borrowers may have discretion to use funds for a different purpose than that for which they were solicited.

Platforms generally advise borrowers to get in contact with them early in case they risk missing a repayment. If payments are sufficiently late, platforms tend to collaborate with debt collection agencies to recover the loan. This may result in higher fees to investors when collection of the loan is executed.

A number of platforms with a degree of control over loan allocation provide investors with a (funded) mechanism to absorb a portion of credit losses. This can take the form of an insurance

[15] In addition, some platforms in the United States make use of data from online marketplaces such as transactions on Amazon or e-Bay, eg to assess small business creditworthiness, and some use social media data (US Department of Treasury (2016)). It should be noted that platforms in the United States tend to be structured as notary or balance sheet models (see Section 4.1.2 and 4.1.4 below) rather than direct matchers of borrowers and lenders.

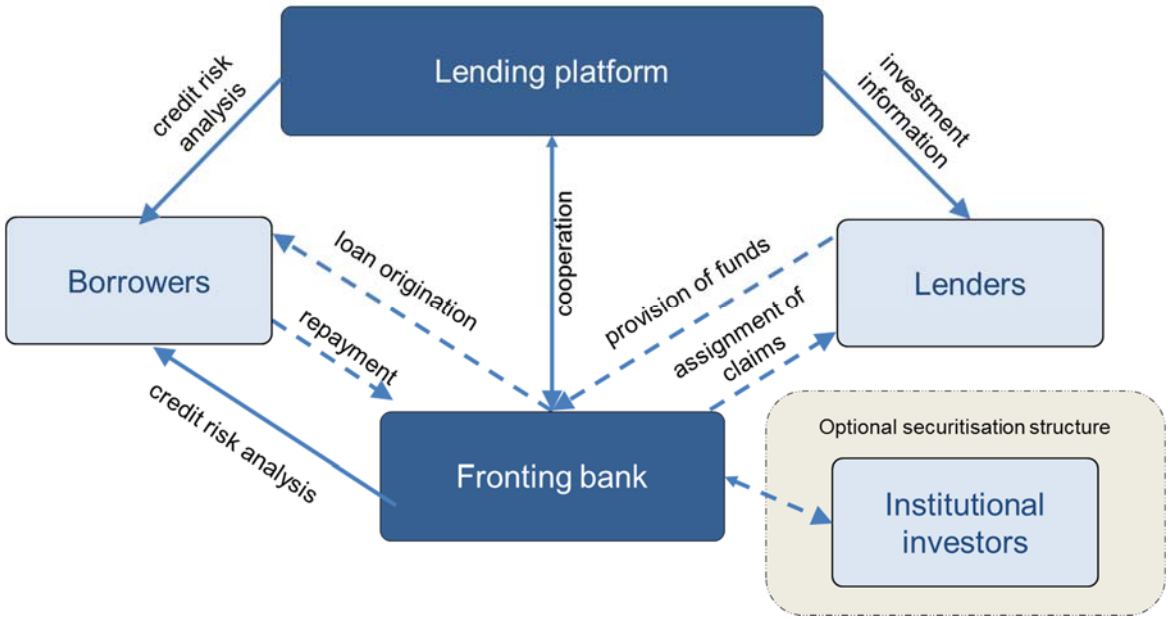
contract (for example, in Spain) or a dedicated guarantee or provision fund (for example, some platforms in Australia, China, Italy, Korea and the United Kingdom). Coverage can be for the whole portfolio or part of the portfolio – for instance, some platforms offer only a provision fund for loans with disclosed high credit grades. The size of loss absorption varies: in Korea the funds cover 50–70% of principal, whereas coverage is 2.5% for the largest platform in Italy. According to platforms in the UK, these funds aim to pay out at least the expected lifetime default rates for covered loans; as such, provision funds may not be sufficient if loan defaults increase significantly in a stress scenario.

Some platforms in Australia, China, Italy, South Africa and the United Kingdom provide a secondary market that allows creditors to withdraw their funds, provided other creditors are willing to purchase the underlying loans. Typically, platforms charge fees if a creditor wants to make use of that option. Some platforms state in their terms of use that they might need to suspend early withdrawal options during a wave of withdrawals on the platform.

### *4.1.2 Notary model*

In the notary model, the platform also offers a matching service, but the loan is originated by a partnering bank (Graph 3). There are variations in how this model works.

**Graph 3: Stylised notary model**[a]




[a] This diagram represents a case where the fronting bank retains the loans. Cash flows would differ if the bank sells the loans after origination back to the platform or to institutional investors (including via securitisation).

The notary model is the most widespread model used by FinTech lending platforms in Germany and Korea, and is also common in the United States. In this model, online platforms act as an agent that brings together creditors and borrowers, with banks originating all FinTech loans and then selling or assigning them to creditors (either directly to the creditors in smaller packages or to a platform subsidiary that repackages them into multiple loans).

In Germany, this approach is preferred because of regulatory restrictions on non-authorised

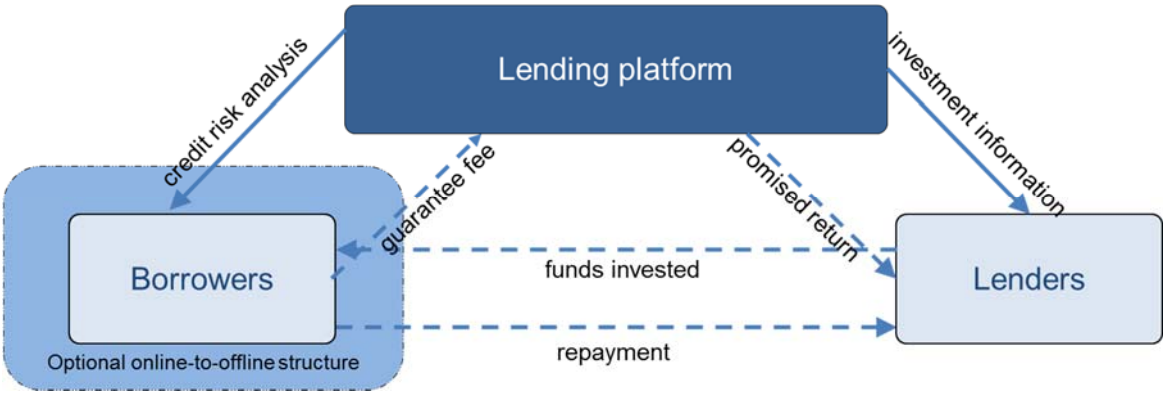
institutions issuing loans. In Korea, most FinTech lenders set up a moneylender as a subsidiary which originates loans with the funds raised through the lending platform from investors. The lending platform does not directly engage in lending, to avoid any possible violations of finance-related laws. In some cases, banks may originate loans for an online credit platform, with the arrangement involving the platform passing on the funds it has raised to the bank as collateral, which the bank then uses to originate the loans.

In the United States, some FinTech lenders partner with certain depository institutions to use that institution's charter to make loans nationally without obtaining individual state licences. The issuing depository institution originates loans to borrowers that apply on the online platform. The loans are subsequently held by the issuing depository institution for one or two days, and then purchased by the platform lender or directly by an investor through the platform lender. Alternatively, FinTech-facilitated loans may be retained by the issuing bank.[16]

### *4.1.3 Guaranteed return model*

In the "guaranteed return" model, the platform operator guarantees the creditors' principal and/or interest on loans (Graph 4).

**Graph 4: Stylised guaranteed return model**




This model appears to have been prevalent in China over recent years. For example, according to a study for the Association of Chartered Certified Accountants undertaken in 2015 (Deer et al (2015)), some large Chinese platforms guaranteed creditors' principal provided they invest in a heavily diversified loan portfolio. Furthermore, one of the largest P2P platforms in China offered investors a flat 12% return on principal regardless of the level of loan risk. New rules announced by Chinese authorities in August 2016 (see Box D) bar online lenders from guaranteeing principal or interest on loans they facilitate, although it is possible that some investors retain the expectation that their funds are safeguarded by the platform.[17]

Swedish online platform TrustBuddy, which filed for bankruptcy in 2016 (see Box B), had this type of business model. TrustBuddy promised returns of 12% and allowed investors relatively

[16] Such loans could be branded under the bank's own name or a co-brand (PricewaterhouseCoopers (2015)).

[17] See Wildau (2016).

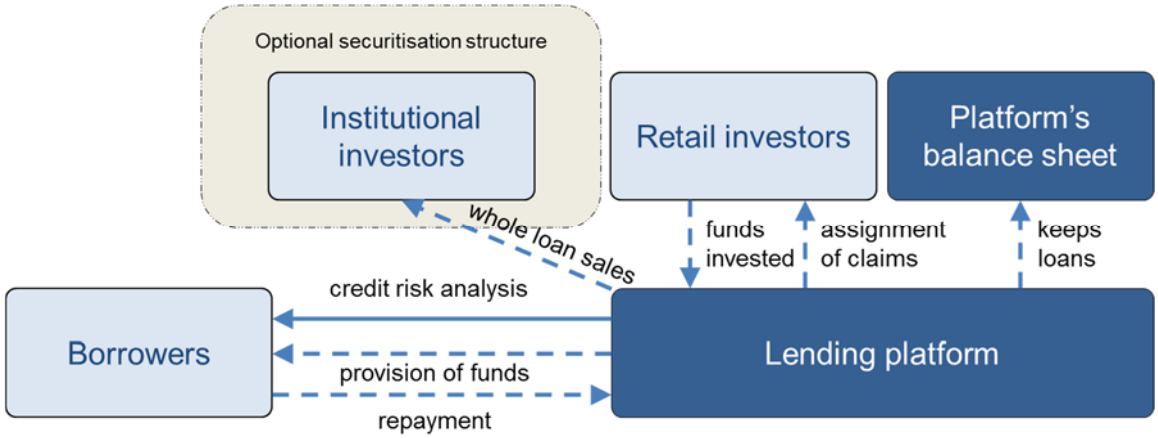
easy access to their money; investors only needed to give two days' notice to withdraw up to 90% of their outstanding investment.[18]

### *4.1.4 Balance sheet model*

Balance sheet lending platforms originate and retain loans on their own balance sheet, akin to the usual business model of a non-bank lender as depicted in Graph 5.

