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Regulating fintech financing: digital banks and fintech platforms

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Executive summary

This paper explores how fintech financing is regulated. New technology-enabled business models related to deposit-taking, credit intermediation and capital-raising have emerged. These are digital banking, fintech balance sheet lending and crowdfunding platforms (the latter two are referred to as fintech platform financing). In this paper, we provide a cross-country overview of the regulatory requirements for these fintech activities in 30 jurisdictions. The paper is based on an extensive desktop review of regulations and related documents, complemented by responses to an FSI survey conducted in early 2019.[2]

The proliferation of new technology-enabled business models has raised questions about the regulatory perimeter. Authorities are assessing whether their existing regulatory framework needs to be adjusted. Their response will likely depend on (i) how they see potential risks to consumers and investors, financial stability and market integrity; (ii) their assessment of how these new activities might benefit society in terms of strengthening financial development, inclusion and efficiency; and (iii) how risks are dealt with under the existing framework and whether opportunities for regulatory arbitrage have emerged. The overall challenge for authorities is to maximise the benefits of fintech innovations while mitigating potential risks for the financial system.

For digital banking, most jurisdictions apply existing banking laws and regulations to banks within their remit, regardless of the technology they apply. From these jurisdictions, a few have put in place initiatives that are intended to ensure that new banks find it easier to enter the market by allowing them time to complete their build-out or to meet the requirements of the prudential framework in full.

In the few jurisdictions that have set specific regulatory frameworks for digital banks, the main licencing and ongoing requirements are similar to those for traditional banks. Applicants for a digital bank licence face requirements on the place of incorporation and legal form, sustainability of business plan, minimum paid-up capital, fitness and propriety of management, risk governance frameworks and documentation of the exit strategy. They also face requirements on ownership and control, although these may be different to those applicable to other banks. After obtaining a digital bank licence, licence holders are subject to the same ongoing requirements as traditional banks on capital, leverage, liquidity, anti-money laundering/combating the financing of terrorism (AML/CFT), market conduct, data protection and cyber security.

The main difference between licensing requirements for traditional and digital banks is in technology-related elements and the aims of the business plan. Digital banks face restrictions on their physical presence and, in some cases, the market segments they are allowed to serve. Their fit and proper

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2 The survey covered most of the jurisdictions covered in this paper, except Chinese Taipei, Finland, India, Korea, Malaysia and Portugal.

requirements tend to be more prescriptive in relation to board members' expertise in technology; a satisfactory track record in operating a technology business; and assessments of technical infrastructure by independent third-party technical experts. In addition, some jurisdictions require digital banks to demonstrate a commitment in driving financial inclusion, particularly for underserved and hard-to-reach market segments.

Most surveyed jurisdictions have no specific regulatory framework for fintech balance sheet (FBS) lending. In these jurisdictions, FBS lending is subject to regulations for non-bank lending. Requirements on the extension of credit, however, vary considerably across countries and the responsibility for supervising this activity does not necessarily lie with the financial authority. Brazil is the only surveyed jurisdiction that has introduced a specific licensing framework for FBS lending.

Many surveyed jurisdictions have introduced crowdfunding (CF) regulations. The regulatory setup, however, varies across jurisdictions and is influenced by a jurisdiction's overall supervisory architecture, as well as the differences in risks that loan and equity CF entail. Separate frameworks were most often implemented for equity CF. In these cases, a third of surveyed jurisdictions have a specific framework exclusively for equity CF. This is twice the number of jurisdictions that have frameworks for loan CF. For multi-type frameworks, about half of surveyed jurisdictions have an exclusive regulatory framework for loan and equity CF. In jurisdictions without a dedicated regulatory framework for crowdfunding, it is subject to existing banking, securities and payments regulations.

Dedicated regulatory CF frameworks typically have two broad sets of requirements, where the first set is intended to regulate how platforms may operate, which activities they can perform and what they must do to mitigate the risks they incur. In most surveyed jurisdictions, equity or loan CF platforms must be authorised before they can offer services. In terms of requirements, most surveyed jurisdictions require CF providers to operate under a specific legal form and have a minimum amount of paid-in capital. Even though they are allowed to broker multiple financial instruments, in most jurisdictions restrictions limit the ability of crowdfunding providers to invest in the financial instruments they intermediate. In most jurisdictions, crowdfunding platforms are subject to capital, business continuity and operational resilience and AML/CFT requirements.

The second set of requirements is intended to protect investors and make them aware of potential risks by disclosing relevant information. Most loan and equity CF frameworks have requirements as to how information should be provided; on conducting due diligence checks on borrowers and/or issuers; and on procedures for selecting potential borrowers or projects and publishing related information. Apart from requirements related to disclosure and due diligence, there may be several other restrictions to protect investors. Commonly used investor protection tools include restrictions on the holding of clients' funds, operating secondary markets or caps on investments or funds raised.

Section 1 – Introduction

1. **This paper explores how fintech financing is regulated.** Following the conceptual framework in Ehrentraud et al (2020) (Graph 1), we assess fintech activities that channel funds to people and companies. These are digital banking and fintech platform financing (fintech balance sheet lending as well as loan and equity crowdfunding).[3] For this purpose, we define these activities as follows (see Box 1 for background information on the emergence of these activities).

- **Digital banking.** Banks engaged in digital banking are deposit-taking institutions that are members of a deposit insurance scheme and deliver banking services primarily through electronic channels instead of physical branches. While they engage in risk transformation like traditional banks, digital banks[4] have a technology-enabled business model and provide their services remotely with limited or no branch infrastructure.
- **Fintech platform financing** refers to electronic platforms (not operated by commercial banks) that provide a mechanism for intermediating financing over the internet.[5] In doing so, they make extensive use of technology and data. We distinguish two types:

– **Fintech balance sheet lending** refers to electronic platforms that use their own balance sheet in the ordinary course of business to intermediate borrowers and lenders over the internet, ie they grant loans at their own risk. Because these non-bank lenders do not take deposits, they have to rely on other sources of funding, such as own equity capital, debt issuance or securitisation of the loans they originate.

– **Crowdfunding** refers to the practice of matching people and companies raising funds from those seeking to invest for a financial return without the involvement of traditional financial intermediaries.[6] The matching process is performed by a web-based platform that solicits funds for specific purposes from the public. Depending on the type of funding provided, we distinguish between loan crowdfunding and equity crowdfunding.[7, 8] In either case, individual contracts are established between those in need of funding and those seeking to invest or lend, so that the platform itself does not undertake any risk transformation.

3 These activities may be performed by financial intermediaries whose core business is financial services; or by big techs, ie large companies whose core business activity is typically of a non-financial nature. See Cornelli et al (forthcoming). Regulatory frameworks, however, do not distinguish between fintech and big tech firms.

4 Alternative terms used by market participants and regulators are virtual banks, internet-only banks, neo banks, challenger banks and fintech banks. In contrast, online banking is often used to refer to a service provided by traditional banking institutions that allows their customers to conduct financial transactions over the internet.

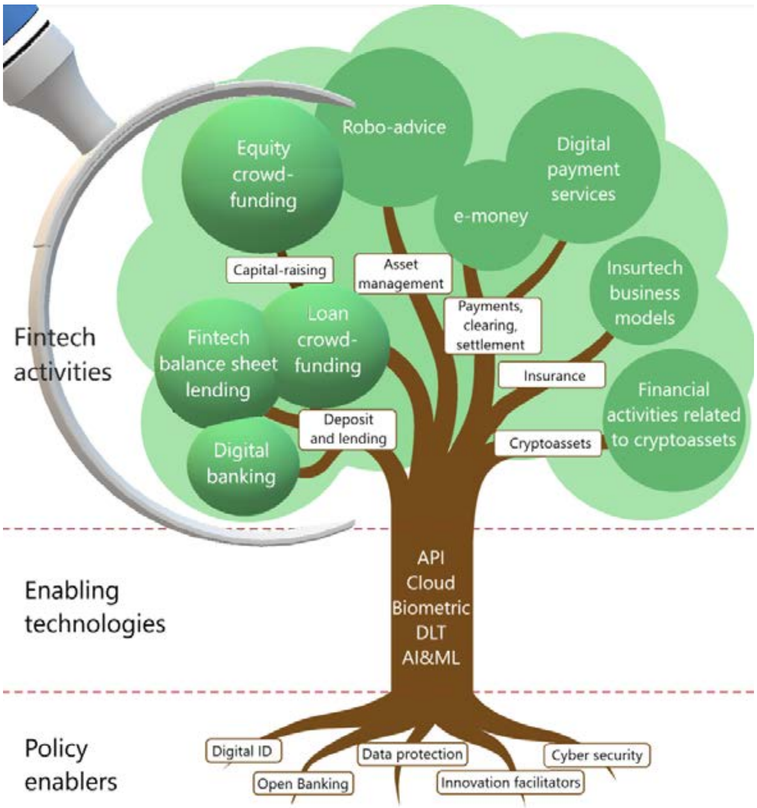
5 Alternative terms used for lending-related fintech platform financing activities (ie loan crowdfunding and fintech balance sheet lending) are marketplace lending or peer-to-peer (P2P) lending. While these terms are often used to refer to any activity that involves an online lending platform, in their strict meaning, lenders in P2P lending are exclusively individuals whereas in marketplace lending institutional funders may be involved as well. In practice, however, P2P and marketplace lending are often used interchangeably.

6 In line with Ehrentraud et al (2020), crowdfunding as defined in this paper excludes reward and donation crowdfunding because these activities do not entail a financial return.

7 While both loan crowdfunding and fintech balance sheet lending can be considered fintech credit (see Claessens et al (2018) and CGFS-FSB (2017)), in this paper we differentiate between the two because regulatory frameworks often treat loan crowdfunding and fintech balance sheet lending differently (Ehrentraud et al (2020)).

8 While all equity crowdfunding platforms intermediate funding to private companies in the form of equity, some may also intermediate funding in the form of debt or other types of securities (see Section 3). Because of this, the term investment crowdfunding is sometimes used by regulators or market participants.

Fintech tree: a taxonomy of the fintech environment	Graph 1



Source: Illustration by authors based on Ehrentraud et al (2020).

2. **Digital banks have attracted an increasing number of customers, although this may have been affected by the Covid-19 pandemic.** In Europe, entities engaged in digital banking have attracted more than 15 million customers since 2011 and could reach up to about one fifth of the population over the age of 14 by 2023.[9] A similar trend was observed in the United Kingdom, where digital banks have nearly tripled their customer base from 2018 to 2019.[10] The Covid-19 pandemic, however, may have affected the growth of digital banks, which appears to have slowed lately.[11]

3. **Fintech platform financing, although small, is growing fast.** On a global level, transaction volumes more than doubled from USD 145 billion[12] in 2015 to USD 304.5 billion in 2018.[13] With a share of 71%, China was by far the biggest market in 2018, followed by the Americas (21%) and Europe (6%) (Graph 2). At the activity level, loan crowdfunding contributes about 83% of the overall volumes, followed by fintech balance sheet lending (14%) and equity crowdfunding (3%).

[9] See www.kearney.com/financial-services/article/?/a/european-retail-banking-radar-2019. The definition of digital banking used as basis for Kearney's figures may vary somewhat from the one used in this paper.

[10] https://newsroom.accenture.com/news/uk-neobanks-near-20-million-customers-in-2019-but-customer-and-deposit-growth-rates-slow-according-to-research-from-accenture.htm.

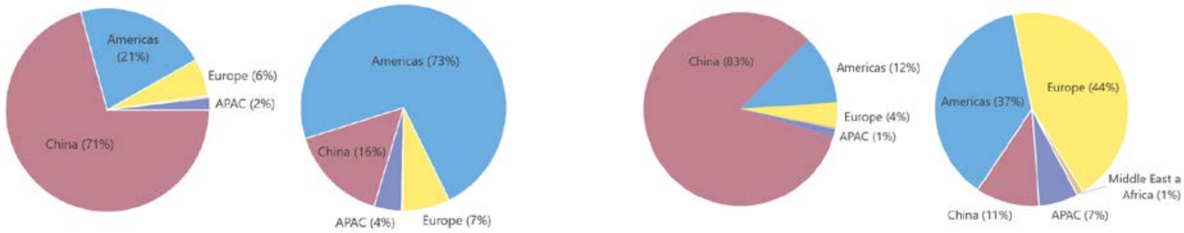
[11] See eg www.cbronline.com/feature/coronavirus-is-challenger-banks-biggest-challenge-yet.

[12] See KPMG and CCAF (2016).

[13] Data are based on regional reports by the Cambridge Centre for Alternative Finance (CCAF) and its research partners. Data on fintech platform financing provided by other sources may vary because of differences in the definitions of business models and how data are collected.

