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Indonesia

Promoting Financial Access & Inclusion

Fintech for Financial Inclusion

Deep Dive Study

January 2021

FCI



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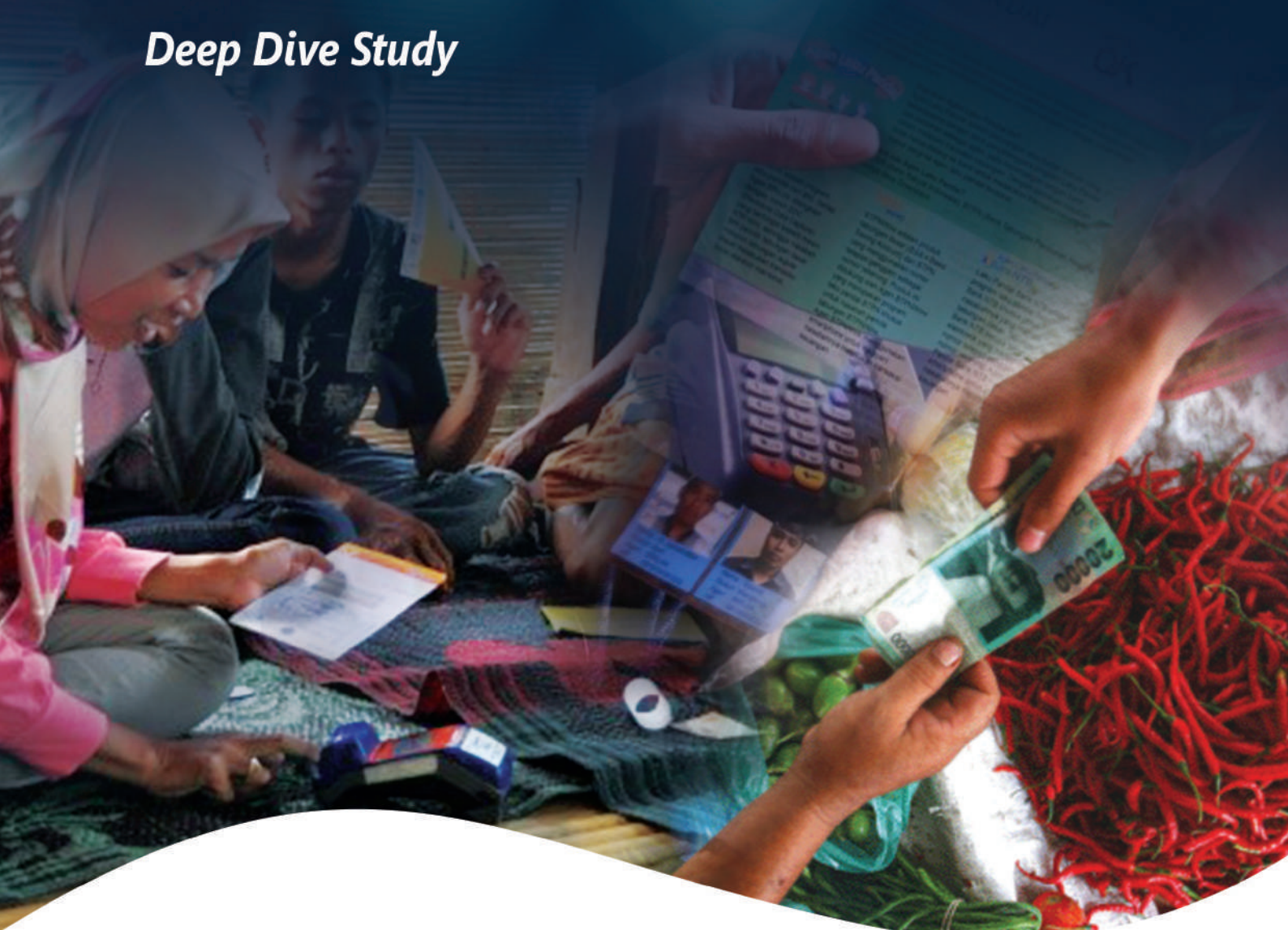
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FINTECH FOR FINANCIAL INCLUSION

Deep Dive Study



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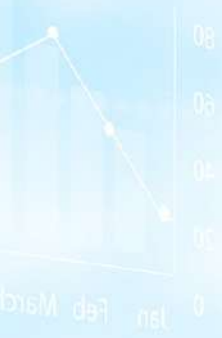


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The study is a joint effort with IFC and the Indonesia FinTech Association (AFTECH) that have been instrumental in arranging meetings with the different stakeholders and sharing information on the Indonesia FinTech landscape. Recognizing the importance and potential broad scope and impact of Fintech developments in Indonesia, this study was launched in 2017, and is based largely on stakeholder interviews conducted during 2018-2019. It has benefited from extensive consultations with the authorities, who have been actively addressing Fintech innovations in the market even as the report was being finalized. While the landscape continues to rapidly evolve, this snapshot of a market in transition captures the process of adopting new technologies, adapting regulatory frameworks, and the potential for an acceleration towards inclusive finance in Indonesia

The team would like to thank the Financial Services Authority (Otoritas Jasa Keuangan – OJK), Bank Indonesia (BI), the Ministry of Communication and Informatics (KOMINFO), National Financial Inclusion Secretariat (SNKI), and the Executive Office of the President (KSP) for their time and support in the development of this deep dive study, and for providing further inputs to our findings in 2019. Finally, the team gratefully acknowledge the financial support received from SECO that has made possible to conduct this study under phase II of the Indonesia Financial Sector Strengthening Program (IFSSP- II).

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BAB I EXECUTIVE SUMMARY



I. EXECUTIVE SUMMARY

Financial inclusion, or providing access and active usage of formal financial products and services to the unbanked, underbanked and micro, small and medium enterprises (MSMEs), is a key priority for the Government of Indonesia (GoI) to drive higher economic growth and lift people out of poverty. Indonesia has made significant efforts in deepening financial inclusion through the implementation of its National Strategy on Financial Inclusion (NFSI), and the creation of the National Council for Financial Inclusion (SNKI) led by the President of Indonesia. Since 2011, access to formal financial products, a key measure of financial inclusion, has more than doubled from 20% in 2011 to 49% in 2017, according to the World Bank Findex Survey. Although there has been substantial progress, it will be challenging to achieve the ambitious goal of 75% financial inclusion set by NFSI by end of 2019. According to the 2017 World Bank Findex Survey, 95 million adults still lack access to a financial institution account, and IFC estimates that there is a \$166 billion credit gap for MSMEs in the country.

It is widely recognized that the use of technology innovations in the financial services sector, or FinTech, is a key enabler to financial inclusion. This research study adopts the broad definition of FinTech from the Financial Stability Board (FSB), which encompasses new ventures that generally focus on a particular financial product or service, and utilize new technologies and ways to do business to serve customers in a more efficient and transparent manner (Financial Stability Board, 2017); as well as MNOs, financial institutions and technology firms (such as Alibaba, Tencent, Facebook, Google, and Amazon) which adopt technology enabled innovations to deliver financial products and services. Fintech can enhance efficiencies and reduce costs, making it economically possible to offer formal financial products and services to the unbanked. Strong macroeconomic factors and key metrics such as high mobile and internet penetration rates offer an attractive opportunity for the development of FinTech solutions in Indonesia, which are transforming the financial services sector. Indeed, over the last 5 years, the number of FinTech new ventures has increased significantly, with more than 250 FinTech companies mainly focused in the digital payments and digital lending areas. Financial inclusion is a key objective for many of these FinTech companies, however, there are barriers / constraints which are hindering their growth to help the unbanked, underbanked and MSMEs.

This research study provides an in-depth analysis of the FinTech for financial inclusion ecosystem in Indonesia by evaluating the different business models and products being introduced, and how they are driving financial inclusion. Based on extensive interviews with the different stakeholders of the FinTech ecosystem, the study has identified a number of regulatory and non-regulatory barriers which are preventing the further growth of FinTech for financial inclusion, and potential recommendations to address these barriers / constraints. Table 1 provides a summary of the regulatory barriers / constraints and recommendations in the areas of E-KYC/Digital ID, agent networks and P2P lending regulation and oversight framework. Among the non-regulatory barriers / constraints that are preventing FinTech firms from driving higher financial inclusion, the study has identified technical issues with credit bureaus, limited mobile and internet connectivity, limited digital payments interoperability, low financial literacy and a large talent gap.¹

¹ To address the technical issues of limited onboarding of FinTech firms' borrower data into Pefindo, the main credit bureau in Indonesia, OJK is working together with the Indonesia FinTech Lending Association (AFPI) to create an interim credit risk database that captures all borrower exposures. Indonesia is addressing the issues related to mobile and internet connectivity through the Palapa Ring Infrastructure Project, one of the largest public-to-private infrastructure projects in the country, which will provide internet and mobile connectivity to the more than 17,000 islands in the country. Similarly, the introduction of the National Payments Gateway is expected to include all digital payment service providers (banks, non-banks) so that the system will be fully interoperable. Two additional barriers, low financial literacy and the large talent gap, will require additional work and evaluation to understand how to best address them.

The study highlights gaps and opportunities which have not been addressed before and/or starting to be addressed that may be able to help drive higher financial inclusion for FinTech firms. Table 2 provides a summary of the gaps and opportunities as well as potential recommendations in the digitization of other deposit taking institutions (ODTIs), open banking regulation and partnerships between FinTech firms and banks.