A sizeable portion of FinTech credit activity in Australia and Canada appears to be balance sheet lending (Graph 6). In absolute terms, the balance sheet business model appears to be more prominent in the United States than in other jurisdictions. As the FinTech credit industry in the United States has developed, balance sheet lenders have increasingly relied on capital sources such as debt, equity and securitisations to fund originations.

**Graph 5: Stylised balance sheet FinTech lending model**



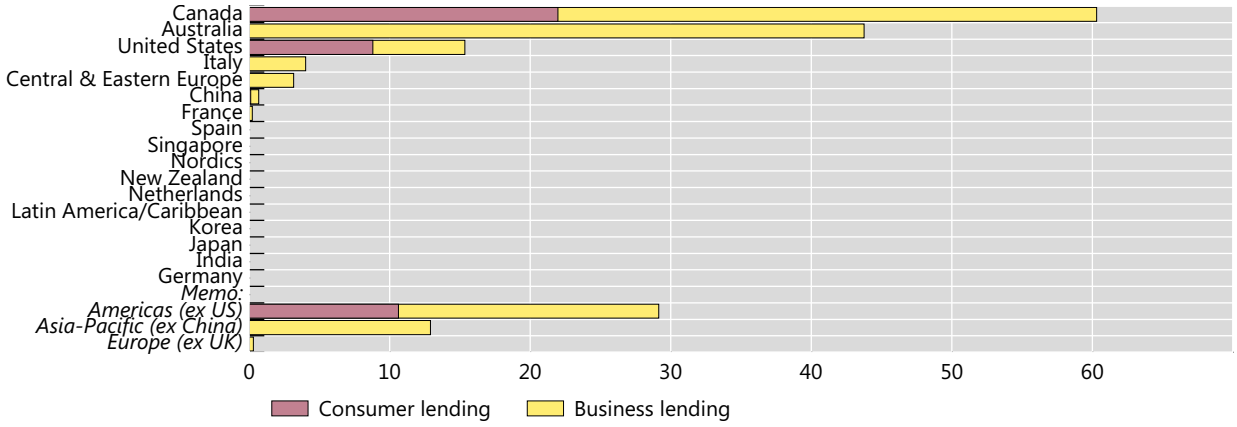

Some FinTech real estate platforms in the United Kingdom also invest directly in loans. For example, Wellesley, a P2P property lending platform, operates a separate finance arm that relies on transfers of loans to the platform, while LendInvest operates a "receivables participation" model whereby a lender receives the payments that are made to LendInvest. In China, some local platforms emerged from small "informal banks" (Deer et al (2015)); these platforms might represent a hybrid between traditional P2P and balance sheet models.[19]

[18] See Sewraz (2013).

[19] Some platform providers operate hybrid business models that combine P2P lending platforms with other businesses. In China, Credit Ease and several other prominent platforms run non-traditional wealth management companies, while Lufax runs a major secondary trading business (Deer et al (2015)). In the United States, SoFi offers wealth management services and life insurance products online.

FinTech on-balance sheet lending

Total FinTech credit volumes in 2015, in per cent Graph 6




The remainder of lending activity is accounted for by P2P lending platforms, real estate platforms and invoice trading platforms.

Source: Cambridge Centre for Alternative Finance and research partners.

### *4.1.5 Invoice trading model*

Businesses use invoice financing (or factoring) services to manage cash flow, as it allows them to sell invoices or receivables to a third party that provides them with immediate liquidity at a discount. In this regard, it is important to differentiate between recourse and non-recourse factoring. In the non-recourse factoring model, the factor not only acquires the receivables of a business at a discount in return for liquidity but also assumes the default risk of the ultimate debtor, whereas in the recourse model the default risk remains with the original creditor. Because of the credit risk involved, intermediaries providing non-recourse factoring may set a minimum business turnover threshold for eligibility; in these cases, the model may be less suitable for startups, freelancers and other self-employed.

FinTech "invoice trading" platforms appear to have targeted startups or the small business segment by offering recourse factoring and providing more flexible services than traditional players. These include: automatic invoice processing; a shorter time frame between invoice processing and liquidity provision; a smaller minimum turnover threshold or factoring of individual invoices; and financing confidentiality for debtors. The ability to quickly obtain small unsecured financing amounts means that such FinTech platforms are more likely to extend credit to startups or very small business customers than traditional factoring providers. There are, however, some invoice trading platforms that facilitate the financing of multinational corporations' receivables. In some cases, the receivables may be securitised before they are traded.

Table 3 gives examples of a range of business models by customer segment.

**Table 3: Categorisation of prominent FinTech lending platforms**

| | | Stylised business model | | | | |
|---|---|---|---|---|---|---|
| | | **Traditional** | **Notary** | **Guaranteed return** | **Balance sheet** | **Invoice trading/ factoring** |
| **Credit type** | **Consumer** | Funding Secure<br>Zopa<br>RateSetter<br>Lending Works<br>Lendable | Lending Club<br>Auxmoney | Dianrong<br>PPDai | SoFi | |
| | **Business** | Funding Circle<br>ThinCats<br>LendInvest<br>Assetz Capital<br>Saving Stream | | Dianrong<br>PPDai | | Market Invoice<br>Investly<br>Finexkap<br>Demica<br>CRX Markets |
| | **Real estate** | Wellesley<br>LendInvest | | | Wellesley<br>LendInvest | |

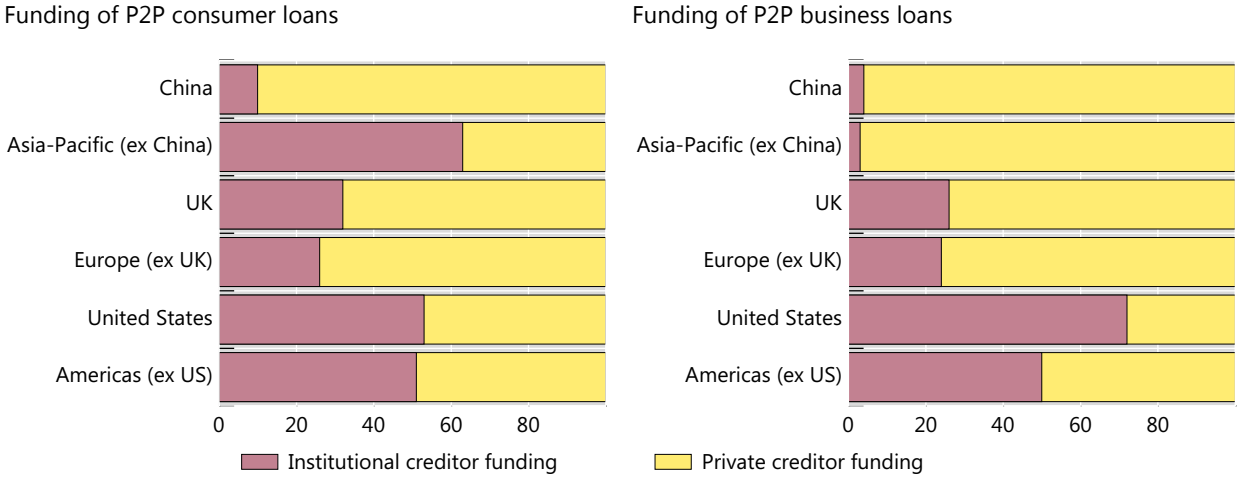
The table gives examples for purely indicative purposes; it is not meant to be a comprehensive overview of the market. Platforms which have multiple offerings can be included in multiple rows or columns. The Chinese platforms with a guaranteed return model (Deer et al, 2015) may have changed their business model due to new regulations.

## 4.2 Lenders

As the names suggests, P2P lending platforms originally offered private individuals the opportunity to invest their funds directly with borrowers. However, many platforms increasingly broadened their investor base to include a range of institutional investors. In recent years, the share of funding sourced from institutional investors has been highest in the United States, taking customer and business platforms together (Graph 7). Indeed, the evolution of platforms' funding towards institutional funding led the US industry to rebrand itself as "marketplace" lending (or lenders).

## Creditor structure of P2P lending

FinTech funding, in per cent — Graph 7




The data for Asia-Pacific and the Americas are for 2013–15, whereas those for Europe (ex UK) are for 2015.

Source: Cambridge Centre for Alternative Finance and research partners.

Institutional funding is also the main source of funding for Canadian platforms, reflecting the cost of issuing a prospectus to retail investors. Business balance sheet lending and invoice trading platforms in Australia also largely source funds from institutional investors. In Europe and Japan most funding is from private sources, while in Korea all funding is from retail investors due to regulatory requirements.

In terms of the types of institutional funding sources, securitisation capital markets have become an important avenue in the United States (Graph 8). Issuance by marketplace lenders reached USD 9 billion in 2016, with more than half of these securitisations backed by consumer loan collateral.[20] Deals have evolved from private placements to small groups of institutional investors to larger, more broadly syndicated transactions. While a large share of securitisation transactions to date have been unrated, the number of rated transactions is increasing, including a majority of deals issued in 2016. Banks in the United States facilitate FinTech loan securitisations through the provision of warehouse funding,[21] while a number of them have invested in FinTech securitisations of loans originated by platforms like Prosper and SoFi. Elsewhere, there have been only a few securitisations: a couple of small transactions by the largest platforms in the United Kingdom, and an isolated issue in Australia that one bank invested in.