Fintech platform financing per region and type of activity in 2018 Graph 2

Fintech platform financing	Fintech balance sheet lending	Loan crowdfunding	Equity crowdfunding



USD 304.5 billion (100%)	USD 41.9 billion (14%)	USD 251.3 billion (83%)	USD 9.4 billion (3%)

Note: Transaction volumes for each activity were calculated as follows. Fintech balance sheet lending is the sum of balance sheet business lending and balance sheet consumer lending; loan crowdfunding is the sum of peer-to-peer (i) business lending, (ii) consumer lending and (iii) property lending (a loan secured against a property to a consumer/business borrower); equity crowdfunding is the sum of seven crowdfunding activities: (i) equity-based, (ii) revenue/profit-sharing (eg securities, and sharing in the royalties of the business), (iii) debt-based (eg bonds or debentures at a fixed interest rate); (iv) invoice trading (eg invoices/receivable notes at a discount); (v) real estate (eg equity/subordinated-debt financing for real state); (vi) mini-bonds (eg unsecured retail bond) and (vii) community shares.

Source: FSI staff calculations based on CCAF (2020). Donation- and reward-based crowdfunding were excluded. Data are based on regional reports by the Cambridge Centre for Alternative Finance (CCAF) and its research partners. The CCAF surveys active platforms in each region and cross-checks transaction volumes through direct contact, secondary data sources and web-scraping methods. Please note that the numbers might not add up due to rounding.

4. **The fintech developments described above have raised questions on how an appropriate regulatory framework should look.** For novel fintech activities that are not yet captured by the existing regulatory framework, the overarching question is whether they should be inside or outside the regulatory perimeter.[14] If they are inside, the question is how regulatory requirements should look.[15] For fintech activities that are already subject to existing regulations, the question is whether adjustments can foster innovation and/or competition while not compromising other policy objectives such as financial stability and customer protection; or whether stricter requirements are called for.

5. **This paper provides a cross-country overview of the regulatory requirements for digital banking and fintech platform financing.** It covers 30 jurisdictions (Graph 3) and is based on an extensive desktop review of regulations and related documents, complemented by responses to an FSI survey[16] conducted in early 2019.[17] Sections 2 and 3 describe the range of licensing and ongoing regulatory requirements for digital banking, including transitional arrangements in the startup phase, and fintech platform financing. Section 4 offers considerations for financial authorities and concludes.

[14] The regulatory perimeter describes the boundary that separates regulated and unregulated financial services activities and determines the type and scope of rules (eg on licensing, safety and soundness, consumer/investor protection and/or market integrity) applicable to firms conducting regulated activities.

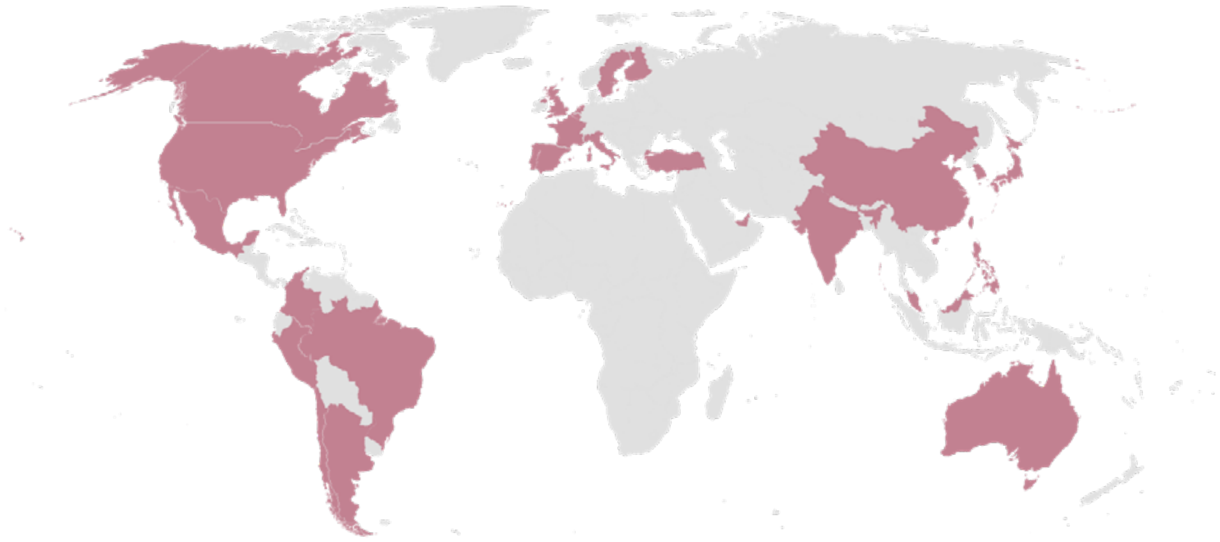
[15] Questions related to the regulatory perimeter have been discussed at the international level. In 2017, the Financial Stability Board identified 10 supervisory and regulatory issues raised by fintech that merit authorities' attention. One recommendation is to assess the regulatory perimeter and update it on a timely basis (FSB (2017)). Similarly, two policy elements in the IMF/World Bank Bali Fintech Agenda are closely related to the regulatory perimeter of fintech. These are element VI (adapt regulatory framework and supervisory practices for orderly development and stability of the financial system) and element VIII (modernise legal frameworks to provide an enabling legal landscape with greater legal clarity and certainty regarding key aspects of fintech activities).

[16] The survey covered most of the jurisdictions covered in this paper, except for Chinese Taipei, Finland, India, Korea, Malaysia and Portugal.

[17] In a similar vein, World Bank and CCAF (2019) report key findings from a global regulatory survey among 111 jurisdictions on the global regulatory landscape for alternative finance; and World Bank (2020) reviews progress in prudential regulatory practices related to fintech, including credit.

Jurisdictions covered

Graph 3



For the EU, only individual countries are shown. See Annex Table 1 for a complete list of jurisdictions.

Source: FSI.

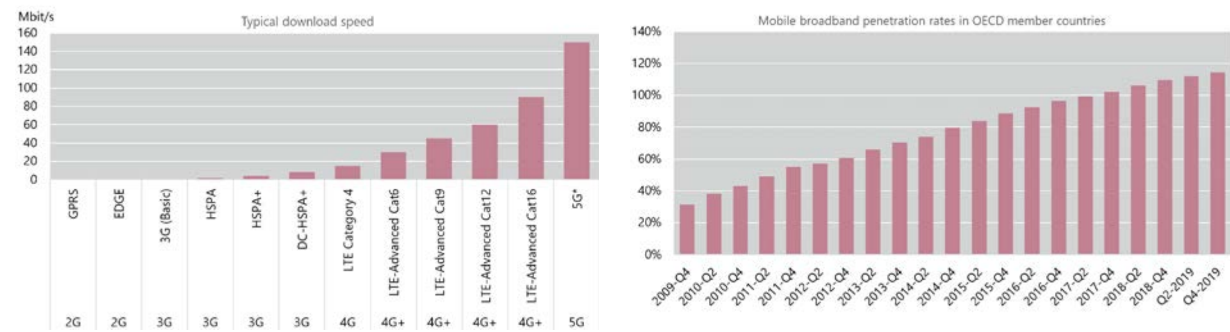
Box 1

Background: emergence of fintech financing

Improvements in digital infrastructures and technology are increasingly reshaping the way funding is accessed. Over the last decade, more people have gained access to faster communication networks and services.[1] Internet speed and bandwidth have improved, while mobile phones have become more affordable and widely used. For example, in the OECD, mobile broadband penetration rates increased from around 30% in 2009 to over 100% in 2018 (Box Graph 1). These developments have improved digital connectivity and – coupled with advances in cloud computing, artificial intelligence and machine learning – have put web-based technologies in the spotlight as a way to intermediate funding.

Digital connectivity: download speed and mobile broadband penetration

Box Graph 1



(*) The typical download speed of 5G networks ranges from 150 Mbit/s (shown in the graph) to 200 Mbit/s.

Source: Lo (2018) and OECD.

Changing customer expectations are creating demand for digitally provided financial services. The ubiquity of digital technology is transforming the way customers interact with financial institutions. Consumers want financial services that are customer-centric, easy to use, frictionless, paperless, low-cost and always available. In addition, because financial services provided digitally can be accessed from anywhere, customers are no longer bound by their physical location but can more freely choose the financial institution of their choice to obtain funding. This may be of particular importance for underserved communities in emerging market economies, who would otherwise have no access to financial services.

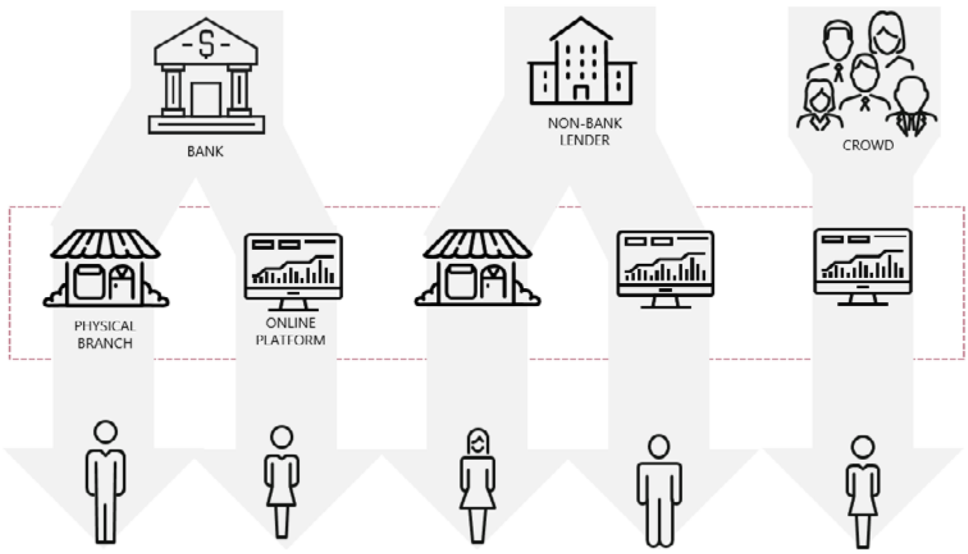
In response, incumbent financial institutions are seeking to leverage technology when providing access to funding. They have launched efforts – sometimes working with technology companies – to digitise processes, adjust products and services or otherwise improve how they engage with customers digitally.②③ But many are held back by legacy systems that no longer meet current standards. This leads to complex IT landscapes that, without overhaul, may not be agile enough to live up to more demanding customer expectations.④

New competitors place technology at the heart of their business model. The innovative business models of these new market entrants would not be possible without recent advances in financial technology (fintech⑤). By making extensive use of technology, they aim to provide their customers with broader access to improved financial services. They are unburdened by legacy systems, expensive branch infrastructure, and, in some cases, tarnished brand value after the global financial crisis.

Digitally driven providers of funding may foster financial inclusion by reaching more people and businesses. By operating online, they may be able to reach customers in rural areas where it would not be economical to operate branches. If their costs are lower than those of traditional financial institutions, they may be able to quote lower prices for the same risk – making their services more widely affordable. By making use of big data, including alternative forms of data such as those derived from social media⑥ or other non-financial business lines, they may be able to offer unsecured credit, or serve clients whose creditworthiness are hard to assess using more traditional means, in particular individuals who lack formal credit histories or small and medium-sized enterprises (SMEs).⑦⑧

From a customer perspective, people and businesses now have a range of options at their disposal to raise funds for their needs (Box Graph 2). Depending on the alternatives available in a given country, they may choose to apply for a loan at a traditional bank by visiting a branch and interacting with a human loan officer; or they may choose a bank that operates without physical branches – the loan is sought online, with little or no human involvement. Alternatively, they may choose a non-bank lender, ie a financial institution that makes loans without taking deposits. Like banks, non-bank lenders may operate primarily through either physical branches or electronic channels.⑨ Another option is to raise funds – either as a loan or, in the case of companies, in the form of equity – from a large number of individuals or institutional funders, the "crowd". This happens exclusively online because borrowers and investors are connected online by so-called CF platforms.⑩

Funding options for people and businesses — Box Graph 2



Source: FSI.