While the list of barriers/constraints, gaps and opportunities and corresponding recommendations is not exhaustive, it highlights the key priority areas which should be considered. It is important to note that some of the barriers / constraints covered in the study have been identified in the past, and they form part of a few World Bank’s technical assistance programs and initiatives that are currently in progress in Indonesia. This study does not perform an in-depth analysis of the regulations that impact the FinTech ecosystem and how they have evolved. Instead, the study reviews the existing policy environment that impact FinTech firms and identifies which barriers/constraints are directly impacting the further growth of these firms to target the unbanked and underbanked, as well as other areas which may need to be addressed in the future either through specific interventions or through more in-depth analysis.

Table 1. Key Regulatory and Non-Regulatory Barriers/Constraints and Recommendations

Key Barrier / Constraint	Recommendations	Tentative Timing	Stakeholder Responsible
E-KYC/Digital ID	<ul style="list-style-type: none"> • Implement e-KYC processes (using the national ID system managed by Dukcapil) that are cost-effective and accessible to all FSPs, including use of biometrics (e.g. fingerprint and facial recognition) where appropriate • Enable and regulate identity service providers that can leverage the national ID system to onboard customers, which can in turn allow them to provide e-KYC and trust services for FSPs • Introduce a data protection law and regulations aligned with and contextualizing international best practices 	Short term	OJK, BI, Kominfo, Dukcapil
Agent Network Limitations	<ul style="list-style-type: none"> • Explore the viability and capacity of FinTech firms to have LKD agents that are individuals, not only legal entities • Explore the viability and capacity of third party agent network managers for both Laku Pandai and LKD agents to be managed by banks and FinTech firms • Implement previous World Bank technical assistance program recommendations – LKD program: <ul style="list-style-type: none"> ◦ Interoperability should be required for all authorized payment schemes ◦ Infrastructure for real-time payments should be established ◦ Consolidation of all revisions of the regulation into 1 document • Implement previous World Bank technical assistance program recommendations – Laku Pandai program: <ul style="list-style-type: none"> ◦ Harmonize and remove inconsistencies in the relevant regulations 	Medium term	OJK, BI
Provisions in the P2P Lending Regulation and oversight framework	<ul style="list-style-type: none"> • Clarify the distinguishing features of P2P lending in the regulation, and address explicitly the treatment of automated / programmatic lending • Consider the introduction of provision related to resolution plans, backup servicing, and potentially the need for scaling capital as loan liabilities grow • Clarify data protection and permitted uses of data derived from mobile phones • Clarify what standards are applicable to collections by P2P platforms and how these are to be monitored and enforced • Clarify tax treatment of P2P lending activities • Explore the piloting of securitization of loans 	Medium term	OJK, AFPI, FinTech firms

Key Barrier / Constraint	Recommendations	Tentative Timing	Stakeholder Responsible
Credit Bureau Technical Issues	<ul style="list-style-type: none"> • Create a different enquiry price for no hits than when a credit history is available to minimize expenses for FinTech firms when accessing the data from credit bureaus • Follow the General Principles of Credit Reporting (See Annex 6) for the development of the interim credit risk database 	Short Term	AFPI, credit bureaus

Table 2. Key Gaps and Opportunities and Recommendations

Key Gaps / Opportunities	Recommendations	Tentative Timing	Stakeholder Responsible
Digitization of Other Deposit Taking Institutions (ODTIs) which provide microfinance through FinTech Solutions	<ul style="list-style-type: none"> • Evaluate need for digital transformation workshops to help ODTIs in their digital transformation • Consider the development of partnerships with FinTech firms through industry sandbox concept 	Medium / Long term	ODTIs, FinTech firms
Reduce Barriers to ODTI Partnerships with Large Banks Serving as Platforms to Offer FinTech Solutions	<ul style="list-style-type: none"> • Explore various commercial models of partnerships between ODTIs (i.e. rural banks) and large banks which could serve as a platform to offer FinTech solutions to the smaller institutions. An example would be similar to Project i2i in the Philippines.² 	Long term	Banks, ODTIs
Open Banking Regulation	<ul style="list-style-type: none"> • Evaluate the potential of Open Banking, and other alternatives to promote efficiency in the financial sector 	Medium / Long term	OJK, BI, AFTECH
Reduce Barriers to Partnerships between Fintech Firms and Banks	<ul style="list-style-type: none"> • Provide consistency and coordination across regulators to enable partnerships between FinTech firms and banks. Examine and address potential regulatory barrier such as the IT outsourcing regulation. • Explore various commercial model of partnerships between banks and FinTech firms that can promote financial inclusion, including, but not limited to, the distribution of Government to Person (G2P) payments • Explore the idea of building more efficient and effective partnerships between banks and FinTech new ventures by enabling them to connect through an industry sandbox 	Short / Medium term	OJK, FinTech firms, Banks FinTech firms, Banks

The research study is structured as follows: Section 2 provides an introduction followed by Section 3 which evaluates the FinTech landscape from the perspective of the 4 main financial products: payments, lending, insurance and savings. Section 4 outlines the different barriers/constraints as well as the gaps and opportunities for FinTech firms to drive financial inclusion. Finally, Section 5 offers potential recommendations.

² <https://media.consensus.net/project-i2i-an-ethereum-payment-network-driving-financial-inclusion-in-the-philippines-233e5eda135e>

BAB II INTRODUCTION

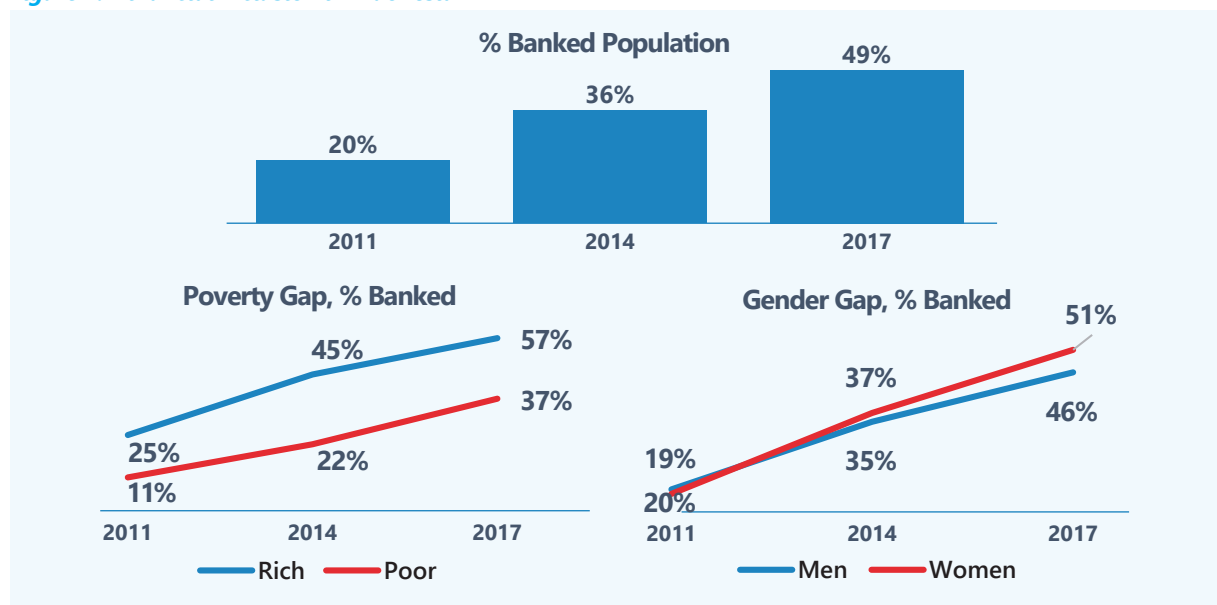


II. INTRODUCTION

A. Overview of Financial Inclusion in Indonesia

1. **Financial inclusion is recognized as a critical component for the continued growth and development of Indonesia, and since 2011, the Indonesian Government has made significant efforts and progress in deepening financial inclusion.** According to the World Bank’s Global Findex survey, access to formal financial products and services has more than doubled, from 20% in 2011 to 49% in 2017 (Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2018b). These figures represent an increase of more than 58 million adults which are now part of the formal financial system. In most countries around the world, financial exclusion is more prevalent among the poor, people living in rural areas, and women. Indonesia is no exception: 55% of adults in urban areas have access to formal financial products and services, but only 47% of adults in rural areas have access. Moreover, the poor are 20 percentage points less likely than the rich to have a formal financial account (Demirgüç-Kunt et al., 2018b). This income gap disparity is larger than the developing economy average of 15 percentage points. On the other hand, while financial exclusion is a persistent issue among women globally, in Indonesia women are 5 percentage points more likely than men to have a formal financial account. Please refer to Figure 1 below for more details.

Figure 1. Financial Inclusion in Indonesia



Note: % Banked refers to the percentage of adults which own a formal financial account Poorest and richest refer to the poorest 40 percent and the richest 60 percent of adults

Sources: World Bank Global Findex Database, 2011, 2014, 2017

Comparing regional financial account ownership (Figure 2), Indonesia ranks higher than the Philippines, Vietnam, Cambodia, Laos and Myanmar, which average around 30% of the adult population having a formal financial account. However, Indonesia’s financial account ownership figure is significantly lower than Thailand, Malaysia, and Singapore, which range from 80% to 98%, and lower than India and China which have financial account ownership figures of 80% according to the latest Findex survey.