Most platform creditor funds appear to be from domestic sources (Graph 9, left-hand panel). Within the Americas and Europe, only around one fifth of platforms source more than 10% of creditor funds from across borders. The proportion of cross-border funding is higher in the Asia-

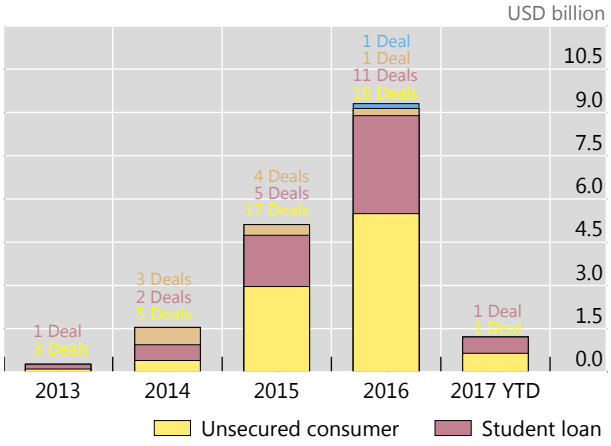
[20] By way of comparison, according to the Cambridge Centre for Alternative Finance and Chicago-Booth Polsky Center (2016), there was about USD 35 billion in total US FinTech lending in 2015, of which USD 26 billion was P2P consumer lending.

[21] Loans originated by Prosper were securitised by Citi until April 2016. Other banks have also helped to securitise loans for marketplace lenders as book runners.

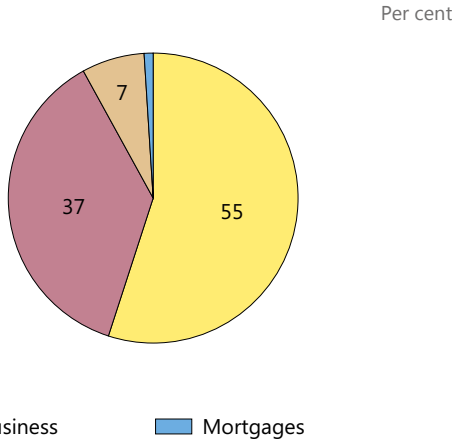
Pacific region (excluding China), at around 35%. Platforms' approach to cross-border investments varies: some platforms require investors to be residents, others have little to no restrictions on who can register as a creditor, while still others are cross-border by their nature.[22]

FinTech credit securitisation issuance in the United States — Graph 8

Issuance volume




Issuance volume by collateral type, 2013–17

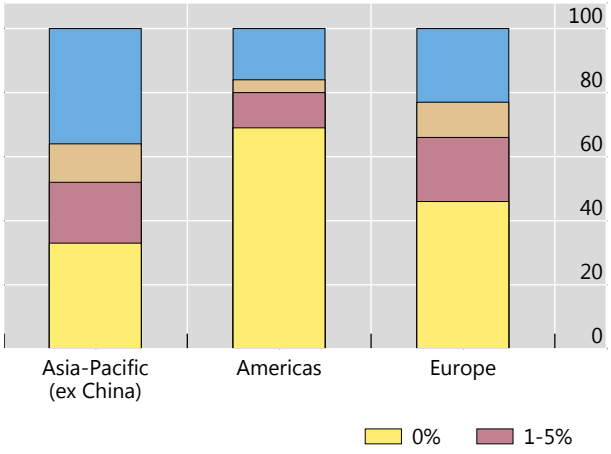



Sources: Bloomberg; Intex; PeerIQ; company websites. 2017 year-to-date (YTD) is through end-February.

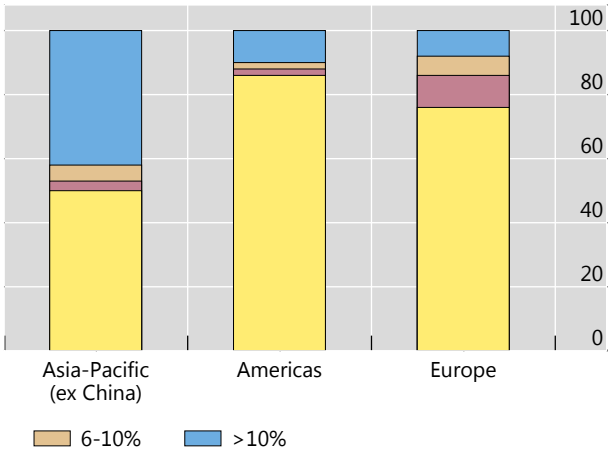
FinTech credit cross-border funding flows

Share of cross-border flows in total flows, in per cent — Graph 9

Creditors




Borrowers



Source: Cambridge Centre for Alternative Finance and research partners.

The average investment amount (for a retail investor) is reported to be around USD 8,000–10,000 in China. The average investment amount in Korea stands at KRW 3 million (~USD 2,600 as of September 2016). Pursuant to a new guideline on P2P lending which entered

[22] For example, www.kiva.com is a platform for savers (generally in developed countries) to fund specific micro-loans in developing countries, an activity which by its nature is cross-border.

into force in February 2017, retail investors are subject to an investment ceiling of KRW 10 million (~USD 8,800) per P2P platform per annum, whereas high-income retail investors may invest up to KRW 40 million (~USD 17,600) per P2P platform per annum. There is no investment ceiling applicable to professional or institutional investors.

Investments are typically much smaller in France, at around EUR 100–500, most likely reflecting a regulatory cap of EUR 2,000 (~USD 2,200) for retail investors.[23] In Germany, retail investments are limited to EUR 1,000 to be exempt from the obligation to publish a prospectus for the loan,[24] while regulatory limits in Spain are EUR 3,000 for a single project and EUR 10,000 total investment over a 12-month period.

### 4.3 Borrowers

FinTech credit can be primarily segmented into private consumer loans and business loans. Debt refinancing or debt consolidation appears to be the most common purpose of FinTech consumer loans (including for student loans in the United States). To a lesser extent, consumer loans are also taken out for vehicle purchase or home improvement in Australia, France and Italy. The US P2P consumer loan market is split between unsecured consumer lending and student lending. Platforms target prime and near-prime customers for the former,[25] and higher-quality borrowers with limited credit history for student lending. The available data suggest that, in most jurisdictions, average FinTech consumer loans are typically in the range of USD 5,000–25,000, with the United States at the top end of that range (Graph 10). Average borrowing amounts are much larger in China, at more than USD 50,000.

[23] The cap is EUR 2,000 for loans with interest, and EUR 5,000 for loans without interest.

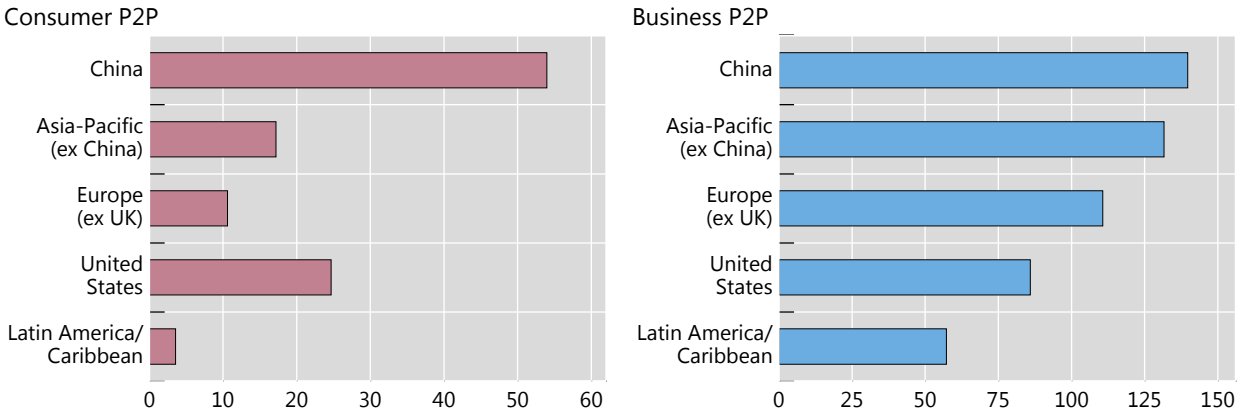
[24] However, a creditor may self-disclose his/her wealth and income and thereby raise the amount invested to a maximum of EUR 10,000 (if his/her net worth in terms of liquid financial assets is higher than EUR 100,000) or if the investment sum amounts to no more than twice his/her monthly net income. The exemption from the requirement to issue a prospectus is also only valid if no more than EUR 2.5 million is raised per issuer.

[25] "Prime" borrowers are those with a good credit history, as defined by a credit rating service (FICO score). "Near-prime" refers to borrowers that are below but close to the threshold for prime borrowers.

Average lending amounts of FinTech P2P platforms

In thousands of US dollars

Graph 10




Source: Cambridge Centre for Alternative Finance and research partners.

Business loans in the United States are typically for small and medium-sized enterprises (SMEs). Platforms offer both secured and unsecured loans. The small business lending segment comprises nearly one quarter of overall FinTech lending, and the borrowers are more heterogeneous than consumer loan borrowers. In the United Kingdom, the majority of P2P business lending appears to be extended to small businesses (CCAF and Nesta (2016)). AltFi data suggest that around two thirds of P2P business lending is on a secured basis, mostly real estate but also non-property collateral.

Platforms in the Americas and Europe appear to be more domestically focused in their lending than in their capital or fund-raising activities, with only around 10–12% of platforms lending more than 10% to borrowers abroad (Graph 9, right-hand panel). There is more cross-border lending in the Asia-Pacific region (around 40% of platforms lending more than 10% abroad), and the pattern of cross-border flows appears broadly similar for both lending and raising debt.

## 5. Micro-assessment of FinTech credit activity

There is considerable uncertainty over the growth potential of FinTech credit markets. Ultimately, the evolution of FinTech credit will depend on lenders being competitive – that is, on providers' ability to attract and retain borrowers and investors by lowering transactions costs and enhancing risk assessment through reduced information asymmetries. Accordingly, this section considers the benefits to end users in terms of prices, convenience and accessibility of FinTech credit platforms. It also considers the potential vulnerabilities of platforms.