① Since the 1990s, peak data rates of broadband cellular network technologies have increased from Kbit/s (2G mobile network) to Gbit/s (5G). See https://kenstechtips.com/index.php/download-speeds-2g-3g-and-4g-actual-meaning. ② For example, a first step for many banks has been to upgrade their front-end applications, without changing the back-end infrastructure. ③ In addition, some banks have launched technology-focused ventures that differ from their more traditional brand franchise (eg Marcus by Goldman Sachs, Holvi by BBVA, imaginBank by CaixaBank or Openbank by Santander). ④ www.knowis.com/blog/legacy-modernization-this-is-how-banks-put-their-it-in-the-fast-lane. ⑤ The paper adopts the FSB definition of fintech, defined as technologically enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services (FSB (2017)). ⑥ For example, social media data may include the number of posts written by a borrower or how often he or she is mentioned in other posts (Wales (2018)). ⑦ In addition, as non-bank providers of funding, they are said to stimulate competition in a market often dominated by banks, and to enlarge investment and diversification opportunities for consumers and other borrowers. ⑧ See Frost (2020) for a discussion on the economic forces driving fintech adoption across countries; Cornelli et al (2019) provide an overview of recent innovations in the financing of SMEs, including fintech credit, in Asia; Frost et al (2019) discuss the comparative advantage of certain large fintech firms (big tech) in financial intermediation. ⑨ Irrespective of whether a loan is sought from a bank or non-bank lender, prospective borrowers may engage a loan broker to find the best deal in the market. ⑩ Companies may also raise capital from capital markets. This form of financing, however, is not open to SMEs or startups due to the costs and requirements involved. Another alternative to raise funds is through initial coin offerings (ICOs). But ICOs are associated with increased risk of fraud and manipulation in some jurisdictions because the markets for these assets are less regulated than in traditional capital markets. For a regulator’s perspective on ICOs, see eg www.sec.gov/ICO.

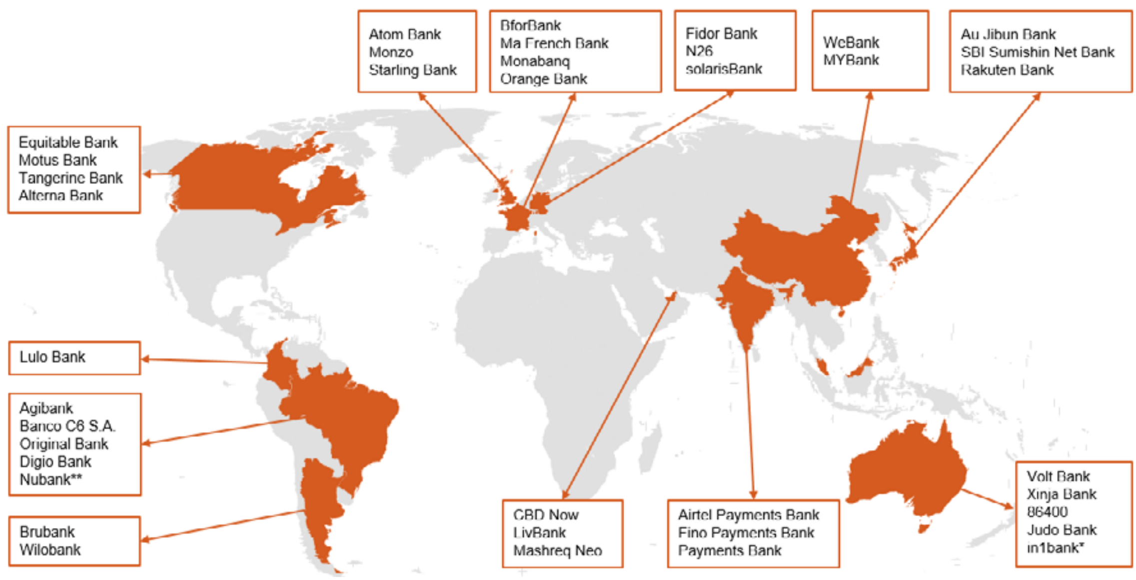
Section 2 – Regulation of digital banking

6. **Digital banks conduct the same type of business as other banks, incurring similar risks.** Like traditional banks, digital banks can offer a full range of banking products and services to their customers. Both are licensed to take deposits and use the deposited money to carry out their banking activities (eg granting loans). Consequently, they incur similar financial risks, including credit risk, market risk and, to some extent, liquidity risk. However, for digital banks, certain types of risk such as operational or cyber risk may be accentuated due to the nature of their operation.

7. **What sets them apart is how they deliver their services.** Digital banks deliver their services primarily, if not exclusively, over the internet. If they have physical branches at all, they have very few. Instead, they largely interact with their customers through digital platforms, on computers or mobile devices. For this, they rely heavily on digital technologies, connectivity and advanced data capabilities. Thanks to the lack of legacy IT systems and branch infrastructure, digital banks are said to have a cost advantage over traditional banks.

8. **Most jurisdictions apply existing banking laws and regulations to banks within their remit, regardless of the technology they use.** This means that when applying for a banking licence, entities with a technology-enabled business model in principle face the same licensing procedures and requirements as applicants with a more traditional business model. They may benefit however from initiatives that are intended to ensure that new banks are able to enter the market. This could be in the form of a transitional scheme that allows market entrants some time before they have to meet the requirements of the prudential framework in full (Australia); or a “mobilisation” approach, which allows new banks, once authorised, to complete their build-out under restrictions before starting to trade fully (United Kingdom). In addition, some authorities have issued additional specific guidance on authorisation requirements that apply to applicants with fintech oriented business models (eg ECB (2018)). Graph 4 provides an overview of digital banks licensed under existing banking regulations.

Licensed banks with technology-enabled business models — Graph 4



Graph shows examples of licensed banks with technology-enabled business models in selected jurisdictions without dedicated licensing frameworks for digital banking.

(*) Licensed under the Restricted Authorised-Deposit-taking Institution framework. (**) Nubank is not a Bank according to Brazilian regulation, but a Payment Institution that also controls a Credit and Financing Company (Sociedade de Crédito e Financiamento).

Sources: Publicly available licensing registers; national authorities.

Digital banking-specific licensing frameworks

9. **Specific licensing frameworks for digital banks exist in a handful of jurisdictions.** In Chinese Taipei, Hong Kong SAR,[18] Korea, Singapore and the United Arab Emirates (Abu Dhabi Global Markets), specific regulations took effect in 2018 or 2019. In Malaysia, the central bank is expected to finalise its framework in 2020. In Malaysia and Singapore, the licensing frameworks incorporate transitional schemes (Table 1). In terms of restrictions placed on digital bank licences, these may be on digital banks' physical presence and the number of physical branches they are allowed to maintain. In addition, some licence types allow licence holders to provide banking services only to specified segments of the market. Otherwise, digital banks are typically free to offer the same banking products and services as non-digital banks.[19] Graph 5 provides an overview of digital banks licensed under dedicated licensing frameworks.

Specific licensing frameworks for digital banks — Table 1

	Regulatory status	Transitional scheme	Licence restrictions to specific market segments
Chinese Taipei	Internet-only bank	No	None
Hong Kong SAR	Virtual bank	No	None
Korea	Internet-only bank	No	Retail and SMEs
Malaysia	Digital bank	Yes	None
Singapore	Digital full bank	Yes	None
	Digital wholesale bank	No	SMEs and other non-retail customers
United Arab Emirates (ADGM)	Digital bank	No	None

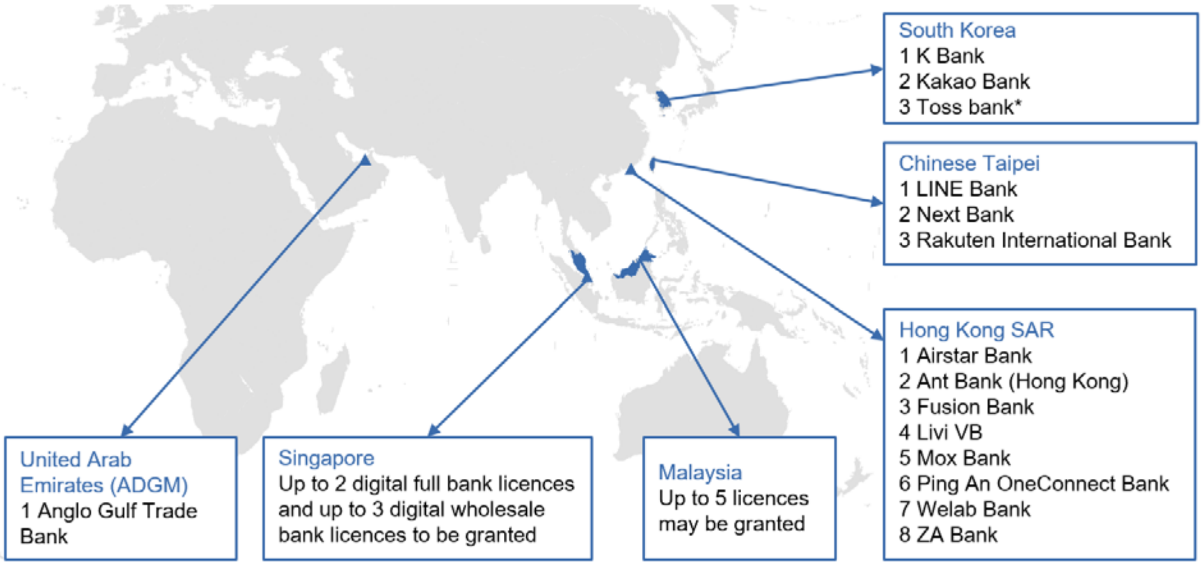
ADGM = Abu Dhabi Global Markets.

Source: National regulations; regulators' press releases; FSI survey.

[18] In Hong Kong SAR, while there is only one type of banking licence (ie that of a "licensed bank") for both virtual banks and conventional banks, "Chapter 9: Authorization of virtual banks" of the HKMA's Guide to Authorization is relevant only for virtual banks. Chapter 9 sets out the principles which the HKMA will take into account in deciding whether to authorise "virtual banks" applying to conduct banking business in Hong Kong. See HKMA (2018).

[19] However, as for non-digital banks, authorities have the discretion to impose restrictions on the activities an entity is allowed to perform on a case-by-case basis.

Digital banking licences granted under dedicated licensing frameworks	Graph 5



(*) In December 2019, the FSC granted "Toss Bank" a preliminary licence to operate as internet-only. See www.fsc.go.kr/downManager?bbsid=BBS0048&no=147277.

Sources: Publicly available licensing registers; national authorities.

10. **In these jurisdictions, the main licensing requirements for digital banks are similar to those for traditional banks.** Applicants for a digital bank licence face requirements on the place of incorporation and legal form, sustainability of business plan, minimum paid-in capital, fitness and propriety of management, risk governance frameworks and documentation of the exit strategy (Table 2). Where transitional schemes are in place, in the entry phase, some of these requirements do not have to be met in full or on a proportionate basis.

11. **Digital banks are subject to ownership and control requirements, although these may be different to those applicable to other banks.** First, digital banks may need to be owned or controlled by local citizens. In Singapore, digital full banks are required, among others, to be controlled by Singaporeans, which is presumed by MAS if the Singaporean and/or their related parties hold the largest shareholding and have effective control over the proposed DFB.[20] In Malaysia, applications for digital bank licences are assessed on whether they are in the national interest, with preference given to applicants where the controlling equity interest resides with Malaysians.[21] Second, in contrast to traditional banks, non-financial companies may be allowed to become controlling shareholders. In Korea, a non-financial company may own up to 34% of an internet-only bank (instead of up to 4% of other banks). In Chinese Taipei, non-financial companies may own up to 60% of internet-only banks but at least one of the founders needs to be a bank or a financial holding company, with a shareholding of 25% or above.

[20] For other banks incorporated in Singapore, there are no explicit provisions relating to control by local citizens but the approval of the Minister needs to be obtained before acquiring, or holding share(s) with 5% or more of total votes attached to all voting shares.

[21] In Malaysia, the approval of the central bank needs to be obtained before acquiring or disposing 5% or more of total votes attached to all voting shares in the licensed bank. Additionally, approval of the Minister is required where it involves acquisition of aggregate interest in shares of more than 50% or controlling interest in the bank, and for any disposal that results in the person holding less than 50% or ceases having control.

12. **In addition, under specific licensing frameworks, digital bank applicants face stringent requirements on technology-related elements.** First, fit and proper requirements tend to be more prescriptive in relation to board members' expertise in technology. For instance, internet-only banks in Chinese Taipei must demonstrate that more than half of the board of directors comprises industry experts with backgrounds in banking, financial technology, e-commerce, communications or related fields. Second, a satisfactory track record in operating a technology business may be required. For example, in Singapore, applicants must have a track record in operating an existing business in their respective technology or e-commerce field. Third, the technical infrastructure may need to be assessed by external parties. For example, digital bank applicants in Abu Dhabi Global Markets, Hong Kong SAR and Malaysia must engage an independent third-party technical expert to assess the adequacy and soundness of their IT governance and systems.

13. **In some jurisdictions, specific licensing frameworks require digital banks to foster financial inclusion.** This is the case for Malaysia and Singapore, where digital bank applicants are required to demonstrate during the application process their ability to serve customer needs and reach underserved and hard-to-reach market segments. In other jurisdictions, there is a more general expectation for virtual banks to help promote financial inclusion.