Figure 2. Financial Account Ownership Comparison



Source: World Bank Global Findex Database, 2017

2. Although access to formal financial products and services has demonstrated great improvement, 95 million adults in Indonesia still do not have access to a financial institution account. Meanwhile, for those individuals who have access to bank accounts, limited active usage of financial products and services remains a challenge. Active usage is an important criterion to achieve financial inclusion. Active usage is defined by the World Bank's Global Findex survey as making at least one deposit or withdrawal from a bank account within the past year. Based on this definition, approximately 30% of formal financial accounts in Indonesia, or 28 million accounts, were inactive in 2017 (Demirgüç-Kunt et al., 2018b). In addition to inactive accounts, the Global Findex survey for 2017 also estimates that 20 million people still pay their bills and other uses in cash, even though they have bank accounts, cellphones, and internet access. A critical element to driving higher active usage is the quality of financial products and services being offered, and the financial capability of individuals to be able to understand them. Reasons for inactive accounts may include lack of understanding of the financial products being offered, due to low financial literacy of the poor and marginalized, and lack of utility of accounts, if products have not been designed to meet the needs of these market segments.

3. The lack of formal credit for micro, small and medium enterprises (MSMEs) in Indonesia is another important issue related to financial inclusion that needs to be addressed. It is estimated that there are 57.9 million MSMEs in Indonesia, which account for 97.2% of employment in the country, and contribute 56.7% of the country's GDP (World Bank, 2016). According to IFC's MSME Finance Gap Assessment report for 2017, Indonesia has a formal MSME finance gap of \$166 billion, or 19% of the country's GDP (IFC, 2017). According to a survey of MSMEs conducted by Bank Indonesia (BI), access to finance is considered one of the main obstacles for MSME growth in the country.

4. The Government of Indonesia strongly believes that increasing access to finance and improving the use of financial services will reduce poverty and income inequality, and that FinTech can play an important role in financial inclusion. To address financial inclusion in a more systematic way, the National Strategy on Financial Inclusion (NFSI / SNKI) was launched in September 2016, with the ambitious goal of achieving a financial inclusion target of 75% by 2019. To oversee the new NFSI, a National Council for Financial Inclusion has been established, This Council is chaired by the President of Indonesia, elevating the financial inclusion agenda to the highest level of the Government.

B. Technology Enabled Innovations in Financial Services as a Key Enabler to Financial Inclusion

5. The use of technology enabled innovations in financial services, or FinTech, is one of the most important enablers to achieve full financial inclusion. Mobile phones, as well as technological advancements in cloud computing, artificial intelligence (AI), machine learning (ML), and big data analytics, are enabling the creation of innovative business models, products and services, which can support financial inclusion. Additionally, blockchain / distributed ledger technology (DLT) are technology innovations that could potentially enable financial inclusion and are being evaluated by numerous firms in emerging markets. By making it cheaper, more convenient and easier to access formal financial products from anywhere at any time, FinTech can enable incumbents and new firms to economically serve the unbanked. A 2016 McKinsey Global Institute report estimates that mobile technology can lower the cost of providing financial services by 80% to 90%, enabling providers to economically serve lower income segments (sometimes referred to as the base of the pyramid, “BoP”). Moreover, these significant savings can lead to higher financial inclusion and boost annual GDP of emerging markets by \$3.5 trillion by 2025 (Manyika, Lund, Singer, White, & Berry, 2016). The report also estimates that digital finance could increase the volume of loans extended to individuals and businesses by \$2.1 trillion and allow governments to save \$110 billion annually, by reducing leakage in spending and tax revenue. A recent research report published by Asian Development Bank (ADB) in 2017 estimates that the adoption of digital technologies by the poor, women and MSMEs in Indonesia could boost GDP by about 2%, produce more than \$50 billion in additional electronic payment flows, trigger more than \$11 billion in additional credit uptake, and mobilize \$13 billion of savings (Asian Development Bank, 2017).

6. Indonesia shows attractive and promising macroeconomic trends towards becoming a digital economy, which provides tremendous potential for FinTech to thrive in the country and serve as a key enabler for financial inclusion. Of the 264 million population, 73% are adults, relatively young (median age of 29), and mostly living in urban areas (55%) which makes them more in tune with the latest digital technologies (see Table 3). Given the challenges in accessing formal financial services through the traditional banking system, due to the distance from financial institutions, and limited access points like ATMs (0.5 terminals per 1,000 people), bank branches (16 bank branches per 1,000 square kilometers) and Point of Sale (POS) terminals (0.4 terminals per 1,000 people), coupled with low credit card and debit card penetration, demonstrate that there is tremendous opportunity for FinTech to disrupt the traditional financial system.

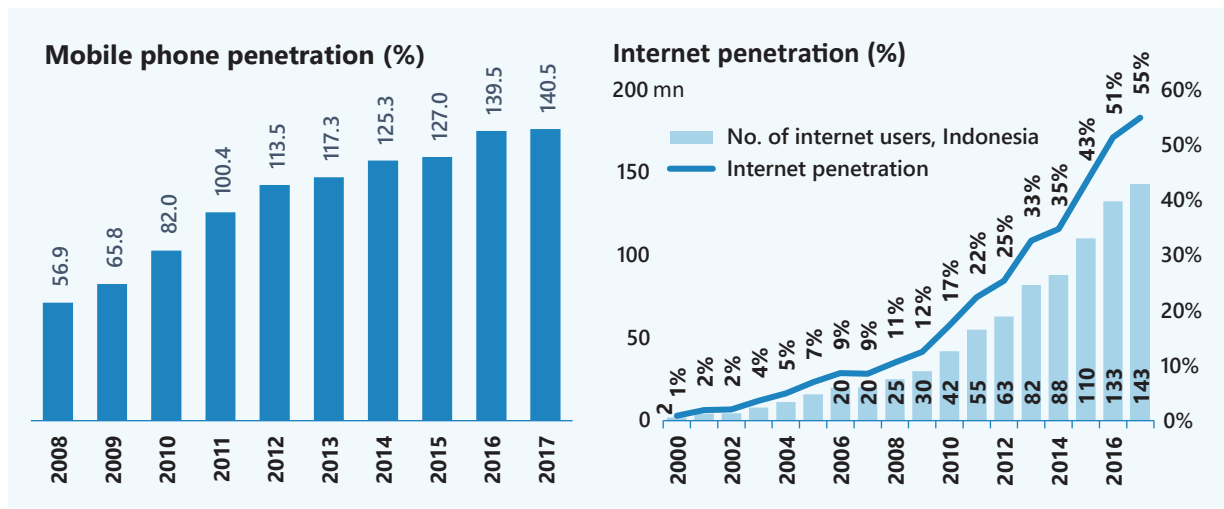
Table 3. Indonesia Macroeconomic Statistics

Macroeconomic and Financial Indicators	2017 Figures
Population (mm)	264 mm
Median Age	29
Adult Population (% of total)	73%
Urban Population (% of total)	55%
Credit Card Penetration (% of all transactions)	2.4%
Debit Card Penetration (% of all transactions)	31%
POS Terminals (terminals / 1,000 people)	3.3
ATM Terminals (terminals / 1,000 people)	0.4
Bank branches (branches / 1,000 square kilometers)	16

Sources: World Bank Data / EIU/ BMI / IMF / BPS (Statistics Indonesia), Bank Indonesia, Euromonitor

From a digital infrastructure perspective, Figure 3 shows that mobile phone penetration and internet penetration have been rising quickly in the country. According to the Indonesian Internet Service Providers Association, 55% of Indonesians access the internet and there are more than 400 million mobile phone subscriptions, or 140% mobile phone penetration rate. In addition, 45% of all mobile phones in Indonesia are smartphones. According to the World Bank Findex Survey, out of the 95 million unbanked adults in Indonesia, 62 million have a mobile phone. Therefore, the mobile phone can serve as an essential distribution channel of formal financial products and services for the unbanked and underbanked. In fact, the Findex survey shows that 35% of adults have made or received digital payments in 2017, but only 3% of adults have a mobile money account.

Figure 3. Indonesia Mobile Phone and Internet Penetration



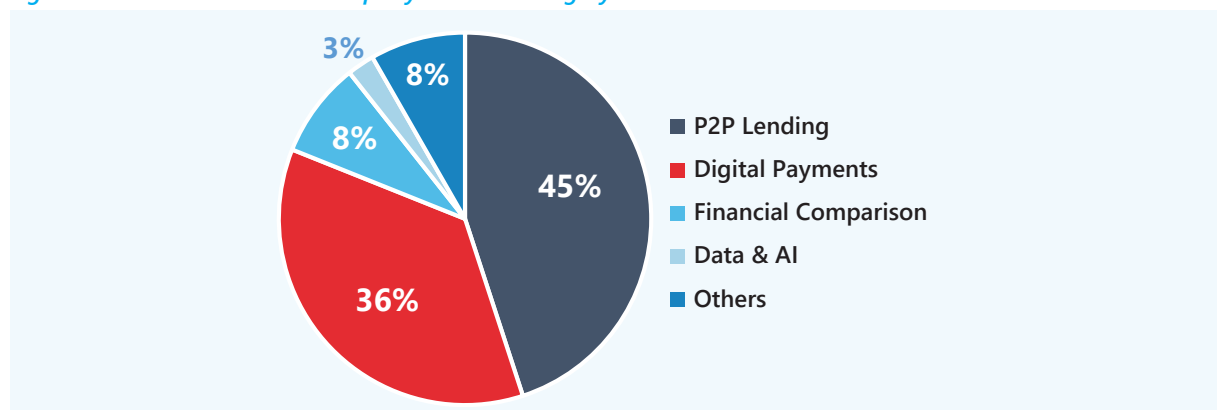
Sources: Indonesian Internet Service Providers Association (APJII), EIU

C. The FinTech Ecosystem in Indonesia

7. Indonesia has a vibrant and dynamic FinTech landscape, which is rapidly transforming the financial services sector. New technology startups, banks, MNOs and large technology firms are offering FinTech solutions to individuals and MSMEs, covering every aspect of the financial services sector. Technology startups are among the most important players in the FinTech ecosystem. These new ventures, which typically have an asset light structure, are nimble, flexible and more likely to develop innovative solutions in a faster manner than established corporations and are able to quickly identify new consumer needs.