### 5.1 Pricing

In principle, FinTech lending platforms have the potential to offer lower interest rates to borrowers and/or higher returns to investors (after including user fees). The intensive use of digital technologies reduces operating costs for credit intermediaries by removing the need for physical branch networks and allowing heavy (or full) automation of loan application, credit risk assessment and pricing processes. (This development to an extent predates FinTech lenders,

as largely/wholly online banks have been competing with established banks for some time.) In addition, FinTech lenders that are outside the prudential regulatory net at present have lower associated regulatory costs. Consistent with this, Autonomous Research (2016) find that the operating expenses of Lending Club are currently equivalent to less than 2% of its outstanding loans, compared with a ratio of 6% for the largest US lenders.[26]

Comparisons of interest rates paid by FinTech borrowers with those of bank borrowers are complicated by data gaps and possible differences in credit risk. Several studies point to lower interest rates paid on individual FinTech consumer loans (Demyanyk and Kolliner (2014), Deloitte (2016)). In the United Kingdom, it appears that Zopa provides lower interest rates to retail consumers on small loans compared with the cheapest loans offered by big banks (up to around GBP 7,500). However, De Roure et al (2016) find similar rates for the German market when accounting for differences in loan risk. Buchak et al (2017) identify that interest rates on FinTech loans for residential real estate in the United States are slightly higher than those of banks and other non-bank lenders when controlling for property location and loan differences.

Some lending platforms' loans are characterised by a larger dispersion in interest rates than traditional intermediaries' loans. For instance, according to the US Department of the Treasury (2015), US platforms' consumer lending interest rates range from 6 to 36%, while bank credit card revolving credit interest rates are very concentrated around 12%. A wider distribution of interest rates might suggest greater dispersion in borrower risks and/or greater use of risk-based pricing.[27]

The benefits for FinTech creditors are even more challenging to quantify, mainly because it is difficult to identify alternative investments with similar risk characteristics (by credit risk, duration and liquidity). Indeed, it could be argued that FinTech loan investments are a new asset class for retail investors, distinct from lower-yielding bank deposits and more diversified than single-company company debt exposures (eg debentures or retail bonds). Morse (2015), using data from the largest US consumer loan platforms, estimates that the average return on investment between 2007 and 2013 was about 7%, or 3% higher than the return on the Barclays Fixed ABS Index.[28] National responses to the CGFS-FSB survey show indicative rates of return generally in the range of 5–10% (Graph 11, left-hand panel).

[26] A qualification is that loans make up only a portion of banks' total assets – on average 54% in the United States according to Federal Deposit Insurance Corporation (FDIC) data.

[27] Bertsch et al (2016) show that the level of interest rates and the dispersion in rates fell on 16 December 2015 with the announcement of the increase in interest rates by the Federal Open Market Committee (FOMC). The authors interpret the result as a dominance of the reduction in default probabilities over the interest rate pass-through.

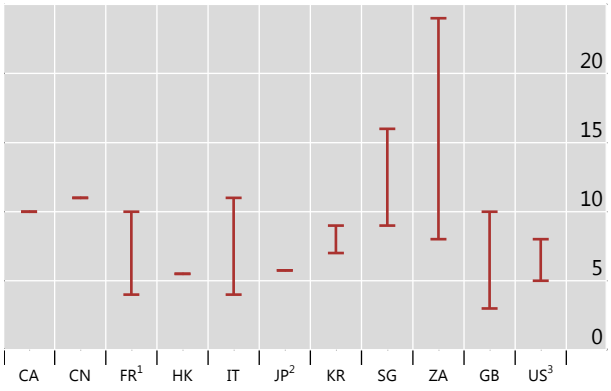
[28] Standard Consumer ABS index.

FinTech credit platform rates of return

In per cent

Graph 11

Indicative average rates of return




Rates of return by credit risk grade, Lendico Platform in South Africa[4]

Estimated default rate by grade %:
A = 0.01 to 2
B = 2 to 5
C = 5 to 9
D = 9 to 14
E = 14 to 20

[1] Based on loan maturity of two to six years. [2] Data from one of the largest platforms. [3] Range encompasses historical rate of return from Lending Club and Prosper. [4] Rates of return are the midpoint for each credit risk grade.

Sources: National responses to the CGFS-FSB survey on FinTech credit; Lendico South Africa's website.

As is the case for borrower rates, investors' expected rates of return will depend heavily on investors' preferences for risk profile and loan term. For example, data from Lendico in South Africa show that rates of return for its lowest and highest credit risk grades range from 8 to 24% (Graph 11, right-hand panel). In China, 2015 survey data suggest that around 20% of creditors from platform PPDai prefer to receive interest rates of 18% or more (Deer et al (2015)).

## 5.2 User convenience

Extensive use of information technology and online options can allow FinTech platforms to provide a more convenient service for customers. Risk information is provided, and investments and loan application processes conducted, largely (if not entirely) online, reducing search costs and speeding up the process for borrowers and investors. In principle, it should also be easier for investors to be provided with detailed loan performance data on electronic platform markets.[29]

According to a survey conducted in the United Kingdom (Nesta (2014)), almost 90% of retail investors stated that, when making decisions about lending through P2P platforms, the ease of the lending process is important or very important. Similar responses were given by borrowers. In a very short time (minutes, in some cases), borrowers are usually given an initial indication of whether they meet basic lending criteria or even a loan offer. Nesta (2014) also reports that speed is the feature of P2P lending that users appreciate the most. At present, the ability of FinTech platforms to provide online services and user-friendly experience may give them some

[29] However, in practice the level of disclosure on risks and performance might not be as extensive as comparable investment fund products or securities prospectuses.

competitive advantage over traditional intermediaries which are dealing with legacy infrastructure and processes.

### 5.3 Accessibility

FinTech lending may be seen as an alternative funding source for existing borrowers. For example, by allowing small business suppliers to have earlier access to their receivables, invoice trading platforms reduce the need to draw on potentially more costly bank overdrafts.

This view is supported by some jurisdictions where governments have either proposed or established tax incentives for FinTech credit investors to encourage FinTech lending and/or directly funded SMEs through FinTech platforms. For example, the government-owned British Business Bank has lent GBP 60 million, and has committed to lend another GBP 40 million, to small businesses through UK credit platform Funding Circle.

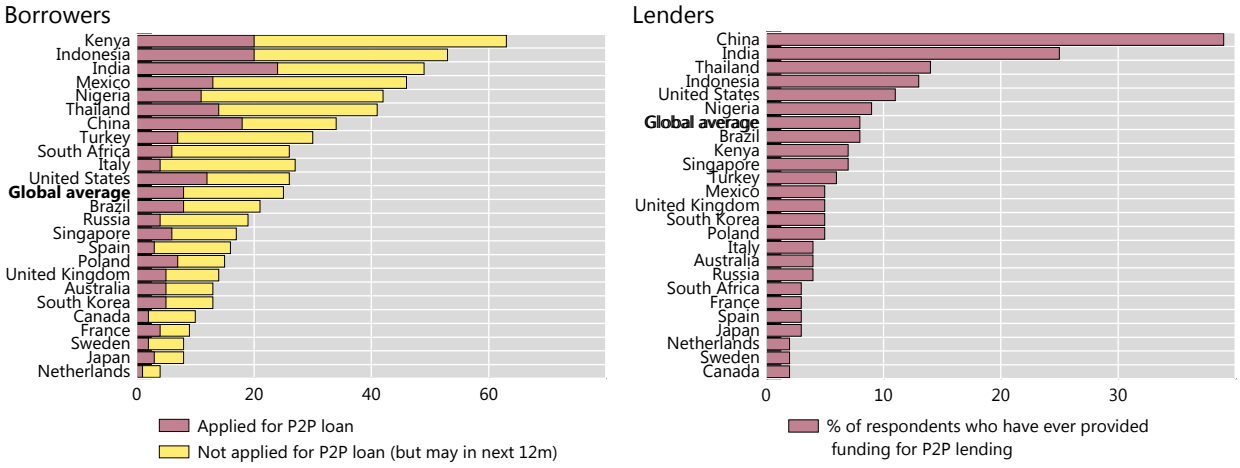
A related benefit is that FinTech lending may increase accessibility to financial services to underserved segments of the population. More efficient processes and specialisation appear to allow some FinTech lending platforms to originate smaller-value loans that are not economical for banks. Nesta (2014) finds that 79% of P2P borrowers in the United Kingdom had attempted to obtain a bank loan, but that only 22% of borrowers had been offered loan by a bank.[30] Similar conclusions are drawn by the US Department of the Treasury (2015). Using data from a German consumer loan platform, De Roure et al (2016) suggest that funding goes to borrowers that would not have easily obtained credit through a bank.

The issue of accessibility in traditional banking appears to be even more important in emerging market economies, where credit access is a key element of financial inclusion. At face value, survey data from UBS (2016) show that the propensity of individuals to borrow from a P2P platform is much higher in a number of emerging market economies (Graph 12). In addition, a large share of respondents in these countries said that they may borrow from a P2P lender for the first time in the next 12 months. In a separate survey, more than half of the borrowers on Chinese platform PPDai reported that they had no borrowing history from a financial institution and, separately, that their main loan use was to "accumulate creditworthiness" (Deer et al (2015)). Even so, the propensity of individuals to supply credit to FinTech platforms in China appears greater than that to demand credit, which may point to a relatively strong desire for alternative higher-yielding investments (Graph 12).

[30] The UK government has adopted regulations requiring nine designated UK banks to pass on information on small business to which they have rejected financing to designated platforms for offers from alternative finance providers. The rules are intended to facilitate access to finance by businesses turned down by traditional lenders. See HM Government (2015) and HM Treasury and Kirby (2016).

Propensity of individuals to borrow and lend on P2P platforms

Percentage of survey respondents Graph 12




Source: UBS survey of ~28,000 bank customers across 24 countries, conducted in April–May 2016.

## 5.4 Potential vulnerabilities of FinTech lending activity

### *(a) Leverage and liquidity risk*

Most P2P lending platforms are not leveraged like banks, but rather operate as agents that match borrowers with investors. Any leverage in the end-investor base is likely to be comparatively small. A small proportion of platforms engage in leverage when they use their own balance sheet to fund loans. There is a question as to what capital resources back these platforms' credit risks. There are similar questions for those platforms that offer return guarantees.