Licensing requirements for digital banks

Table 2

	AE	HK	KR	MY	SG	TW
General licensing requirements						
Legal form and place of incorporation	✓	✓	✓	✓	✓	✓
Ownership structure/control	✓	✓	✓*	✓*	✓	✓*
Long term sustainability of the business plan	✓	✓	✓	✓	✓	✓
Fitness and propriety test	✓	✓	✓	✓	✓	✓
Minimum paid-up capital	✓	✓	✓**	☑	☑	✓
Sound risk culture: risk governance frameworks	✓	✓	✓	✓	✓	✓
Exit plan	✓	✓	✓	✓	✓	✓
Technology-related licensing requirements						
Fitness and propriety test on technology fields	-	✓	✓	✓	✓	✓
Track record in technology	-	✓	-	✓	✓	-
Third-party assessment of IT systems	✓	✓	-	✓	-	-
Financial inclusion	✓	✓	✓	✓	✓	-

(*) Requirements on who is allowed to own and/or control digital banks differ from those applicable to traditional banks. In Malaysia, while not a mandatory requirement, preference is given to applicants where the controlling equity interest resides with Malaysians.

(**) Internet-only banks have a minimum capital requirement of KRW 25 billion; other banks KRW 100 billion.

✓ Requirement applies in full from the start. ☑ Compliance not required in full in the initial phase of transitioning schemes. – Not explicit.

Source: National regulations.

14. **After obtaining a digital bank licence, licence holders generally face the same ongoing regulatory requirements as their traditional counterparts.** In all digital banking frameworks, licence holders are subject to the same ongoing regulatory requirements on capital, leverage, liquidity, AML/CFT, market conduct, data protection and cyber security as traditional banks. Like them, digital banks may

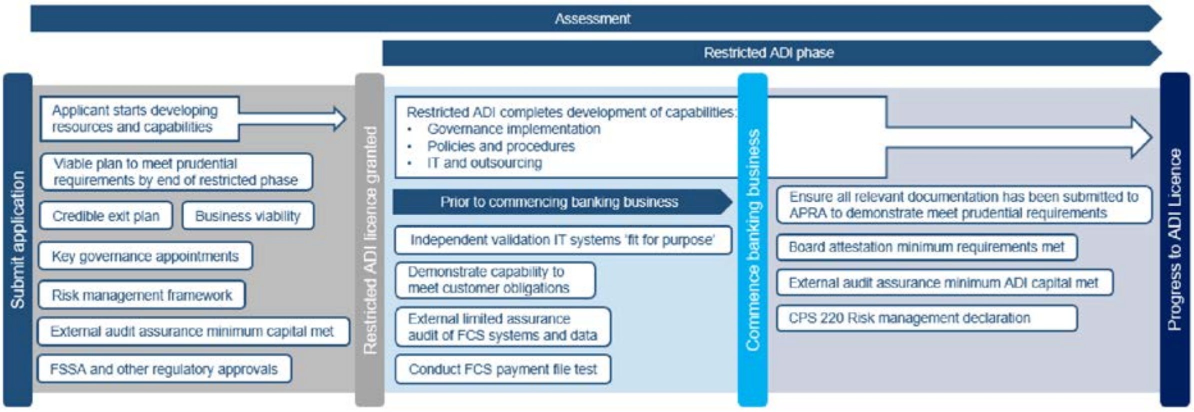
benefit from a proportionate application of the prudential framework, depending inter alia on their relative size and complexity.[22]

Initiatives to facilitate market entry

15. **A few surveyed jurisdictions have initiatives to facilitate the establishment of new banks.** These were implemented in jurisdictions both with a digital banking-specific framework (Malaysia and Singapore) and without (Australia and the United Kingdom).

- In Australia, applicants may apply for a restricted licence and make use of a transitional period or apply directly for a full licence (Graph 6). Restricted licence holders are not subject to the full set of regulatory requirements but can only conduct a limited range of business activities. At the end of the transitional period, they are either awarded a full licence – if all requirements are met – or must wind up their banking business.

Requirements of Australia's restricted route — Graph 6



ADI=authorised deposit-taking institution.

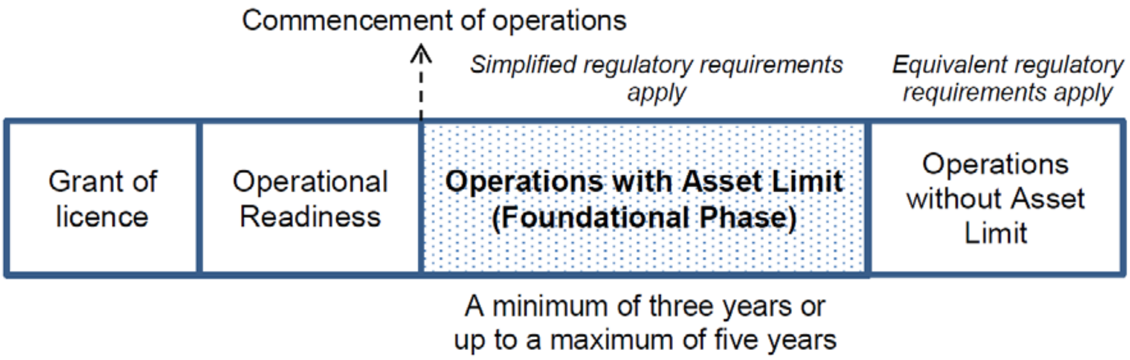
Source: APRA (2018).

- In Malaysia, a firm, once licensed as a digital bank, is allowed to conduct the full range of banking business but is subjected to a simplified regulatory framework in its initial phase of operations (Graph 7).[23] Once the firm can demonstrate that all conditions are met, and has been in the transitional phase for a period of time, the business restrictions imposed under the transitional scheme are lifted. Digital banks will be required to comply with all equivalent regulatory requirements applicable to incumbent banks after the entry/foundational phase.

[22] The use of proportionality in implementing the Basel Framework in a manner consistent with the *Core principles for effective banking supervision* is supported by the Basel Committee on Banking Supervision (BCBS) and the Basel Consultative Group (BCG) (BCBS-BCG (2019)). In a report issued in 2019, the BCBS found that most jurisdictions apply some form of proportionality measures (BCBS (2019)). For further information on proportionality practices, see Castro et al (2017), Hohl et al (2018) and Duckwitz et al (2019).

[23] Key features of the simplified regulatory framework include (i) a capital adequacy requirement: The risk categories to calculate the credit and market risk components for risk-weighted assets under Basel II capital framework have been rationalised into simpler categories; and (ii) a liquidity requirement: Some 25% of the digital bank's on-balance sheet liabilities must be held in high-quality liquid assets. The digital bank may, with the regulator's approval, opt to observe the equivalent regulatory framework of a licensed bank in its initial phase of operations, if it can demonstrate its ability to do so.

Operational progression of licensed digital banks Graph 7



Source: Central Bank of Malaysia (2020).

- In Singapore, the licensing framework provides for a phased-in approach for Digital Full Banks (DFB) (Graph 8). A Restricted DFB can commence operations on a limited scale with restrictions on business scope and deposit-taking activities, but does not have to meet the paid-up capital requirement in full. Subsequently, the restrictions on business scope and deposit-taking activities and minimum paid-up capital requirement of the Restricted DFB will be progressively increased until it is a fully functioning DFB, ie restrictions are lifted but the minimum paid-up capital requirement increases to the same level as existing full banks.

Two-stage process for becoming a fully functioning Digital Full Bank Graph 8

Source: MAS (2019).

- In the United Kingdom, firms may opt to take the mobilisation route, which allows new banks, once authorised, to become fully operational and complete their build-out under restrictions before starting to trade fully.[24] Mobilisation is intended to give prospective new banks some certainty while raising capital or investing in infrastructure. Firms using mobilisation are subject to the full set of regulatory requirements and the UK regulators' Threshold Conditions[25] are considered proportionately according to the risks posed by the application during

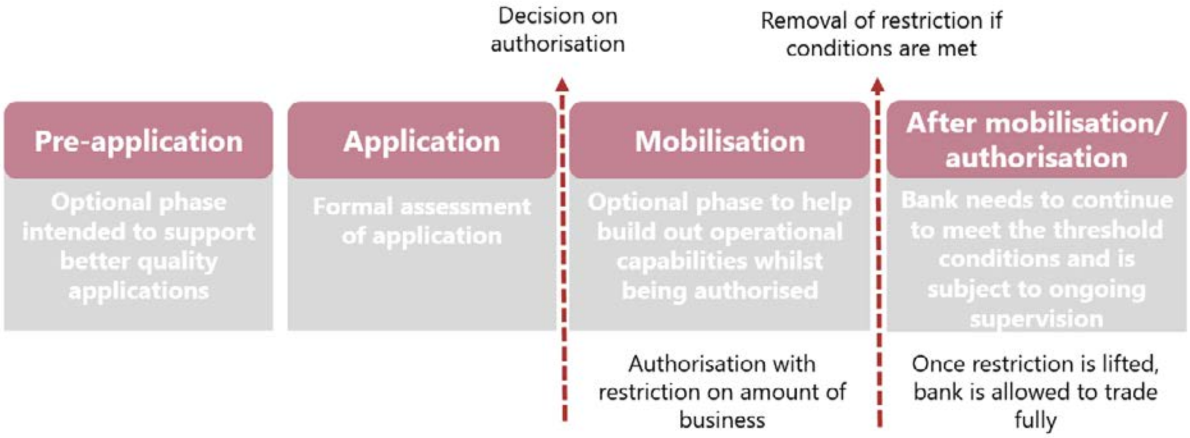
[24] www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/new-bank/new-bank-start-up-unit-guide.pdf?la=en&hash=30E5AF0EAEB35E5E857C7187416AA5A46DDA4117#page=24.

[25] The PRA's and FCA's Threshold Conditions, which must be met by a firm at authorisation and on an ongoing basis, form the basis of each regulator's assessment of licence applications. For more information on the PRA's and FCA's Threshold Conditions see www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/new-bank/thresholdconditionsfactsheet.

mobilisation.[26] Banks that mobilise may carry on all the activities they have been granted authorisation for but will usually have a requirement placed on their authorisation to limit the amount of business they can undertake.[27] If a firm is unable to complete mobilisation within 12 months, or to the required standard, its authorisation may be removed. Graph 9 illustrates the road to becoming an authorised bank in the United Kingdom.

The road to authorisation

Graph 9



Source: Authors' illustration.

16. **Initiatives to facilitate the establishment of new banks differ in terms of the length of the entry phase, restrictions imposed on business activities while it lasts and conditions for exiting it (Table 3).**

- **Length of the entry phase.** Jurisdictions with digital banking-specific frameworks appear to have longer entry phases (two to five years) than those that do not (one to two years) but firms are generally encouraged to complete the entry phase as soon as possible.

- **Restrictions during the entry phase.** In Malaysia, under the proposed framework, digital banks are expected to have a balance sheet of not greater than RM 2 billion in size (about EUR 405.7 million[28]). In Singapore, restricted digital full banks (DFB) (i) cannot take deposits of more than SGD 50 million (EUR 31 million) in aggregate or SGD 75,000 (EUR 46,400) from any one individual; (ii) can accept deposits only from a limited range of customers such as business partners, staff and related parties; (iii) can offer only simple credit and investment products; and (iv) cannot establish banking operations in more than two overseas markets. In Australia, restricted authorised deposit-taking institutions (ADIs) are expected to have (i) a balance sheet of not greater than AUD 100 million (EUR 60.8 million); (ii) deposits in protected accounts not greater than AUD 2 million (EUR 1.2 million); and (iii) a limited customer base (eg staff, their relatives and some early adopters). In the United Kingdom, the total deposits that a new bank following the mobilisation option can accept is usually GBP 50,000 (EUR 55,470).

- **Conditions for completing the entry phase.** During the entry phase, authorities are monitoring firms' progress towards reaching compliance with the full regulatory framework (Australia,

[26] As such, mobilisation does not reduce or waive any prudential minimum requirements but acts as a lever to proportionality.

[27] Similarly, in the FCA's regulatory sandbox, the full set of regulatory requirements has to be met, ie there is no possibility to waive certain requirements so that firms can test new products. Firms that are carrying out regulated activity must apply and be approved for the relevant regulatory permissions, on which restrictions will be placed.

[28] Conversion rates as of 10 August 2020.

Malaysia, Singapore); or progress in completing their mobilisation activities so that the bank becomes ready to be fully operational (United Kingdom). To aid monitoring, authorities typically ask for timetables with defined milestones against which they check progress. Before allowing firms to exit the entry phase, authorities assess compliance inter alia with the following elements.