8. The Indonesia FinTech startup landscape has developed around two main financial products, digital payments and digital lending. Currently, these two categories represent 83% of all FinTech startups which are members of FinTech Association Indonesia (AFTECH). Comparison websites / apps for different financial products is the third largest business category. Startups targeting a wider variety of financial products and services have been emerging as well; Figure 4 provides an overview of the different categories of FinTech startups in Indonesia that are members of AFTECH. Currently, AFTECH has 165 FinTech startups registered as members, which represents about two thirds of the FinTech startups in the country. Please refer to Annex 1 for a sample of the different FinTech startups by business category in Indonesia.

Figure 4. Indonesia FinTech Startups by Business Category



Note: Others category includes Crowdfunding, Financial Management, InsurTech, and Capital Markets.

Source: FinTech Association Indonesia (AFTECH)

9. Similar to China, new FinTech firms are emerging in Indonesia by driving scale in digital transactions through relevant use cases such as transportation (i.e. ride hailing), e-commerce and social media. In China, TechFin firms, which are large technology firms that are considering offering and/or already offering financial products and services to individuals and MSMEs, have been successful at expanding from e-commerce (i.e. Alibaba) and social media (i.e. WeChat) to offer digital payments (Alipay, WeChat Pay) and other financial products and services such as digital lending, asset management and digital insurance (Ant Financial, WeBank). Similar to China, Go-Jek in Indonesia has been able to successfully expand from ride hailing to offer digital payments, digital lending and digital insurance through its subsidiary Go-Pay. Another example is Bukalapak, an Indonesian e-commerce firm which has partnered with digital payment firm OVO and three P2P lending platforms (Amartha, Modalku and PohonDana) to offer financial products and services.

10. Indonesian FinTech new ventures have attracted interest from both local and foreign investors. Local investors, which represent about half of the capital invested in 2017, tend to be VCs that are backed by conglomerates and/or financial institutions (e.g., Mandiri Capital) and have the clear advantage of a strong local presence and knowledge of the Indonesian market. Local investors tend to primarily participate in smaller, early-stage deals. On the other hand, foreign VC investors from more developed markets such as the U.S., Japan and China bring global expertise and networks. The international VC investors primarily participate in larger, later-stage rounds. Figure 5 displays the most active VC firms which have invested in FinTech startups in Indonesia. In this figure, Mandiri Capital and Kejora are the two most active local VC firms in the country, while the remainder are international VC firms.

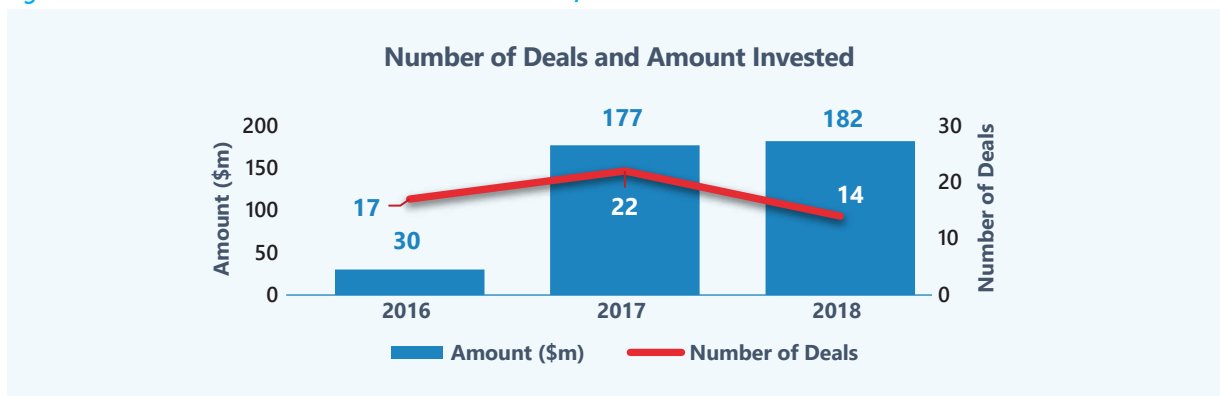
Figure 5. FinTech Portfolio of most active VC investors in Indonesia



Source: IFC Indonesia FinTech Presentation.

11. There has been tremendous growth in FinTech investments since 2016, with the amount invested increasing more than 5x. Figure 6 shows that in 2016, there were 17 disclosed FinTech deals for \$30 million, but by end of 2018 this amount had jumped to \$182 million for only 14 deals. It is important to note that exact figures for VC investment cannot be determined since some private investments are not disclosed. Most of the FinTech investments are at early stages, ranging from seed to Series A, with a small number at Series B and later stages.

Figure 6. FinTech Investments in Indonesia – Number of Deals and Amount Invested



Source: Daily Social ID

12. FinTech entrants are forcing banks and other financial institutions to re-think their business models, and many are reacting by adopting new technologies, improving their service offerings, restructuring their business models and reducing costs. By digitally transforming their business models, some banks are adopting FinTech solutions to improve efficiency and customer service, introduce new products, and serve their existing customers better at a lower cost. Similar to technology startups, banks are piloting / testing technology innovations such as cloud computing, AI, ML, biometrics and blockchain/DLT to improve their operations and enhance the customer experience. In addition, digital channels such as the internet and mobile phone are being adopted to deliver financial products and services to customers. According to a survey conducted by PwC in 2018 of the Indonesian banking sector, 27% of the banks surveyed said at least one-fourth of transactions were via mobile & internet in 2015. This number is now up to 67% of respondents in 2018.³ In Indonesia, a few of the major banks have introduced digital financial products and are also using technology enabled innovations to digitize their internal operations.

13. Three of the four largest banks in Indonesia have created corporate venture capital (VC) funds to invest in FinTech new ventures. In 2016, Mandiri launched Mandiri Capital, a dedicated FinTech venture fund with approximately \$40 million in capital. Currently, the fund has invested in 10 different FinTech new ventures in Indonesia. In addition to investing, Mandiri also runs the Mandiri Business Incubator in partnership with Telkomsel to help FinTech startups grow. Another example is BCA's Central Capital venture fund launched in July 2017 with \$15 million of capital. Central Capital seeks to build an ecosystem linking BCA with technology companies. The fund mainly invests in early stage FinTech new ventures which demonstrate synergies with BCA. So far, the fund has made 12 investments in P2P lending, remittance, biometrics and digital insurance. BRI is the third bank to set up a corporate VC fund, and they also have an innovation group and innovation fund.

14. BRI and BTPN are two major Indonesian banks that have largely focused on serving the unbanked and MSMEs through digital channels. Both banks see opportunities of using technology enabled innovations to serve the unbanked and MSMEs. BRI currently serves more than 75 million customers, with more than 10,000 branches including in remote areas of the country. BTPN is significantly smaller, serving 5.5 million customers. BRI and BTPN rely on extensive agent networks to reach the unbanked and micro-entrepreneurs. For instance, BTPN currently has an agent network of more than 240,000 agents covering the entire country. Similarly, BRI has over 270,000 agents around the country which process more than \$15 billion of transactions annually on behalf of customers. Both organizations are using digital means through their agents to make the process more efficient and be able to reach to more unbanked individuals in urban and remote areas.

15. BRI and BTPN are also undertaking internal digital transformations and using digital means to drive customer adoption through innovative financial products. From an infrastructure perspective, BRI has invested in AI, ML, and Big Data solutions to create contextual risk management, credit scoring and fraud detection systems to make their operations more efficient. In addition, BRI loan originations are now done via mobile phone, where the loan officer uses a mobile app to register all of the borrower information. The result is a quicker loan disbursement process by 2 days. The bank is also offering innovative digital products such as Pinang, a payday loan for customers whose employers do

³ <https://www.pwc.com/id/en/publications/assets/financialservices/2018-indonesia-banking-survey.pdf>

their payroll through BRI (about 10 million potential customers). Replacing loan sharks, Pinang uses a fully digital application and verification process (digital KYC, signature and credit scoring) to offer loans of up to 20 million IDR for up to 12 months. BTPN will be offering digital loans using a similar business model that M-Shwari did in Kenya. The bank has partnered with Telkomsel to use call data records (CDRs) and other factors to assess the credit risk of individuals. In addition, the bank is providing productive loans to micro-entrepreneurs by partnering with the suppliers / distributors to gain access to the retailer data.