In contrast to the traditional banking model where lending is funded by on-demand deposits and shorter-maturity funding, the P2P lending model (Section 4.1.1) does not entail bank-like liquidity risks. Investments and loans are typically duration-matched, and investors are unable to liquidate their investments before loan expiration. To exit a position early, an investor must find another investor to take over the investment.

However, there is an emergence of platforms offering investors almost immediate access to their investments. For example, a platform operating in the United Kingdom is offering a "rolling account" – creditors can invest in loans that have a duration of between six months and five years, during which time maturing investments are reinvested into new loans. Investors can access their money at any time, and with no fee, during the investment period. The scheme is reliant on the availability of maturing investment funds, which are in the process of being reinvested, cash from new investors or funds set aside by the platform in their provisional account. The platform also offers a "sell-out" option for their fixed-term accounts for a fee. The platform does inform investors that such withdrawals are not guaranteed, and the platform is not legally obliged to return funds. Even though the platform does not technically engage in maturity and liquidity transformation, the existence of an early withdrawal or "sell-out" option might create an expectation of easy liquidity.

### *(b) Operational risks*

FinTech credit platforms may be more vulnerable than banks to some operational risks, such as cyber-risk, due to their reliance on relatively new digital processes. The extent of such risks to platforms is likely to depend on the degree of sophistication of platforms, mechanisms used for the storage of client information and the robustness of their cyber-security programmes. Given its heavy use of information technology, FinTech lending is also reliant on third-party providers (for example, online data and cloud computing providers), rendering them prone to the impact of any disruptions of these outsourced services. As with any business, FinTech platforms must also protect against fraud-related risks, including money laundering but also broader corporate misconduct. Box B provides some recent instances of FinTech platform misconduct scandals.

### *(c) Quality of credit risk assessments*

A crucial element for the success of the FinTech lending business model, as with any lending business, is the ability of FinTech credit platforms (and their investors) to accurately price credit risk and thus deliver acceptable risk-adjusted returns. This might be especially so for FinTech platforms that widen borrower access to credit. FinTech platforms and proponents argue that an effective use of big data analytics – including certain non-traditional mass data sources – can improve borrower screening. The specialised focus and lack of cumbersome legacy IT systems might also enhance information management systems – for example, by allowing data to be updated more regularly. Perhaps consistent with these arguments, some banks have begun to use proprietary FinTech credit risks models for their own lending (see Box C). However, as yet, there is no firm evidence of actual improvements to the performance of credit risk models, and the models have not yet been tested through a full credit cycle. Other qualifications include the following:

- The quality of data used by the platforms to assess borrower risk may not be as comprehensive as in traditional lending. Specifically, borrowers' information, such as income, wealth and total debt outstanding, may not be present in some platforms' due diligence documents.
- To the extent that platforms focus solely on hard data sources at the expense of soft credit risk indicators, the quality of the credit assessment could be weakened in some cases, ie where risk is highly heterogeneous.
- Adding more risk indicators may not be that beneficial if the measure of loan default is biased. This may be the case if platforms have expanded into new borrower segments where there are likely to be poorer default data.

### *(d) Business model incentives*

The quality of the credit risk assessment on FinTech loans might be adversely affected by misaligned incentives in the agency lending model used by most FinTech credit platforms (except those lending on-balance sheet). Under the agency model, lenders rely on approving new loans to generate fee revenue but do not directly bear the credit risk on those loans. Like in the pre-crisis "originate-to-distribute" model of mortgage lenders, there may be moral hazard risks. There may be additional incentives to originate high-risk loans when a platform charges higher fees to higher-risk borrowers (eg due to a fee structure proportional to interest rates) or to investors upon loan collection. That said, in cases where platforms source a portion of their

fee revenue from loan servicing, there is some revenue incentive to originate performing loans; there are also reputational reasons to do so.

### *(e) Reliance on investor confidence for new business*

FinTech credit platforms need to continuously attract borrowers and investors to generate fee-based lending revenue. Attracting new borrowers should be possible so long as platforms provide interest rates that are somewhat lower than those offered by banks or wider access to credit. Attracting and retaining retail investors appears to have been more difficult than attracting and retaining borrowers in the case of major UK and US platforms (Milne and Parboteeah (2016)). In that connection, maintaining investor interest and trust is crucial to a platform's business viability.

There could be a range of catalysts for a loss of investor confidence in a FinTech lending platform or platforms. These include:

- A change in the returns on other assets, including less risky assets. This might be especially so in the current low interest rate environment where some investors have been searching for yield.
- A significant rise in the defaulted FinTech loan rate vis-à-vis the market expected rate may result in a loss of trust in platforms' credit risk models and underwriting methods. These risks could be exacerbated by poor transparency in respect of underwriting processes and loan performance.
- As noted above, there are instances where platforms are now offering early sell-out options. Even though it appears that platforms indicate to investors that they are under no legal obligation to allow investors to withdraw funds early, the platform might suffer significant reputational damage if a large enough proportion of investors decide to withdraw their money and are unable to do so. Such a situation could be more likely if the end investor was a fund promising liquidity at short notice.
- Legal risks could arise, for example relating to the use of certain data for lending or other activities, or to the way products are marketed to customers.
- A significant operational risk event, including cyber-attack, fraud or operational disruption.

### *(f) Low barriers to entry*

There has been a significant flow of entrants into FinTech credit markets over recent years. Barriers to entry are generally not high, as the industry in many countries appears to be less regulated than other financial services, product distribution is online, and the data sources used are often widely available. In particular, many banks have significant resources at their disposal and could set up their own platforms and make use of more big data analytics and risk-based pricing. This would put pressure on FinTech credit platforms, particularly in combination with other factors or scenarios such as those referenced above.

**Box B: Scandals at FinTech platforms**

Over the past 18 months, there have been a number of scandals in the FinTech lending sector. While the fallout from these incidents has been limited, each one has raised concerns about performance and has attracted the attention of regulators to a less regulated industry.

**Lending Club (United States):** In May 2016, Lending Club, the largest US marketplace lending platform and one of only a few that are publicly listed, announced that the company had repurchased USD 22 million of near-prime personal loans previously sold to a single investor. Lending Club stated that the repurchased loans did not conform to the requirements of the buyer, and an internal review revealed evidence of data manipulation on certain non-credit fields. Concurrently, Lending Club announced that it had discovered a previously undisclosed ownership interest of senior executives in a fund designed to invest in marketplace loans. These disclosures resulted in the resignation of the CEO and several other senior executives.

While spillover effects to other platforms were relatively limited, this incident has prompted greater regulatory and investor scrutiny. Market participants reported that investors were subsequently seeking greater transparency in deals and underwriting practices.

**TrustBuddy (Sweden):** TrustBuddy was a P2P lending platform based in Stockholm. Launched in 2009, the platform originally specialised in payday loans, but was expanding into more conventional consumer loans. In August 2015, after reporting significant losses and as part of a transition to a broader focus on consumer lending, TrustBuddy brought in a new management team. The new team found evidence of misconduct, and an internal investigation revealed that the platform owed significantly more to investors than it held in assets. It appeared that TrustBuddy had been allocating new lender capital to cover bad debts, and using capital to make loans to borrowers without assigning the loans to a lender. TrustBuddy reported the situation to the Swedish Financial Services Authority, which ordered TrustBuddy to cease its operations immediately. Trading in TrustBuddy shares was also suspended, and the platform filed for bankruptcy several days later.

While direct market reaction to this platform failure was muted, the incident raised questions about the safety of FinTech lending, and has prompted further regulatory scrutiny.

**Ezubao (China):** Ezubao, a Chinese FinTech lender purportedly active in small business lending, experienced the largest financial fraud in Chinese history. Ezubao unexpectedly stopped operating in December 2015, and ongoing customer investor complaints spurred a police investigation. In early 2016, it was revealed that Ezubao was a massive Ponzi scheme, in which more than 900,000 individual investors were defrauded of USD 7.6 billion. The platform, founded in 2014, was a relative newcomer to the market, but came under investigation for suspected illegal business practices early on. Most of the products offered by Ezubao were discovered to be fake, and the company was nothing more than a vehicle used to enrich top executives.

The FinTech lending industry in China is large and very fragmented. While the stock price of another large Chinese P2P lender, Yirendai, dropped precipitously around the time of the Ezubao announcement, it rebounded quickly. Other platforms do not appear to have been affected by the negative headlines.

### *(g) Platform profitability risks*

In addition to providing effective products for customers, platforms must also be able to consistently deliver sufficient returns to their shareholders. Some of the largest platforms in the United States and the United Kingdom have continued to report losses in recent years (Table 4). This may mean that their operating cost advantage is not sufficient to allow them to write competitively priced loans sustainably at current volumes. Regardless, given the relatively young age of the industry in most jurisdictions, it may still need to grow further to benefit from sufficient economies of scale to facilitate profitability. Lastly, it could also reflect a conscious decision to favour growth over profitability.

Low profitability and concern about the stability of their investor base may induce FinTech lenders to adjust their business models, such as by undertaking lending on-balance sheet, offering guarantees, using financial or synthetic leverage to enhance returns or shifting into other revenue streams.[31] Such changes would fundamentally alter platforms' risk profile and might increase the risk of a platform defaulting if capital and risk management capabilities do not rise commensurately with risk.

**Table 4: Operating profits (losses) of selected UK and US FinTech credit platforms**

| | | Amount | Percentage of revenue |
|---|---|---|---|
| **Funding Circle**[a] | 2014 | GBP (19,567,409) | –149 |
| | 2015 | GBP (39,723,217) | –124 |
| **Zopa** | 2014 | GBP (6,141,863) | –54 |
| | 2015 | GBP (8,923,159) | –43 |
| **RateSetter** | 2014 | GBP 320,421 | 3 |
| | 2015 | GBP (5,132,135) | –28 |
| **Lending Club** | 2014 | USD (29,220,000) | –14 |
| | 2015 | USD (5,408,000) | –1 |
| | 2016 | USD (155,542,000) | –31 |
| **Prosper** | 2014 | USD (6,150,000) | –8 |
| | 2015 | USD (29,119,000) | –15 |
| | 2016 | USD (121,285,000) | –91 |

Figures are on a consolidated basis and include international operations.