– **Capitalisation.** In Australia, Malaysia and Singapore, the minimum paid-up capital requirement is initially lower, ie capital needs to be built up in the transitional phase. In Australia, restricted banks are required to hold AUD 3 million capital funds at all times, plus an AUD 1 million resolution reserve. In Malaysia, digital banks would be required to maintain minimum capital funds of MYR 100 million (EUR 20.3 million) during the entry phase, and MRY 300 million (EUR 60.8 million) at the end of the entry phase. In Singapore, a minimum paid-up capital requirement for a restricted DFB at the entry point of SGD 15 million (EUR 9.3 million) is progressively raised to SGD 1.5 billion (EUR 930 million) at the end of the entry phase. In the United Kingdom, one of the mobilisation activities may include fully capitalising the bank but this depends on its nature and business model. The minimum capital requirement in mobilisation, however, is not lower than for banks not in mobilisation.[29]

– **Appointment of senior staff.** In the entry phase, banks are expected to finalise their senior management appointments and recruitment of initial staff members. Authorities in Singapore, Australia and the United Kingdom require firms to submit fitness and proprietary assessments or declarations for relevant personnel.[30] In Malaysia, the proposed key responsible persons must demonstrate fulfilment of the fit and proper criteria issued by the Central Bank of Malaysia (BNM).

– **Finalisation of documented policies and procedures.** In the application, a firm may only submit high-level descriptions of its policies and procedures in relation to risk management and control structures, recovery and business continuity, IT infrastructure, systems and outsourcing arrangements. Before a firm can exit the entry phase, key policies and procedures must be fully documented for inspection by the authority.

– **Viability and sustainability of the business model.** In Singapore, the MAS will assess the restricted DFB based on factors such as strength of internal controls, frequency and type of compliance breaches, customer complaints and sustainability of business performance. In Malaysia, the BNM analyses the feasibility of the business plan and the resulting ability to meet regulatory requirements.

[29] In the United Kingdom, the capital requirement during the mobilisation phase is often set at the minimum requirement as required by the European Capital Requirements Directive (CRD), plus an add-on for wind-down costs. Art 12 CRD allows Member States to grant authorisation to particular categories of credit institutions based on an initial capital of less than EUR 5 million, but above EUR 1 million.

[30] In Australia, those who hold key positions within the proposed restricted ADI are assessed in accordance with Prudential Standard APS 520 Fit and Proper. In Australia the Bank Executive Accountability Regime (BEAR) also applies. In the United Kingdom, the Senior Managers and Certification Framework (SMCR) is intended to ensure individuals applying for senior management functions are suitable. In Singapore, the proposed bank is expected to hire certain staff (Chief Finance Officer, Chief Risk Officer, Chief Technology Officer, Chief Information Security Officer and Head of Compliance/AML) at least six months before the start of operations.

Key features of initiatives to facilitate entry into the banking market

Table 3

	Specific framework		General framework	
	MY	SG	AU	GB
Timeframe for transitional/mobilisation phase				
12-months or less	-	-	-	✓
Up to 2 years	-	-	✓	-
2 to 5 years	✓	✓	-	-
Restrictions on licence holders in transitional/mobilisation phase				
Caps on assets size	✓	-	✓	-
Caps on deposits	-	✓	✓	✓
Limited base of customers	-	✓	✓	-
Limits on location (overseas operations)	-	✓	✓	-
Limits on products to be offered	-	✓	✓	-
Restricted status to be disclosure to clients	-	-	✓	-
Criteria assessed for exiting transitional/mobilisation phase				
Bank is fully capitalised	✓	✓	✓	✓*
Appointments of senior management are completed	✓	✓	✓	✓*
Key policies and procedures are finalised	✓	-	✓	✓*
Financial performance, value added and development of business model are assessed to be sufficient	✓	✓	✓	✓*

✓ Applicable; – Not explicit in regulation or does not apply. (*) When a firm exits mobilisation upon completion of all its mobilisation activities, the PRA takes a decision on varying the authorised firm's scope of permission. For a positive decision, the PRA needs to be satisfied that its Threshold Conditions will continue to be met if the requirement restricting the business the firm can undertake is removed. That might necessitate, for example, senior management appointments or more sophisticated policies or systems.

Source: National regulations; national authorities.

Section 3 – Regulation of fintech platform financing

17. **Fintech platform financing (FPF) refers to those fintech activities that are facilitated by electronic platforms and provide a mechanism for intermediating funding over the internet.** Building on the definitions in Section 1, we distinguish between two types. The first, fintech balance sheet (FBS) lending, refers to credit activity facilitated by non-bank lenders that use their own balance sheet to provide credit to borrowers through electronic channels. The second, crowdfunding, refers to the practice of matching lenders and borrowers (loan crowdfunding – loan CF) or investors and investees (equity crowdfunding – equity CF) online. When they meet, one party receives the needed financing for business or consumption purposes and the other party makes an investment.[31] The matchmaking is performed by internet-based CF platforms that typically collect structured information from borrowers or investees; conduct due diligence assessments, assign scores and filter out unviable funding requests; establish prices for different levels of risk; and initiate or execute payment transactions between parties or engage third-party payment providers to do so.[32] For their service, CF platforms charge origination, servicing or other types of fees, instead of earning profits from bearing risks themselves.

18. **While finance is intermediated in all FPF activities, there are important differences**. First, FBS lending and crowdfunding rely on different sources of funding (Table 4). Crowdfunding channels funds from the wider public to fund seekers, and providers of funds have a say in what project they wish to invest in or who they wish to lend to. In contrast, FBS lenders can make these decisions themselves because they use their own capital or money received mainly through debt issuance. The different sources of funding also mean that CF platforms are not engaged in risk transformation but FBS lenders are. Second, there are different types of fund raiser involved. Funds raised in equity CF are exclusively for projects or companies such as startups or SMEs. This is in contrast to FBS lending and loan CF, where funds may also be raised for other purposes such as consumption.

Elements of different types of fintech platform financing — Table 4

	Sources of funding		Fund raisers		Main regulated activity	
	Use of own balance sheet	Collection of funds from many investors	Retail/ private customers	Businesses/ projects	Making loans (lending business)	Issuing, offering or dealing in securities
Fintech balance sheet lending	✓		✓	✓	✓	
Loan crowdfunding		✓	✓	✓	✓	
Equity crowdfunding		✓		✓		✓

Source: FSI.

31 Apart from being an alternative source of financing, crowdfunding may provide several other benefits to those raising funds. For example, if a project does not attract sufficient funding from the crowd, it may mean that its business case is not sound. On the other hand, successful funding campaigns provide free marketing. In addition, open funding campaigns on crowdfunding platforms may attract other financiers such as venture capitalists or business angels, or establish contacts with people who could provide valuable information to the entrepreneur (EBRD (2018)).

32 They may also offer additional functionalities or services, such as managing cases of default by taking steps to recover any unpaid balances; providing an auto-selection function that allows investors to automate their lending/investing based on pre-set criteria; and operating a contingency fund that spreads risks across different lenders or investors (Havrylchyk (2018)).

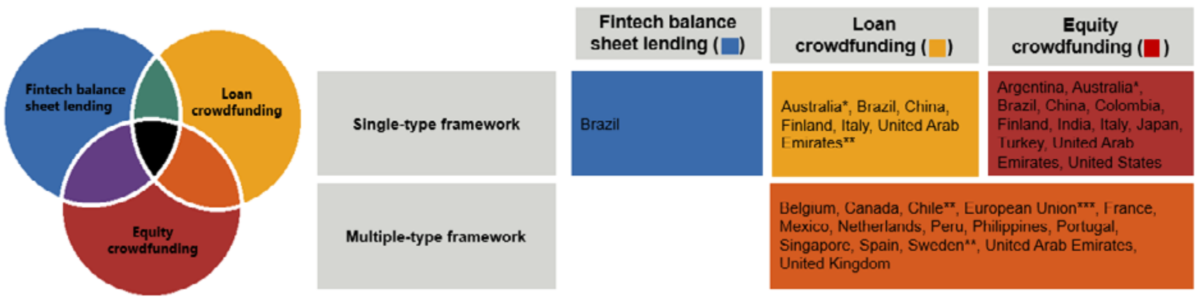
19. **From a consumer/investor protection standpoint, the risks of different FPF activities are not equivalent.** FBS lending may be considered less risky than loan and equity CF because funds are not sought from the crowd.[33] In addition, investors who provide funding to FBS lenders are not exposed to the default risk of individual borrowers as they are in loan CF but to the default risk of the FBS lender. Loan CF, in turn, may be considered less risky than equity CF because loans do not absorb losses (unless there is a default) and their returns (capital and interest) are less volatile.

20. **The supervisory architecture has a bearing on the regulatory structure for FPF activities.** Because of the regulated activities FPF business models involve (Table 4), they may be regulated by different authorities.[34] Entities with business models that involve lending, such as FBS lending and loan CF, often fall under the jurisdiction of the central bank or a supervisory agency tasked with banking regulation and supervision; those that involve securities business, such as equity CF, often fall under the jurisdiction of securities supervisors.[35]

21. **Many surveyed jurisdictions introduced specific regulations for FPF activities (Graph 10).**

- **Loan and equity CF are often subject to a common regulatory framework.** About half of surveyed jurisdictions have a regulatory framework for crowdfunding. Common frameworks that apply to FBS lending and either loan or equity CF or both do not appear to have been implemented in surveyed jurisdictions.
- **Equity CF is more often subject to a separate framework than loan CF.** A third of surveyed jurisdictions have a specific framework exclusively for equity CF; over twice as many jurisdictions as compared with loan CF.
- **Only one jurisdiction has a specific framework for FBS lending.** In others, FBS lending is subject to the existing frameworks for non-bank (ie non-deposit taking) lenders.

Specific regulatory frameworks for fintech platform financing | Graph 10



(*) In Australia, providing crowdfunding services requires an Australian Financial Services (AFS) Licence. If the platform grants consumer loans, an Australian Credit Licence (ACL) is required. (**) Work in progress. In the United Arab Emirates, at the federal level, the UAE Central Bank issued a draft regulation on loan CF. (***) Under the European Commission's proposal, platforms may apply for an EU passport based on a single set of rules and hold one type of licence at a time: (i) European Crowdfunding Serviced Provider (ECSP), (ii) licence provided under national framework, or (iii) MiFID licence.

Source: National regulations.

[33] Crowdfunding can involve funding from institutional funders as well as from individuals.

[34] See Calvo et al (2018) on a discussion of the institutional design for financial sector oversight.

[35] Fintech platforms that engage in both FBS lending and CF are likely subject to more than one regulatory framework.

Fintech balance sheet lending

22. **Although FBS lenders perform activities similar to those of other non-bank lenders, they differ in the way they deliver their services.** Like non-bank lenders, FBS lenders use their own balance sheet to lend, and keep loans either to maturity or sell them on to investors. However, unlike non-bank lenders, FBS lenders operate on internet platforms instead of in physical branches, often designed to make it as easy, fast and convenient as possible for the prospective borrower to obtain a credit decision – typically with little or no human interaction.

23. **Most surveyed jurisdictions have no specific regulatory framework for FBS lending.** In these jurisdictions, FBS lending is subject to existing regulations for non-bank lenders. Regulatory requirements for the latter vary considerably across countries. As a consequence, requirements for FBS lending diverge markedly and the responsibility for supervising this activity does not necessarily lie with the financial authority.

- **Banking licence:** In a few jurisdictions, an entity whose business model involves lending money and concluding loan agreements must hold a banking licence. This is the case, eg, in Austria and Germany, where extending loans is classified as a regulated banking business if it is done on a commercial basis. However, regulatory requirements for such entities may be applied in a proportionate manner.
- **Non-bank licence:** Many jurisdictions have licensing frameworks for different types of non-bank lender. While some frameworks regulate mainly entities whose primary business activity is to lend money (without taking deposits), others regulate different kinds of entities that may be allowed to lend money among other permitted activities. For example:

– **Money lenders.** In Hong Kong SAR, any person (or corporation) who carries on business as a money lender (ie making loans) must obtain a money lender's licence. Licences are subject to approval by the Licensing Court.[36] A similar framework exists in Japan, where a non-bank lender who extends credit to a Japanese borrower must register as a Money Lending Business Operator and fulfil certain requirements (eg maintaining net assets of at least JPY 50 million).[37]

– **Non-bank financial intermediaries/lenders.** In Italy, non-bank financial intermediaries must be authorised by the Bank of Italy in order "to provide financing in any form" and are subject to a prudential supervisory framework equivalent to that of banks.[38] In the United States, non-bank lenders are required to comply with state laws regulating money lending in each state they offer their services (Box 2).

– **Investment funds.** In the EU, alternative investment fund managers (AIFMs) that use investment funds to carry on lending activities are often subject to authorisation requirements under the Alternative Investment Fund Managers Directive (AIFMD), and must meet certain requirements (ACC 2019).[39] For example, AIFMs, including those acting as non-bank lenders, are required to "have and employ effectively the resources and procedures that are necessary for the proper

36 See www.cr.gov.hk/en/services/money-lenders/governing.htm.

37 To register as the MLB Operator, the lender must first fulfil certain requirements including the maintenance of certain net assets and hiring a money lending business manager who has passed certain examinations under the MLB Act (Nassiri (2016)), www.amt-law.com/asset/res/theLendingAndSecuredFinanceReview2ndEdition_JapanChapter%20.pdf; www.responsible-credit.org.uk/wp-content/uploads/2016/03/Taking-on-the-money-lenders-lessons-from-Japan-final.pdf.