16. Cloud computing is an important technology for the digital transformation of banks, but currently there is lack of clarity from the regulators on its use, and thus adoption by Indonesian banks remains limited. Although Indonesia is experiencing exponential growth in data volume, the banking system has yet to fully implement cloud computing technologies due to regulation barriers and a lack of reliable infrastructure. Regulatory oversight of cloud computing generally revolves around two issues: operational control and supervisory oversight of outsourced activities, and whether sensitive data resides in the country. Counterparts did not report any restrictions on outsourcing core functions in the cloud. However, personal data regulations in Indonesia do not permit offshore storage of customer data for any firm – whether it is a bank or FinTech new venture. Banks are using private cloud infrastructure, co-location, and locally based cloud infrastructure providers, such as AliCloud. A new regulatory framework for data is being developed that may distinguish categories of data and allow less-sensitive data to be stored or used offshore provided there is cooperation with the regulator in that offshore jurisdiction.

BAB III

ANALYSIS OF THE FINTECH LANDSCAPE



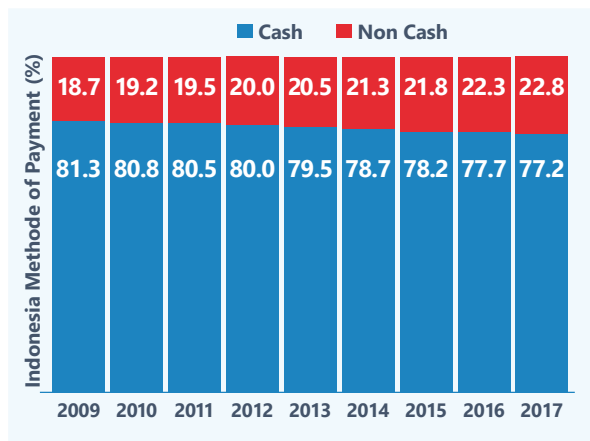
III. ANALYSIS OF THE FINTECH LANDSCAPE

A. Digital Payments

Overview of the Landscape

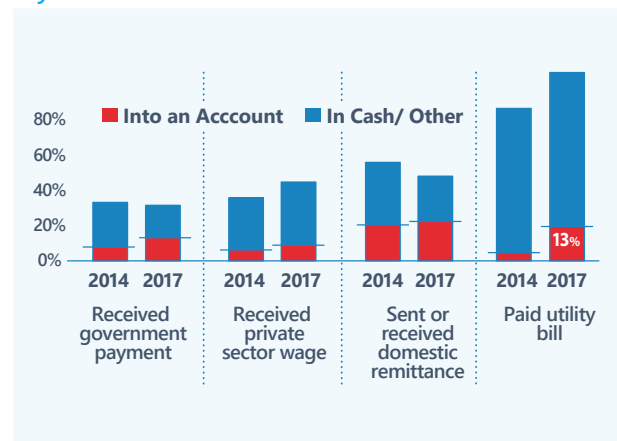
17. Digital payments adoption is relatively low in Indonesia, although there has been incremental growth as FinTech new ventures, banks and MNOs introduce new business models and forms of digital payments. The payment system in Indonesia heavily relies on cash – according to Morgan Stanley Research, 77% of all payment transactions in 2017 were done using cash (Morgan Stanley Research, 2018). Non-cash payment transactions have grown from 18.7% of total in 2009 to 22.8% of total transactions in 2017 (Figure 7).

Figure 7. Methods of Payment in Indonesia



Note: Percentages based on value of payments
Sources: Euromonitor, Morgan Stanley Research

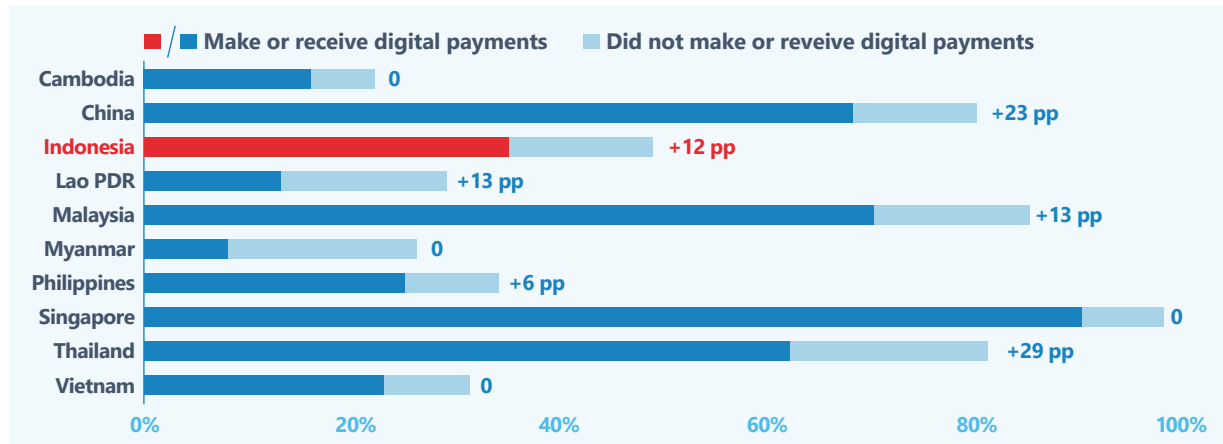
Figure 8. Payment Methods Used for Different Types of Payments in Indonesia



Source: Global Findex Survey 2017 Presentation

According to the Global Findex Survey, Indonesian adults predominantly use cash for domestic remittances, government payments and wages (Figure 8). However, the share of adults using a transaction account to pay utility bills increased from 3% in 2014 to 13% in 2017. In addition, Figure 9 shows that as of 2017, 35% of Indonesian adults (71% of financial account owners) send or receive digital payments, a 12 percentage point increase over 2014 (Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2018a). These data suggest that, although not all adults with a transaction account are using digital payments (i.e., only 71% of the total), there has been a sizeable increase in the use of digital payments since 2014.

Figure 9. Digital Payments Use in Indonesia



Note: The length of the bar is the share of adults who own an account. The boldest number at the end of the bar shows the percentage point increase in the share of adults using digital payments since 2014. "0" means no significant change.

Sources: Global Findex Survey 2017 Presentation

Digital Payments FinTech Business Models

18. FinTech firms have emerged in all areas of the digital payments process in Indonesia. There are many ways to categorize these firms, from the role they play in the payments process to the different payment mechanisms they offer. Firms (including banks, MNOs and FinTech startups) which operate in the digital payments space are referred to as Payment Services Providers (PSPs) by Bank Indonesia (BI), the main regulator overseeing the payments sector. BI requires PSPs to be licensed in order to operate in the country. For the purposes of this research study, the categories of PSPs used by BI will be adopted to classify these firms. The main categories of PSPs as defined by BI are as follows:

- **Electronic Money, or E-Money, Issuers** – refers to firms which use an electronic representation of cash that is issued by one party and accepted by at least one or many others. In general terms, e-money based instruments involve the payer maintaining a pre-funded transaction account with a PSP, which can be a bank, mobile network operator (MNO), or authorized non-bank financial institution (e.g. FinTech startup). E-money can take different names depending on how the payment instruction is initiated: online money when the payment instruction is initiated via the internet, mobile money when initiated via mobile phones, and prepaid cards. E-money can be stored in two ways: (i) Server-based, which is based on internet connected hardware such as a smartphone or a computer desktop; and (ii) Chip-based, which uses chip-equipped cards that are mainly used for accounting/transfer off-line. It is important to note that server-based e-money issuers keep the paid-in funds in a trust account or equivalent at a bank. Chip-based electronic money services are mainly offered by banks, and represents about 70% of the total e-money transactions as of 2017 (Mandiri Sekuritas, 2018). Figure 10 provides a comparison of server-based vs. chip-based e-money, as well as examples of e-money issuers. Currently, there are 37 e-money issuers licensed in Indonesia (refer to Annex 2 for the full list). Out of the 37 e-money issuers, approximately 20 of them are FinTech new ventures; the rest are related to banks and MNOs.

Figure 10. Comparison of Server-based E-Money vs. Chip-based E-Money

Server Based		Chip Based
Medium	Internet connected connected hardware (smartphone, desktop)	Chip-equipped cards
Top Up Channels	EDC, ATM, bank transfers, issuers branch/ agents	
Top Up Fees	Not applicable	Rp. 200 -1,500 per top-up depending on top up channels
Payment Method	Virtual	EDC-based
Balance Storage	Banks' electronic money servers	Stored in chip-equipped cards
Balance Limit	Rp.1,000,000 for basic subscribers or Rp. 10,000,000 for fully-registered subscribers	Rp 1,000,000 for all subscribers
Service Limit	Remittance/ transfer Cash withdrawals Online & offline payments	Cash withdrawals Offline payments
Product Example	Go-Pay, Telkomsel T-Cash, Bank Mandiri e-Cash, BCA Sakuku, XL Tunai, PayPro, BBM Money, Doku Wallet, OVO, Rekening Ponsel CIMB Niaga	Mandiri E-money, BCA, Flazz, BRI Brizzi, BNI TapCash, MegaCash, Bank DKI jakCard, Nobu E-money, BTN Blink

Source: Mandiri Sekuritas.