Source: Company financial disclosures – Lending Club and Prosper operating profits (losses) calculated based upon figures provided in their annual reports.

[31] For example, some P2P platforms in the UK have applied for a banking licence.

Another possible way for the industry to boost returns to scale is to consolidate, although the industry is somewhat concentrated already in most jurisdictions and business models and underlying processes are reasonably diverse. Consumer lending platforms in China appear to have achieved greater scale than elsewhere, yet the industry is less concentrated. This might reflect the fact that traditional consumer finance markets were not as deep in China prior to the emergence of FinTech lending, allowing rapid and decentralised growth of platforms.

# 6. Financial stability implications of FinTech credit

At this stage, the small size of FinTech credit relative to credit extended by traditional intermediaries limits the direct impact on financial stability across major jurisdictions. However, a significantly larger share of FinTech-facilitated credit in the financial system could present a mix of financial stability benefits and risks in the future. Among potential benefits are effects associated with financial inclusion, more diversity in credit provision and efficiency pressures on incumbents. Among the risks are a potential deterioration of lending standards, increased procyclicality of credit provision, and a disorderly impact on traditional banks, for example through revenue erosion or additional risk-taking. FinTech credit also may pose challenges for regulators in relation to the regulatory perimeter and monitoring of credit activity.

It is important to emphasise that FinTech credit is currently very small in nearly all jurisdictions (as outlined in Section 3). Perhaps only in the UK does P2P lending appear to be a significant source of credit to a particular segment – it accounted for nearly 14% of equivalent gross bank lending flows to small businesses in 2015 (CCAF and Nesta (2016)). Reflecting the current small overall size of the sector, much of the analysis in this section is based on the assumption that FinTech credit continues to expand at a fast pace and that it becomes a significant share of credit activity. This analysis does not attempt to assess the likelihood of such an outcome.

Bearing in mind the pace of innovation and the rapid development of the industry, this section considers the implications for financial stability – both benefits and risks – of FinTech platforms becoming material providers of credit (Section 6.1). It also considers the implications of the use of securitisation to fund FinTech credit provision (Section 6.2) and the possible response from incumbent banks to the growth of FinTech credit (Section 6.3).

## 6.1 Greater share of FinTech credit

A number of potential benefits stem from the nature of FinTech credit activity. A key policy implication of FinTech credit is its potential to foster **financial inclusion**. While this is a policy goal in its own right, a greater reach of financial services may also impact the financial system through various economic channels. For example, inclusion may entail investors having access to alternative products that are less correlated with other asset classes. In addition, borrowers with limited access to bank-intermediated credit (such as small businesses and self-employed individuals) may be able to obtain the funding they need for investment or working capital purposes. The issue of credit availability is especially relevant in emerging market and developing economies, where demand for FinTech credit appears to be relatively strong (Jenik et al (2017)).

The digitalisation of lending may reduce transaction costs, including search costs and costs incurred during loan origination and maintenance processes. This could potentially bring about **lower prices** for borrowers and/or **better risk-adjusted returns** for investors, which should benefit the financial position of economic actors and their ability to build up greater financial buffers.

The presence of FinTech credit platforms may help to **diversify sources of credit** in the economy, thus providing alternative funding options for borrowers, which they may find more suitable. For example, some smaller firms might prefer to manage their cash flows through invoice trading platforms rather than traditional bank overdrafts or bank invoice discounting.

A **lower concentration of credit in the banking sector** might be beneficial in the event that there were problems idiosyncratic to banks.[32] In other words, platforms might be a "spare tyre" for lending in the economy, much in the way some forms of market-based finance are for certain lending segments. While it is plausible that the funding environment could be unfavourable for FinTech credit platforms if there were concerns over the regulated banking system, in this case FinTech credit platforms might still provide another avenue through which credit could flow to other parts of the economy if bank lending were impaired. In some jurisdictions, platforms could be a means by which governments may intervene to revive credit markets after a banking crisis.

The resilience of the FinTech credit industry to large exogenous shocks (such as the emergence of problems in the banking sector) might be aided by its relatively low **interconnectedness** – that is, FinTech lending platforms are unlikely to have significant direct financial exposures to each other like banks do.[33] This benefit may decline as platforms become more interconnected with banks (see Box C).

In contrast to the traditional banking model where term lending is funded by on-demand deposits and shorter-maturity funding, the matching of loan terms under the traditional P2P lending model (Section 4.1.1) does not entail maturity mismatch. While investors can choose not to roll over maturing claims, they (generally) cannot redeem claims early. Consequently, FinTech lending platforms could **enhance the resilience of credit provision in the economy to pure liquidity shocks**, provided that the end investors understand that platforms are not providers of liquidity, and that end investors are not (solely) traditional banks. In addition, FinTech platforms may be less exposed to international shocks than banks because they are more domestically focused in both their credit extension and fund-raising activities.[34]

At the same time, many of the benefits of FinTech credit are closely related to potential risks. In particular, greater accessibility to credit harbours the potential for a **reduction in lending standards** across the economic cycle. In a large cross-country panel, Sahay et al (2015) show that greater credit access, as measured by the number of borrowers per 1,000 adults, has a bell-

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[32] Examples might include problems in banks' non-loan or international activities.

[33] A basic insight from network theory is that densely interconnected financial networks enhance financial stability when shocks are sufficiently small by diversifying risks, but can propagate the impact of larger shocks, leading to a more fragile financial system (see eg Haldane (2009)). The intuition here is simply that, up to a point, a highly interconnected system will help to share risks and act as a shock absorber; but beyond that, it will act to spread the impact of shocks throughout the system.

[34] A domestic focus implies greater geographical concentration risk in FinTech credit intermediation. The experience of the financial crisis suggests that the benefits of geographical diversification away from home markets should not be overstated.

shaped association with banking sector resilience: credit access may support financial stability for underdeveloped credit markets, but it is associated with less stability for countries with deep credit markets. As discussed in Section 5, credit risk may be materially higher than for banks because of greater credit risk appetite, untested credit risk models and the potential for misaligned incentives under the agency lending model.

A greater share of FinTech credit could also result in more **procyclical credit provision**, including the weakening of lending conditions in an upswing and a pullback in credit in times of stress. Unlike (insured) bank deposits, FinTech loan investments may be prone to investors' fad-like behaviour and swings in their credit risk appetite. Investor herding and a reduction in new funding on platforms could be triggered by a number of factors: as noted in Section 5, these include a change in returns on other assets, credit losses, or other microprudential risks, such as operational risks or platforms taking on leverage or liquidity risk. FinTech credit platforms may also be more vulnerable than banks to some types of microfinancial risks due to their greater use of untested and digital processes.

A key aspect of the systemic risk posed by a significant **pullback of FinTech credit** is the availability of substitute forms of credit, either through other P2P platforms (intra-sector substitution) or traditional financial intermediaries (cross-sector). Regarding intra-sector substitution, the apparent concentration of FinTech credit market activity in a number of countries (with perhaps the notable exception of the Chinese market) may make it difficult for borrowers to access competing FinTech credit platforms quickly. That said, in principle, barriers to existing platforms taking on different types of lending are not high. On cross-sector substitution, the supply of credit to certain P2P borrowers by traditional financial intermediaries is often quite limited – for instance, loans to very small businesses or the self-employed. Hence, there is a reasonable chance that this type of FinTech lending will not be promptly replaced from outside the FinTech credit industry.

Depending on the jurisdiction, the rise of FinTech credit activity that is dispersed and outside the **regulatory perimeter** may pose monitoring difficulties for authorities. In particular, reliable and timely data and other information may not be readily available because of the absence of regulatory reporting requirements and supervisory processes.

A related point is that more lending activity outside the prudential net may limit the effectiveness of credit-related macroprudential policy measures. Further, FinTech platforms do not have access to **public safety nets**, such as central bank emergency liquidity.

## 6.2 Securitisation

The securitisation of FinTech credit obligations into large bundles potentially makes available to borrowers funding from different classes of institutional investors, and allows FinTech investments to be actively traded. However, depending on its nature, an increased use of securitisation may pose some financial stability risks *distinct from other FinTech platform funding avenues*. First, the securitisation process increases interconnectedness between FinTech platforms, banks and capital markets; if the FinTech credit market continues to expand, this may create new transmission channels whereby risks generated in the FinTech credit industry are spread to the wider financial system, and vice versa. Second, in the absence of "skin in the

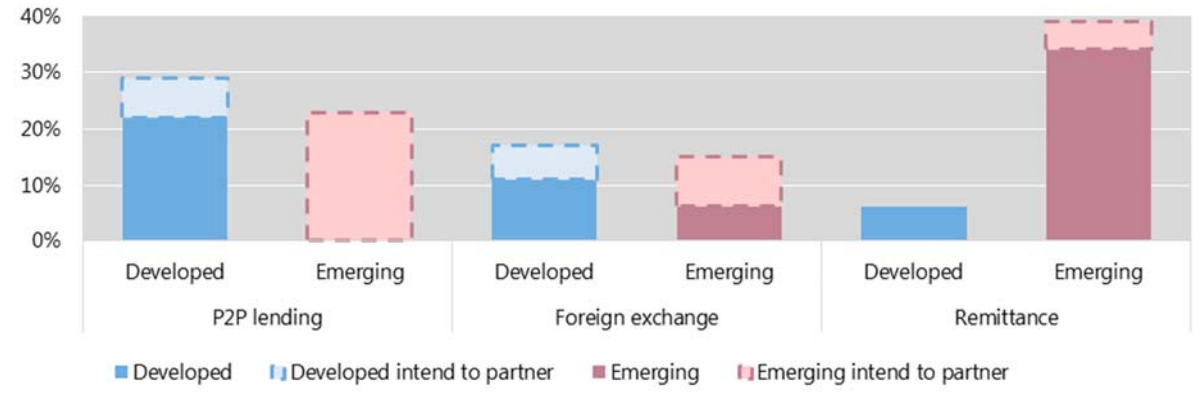
game" retention requirements,[35] the potential for misaligned incentives may be greater than if the loans were not securitised given that, from a reputational perspective, loans are further removed from the platform (see Section 5.4(d)). Finally, the bundling and tranching of loan obligations may lead to greater opacity in the overall market for investors and for regulators.