38 www.bancaditalia.it/compiti/vigilanza/intermediari/index.html?com.dotmarketing.htmlpage.language=1.

39 For Alternative Investment Fund Managers below certain thresholds as provided by AIFMD, no authorisation is required and registration with the national competent authority is sufficient.

performance of their business activities". Moreover, "the persons who effectively conduct the business of the AIFM are of sufficiently good repute and are sufficiently experienced also in relation to the investment strategies being pursued".[40]

- **No licence or registration:** In some jurisdictions, entities that engage in granting loans are not regulated under financial law and may only be subject to requirements under commercial law. Also, usury laws may apply that mandate limits on interest rates to prevent borrowers from being exploited. For example, in Peru, lending activities performed by non-banks are not regulated but subject to an interest rate ceiling that is established by the Peruvian Central Bank (Baker and McKenzie (2019)).

Box 2

Lending by non-banks in the United States

Non-bank lenders are important providers of credit in the United States, particularly for credit to purchase residential properties. They play a significant role in key market segments, such as mortgage loans insured by the Federal Housing Administration.① In 2019, non-banks originated and serviced approximately half of all mortgages, a fivefold increase for origination and an eightfold increase for servicing since 2009 (FSOC (2019)).② In addition, mortgage application data collected under the Home Mortgage Disclosure Act (HMDA) suggest that, in 2015, FSB lenders granted 12% of all residential mortgage loans originated by non-banks, up from 5% in 2007. Looking at only mortgage loans insured by the FHA, which are typically taken out by borrowers with credit scores on the lower end of the spectrum, FBS lenders originated approximately 16% in 2015, up from close to zero in 2007 (Buchak et al (2017)).

To fund their lending activities, non-bank mortgage lenders typically rely heavily on short-term funding and follow an originate-to-distribute model, ie they sell most of their originated mortgage loans to government-owned or government-sponsored enterprises (GSEs) such as Fannie Mae and Freddie Mac. GSEs either hold these mortgages in their portfolios or package the loans into mortgage-backed securities (MBS), in which case GSEs guarantee the timely payment of principal and interest on the underlying mortgages.③ Similarly, non-bank lenders that originate loans other than mortgages may also obtain funding through issuing asset-backed securities. For example, student loans-focused lender College Ave securitised nearly one third of the loans it originated until Q2 2018, and CommonBond even twice as much (S&P (2018)).

From a regulatory perspective, FBS lenders are treated like brick-and-mortar non-bank lenders and are required to comply with relevant state laws regulating loan origination or brokerage. This means that, unless they partner with a chartered bank, they are often required to obtain a licence in every state in which they lend. In other words, FBS lenders that operate nationwide are subject to 50 state regulatory frameworks and may need to obtain numerous state licenses (Treasury (2018)).④

Regulatory requirements for non-bank lenders vary across states and depend, inter alia, on whether an entity is in the business of making loans to consumers or to businesses, and whether loans are for purchasing real estate, in which case a licence for mortgage-related activities such as origination, brokering and servicing may be required.⑤ For example, Quicken Loans – the largest mortgage lender in the United States with nearly half a trillion dollars of mortgage volume closed from 2013 through 2018 – is licensed in all states it operates in. This includes, for illustration, Arizona (Mortgage Banker Licence), Kansas (Licensed Mortgage Company), Maine (Supervised Lender Licence), Massachusetts (Mortgage Lender Licence), New York (Licensed Mortgage Banker) and Washington (Consumer Loan Company).⑥

Another example for an entity with a different modus operandi is OnDeck, an FBS lender that lends exclusively to SMEs. OnDeck applies Virginia law to all the loans it originates in states (such as Virginia) that do not require a licence for commercial loans and that honour Virginia choice of law provisions. In states that require a licence and may not honour a Virginia choice of law, loans are issued by a federally chartered bank, which is not subject to state licensing, and then purchased by OnDeck. These loans are not governed by Virginia law but by the laws of the issuing bank's home state (Chiu and MacNeil (2018)).⑦

[40] Articles 12(1)c and 8(1)c AIFMD, respectively.

Efforts to update the current state-based regulatory framework are under way. At the state level, regulators launched "Vision 2020", which is a state-driven initiative to build a more unified licensing framework and supervisory process for non-bank financial companies.⑧ In a report issued by the US Department of the Treasury in 2018, it supported these harmonisation efforts but recommended that "if states are unable to achieve meaningful harmonization across their licensing and supervisory frameworks within three years, Congress should act to encourage greater uniformity in rules governing lending and money transmission to be adopted, supervised, and enforced by state regulators" (Treasury (2018)).

At the federal level, in July 2018, the OCC issued a Supplement to its licensing manual to clarify how it would evaluate applications for a special purpose national bank (SPNB) charter from fintech companies. Charter holders would be allowed to engage in two of the three "core banking functions" (ie lending money and paying checks) defined in the National Bank Act (NBA) but would not be allowed to take deposits. For FBS lenders, the charter would allow them to avoid seeking state-by-state lending licences and, instead, adhere to a uniform set of national banking rules. In 2018, the US Treasury endorsed the OCC's SPNB charter for fintech companies and provided guidance on implementation (Treasury (2018)). Following a lawsuit, however, the OCC is currently unable to grant non-depository SPNB charters to fintech companies because, as argued by the US District Court for the Southern District of New York, only depository institutions are eligible to receive national bank charters from the OCC.⑨

Potential risks to financial stability from non-bank companies in the origination and servicing of residential mortgages led the Financial Stability Oversight Council (FSOC) to call upon federal and state regulators to strengthen oversight of the sector. In its 2019 annual report, the FSOC emphasised that, over the last decade, non-bank mortgage companies have assumed a larger role in the origination and servicing of residential mortgages, and pointed to potential risks to the US financial system. For example, non-bank lenders may rely heavily on short-term funding for their activities and have relatively few resources to absorb adverse economic shocks despite their role as providers of mortgage credit and servicing to low-income and riskier borrowers. In addition, they may have the obligation to make payments to the investor even when a borrower does not make a mortgage payment ("servicing advances") (FSOC (2019)).

Some risks related to these servicing advances appear to have materialised in the course of the Covid-19 pandemic. In 2020, the US government implemented a set of relief measures for men and women impacted by the Covid-19 situation. These legislative measures gave newly unemployed borrowers the right to request payment forbearance without financial penalty. Many borrowers made use of this right. This affected repayments on loans originated by non-bank lenders, which often serve as underlying assets for securities that carry a guarantee by Fannie Mae and Freddie Mac. This, in turn, created significant liquidity stress for non-bank lenders engaged in mortgage servicing – they collect balances due from borrowers and remit these payments to investors – because they are obligated to keep paying investors even if they do not receive payments from borrowers, such as those who asked for forbearance. While Fannie Mae and Freddie Mac eventually cover losses under the terms of their guarantees, until then it is up to mortgage servicers to bridge the gap with their own funds. In response, the Federal Housing Finance Agency, as responsible regulator, provided a measure of relief for loans guaranteed by Fannie Mae and Freddie Mac by capping servicers' obligations at four months' worth of missed payments.⑩

① The US Federal Housing Administration (FHA) is one of the largest insurers of mortgages in the world and provides mortgage insurance on loans made by FHA-approved lenders, for which it collects insurance premia from borrowers via lenders. FHA mortgage insurance provides lenders with protection against losses if a property owner defaults on their mortgage. The lenders bear less risk because FHA will pay a claim to the lender for the unpaid principal balance of a defaulted mortgage. FHA insured loans are more accessible than conventional mortgage loans. For borrowers, to qualify for an FHA-insured loan, they must meet certain requirements established by FHA, such as a steady employment history, a debt-to-income ratio of no more than 50%, a minimum FICO® credit score of 500 with a down payment of at least 10%, or 580 with a down payment of at least 3.5%. See US Department of Housing and Urban Development (www.hud.gov/program_offices/housing/fhahistory), Quicken Loans (www.quickenloans.com/home-loans/fha-loan) and Investopedia (www.investopedia.com/terms/f/fhaloan.asp). ② This is consistent with Buchak et al (2017), who find that non-bank lenders – called shadow bank lenders in their paper – originated 30% of all residential mortgages in 2007, and 50% in 2015. ③ See www.fhfa.gov/SupervisionRegulation/FannieMaeandFreddieMac/Pages/About-Fannie-Mae---Freddie-Mac.aspx. ④ In 2008, in order to improve coordination and information sharing among regulators, and to improve consumer protection, an online platform ("Nationwide Mortgage Licensing System", or NMLS) was set up by the Conference of State Bank Supervisors (CSBS) and the American Association of Residential Mortgage Regulators (AARMR). NMLS is a system of record for non-depository, financial services licensing or registration in participating state agencies and does not itself grant or deny licence authority. For consumers, it provides licensing and other relevant information through "NMLS Consumer Access". See Treasury (2018) for more details. ⑤ Non-bank lenders are also regulated by the Consumer Financial Protection Bureau (CFPB) for compliance with consumer financial laws. ⑥ Comprehensive information on Quicken Loans can be accessed through NMLS Consumer Access under www.nmlsconsumeraccess.org/EntityDetails.aspx/COMPANY/3030; for an overview of main facts on Quicken Loans see www.quickenloans.com/press-room/fast-facts/. ⑦ See also Form 10-K filings with the SEC at www.sec.gov/Archives/edgar/data/1420811/000142081116000111/ondk-20151231x10k.htm. ⑧ In the context of Vision 2020, in February 2020, the Conference of State Bank Supervisors (CBSB) announced the rollout of a new State Examination System (SES), intended to enhance supervisory oversight of non-banks and improve collaboration between licensees and their regulators. ⑨ www.dwt.com/blogs/payment-law-advisor/2019/10/nydfs-fintech-charter-challenge. ⑩ www.ft.com/content/045aee80-3688-440b-98e6-38c22ac57733.

24. **A specific licensing framework for FBS lending was introduced in only one surveyed jurisdiction.** In Brazil, the National Monetary Council issued a 2018 resolution that introduced direct credit companies (Sociedades de Crédito Direto, SCD) as a new type of financial institution. SCDs are restricted to conducting their lending business exclusively on the basis of an electronic platform. SCDs require a licence by the Central Bank of Brazil, are subject to prudential supervision and must meet requirements, inter alia, on minimum capital and on funding (Box 3).

Box 3

Direct credit companies in Brazil

In April 2018, the National Monetary Council (Conselho Monetário Nacional) issued Resolution CMN 4,656, which introduced direct credit companies (*Sociedade de Crédito Direto, SCD*) as a new type of financial institution. The resolution requires any entity engaged in FBS lending to be licensed as an SCD by the Central Bank of Brazil.①

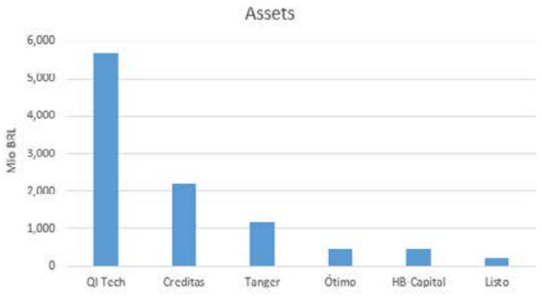
The resolution defines SCDs as financial institutions that engage primarily in lending, financing and acquisition of receivables exclusively through electronic channels. SCDs may also provide additional services, such as credit analysis, loan collection, insurance distribution and electronic money issuance. Since March 2020, SCDs have also been permitted to issue credit cards.

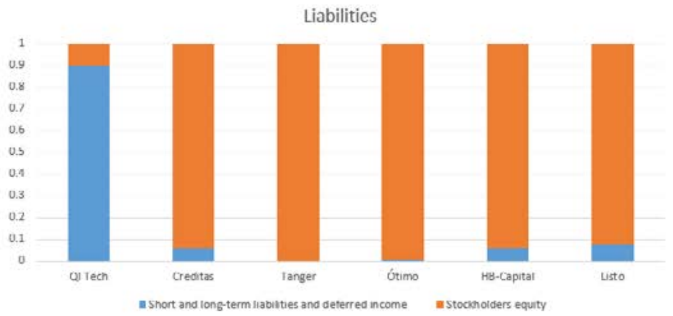
SCDs are not allowed to raise funds from the public, except by issuing shares, and must operate on the basis of their own capital. However, they are allowed to sell or assign the originated loans to other financial institutions, securitisation companies and credit rights investment funds (FIDC – *Fundos de Investimento em Direitos Creditórios*). The latter two may only conduct business with accredited investors as defined by the Securities and Exchange Commission of Brazil (CVM). Since March 2020, SCDs have also been able to fund their operations with resources from the Brazilian Development Bank (BNDES).