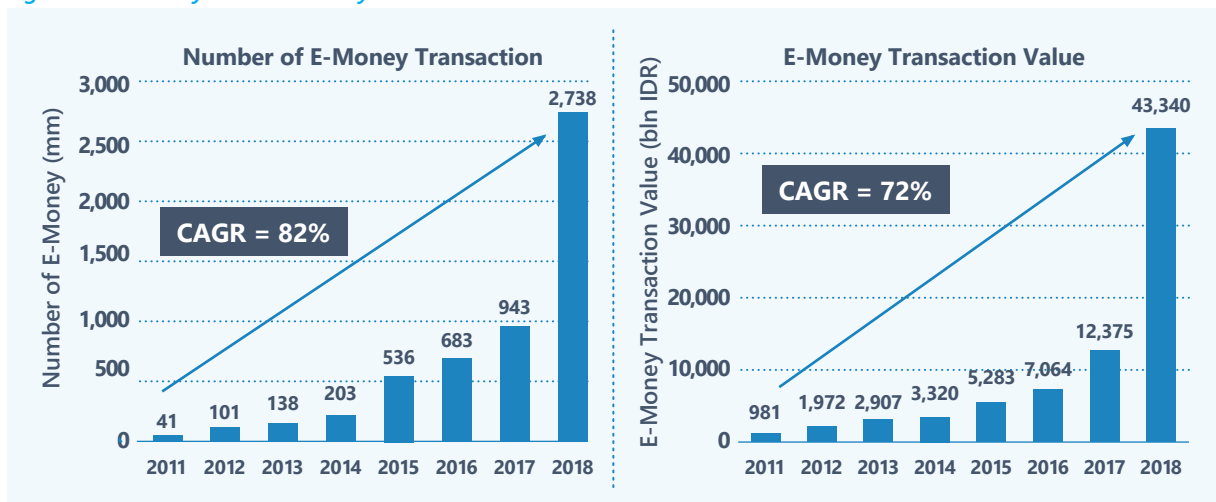
- **E-Wallet Providers** – refers to the “carrying instrument” of e-money and can bind various sources of funds. E-wallets manage and direct payments to other sources such as e-money and debit/credit cards. Currently, there are only 3 e-wallet providers licensed in Indonesia: Dana, an e-wallet jointly developed by Ant Financial and Indonesian partner Elang Mahkota Teknologi; DokuPay, the first and leading e-wallet in Indonesia; and Yap!, which is a JV between Bank Negara Indonesia (BNI) and BRI. It is important to note that most e-wallet providers also are licensed as e-money issuers. More information can be found in Annex 2.
- **Payment Gateway Operators** – refers to firms which manage digital payments for merchants. BI has licensed 11 payment gateway operators in Indonesia (refer to Annex 2 for the full list). The top 3 players are Doku, Midtrans and Xendit. Out of the top 3 payment gateway operators, two of them have been acquired: Midtrans was acquired by Go-Jek and Doku by Emtek, a media conglomerate in Indonesia. FinPay, the fourth major payment gateway firm, is a subsidiary of Telkomsel.
- **Merchant Acquirers** - refers to firms which offer Point-of-Sale (POS) solutions so that merchants can accept different types of digital payments. Currently, the market is dominated by banks which offer POS terminals – the top 4 banks hold approximately 90% of the POS terminals. There are only a few active FinTech companies which are merchant acquirers – the 3 largest and most active are: Cashlez, Moka and Pawoon. Quick Response, or QR, code is an emerging and novel type of POS solution, which has garnered strong interest in Indonesia. Using a 2-dimensional type of bar code that does not require an EDC terminal, the QR code has been widely regarded as the foundation for the future of cashless payments in the digital age. Only a few FinTech firms are active in this area in Indonesia;

as of February 2018, BI has formally permitted 4 firms to use QR codes: DIMO, TCash (Telkomsel), Go-Pay (Go-Jek), and Yap! (BNI and BRI). Annex 2 provides more details on the different merchant acquirers.

- **Switching Providers** – refers to firms which provide infrastructures that function as the center and/or connector of data for payment transaction processing through networks that utilize payment method such as card, electronic card and/or fund transfer. BI has licensed four switching providers in Indonesia: PT Artajasa Pembayaran Elektronik (“ATM Bersama”), controlled by PT Indosat Tbk (“Indosat”), one of the biggest telcos in Indonesia; PT Rintis Sejahtera (“ATM Prima”) – controlled by the Bank of Central Asia (“BCA”); PT Daya Network Lestari (ATM ALTO) - controlled by Seven Bank, Japan; and PT Sigma Cipta Caraka (ATM Link) - controlled by the four state-owned banks.
- **Money Remittance / Fund Transfer Operators** – refers to banks and non-bank institutions that carry out international fund transfer activities. BI has granted licenses to 143 fund transfer operators.

19. Since 2011, e-money transaction growth is accelerating, albeit from a low starting base, with most of the transactions originating from bank-led e-money. The number of e-money transactions recorded an 8-year CAGR of 82% from 2011-2018, while the value of e-money transactions recorded an 8-year CAGR of 72%, reaching \$3.5 billion. The exponential growth in e-money transactions in 2018 is partially due to the mandatory use of e-money on toll roads since the end of October 2017. Refer to Figure 11 for the details. E-money transaction value is relatively small when compared to credit card transaction value of \$23 billion as of 2018; however, the exponential growth of e-money transactions could outpace credit cards in the near future.

Figure 11. E-Money Transactions by Volume and Value in Indonesia



Source: Bank Indonesia

20. The e-money market remains fragmented in Indonesia, with numerous FinTech new ventures, banks and MNOs introducing digital payment solutions through mobile, online and agents to gain customer acceptance and adoption. MNOs pioneered e-money and e-wallets in Indonesia about a decade ago when Telkomsel launched TCash in 2007, followed by Indosat’s Dompotku in 2008 and XL Axiata’s Tunai in 2012. These platforms relied on USSD technology and were mainly used for top-ups, utility bill payments and remittance services. The introduction of the smartphone, coupled

with more reliable internet connectivity, has enabled the payment processing time and user experience to improve materially, and allowed the embedding of e-money and e-wallet services into other apps, such as ride hailing services, e-commerce and social media services. Most e-money issuers operate a closed loop environment, which makes it challenging to increase adoption rates, since a customer would need multiple wallets or cards to be able to pay digitally at any merchant, and a merchant would need multiple acceptance forms to be able to take funds from any customer who wants to use e-money.

21. To achieve scale and mass adoption, digital payment providers have made acquisitions and/or developed strategic partnerships with different players in the retail, e-commerce and ride hailing markets. OVO is the largest e-money issuer in Indonesia, claiming to have processed 1 billion transactions in 2018.⁴ The Fintech firm is owned by Lippo Group, the largest mall operator in Indonesia, which has allowed OVO to leverage Lippo's nationwide retail footprint to drive food & beverage (F&B) and lifestyle focused mobile payments. Moreover, OVO inked a strategic partnership with ride-hailing giant Grab, helping to bring millions of new users to OVO. The second largest e-money issuer is GoPay, the subsidiary of Go-Jek which was launched in 2016, processing 600 million transactions in 2018, and an estimated e-money user base of 10 million people. In December 2017, GoPay acquired three companies: Mapan, a provider of financial services and e-commerce through arisans (local rotating savings clubs used by the poor), Kartuku, a POS solutions provider, and Midtrans, a payment gateway provider. These acquisitions will potentially lead to Go-Pay's wider acceptance and also increase their reach to the unbanked. The third largest e-money issuer is DANA, which is owned by Ant Financial and a local Indonesian firm. The company reportedly acquired 1 million customers in 3.5 months, and recently rose to the #1 ranking in the App Store.⁵ To challenge these Fintech new ventures, Indonesian state-owned companies Telekomunikasi Indonesia, Bank Mandiri, Bank Rakyat Indonesia (BRI), and Pertamina announced in February 2019 that they have merged their e-money businesses to form LinkAja.⁶ The new LinkAja service started in March 2019 with existing apps/wallets being replaced by LinkAja. Users will be able to make cashless payments through QR codes and let users pay bills such as utilities. To address the unbanked population, LinkAja will not require a bank account, but instead have options to top up balances at convenience stores and ATMs.

22. The digitization of Government-to-People (G2P) payments is an important way to drive higher financial inclusion through digital payment channels in Indonesia. Currently, there are 8 million unbanked adults and 7 million banked adults receiving government payments in cash; the majority have a mobile phone (Demirgüç-Kunt et al., 2018a). The government has made progress in digitizing the G2P payments over the last few years – in 2014, only 16% of G2P transfers were paid into a recipient's account at a bank or mobile wallet; by 2017, the number has grown to 38% of G2P transfers are now paid to an account or mobile wallet. At the moment, the conditional cash transfer (PKH) and rice subsidy (BPNT) social benefit programs have been digitized. A "Combo" account is used for the distribution, since it combines the features of a basic savings account and e-money. The distribution can only be done by Laku Pandai agents affiliated with the 4 state-owned banks.

⁴ <https://katadata.co.id/berita/2018/12/21/klaim-jadi-yang-terbesar-ovo-catatkan-1-miliar-transaksi-pada-2018>

⁵ <https://www.cbinsights.com/research/insurtech-startups-indonesia/>

⁶ <https://www.ft.com/content/fe08ebd0-3639-11e9-bb0c-42459962a812>

Policy and Regulatory Environment of Digital Payment FinTech Firms

23. Bank Indonesia (BI) is responsible for regulating the digital payments sector and has made several revisions to the initial regulations established in 2009. In 2016, BI issued a comprehensive regulation covering the entire digital payments spectrum, requiring all PSPs to be licensed by BI.