### 6.3 Potential response from incumbent banks

The emergence of FinTech platforms has led to, and will continue to lead to, responses from the traditional banking sector. Specifically, banks may: (i) seek to acquire, or set up their own, FinTech credit platforms; (ii) make use of similar technologies for the traditional on-balance sheet lending business, such as those for credit assessment, either by developing them in-house or by partnering with FinTech credit platforms; (iii) invest directly in the loans of FinTech credit platforms; or (iv) retreat from market segments where FinTech credit platforms have a growing competitive advantage. The financial stability implications differ by scenario, but a few general trends may be surmised.

The growing adoption of online platforms and competitive pressures may lead to the **greater efficiency** of incumbent banks. By acquiring new online and data-based technologies, banks may "leapfrog" some current challenges in legacy IT systems. Similarly, successful partnerships between banks and FinTech platforms could create an opportunity to improve risk analysis or offer a better service to a particular segment of the market (such as the small loans segment). According to a UBS survey, around 22% of developed market banks have a partnership with a P2P lending platform (Graph 13). No emerging market banks surveyed reported having a partnership, but 23% intend to form a partnership in the future. Box C provides some examples of partnership agreements.

Banks offering services in partnership with FinTech companies — Graph 13




Source: UBS survey of 61 banks across 24 countries, conducted in April–May 2016.

[35] Such retention requirements stipulate a percentage of a securitisation which must be held by the originator, so as to ensure incentives for prudent lending when loans are packaged and sold on to external investors.

**Box C: Interactions between banks and FinTech platforms**

There are several types of interactions between (large) banks and FinTech platforms. Such interactions appear to be becoming increasingly common. For example, PricewaterhouseCoopers (2015) notes that a range of US banks partner with platforms to originate small loans that are uneconomic based on their cost structure, and to diversify their balance sheets. Forms of interaction can include the following:

- ***Operational services*:** Banks can provide specific operational services to FinTech platforms, such as payment and settlement services and custodial services. Such relationships reflect legal requirements for provision of these services in a number of jurisdictions (eg France, Italy and the United States). In this vein, the Chinese regulatory authorities have published guidance for banks to provide FinTech retail lenders with deposit, custody, payment and settlement services (see Box D).
- ***Loan origination*:** As described in Section 4.1.2 above, some FinTech platforms use banks to originate loans on their behalf.
- ***Direct investment*:** Banks or their holding companies in a number of countries have provided equity financing to FinTech credit platforms, while some French banks co-finance projects with separate FinTech lenders. In Japan, a bank holding company, which has a bank subsidiary, has built a lending platform through which it provides equity financing. There are also examples of banks in Germany, Italy and the United States establishing their own FinTech financing initiatives. Some banks – particularly in the United States – provide debt financing to FinTech platforms, or fund FinTech loans directly as institutional investors or by purchasing FinTech loans or securitisations.
- ***Partnership agreements*:** Some banks have developed partnerships with platforms whereby borrowers that are denied credit from a traditional bank are referred to FinTech platforms. For instance, in 2014 Santander UK became the first UK high street bank to agree to a referral deal with Funding Circle, which specialises in corporate loans (Moules, 2014). New regulations make such referrals mandatory in the United Kingdom (see Section 5.3). Other banks make use of FinTech credit platforms' credit assessment processes to help with their own lending. For example, JPMorgan uses the proprietary credit scoring model of OnDeck to help inform its small business lending decisions, and in return pays the platform an upfront fee at loan origination as well as a recurring fee. Similar relationships exist between BBVA and OnDeck, as well as ING and Kabbage.

At the same time, there are some potentially important risks for incumbent banks and the financial system. First, the increased competition from FinTech lenders could **erode bank profitability**. Specifically, the "unbundling" of bank business lines by specialised FinTech credit platforms (and other FinTech providers) could erode revenue bases, making banks more vulnerable to losses and weakening their access to internal and external funding. If this process happens quickly, there could be amplification effects given the systemic importance of some banks and their provision of critical services other than credit. Secondly, in a drive to preserve

market share or revenues in the face of competition from new platforms, banks may be encouraged to **lower their lending standards**. Alternatively, they could respond by cutting costs in ways that compromise sound risk management. Third, banks may expose themselves to **greater operational and reputational risks** (including cyber-risks) by acquiring or partnering with platforms (including for the origination of FinTech loans), adopting digital credit models, or outsourcing processes to external technological service providers. While these sorts of operating and outsourcing risks are already rising for banks, the advent of FinTech credit may accelerate the speed of change and generate risks in a wider range of processes. Lastly, processes whereby banks originate loans on behalf of FinTech credit platforms and then sell these loans to the platforms or to investors on the platforms could entail **regulatory arbitrage**.[36] If significant credit problems were to arise from this type of activity, it could generate reputational risks for banks and reduce confidence in the prudential regulatory framework for credit.

# 7. Financial regulatory architecture for FinTech credit

There are no internationally agreed financial regulatory standards or policies for FinTech credit lending. In a number of jurisdictions where FinTech credit markets have emerged, authorities have acted to address risks and to promote benefits, in line with their respective mandates. Some authorities have acted within existing frameworks, while other authorities have put in place rules specifically for FinTech credit. In some cases, there have been public sector policies (eg tax policies) to promote FinTech credit or influence its development. This section gives factual examples of regulation in FinTech credit markets, based on a joint CGFS-FSB survey on FinTech credit intermediation and publicly available information.

## 7.1 Rationale for the regulation of FinTech credit markets

Licensing and conduct regulation are generally applied to financial service providers to promote the fairness and efficiency of financial markets. In many jurisdictions, these rules can differ across financial markets depending on the potential for, and impact of, market failure. For example, markets interacting with consumers and retail investors may be subject to a specific set of rules aimed at protecting against the establishment of inappropriate financial contracts. More intensive prudential regulation of banks and certain other financial institutions aims to ensure that depositors/investors are protected, or that certain financial functions are delivered with a much greater degree of safety. In large part, this reflects the negative externalities – that is, the costs for the economy if critical financial services were to become impaired.

Based on these types of considerations, many authorities see a rationale for the regulation of FinTech credit in various forms. The intensity of regulation applied to FinTech credit firms and markets appears to depend heavily on the nature and risks of their activities. Regulation need not be viewed as a constraint on the sector as a whole. If well designed and proportionate to the risk of market failure, it may support confidence, growth and innovation in FinTech credit over the longer term.

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[36] In some jurisdictions, there is guidance on third-party risk management which requires banks to ensure that activities of external service providers comply with application banking regulations. In such cases, activities are viewed by regulators as if they were performed by the institution itself.

## 7.2 Regulation of FinTech credit within existing frameworks

Many jurisdictions regulate FinTech lending platforms within existing national frameworks for banks, non-bank credit providers, collective investment schemes, and securities issuers. For instance, in some jurisdictions (eg Germany,[37] Hong Kong SAR, the Netherlands, Singapore), FinTech lending platforms are subject to the same rules for investor protection, risk management and capital and/or liquidity requirements as other financial service intermediaries. In Germany, FinTech credit platforms need to apply for a banking licence to engage in credit activity or engage a licensed bank to carry out the lending business. In the Netherlands, platforms that provide credit to consumers need a regular licence for the provision of credit, while platforms that offer loan contracts to SMEs are exempt. However, there are additional investor protection measures in place, such as the need for platforms to assess the knowledge and experience of consumers and restrictions on the number and volume of investments. In Australia, the existing regulations that apply depend on how the platform is arranged. For example, if the business is structured as a managed investment scheme, a tailored licence authorisation and specific regulatory relief might be applied for; where a platform provides consumer credit, it is subject to statutory obligations, including holding an Australian credit licence and meeting responsible lending obligations.

In the United States, FinTech lending platforms are regulated based on activity. For example, if a lending platform is engaged in an underwriting, origination, or servicing activity, it may be subject to state lender licensing requirements. In addition, based on the activity and products provided, lending platforms may be subject to federal or state consumer protection laws, federal or state securities laws, and federal anti-money laundering statutes. Investor protection rules are the same for FinTech lenders as they are for other credit intermediaries. In addition, financial institutions that partner with FinTech lenders are expected to maintain effective third-party risk management of the lenders. The US Office of the Comptroller of the Currency (OCC) has consulted on a proposal to grant special purpose national bank charters to FinTech companies that perform core banking activities, including making loans.[38]

## 7.3 Examples of regulation dedicated to FinTech credit[39]

Several jurisdictions have put in place a regulatory framework specifically for FinTech credit through new forms of **licences for FinTech platforms**. For instance, in Switzerland the Federal Council initiated a consultation on the introduction of a new licensing category for FinTech companies. This would be less expensive than a banking licence but comes with stringent terms: the volumes concerned must be relatively low (maximum of CHF 100 million in public funds) and these companies are not allowed to transform maturities. As is the case for all financial intermediaries, FinTech companies are required to adhere to anti-money laundering rules. The licensing frameworks in France and Spain and the authorisation of a lending platform in the

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[37] Pursuant to Section 2a of the Capital Investment Act (*Vermögensanlagegesetz*), there may be an exemption from the obligation to publish a prospectus for the loan intermediated through a crowdlending platform, subject to certain prerequisites (see also Section 4.3).