In terms of prudential rules, SCDs are subject to risk-weighted capital requirements comparable with those applied to the smallest tier of credit institutions in Brazil, to which most SCDs are expected to belong (segment S5).② Because of their limited size, financial institutions in S5 are subject to simplified prudential requirements such as a simplified solvency ratio.③ At a minimum, SCDs are required to hold paid-up capital of at least BRL 1 million, which must be deposited with the central bank or invested in government bonds. In addition, because SCDs do not engage in maturity transformation, there is no liquidity requirement in place.

In terms of governance and risk management, an SCD needs to, inter alia, be established as a corporation and include "Sociedade de Crédito Direto" in its legal name; have senior staff that is deemed to be fit and proper; pursue an integrated risk management approach; and conduct its lending business by selecting borrowers according to "consistent, verifiable and transparent criteria" that are relevant for assessing their credit risk.

Since introducing the SCD status, the Central Bank of Brazil has authorised 25 institutions to operate as SCDs (as of June 2020). Based on data provided by the central bank, it appears that most licence holders, with the exception of QI Tech, fund their lending activities almost exclusively with their own capital; the rest represents liabilities incurred by selling or assigning originated loans to other financial institutions.





① Resolution CMN 4,656 also introduced peer-to-peer loan companies (Sociedade entre Pessoas, SEP) as new types of financial institution, ie any entity engaged loan crowdfunding is required to be licensed as an SEP. ② Since January 2017, Resolution 4,553 has divided the Brazilian financial system into five segments for the proportional implementation of prudential regulation. See Table 4 in Carvalho et al (2017) for details of the segmentation of Brazil's financial system. ③ The minimum is 17% of simplified risk-weighted assets, which are calculated as the sum of an entity's financial exposure to credit and operational risk.

Crowdfunding

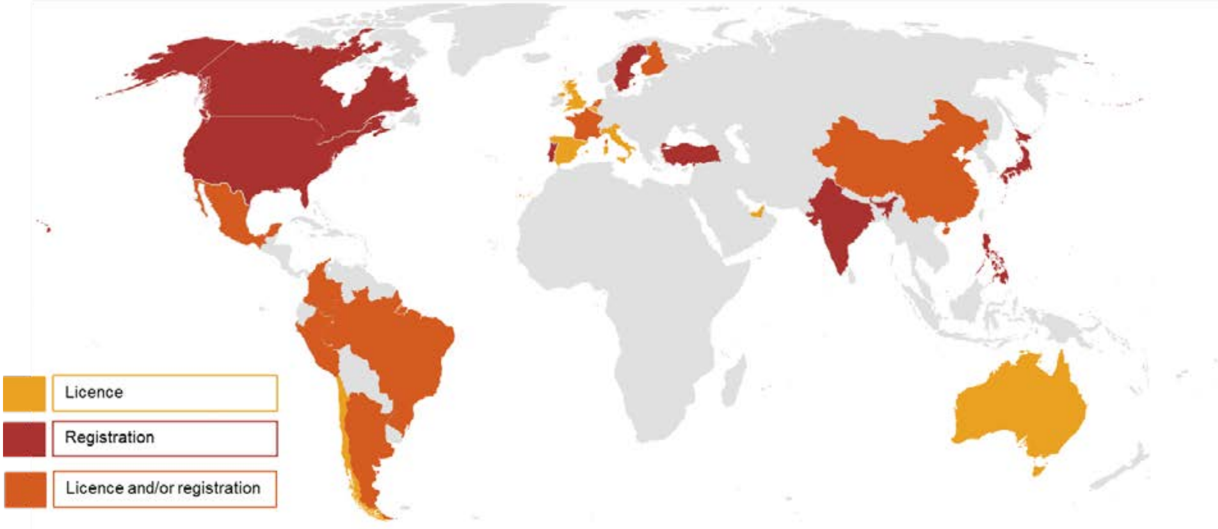
25. **Many surveyed jurisdictions have introduced a dedicated regulatory framework for crowdfunding (CF).** Dedicated regulatory frameworks for crowdfunding typically have two broad sets of requirements. The first is intended to regulate how CF platforms may operate, which activities they can perform and what they must do to mitigate the risks they incur. The second set of requirements relates to consumer/investor protection and seeks to reduce the information asymmetries involved in the investment process.

26. **In other surveyed jurisdictions, CF platforms are subject to existing requirements under banking, securities and payments regulations.** In these jurisdictions, regulatory requirements depend on: what concrete types of activity are performed; what types of entity are involved; who performs which activity; and who bears the risk (Ehrentraud et al (2020)). For example, if the extension of credit requires a licence, then any firm engaged in loan CF would need to be authorised accordingly.

Requirements on crowdfunding platforms

27. **CF platforms are typically subject to registration or authorisation requirements.** In most surveyed jurisdictions, equity and loan CF platforms must be formally authorised before they can offer their services (Graph 11). In some other cases, it is sufficient for them to provide the required documentation within a relatively simple registration process. In most surveyed jurisdictions, crowdfunding platforms are required to operate under a specific legal form (Annex Table 3) and have a minimum amount of paid-in capital.

Licence/registration requirements for crowdfunding platforms Graph 11



Sources: National regulation; FSI. See Annex Table 2 for details.

28. **When applying for authorisation or registration, a prospective CF platform must typically provide specific information.** This may include, inter alia, the planned business model, the platform's organisational setup (eg who owns the entity and who is responsible for its management), its legal status, available financial resources, and envisaged policies, procedures and controls (eg for risk management or governance). In addition, CF platforms are regularly required to provide evidence that their proposed managers and directors are of good repute with sufficient expertise and professional qualifications.

29. **In several jurisdictions, CF platforms are allowed to broker multiple financial instruments.** Most regulatory frameworks for equity CF allow platforms to intermediate funding not only in the form of equity but also debt or other types of security (Table 5). For example, in Argentina, platforms may also intermediate trust certificates. In most cases, loan CF frameworks explicitly forbid platforms to intermediate financial instruments other than loans. Regulatory frameworks that cover both loan and equity CF allow the broadest range of instruments. For example, in the Philippines, in addition to loans and equity, platforms may also intermediate asset-backed securities, trust certificates or other types of instrument. Under the proposed EU crowdfunding regulation, platforms would be allowed to intermediate any type of transferable securities.

Permissible financial instruments by type of crowdfunding framework Table 5

Number of frameworks	Debt securities	Equity securities	Loans	Other types*	Total number of jurisdictions
Loan CF	1	1	6	2	6
Equity CF	7	11	1	5	11
Loan and equity CF	13	15	15	13	15

(*) Other types include certificates, derivatives and collective investment schemes.

Source: National regulations. Breakdown by jurisdiction in Annex Table 4.

30. **Most CF platforms are not allowed to invest in the financial instruments they intermediate.** Where this is permitted, the platform may need to outsource due diligence procedures to an independent party (eg Italy); inform other investors; and keep the amount invested below certain limits (Table 6). For

instance, in Spain, CF platforms may invest not more than 10% of the total funds raised per offer; under the EU proposal, only 2% would be allowed. In a limited number of jurisdictions, there are no such limits on risk retention (eg United Kingdom). In Mexico, as part of the licensing process, a CF platform needs to present a plan that sets out how it will align its incentives with those of the investors it serves.

Requirements around risk retention — Table 6

	Equity CF	Loan and equity CF					
	IT	BE	CL*	ES	EU*	MX	SG
Adopt suitable measures to manage potential conflicts of interest	✓	✓	-	✓	✓	✓	✓
Outsource due diligence procedures to an independent party	✓	-	-	-	-	-	-
Inform investors on the platform's participation	-	-	✓	✓	✓	✓	-
Cap on the amount invested	-	-	-	✓	✓	-	-
Restrictions to invest in projects hosted by other platforms	-	-	-	✓	-	✓	-

Sources: National regulation; FSI. *Draft regulation.

31. **In most jurisdictions, CF platforms are subject to minimum capital obligations.** These are often in the form of a fixed amount of minimum paid-up capital. In some jurisdictions, capital obligations increase with the scale of activities (Annex Table 5). For instance, in Spain and the United Kingdom, minimum capital for loan CF platforms increases with the amount lent. In lieu of paid-up capital, some jurisdictions require a professional liability insurance policy that covers certain amounts (eg Italy). In others, platforms can choose between holding capital, taking out insurance or a combination of both (eg Portugal, Spain). In contrast, the proposed EU crowdfunding regulation does not foresee any capital obligations for so-called European Crowdfunding Service Providers.

32. **Many regulatory CF frameworks, in particular those that regulate loan CF and equity CF jointly, have requirements to ensure business continuity and operational resilience.**

- If a CF platform fails, it may cease to manage the loans or securities it has facilitated, causing disruption and damage to its customers. Therefore, crowdfunding platforms are often required to put in place contingency arrangements to ensure continuity of services in the event of their failure (Table 7). Some frameworks require these arrangements to be documented when applying for a licence (eg Mexico, UAE).
- If a CF platform goes offline, clients may lose access to their accounts and transaction data. Hence platforms are often required to manage the risks of IT infrastructure problems, and to take steps to strengthen their cyber resilience (Table 7). In some cases, they are explicitly required to report cyber incidents (eg Italy, Mexico), conduct cyber resilience health checks (eg Australia), establish recovery targets such as recovery point objectives[41] (Mexico), or are recommended to have their cyber security policy certified by an external auditor (India).

[41] Recovery point objective (RPO) describes the interval of time that might pass during a disruption before the quantity of data lost during that period exceeds the Business Continuity Plan's maximum allowable threshold or "tolerance".

Contingency planning requirements — Table 7

Number of frameworks	Loan CF	Equity CF	Loan and equity CF
Contingency arrangements	2	6	9
IT resilience and cyber security arrangements	3	8	7
Number of jurisdictions per framework	6	11	15

Sources: National regulation; FSI. Breakdown by jurisdiction in Annex Table 6.

33. **Crowdfunding platforms are typically subject to requirements on anti-money laundering (AML) and combating the financing of terrorism (CFT).** Categorised as financial institutions, they are generally brought into scope of existing AML/CFT regulations, ie they must implement AML/CFT measures such as customer due diligence checks (know your customer, KYC). For example, the EU proposal requires that payments for crowdfunding transactions must take place via entities that are authorised under the Payment Service Directive (PSD), which are subject to the Anti-Money Laundering Directive (AMLD).

Consumer/investor protection

34. **Consumer/investor protection measures are central to the CF frameworks of surveyed jurisdictions.** These typically require the disclosure of relevant information and the conduct of due diligence checks on borrowers and/or issuers; impose limits on how much individual investors can invest; and restrict CF platforms from engaging in certain activities. While these measures focus primarily on protecting (retail) investors, and less so on protecting borrowers, responsible lending requirements are often part of the broader regulatory framework for consumer credit lending in general.

Requirements on disclosure and due diligence

35. **In all surveyed jurisdictions, loan and equity CF platforms are required to make investors aware of potential risks and disclose related information.** These requirements are meant to ensure that investors have adequate information to decide whether the investment is suitable for them and whether they can bear the risks involved.

- Disclosure requirements are either principles-based or prescriptive. In the former case, the burden is put on platforms to decide what information their investors need in order to make informed decisions (eg United Kingdom); in the latter case, platforms face more prescriptive requirements on the type of information that platforms must provide to investors, such as sufficiently detailed information on the project or loan characteristics, and the borrower or issuer.
- In most cases, platforms must ensure that potential investors declare that they have understood the risks (eg France), or to pass a suitability test (eg retail investors in Singapore[42]). Similarly, in the EU, it will be "mandatory for crowdfunding service providers to run an entry knowledge test of their prospective investors to establish their understanding of the investment".[43]

[42] MAS requires retail investors to pass a knowledge or experience test, or suitability assessment test.

[43] www.europarl.europa.eu/doceo/document/A-8-2018-0364_EN.html.

- In some cases, regulators provide indications of common risks (eg loss of capital and lack of liquidity) for use on platforms' websites (eg United Kingdom[44]), or mandate platforms to provide educational material on the risks associated with different security types (eg Philippines).

36. **Most loan and equity CF frameworks have requirements as to the form in which information should be provided.** In many cases, to ensure comparability of information across different funding requests and platforms, information needs to be disclosed via standardised templates. These standardised information documents typically feature at least four main elements (Graph 12). These are (i) key features of the loan or security; (ii) details and characteristics of the borrower or issuer; (iii) risk warnings and explanatory statements;[45] and (iv) additional information, eg on the fees and costs involved.