The initial regulation widened the scope of BI payments regulatory oversight, from banking institutions to all PSPs including: switching companies, e-money issuers, acquirers, clearing houses and settlement agencies. The regulation also defined two types of e-money users: “registered” users where a Know Your Customer (KYC) and customer due diligence process is required for the users by the issuer; and “unregistered” users, where no KYC process is required – only a name and phone number are required. The maximum balances in e-money accounts are limited to 10 million IDR and a monthly transaction limit of 20 million IDR for registered users; for unregistered users, the maximum balance is only 2 million IDR, and they are limited to certain types of e-money transactions such as top-ups, cash-in and small purchases⁷. Annex 3 provides more information on the key criteria for registered and unregistered e-money accounts.

24. In November 2016, BI issued Regulation No. 18/40/2016 on the Conduct of Payment Transaction Processing, which covers all digital payment activities and recognizes payment gateway and e-wallet providers as PSPs.

The regulation defines minimum paid up capital requirements, foreign ownership limits for PSPs and other provisions. Existing providers of payment gateway and e-wallet services that have not obtained any PSP license to date will need to prepare and submit their license applications to Bank Indonesia within six months of the regulation taking effect (IFC, 2018). E-wallet providers with less than 300,000 active users are not required obtain a BI license to carry out their business activities.⁸ It is important to note that separate licenses are required for every additional product/service offered, which can be time consuming to obtain. Annex 3 provides more detail on the different aspects of the regulation.

25. The National Payment Gateway and the Standardization of QR Codes are two additional regulations which impact FinTech firms in financial inclusion.

Although there is a wide proliferation of bank-based, MNO-based and FinTech-based e-money issuers and e-wallets in Indonesia, most of them have yet to reach scale since they operate independently from one another and there is currently limited / no interoperability between them. To address the interoperability issue and also lower interbank transaction costs, BI issued the National Payment Gateway (NPG) Regulation No. 19/8/PBI/2017 in December 2017. The regulation seeks to make transactions easier and cheaper by requiring all e-money, debit and credit cards of any issuers to be accepted at any ATM, EDC device or payment gateway in the country once the regulation is fully implemented (Morgan Stanley Research, 2018). The regulatory focus is on debit card inter-connectivity first, then internet-based services and credit cards. The NPG regulation has 3 main objectives⁹:

- To create an interconnected ecosystem of payment systems that has interoperability and is able to carry out transactions including authorization, clearing, and settlement
- To improve consumer protection by safeguarding data during each customer transaction

⁷ Ref. article 45.1 in BI reg 20/6/PBI/2018

⁸ Similarly permit is exempted for parties acting as Operator in the form of closed loop E-Money Issuers with the amount of Cash Float less than Rp1,000,000,000.00 (one billion rupiah). Ref. Article 4 (1 and 2) e-money reg 20/6/PBI/2018

⁹ <https://www.opengovasia.com/national-payment-gateway-is-the-future-of-bank-transactions-in-indonesia/>

- To ensure the availability and integrity of the national payment systems transaction data in order to support the effectiveness of monetary policy transmission, intermediation efficiency, and financial system resilience

At the moment, 4 e-money issuers have signed an agreement for their e-money interoperability as part of NPG: PT Bank Mandiri, PT Bank Central Asia (BCA), BRI, and PT Bank Negara Indonesia (BNI).¹⁰ The creation of the NPG signals a step towards a more streamlined, fully integrated Indonesian payments system. The requirement is expected to result in more people adopting e-money and e-wallets, thereby leading to higher usage which increases financial inclusion. The steps taken by Indonesia on the introduction of the NPG is in line with similar regulation introduced by a few of its ASEAN neighbors such as Singapore, Thailand and Malaysia.

26. Following the footsteps of China, Indonesian digital payment providers have been experimenting with QR payments over the last 2 years. Unlike EDCs that also require stable electricity connection, QR-code solutions at its simplest form only need static QR code stickers at merchant points to start facilitating payments. Given the cost and setup advantage, QR payment solutions could help penetrate less formal food & retail businesses, especially the micro, small, and medium sized ones, better than the traditional electronic banking channels (Mandiri Sekuritas, 2018). Hence, adopting QR solutions on mobile payment services could help accelerate the progress towards reducing the use of cash and lead to higher financial inclusion. In August 2019, BI launched a common QR standard, named QRIS (Quick Response Indonesian Standard), to be mandatory as of January 2020, to ensure interoperability and security. BI is taking leadership to harmonize the regulatory corridors and technological standards for QR payments to avoid inefficiencies and duplications that previously occurred in the traditional electronic banking channels (Mandiri Sekuritas, 2018). The standardization of QR codes could ensure competition between digital payment service providers so that the focus shifts to services levels as opposed to infrastructure. Subsequent efforts to promote interoperability have been incorporated into a blueprint prepared by BI, titled “Bank Indonesia: Navigating the National Payment System in the Digital Era”, launched in November 2019.

27. To expand access of digital payments to the unbanked, BI launched Layanan Keuangan Digital (LKD) or Digital Financial Service (DFS) program. The program’s objective is to provide access to e-money to the unbanked community across Indonesia through the use of agents, which can be legal entities or individuals that can assist in opening e-money transactions, as well as perform digital payment services on behalf of bank and non-bank e-money issuers. BI Regulation No. 20/6/2018 on Electronic Money defines the following terms and conditions of the LKD program:

- **LKD** – Payment and financial system service activities performed by the Issuer in cooperation with third parties which uses mobile and web-based technology tools for inclusive finance
- **LKD Operator** – shall be an issuer that has obtained Bank Indonesia approval and license to conduct LKD service activity. LKD Operator may be a bank which is an Indonesian legal entity, or it can be a non-bank Indonesian legal entity registered as a PSP (e.g., FinTech startup).
- **LKD Agent** – defined as an individual and/or Indonesian business (legal entity) that performs LKD service activities Individual agents include small grocery shops/stalls, mobile phone credit

¹⁰ <https://www.aseantoday.com/2017/12/bank-indonesia-launched-national-payment-gateway/>

sellers, pharmacies, and restaurants. Business agents are comprised of retailers, businesses, pawn brokers and cooperatives. LKD Operator in the form of a bank are the only ones allowed to implement LKD service activities through LKD Agents that are individuals.

According to Bank Indonesia, there were 385,158 LKD agents as of December 2018, representing an 88% increase from 204,960 agents in December 2017.¹¹ In addition, there were 11.24 million e-money accounts registered with LKD agents as of December 2018, with close to 10 million e-money accounts being added when compared to 2017. Unfortunately, BI does not provide a breakdown of LKD agents between banks and non-banks (i.e. FinTech startups, MNOs), or the number and value of digital payment transactions processed through LKD agents. Please refer to Section 4 for information regarding the challenges, barriers/constraints of the use of LKD agents to drive higher financial inclusion.

28. To continue to promote technology enabled innovations for digital payments, BI has set up a FinTech Office and a regulatory sandbox. In 2016, BI announced the creation of a FinTech Office to facilitate discussions, share ideas, provide market intelligence, and assess the benefits, risks and potential of FinTech new ventures. The FinTech Office will serve as a one-stop shop for FinTech new ventures that need clarification and details on government policies.

29. To complement the FinTech Office, BI launched a regulatory sandbox in April 2018, with the objective of taking digital payment FinTech companies through the licensing process. The FinTech new ventures have to meet 4 key criteria to be able to use the regulatory sandbox (Fintechnews Singapore, 2018):

- Develop innovative technology
- Potential to disrupt / affect existing financial products, services, technologies and/or financial business models
- Offers a benefit to customers
- Capacity for widespread use

The time length for the regulatory sandbox is only 6 months. So far, 6 FinTech firms are in the regulatory sandbox, and 1 of them has completed it. There are 15 other FinTech new ventures which have registered to join the BI regulatory sandbox.¹²

B. Digital Lending

Overview of the Landscape

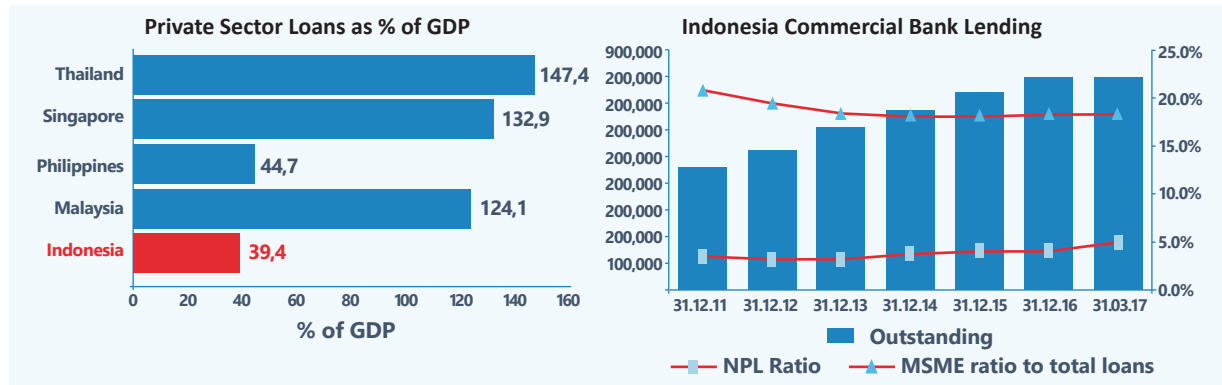
30. Access to formal credit for individuals and MSMEs remains low in Indonesia, providing opportunities for FinTech digital lending platforms to fill the gaps. According to the Global Findex survey, only 18% of Indonesians borrow formally through a bank or credit card (Demirgüç-Kunt et al., 2018a). Indonesians borrow money on a regular basis, but the majority do so from family and friends (36%) or semi-formally through rotating savings clubs or credit associations (11%), which typically charge significantly higher interest rates. Likewise, as highlighted above, Indonesia has a large MSME finance gap. Research from IFC also highlights that only 18% of commercial bank lending was made to MSMEs in 2017, and private sector loans constitute 40% of GDP, the lowest level among its ASEAN peers. It is

¹¹ https://www.bi.go.id/en/statistik/sski/Pages/SSKI_February_2019.aspx

¹² Information based on interview with Bank Indonesia in Jakarta in December 2018

estimated that only 12% of MSMEs have access to credit due to lack of formal financial statement, credit history or collateral (IFC, 2018). Figure 12 below summarizes these numbers.