[38] See OCC (2016a,b). FinTech companies applying for a special purpose national bank charter would be expected to operate in a safe and sound manner. Any FinTech companies granted such charters would be held to the same standards that all federally chartered banks must meet.

[39] Regulatory frameworks for FinTech credit continue to be adapted over time. A broader stocktake of regulatory approaches to the FinTech sector is being carried out among FSB members.

United Kingdom are also subject to certain conditions. In France, registration is possible when all legal criteria are met, including fitness and propriety of the general manager and insurance protection guarantees. In Spain, requirements include: capital requirements for platforms; professional requirements imposed on the platform; rules on conflicts of interest that apply to the platform operator; money handling requirements; and requirements to ensure business continuity in the event of failure. In the UK, the threshold conditions are the same as for other (non-FinTech) firms undertaking regulated financial services and include the requirement that the platform must have appropriate resources and be capable of being effectively supervised; those managing the affairs of a firm must have adequate skills and experience and act with probity; the business must be operated in an appropriate manner; and the platform's business model must be suitable – for example, taking into account the interests of customers. In Indonesia, the Financial Services Authority enacted regulation for IT-based direct lending and borrowing services in December 2016, which includes rules on the legal structure, capitalisation, risk management and IT governance of platforms, as well as financial education and consumer protection requirements.

Some jurisdictions are considering introducing a regulatory regime for FinTech credit markets. In Canada, for example, online loans are typically classified as securities and are regulated as such using existing rules. This includes the need to provide a prospectus to be open to retail investors. This added cost has effectively meant that only institutional investors and accredited (high net worth) investors can currently invest through FinTech lending platforms in Canada. Regulatory authorities will consider whether FinTech lending platforms should be opened up to retail investors. In Korea, there is currently no special regulatory regime covering FinTech lending platforms. However, because the industry has been growing rapidly, the supervisory authority drafted a guideline on FinTech lending, which was announced in November 2016 and entered into effect as from February 2017. Meanwhile, the authorities in China have coordinated and issued new regulations for internet finance, a term used in China to encompass various forms of FinTech credit (see Box D). In Turkey, an amendment to the Capital Markets Law (CML) is proposed to allow crowdfunding platforms to provide services legitimately.[40]

On risk management, jurisdictions have the following requirements:

- *Systems and controls*: In the UK, platforms are subject to standard requirements to have appropriate systems and controls to manage risks, focusing on robust governance arrangements, skills, knowledge and expertise of staff, outsourcing responsibilities, record-keeping and conflicts of interest.
- *Information requirements*: In France, information requirements include the requirement for FinTech lenders to inform investors about the investment project of the borrower, its potential return and the associated risk. In Spain, platforms have to verify information provided by the promoter to prevent fraud.

[40] A Draft Law has been prepared that amends several articles of the CML or makes additions to the relevant articles regarding crowdfunding. The Draft Law defines crowdfunding, sets out a licensing procedure, exempts platforms from prospectus requirements, and excludes companies that raise monetary contributions through crowdfunding from the definition of a public company and issuer. The purpose of this proposed exclusion is to cut the costs and expenses of being subject to the requirements for public companies and issuers under Law 6362, so as to promote access by small businesses to the capital markets and alternative investment strategies for savers.

- *Lending restrictions*: China has recently introduced requirements for FinTech credit intermediaries to guard against lending concentration (see Box D). Spain is proposing to introduce rules on conflicts of interest that would also limit investment of the platform in the projects it includes.

**Box D: China's regulatory framework for internet finance**

In July 2015, the People's Bank of China and nine other ministries jointly issued the Guiding Opinions on Promoting the Sound Development of Internet Finance (Guiding Opinions) to encourage financial innovation, promote the healthy development of internet finance, clarify the regulatory responsibilities and standardise the market order. In August 2016, the China Banking Regulatory Commission (CBRC) and three other ministries jointly issued the Provisional Rules for the Administration of the Business Activities of Online Lending Information Intermediary Institutions (Provisional Rules). Both the Guiding Opinions and the Provisional Rules establish a regulatory framework for FinTech credit. The regulation policies emphasise that FinTech credit platforms are essentially an information intermediary rather than a credit intermediary. Their online lending service is a financial information intermediary business, involving financial intermediation and related risk management.

The Guiding Opinions require that supervision and regulation of FinTech credit should follow the principles of "legitimate supervision, appropriate supervision, classified supervision, collaborative supervision, and innovative supervision". The supervision of P2P lending should reasonably define the business boundaries and access conditions, implement the supervisory responsibilities, clarify the bottom line of risk, protect legitimate operations and prohibit illegal behaviours.

The Provisional Rules define the boundaries of FinTech credit platforms' business by prohibiting certain acts such as: fund-raising for themselves directly or indirectly; accepting and collecting lenders' funds directly or indirectly; guaranteeing principal or interest for the lenders directly or "euphemistically" (ie by implication); authorising a third party to promote the financing projects in any physical places except for electronic channels; splitting the duration of the financing projects; carrying out asset securitisation or assignment of debt; fabricating or exaggerating the authenticity of financing projects to mislead lenders or borrowers; or engaging in equity-based crowdfunding and other businesses. FinTech credit platforms are also required to deposit client funds at a third party, ie a bank, and are encouraged to strengthen disclosures and to improve risk monitoring and management.

The Provisional Rules stipulate the upper limit of borrowed funds. The upper limit of the borrowing balance of an individual (natural person) is no more than CNY 200,000 (~$30,000) from one FinTech platform and no more than CNY 1 million (~$150,000) across all platforms. The upper limit of the borrowing balance of a firm (legal person) or other organisation is no more than CNY 1 million and CNY 5 million (~$750,000), respectively.

- *Resolution mechanisms*: In Spain, rules around effective resolution mechanisms of platforms are in place. In addition, lending platforms that are handling money movements and payments have to be authorised to act as a payment institution, and must comply with the regulations applying to such institutions including anti-fraud,

money laundering and safeguarding of clients funds. In the United Kingdom, client money protections at insolvency and wind-down plans must be in place.

- *Capital and/or liquidity requirements:* Both Spain and the United Kingdom have capital requirements in place that increase with a platform's lending volumes, but no liquidity requirements. There are no capital requirements or liquidity requirements for FinTech lending platforms in France or China.

### 7.4 Policy changes to promote FinTech credit

In order to facilitate market growth, authorities in China, France and the United Kingdom have introduced tax incentives for investors in FinTech lending platforms. In China, local governments are allowed to have various preferential tax policies and incentives in place for online lending platforms that are seeking investment in high-tech companies. In France, a tax incentive for retail investors was introduced in 2015. This means that investors can deduct the losses in interest revenues from FinTech lending from the interest revenues received for income tax calculation purposes. The UK government has introduced a tax-incentivised structure for investment into FinTech loans (the Innovative Finance Individual Saving Account, or IFISA) as an extension of an existing scheme to also cover these innovative savings products.

Notably, many jurisdictions have innovation facilitators which promote FinTech more broadly, and which may also promote FinTech credit. Such innovation facilitators can be divided up into three categories: (i) regulatory sandboxes, or frameworks for testing new technologies in a controlled environment; (ii) innovation hubs, in which authorities support new firms in navigating existing regulatory requirements; or (iii) accelerators, in which there may be funding support, in many cases similar to a normal procurement contract. In particular, innovation hubs may assist new FinTech credit platforms in market entry by clarifying regulation. These initiatives do not imply in themselves a change in regulation, and they are generally accompanied by specific criteria for participating firms.

Table 5 gives an overview of tax incentives, regulations and the features described in Section 7.3. Several jurisdictions have FinTech policy frameworks which may not extend specifically to FinTech credit. Other jurisdictions have announced specific policy actions, or may do so in the future. The FSB will continue to update this overview over time.

**Table 5: Selected features of dedicated FinTech credit policy frameworks**

| Jurisdiction | Tax incentives | Regulations[1] | Licensing/ authorisation[1] | Investor protections[1] | Risk management requirements[1] |
|---|---|---|---|---|---|
| Argentina | – | – | – | – | – |
| Australia | – | – | – | – | – |
| Brazil | – | – | – | – | – |
| Canada | – | – | – | – | – |
| China | Yes | Yes | Yes | – | Yes |
| France | Yes | Yes | Yes | – | Yes |
| Germany | – | – | – | – | – |
| Hong Kong SAR | – | – | – | – | – |
| Indonesia | – | Yes | Yes | Yes | Yes |
| Italy | – | – | – | – | – |
| Japan | Yes | – | – | – | – |
| Korea | – | – | – | – | – |
| Mexico | – | – | – | – | – |
| Netherlands | – | – | – | Yes | – |
| Russia | – | – | – | – | – |
| Saudi Arabia | – | – | – | – | – |
| Singapore | – | – | – | – | – |
| South Africa | – | – | – | – | – |
| Sweden | – | – | – | – | – |
| Spain | – | Yes | Yes | – | Yes |
| Turkey | – | – | – | – | – |
| United Kingdom | Yes | Yes | Yes | Yes | Yes |
| United States | – | – | – | – | – |

[1] Specific rules for FinTech lending that are separate from those pre-existing rules for other financial intermediaries.

Sources: CGFS-FSB survey on FinTech credit intermediation; publicly available policy statements.

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# Members of the Working Group

| | |
|---|---|
| Chair of the FSB Financial Innovation Network<br>Board of Governors of the Federal Reserve System | John Schindler |
| Central Bank of Brazil | Alexandre de Souza Moraes |
| Deutsche Bundesbank | Corinna Knobloch |
| European Central Bank | Lieven Hermans |
| Bank of Italy | Marcello Bofondi |
| Bank of Korea | Hyun Jeong Kim |
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| UK Financial Conduct Authority | Paul Hamalainen<br>Eiko Sievert |
| Federal Reserve Bank of New York | Elizabeth Caviness |
| IOSCO | Shane Worner |
| World Bank | Harish Natarajan |
| CGFS | Grant Turner |
| FSB | Grace Sone<br>Jon Frost |

With thanks to Deimante Kupciuniene for support with data and graphs.