Main features of information documents | Graph 12

Loan / security	Borrower / issuer	Special warnings	Additional information
✓ Terms and conditions	✓ Identification of borrower or company	✓ Potential conflicts of interest	✓ Costs, fees or any charges to investors, and criteria to determine them
✓ Type of instrument	✓ Business plan, nature of business	✓ Risks and specified risk categories	✓ Tax treatment of the offer
✓ Price, nominal, interest rate, valuation method	✓ Planned use of funds to be raised	✓ Warning that financial authority has not approved the offer	✓ Procedures in place when the target amount is not reached
✓ Subscription amounts	✓ Current financial condition (indebtedness, default rates, non performing loans)	✓ Penalties	
✓ Offering period, maturity	✓ Forecasts of financial statements		
✓ Amortisation period, and accrual of interest	✓ Prior records of funding and refusals from any other platforms		
✓ Frequency of payments			
✓ Rights associated to the instrument			
✓ Description of the venture			
✓ Withdrawal and pre-payment events			
✓ Wind-down arrangements			
✓ Payment and collection mechanisms			
✓ Progress toward meeting targets			

Source: National regulations.

37. **Companies raising funds through CF platforms may need to prepare a prospectus or an alternative information document.** In general, a public offering of securities requires the preparation and publication of a prospectus, unless the amount to be raised within a given period of time is below a

[44] The UK rules require firms to give a fair, clear and prominent indication of any relevant risk. Risks may include risk to capital, illiquidity, fraud, equity dilution, conflicts of interest, lack of due diligence, insider trading and systems failures.

[45] In the EU, the following explanatory statement will need to be provided: "This crowdfunding offer has been neither verified nor approved by ESMA or national competent authorities. The appropriateness of your education and knowledge have not been assessed before you were granted access to this investment. By making this investment, you assume full risk of taking this investment, including the risk of partial or entire loss of the money invested."

specified threshold.[46] So that companies do not need to prepare a prospectus, crowdfunding frameworks often limit the amounts that can be raised per crowdfunding offer to levels at or below applicable prospectus thresholds. In lieu of a prospectus, however, companies often have to prepare a simpler information document. For example, in the EU, a company raising funds will be responsible for preparing a so-called "key investment information sheet" but not a prospectus.[47] Similarly, in Canada, issuers looking to raise capital from a group in a CF-like manner are generally required to prepare an offering document that contains information about the issuer, its business and the intended use of proceeds.

38. **In most jurisdictions, CF platforms are responsible for conducting due diligence checks on borrowers and/or issuers.** Most loan and equity CF frameworks make platforms responsible for conducting due diligence on borrower and/or issuers (Table 8). In a few cases, both the project and the platform share the obligation to provide accurate information to investors (eg Brazil and Colombia), or it becomes the responsibility of the project or an independent third party hired by the platform. For example, in Peru, it is the sole responsibility of the recipient to provide accurate information regarding the project to be funded. CF platforms however bear responsibility if disclosure-related issues are attributable to them. In Italy, platforms are required to outsource due diligence checks for projects they also invest in.

39. **Most jurisdictions require loan and equity CF platforms to have procedures in place for selecting potential borrowers or projects and publish related information.** For example, in Argentina, equity CF platforms are required to publish information on the main criteria and methodologies they apply when assessing, selecting and publishing the projects hosted on their website. In the Netherlands, platforms must have a policy on how they assess potential borrowers and assign credit ratings, and publish both the policy and any rating scale used.

40. **In two jurisdictions, equity CF platforms are required to set up a dedicated body for screening projects.** In India, under the framework for equity CF proposed by the Securities and Exchange Board, platforms must have a "Screening Committee", which is responsible for operating a "filtering mechanism to differentiate between the quality of ideas and business plans". In Turkey, equity CF platforms must have an investment committee that approves projects before they are allowed onto the platform.

Due diligence requirements

Table 8

Number of frameworks	Loan CF	Equity CF	Loan and equity CF
Due diligence is responsibility of the platform	5	11	10
Due diligence is responsibility of the project	-	3	3
Due diligence is outsourced to a third party	-	1	-
Platforms are obliged to disclose their selecting methods	3	7	12
Potential projects must be screened and approved by a dedicated committee	-	2	-
Total of jurisdictions per framework	6	11	15

Sources: National regulation; FSI. Breakdown by jurisdiction in Annex Table 7.

46 For an overview of thresholds below which the obligation to publish a prospectus does not apply in EU member states (EUR 8 million within 12 months in the majority of countries), see ESMA (2020).

47 The key investment information sheet needs to provide a defined set of information. It has eight parts: (i) information about the project owner(s) and the crowdfunding project; (ii) main features of the crowdfunding process and conditions for the capital raising or funds borrowing, as applicable; (iii) risk factors; (iv) information related to the offering of securities; (v) issuer information, where the issuer is different from the project owner and is therefore an SPV; (vi) investor rights; (vii) disclosure related to the loan agreement; and (viii) fees, information and legal redress.

Restrictions

41. **Apart from requirements related to disclosure and due diligence, CF platforms may face several restrictions to protect investors.** Crowdfunding frameworks often have requirements that prevent platforms from engaging in certain types of activity, or limit the amount investors can invest or that borrowers/investees can receive.

42. **In several jurisdictions, CF platforms are explicitly restricted from engaging in the following activities (Table 9).**

- **Holding clients' funds.** Customers may incur losses if a CF platform fails. To protect against this risk, in many jurisdictions crowdfunding platforms are not allowed to hold the funds of clients, unless they have a separate licence. For example, in France, a CF platform can only receive funds from investors if authorised as payment provider; the same logic applies under the proposed regulation in the EU. In some jurisdictions, platforms must place customer funds in either a trust account or into an account directed by the customer (eg Singapore) or use custody or trust accounts (eg equity CF in Japan).
- **Operating secondary markets.** In several jurisdictions, CF platforms are not allowed to provide a means through which investors can sell the positions they have acquired through the platform to other investors.[48] When they are so permitted, they are subject to certain safeguards to protect investors. For example, secondary markets may be restricted to qualified investors (eg loan CF in Brazil), their operation may need an additional licence (eg equity CF in Australia), or prospectus requirements may apply (equity CF in Japan). In addition, to avoid the impression that secondary markets allow investors to exit their positions at any time they wish, or that it is the responsibility of the platform to guarantee this, investors may need to be warned that their funds are subject to illiquidity risk (eg United Kingdom) or that the platform does not accept liability for any trading exposures (eg EU proposal).
- **Active customer acquisition.** In a few jurisdictions, CF platforms are not allowed to play an active role in finding potential investors for the projects they host. For instance, in Japan, platforms are not allowed to use any means (eg phone calls) other than the internet to find potential investors.

Selected restrictions in crowdfunding frameworks — Table 9

Number of frameworks	Restriction on holding clients' funds	Restriction on operating secondary markets	Restriction on actively acquiring clients	Total number of jurisdictions
Loan CF	4	3	-	5
Equity CF	9	6	4	10
Loan and equity CF	7	4	5	16

Note: Not counted are cases where the restriction may not apply due to the licence held.

Sources: National regulation; FSI. Breakdown by jurisdiction in Annex Table 8.

43. **Caps on investments or funds raised are commonly used as investor protection tool.** Investors often face caps on the amount of money they can provide, in particular under equity CF frameworks (Table 10). These caps may be defined by project and/or year (eg EUR 3,000 per project and EUR 10,000 per year in Spain), or are set relative to the wealth or income of the investor targeted (eg equity CF promotions in the United Kingdom can only target ordinary retail investors if the investor agrees not to invest more than 10% of their net investable assets in such securities). Caps on investments often apply

48 Despite this restriction on operating organised or official secondary markets, instruments facilitated by platforms might be exchanged under private contracts governed by commercial law.

to less experienced retail investors, or they face lower caps than other investors, or they are excluded from using CF platforms altogether. In addition, there are also caps on the amount a borrower or issuer can raise, either by project and/or year across multiple platforms, but these are less common than investor-based caps (Table 11).

Regulatory caps on investments

Table 10

On:	Investor				
Cap:	Per project cap	Annual cap	Relative cap	None	Total jurisdictions per framework
Description:	Maximum amount an investor can provide to a single fundraiser	Maximum amount an investor can provide per year across multiple projects	Maximum amount an investor can provide depending on wealth or income	Amounts to be invested are not restricted	
LBC	2	1	-	3	5
EBC	5	1	5	2	10
LBC + EBC	7	5	6	6	16

Sources: National regulation; FSI. Breakdown by jurisdiction in Annex Table 9.

Regulatory caps on funds raised

Table 11

On:	Issuer/borrower			
Cap:	Per-project cap	Annual cap	None	Total jurisdictions per framework
Description:	Maximum amount that can be raised by project	Maximum amount that can be raised per year across multiple platforms	Amounts to be raised are not restricted	
LBC	1	2	3	5
EBC	7	2	3	10
LBC + EBC	5	3	10	16

Sources: National regulation; FSI. Breakdown by jurisdiction in Annex Table 9.

Section 4 – Concluding remarks

44. **Confronted with the rise of digital banking and fintech platform financing, financial authorities have responded by making adjustments to the existing regulatory framework.** In doing so, it appears that they may have given particular weight to selected policy objectives. These are often fostering competition and financial inclusion, while preserving consumer and investor protection.

45. **For digital banking, only a few surveyed jurisdictions have introduced a specific licensing framework.** In those that have, they may have done so to provide solutions to existing challenges in the financial sector. Such may be the case for jurisdictions that award digital bank licences only to applicants with business models that serve specific segments of the market. In addition, most requirements for digital banks are similar to the ones applicable to traditional banking licenses, with the exception of

ownership/control requirements and special requirements in relation to technology-related risks.[49] But because these risks are also important to traditional banks, in jurisdictions without a dedicated licensing framework, regulators may feel that their existing rulebooks already adequately address such risks. This may explain why most jurisdictions have not introduced specific regulatory frameworks for digital banks.

46. **For FBS lending, the way this fintech activity is regulated varies widely.** Virtually none of surveyed jurisdictions have a dedicated regulatory framework for FBS lending, ie FBS lenders are treated in the same way as brick-and-mortar non-bank lenders. As a result, the way FBS lenders are regulated varies as widely as the treatment of non-bank lenders does, ranging from the requirement to acquire a banking licence to only having to observe interest rate ceilings.

47. **For crowdfunding, many of the jurisdictions covered in this paper have implemented a dedicated regulatory framework.**[50] This may be because, without a dedicated framework, CF is typically subject to a host of regulatory requirements found in different sectoral regulations such as banking, securities or payments regulation. While these requirements ensure that anybody who intermediates funding and performs related activities is within the broader regulatory perimeter, they are not tailored to crowdfunding models and may be blind to a range of issues that are unique to CF.

48. **Regulatory frameworks for crowdfunding show many similarities.** Apart from requirements imposed on platforms to ensure they operate securely and reliably, it appears that investor protection measures are a common element. These often take the form of comprehensive information requirements and limits on how much individual investors can invest per project, year, or in relation to their wealth or income. Other common features include AML/CFT measures such as KYC requirements.

49. **However, some differences stand out.** For one, there are different approaches as to how much risk CF platforms are allowed to retain on their balance sheet. Most jurisditions disallow any risk retention, in others there are limits, or no restrictions at all. This diversity of approaches may be explained by the fact that there are different views on the effect of risk retention requirements on how closely the interests of platforms are aligned with those of investors.[51] Second, and probably relatedly, there are different approaches to how much capital platforms must hold. Minimum capital obligations may be in the form of a fixed amount of paid-in capital, or they may increase with the scale of activities, or there are no capital obligations at all. Thus, the financial buffers CF platforms have at their disposal may vary substantially across countries.

50. **In general, financial authorities will probably have to weigh a number of elements when assessing whether their regulatory framework is adequate or needs to be adjusted to account for new fintech activities.** Authorities will need to assess not only potential risks of these new activities to consumers and investors, financial stability and market integrity but also potential benefits for society in terms of strengthening financial development, inclusion and efficiency. Based on this assessment, authorities will have to consider whether fintech-related risks are adequately dealt with under the existing regulatory framework and whether opportunities for regulatory arbitrage have opened up. Overall, the

[49] Nevertheless, how regulatory requirements are applied to digital banks and how they are supervised in practice may differ from traditional banks.

[50] In contrast, probably due to differences in sample size, World Bank and CCAF (2019) report that CF is typically unregulated. Based on a global survey among regulators from 111 jurisdictions (with 40% of the respondents from high-income jurisdictions and 30% of the respondents from lower-middle or low-income jurisdictions), they find that only 22% of jurisdictions formally regulate loan CF and only 39% equity CF.

[51] On the one hand, not allowing platforms to invest in the financial instruments they intermediate, or only up to a limit, aims to prevent conflicts of interest and adverse selection issues. For example, platforms may exploit their informational advantage to cherry-pick the best projects (Havrylchyk (2018)). On the other hand, it can be argued that having skin in the game to some extent is necessary to alleviate principal-agent problems because the platform and its clients share the outcome of investments made (Micic (2014)).

challenge for authorities will be to achieve a balance that encourages innovation without compromising the soundness of the financial system.

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