Figure 12. Indonesia MSME Finance Statistics

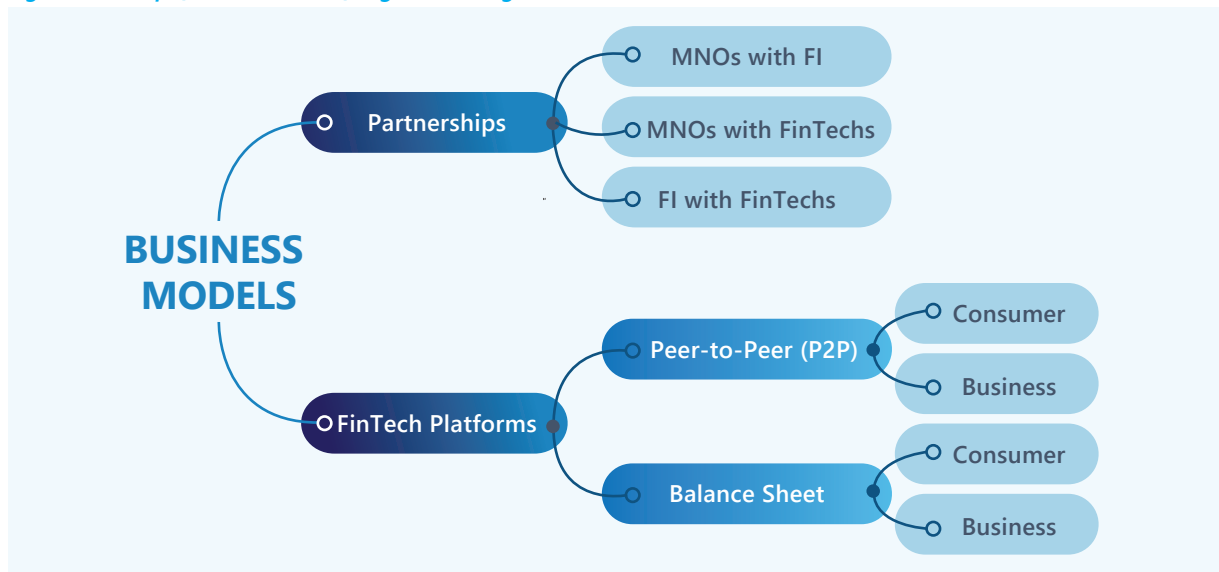


Source: IFC Indonesia FinTech Presentation, July 2018

Digital Lending FinTech Business Models

31. Digital lending business models which serve the unbanked, underbanked and MSMEs can be categorized into two types: (1) Partnerships between different firms (banks, MNOs and FinTech new ventures), and (2) FinTech new venture platforms facilitating loans. Figure 13 provides an overview of these two categories. In the partnership category, three different business models have emerged where different firms form alliances and each party performs a function in the cycle to deliver loans to the unbanked and MSMEs. In emerging and developing economies, MNOs have partnered with financial institutions and FinTech new ventures to offer digital loans. For instance, M-Shwari in Kenya is a partnership with Safaricom, the largest MNO in the country, and Commercial Bank of Africa (CBA), and offers digital loans to Safaricom customers. Borrower eligibility is tied to the borrowers' preceding subscription to and use of voice and SMS services, digital payments and, if applicable, bank history. This business model is popular in markets where e-money is offered by MNOs, but MNOs are not allowed by regulators to perform financial transactions. Alternatively, MNOs can also partner with FinTech companies to offer digital loans. In this model, the MNO provides the customer base and subscriber data, while the FinTech originates the loan using its balance sheet and performs the credit risk assessment based on non-traditional data mainly derived from the MNO (mobile airtime, data top-ups, mobile money transactions, age of applicant, prior loan status, etc.). Finally, banks can also partner with FinTech companies or other technology platforms (e.g. e-commerce platforms) to offer digital loans. In one example of this model, the bank may target "thin file" (limited or no credit history) customers and MSMEs by partnering with a firm that provides data analytics solutions to develop alternative credit risk scoring models. Among the better-known FinTech new firms operating in alternative credit risk scoring and data analytics include LenddoEFL and Trusting Social – both firms are present in Indonesia. Another form of this model would be a bank partnering with a technology firm that provides an origination channel for loans, such as an e-commerce platform that enables merchants active on the platform to access a loan from the bank. The platform may also provide the bank with merchant activity information that is useful in credit scoring.

Figure 13. Simplified Overview of Digital Lending Business Models



Source: Author.

32. The digital lending FinTech platform category seems to be the most prevalent in Indonesia, with the majority of FinTech new ventures operating as P2P lenders. Most FinTech new ventures offering digital loans in Indonesia adopt a Peer-to-Peer (P2P) intermediary model, whereby the FinTech new venture serves as a platform connecting and matching borrowers and investors. The two determining features of this model, according to industry participants and the regulator (but not explicit in the regulation) are that the platform does not lend from its own balance sheet, but rather connects the borrower to lenders, and that the lenders make each lending decision. The platform does not decide which borrowers get loans nor provide recommendations to lenders. There are now 99 P2P lending platforms registered in Indonesia, and there are more in the process of being registered.¹³

33. Due to the platform nature of the P2P lending business model, borrowers can be individuals or MSMEs, and investors/lenders can be individuals or financial institutions (banks or multi-finance institutions). P2P lenders can offer consumer loans and MSME loans. For consumer loans, there are two main types in Indonesia: payday loans and installment loans. Payday loans are typically very short-term loans of less than 5 million IDR and maturities of 30 days or less. These loans charge a daily interest rate and are usually repaid with a single payment in full at maturity. The second type of consumer loan is typically referred to as multipurpose installment loans which are larger in size (up to 25 million IDR) and have longer maturities (3 to 12 months). Payments are made in installments of principal plus interest, with the effective interest rate ranging from 15% to 60% per annum. These installment loans are mainly used to purchase and/or remodel a home or for personal credit (e.g. weddings, medical expenses, credit card payments, etc.). For MSME loans, there are also two types: SME financing loans and microfinance loans. SME financing loans are mainly used to finance working capital for SMEs, with a maximum loan size of up to 2 billion IDR. The loan tenor can range from 1 month to 24 months, paid in installments. The effective annual interest rate is between 5% to 30%. Microfinance loans are loans to micro-entrepreneurs who never had access to credit in the past. The average microfinance loan size is less than 15 million IDR, but

¹³ <https://www.fitchsolutions.com/corporates/telecoms-media-technology/indonesia-fintech-e-money-p2p-lending-hotspots-06-03-2019>

they can go up to 50 million IDR. The loans are typically short-term maturity, ranging between 1 month to 12 months and have an effective annual interest rate of 15% to 60%. Figure 14 below summarizes the FinTech P2P lending landscape in Indonesia based on the different loan products offered and provides examples of FinTech firms in each area. Refer to Annex 1 for more information on FinTech digital lending firms. As P2P lending platforms proliferate, the digital lending landscape is becoming highly competitive which could result in higher customer acquisitions costs (CACs) and potentially a loosening of eligibility criteria by platforms and greater risk taking by lenders, leading to higher non-performing loans (NPLs).

Figure 14. FinTech P2P Lending Landscape in Indonesia

Criteria	Productive (Sharia & Conventional)		Multi Purpose	
	SME Financing	Microfinance	Consumer Instalment	Cash Loan/ Payday
Interest & fee	5% - 30% per annum (eff)	15% - 60% per annum (eff)	15% - 60% per annum (eff)	Daily interest, max 0.8% per day
Outstanding Amount	up to IDR 2bn	Average up to IDR 15mn, can reach IDR 50mn for certain cases	IDR 5-25 mn (for certain specific, i.e. real property can reach max)	<IDR 5mn, can reach IDR 20mn for repeat borrower
Industry benchmark	Non collateral working capital loan from Bank Buku I/II	Micro loan non-Government subsidy (KUR)	Personal loan, credit card	N/A
Tenor	<ul style="list-style-type: none"> Instalment, 1-24months For invoice financing, one time payment payable upon invoice disbursement 	Instalment, up to 12 months	Instalment, up to 12 months	Daily (less than 30 days), typically one-time payment
Companies	Modalku, Investree, KoinWorks, Akseleran	Amartha, Mekar, Danamas, Kimo	Kredito, Awantunai, Danakini, Finmas	UangTeman, RupiahPlus, DompotKilat, Tunaikita

Source: AFTECH.

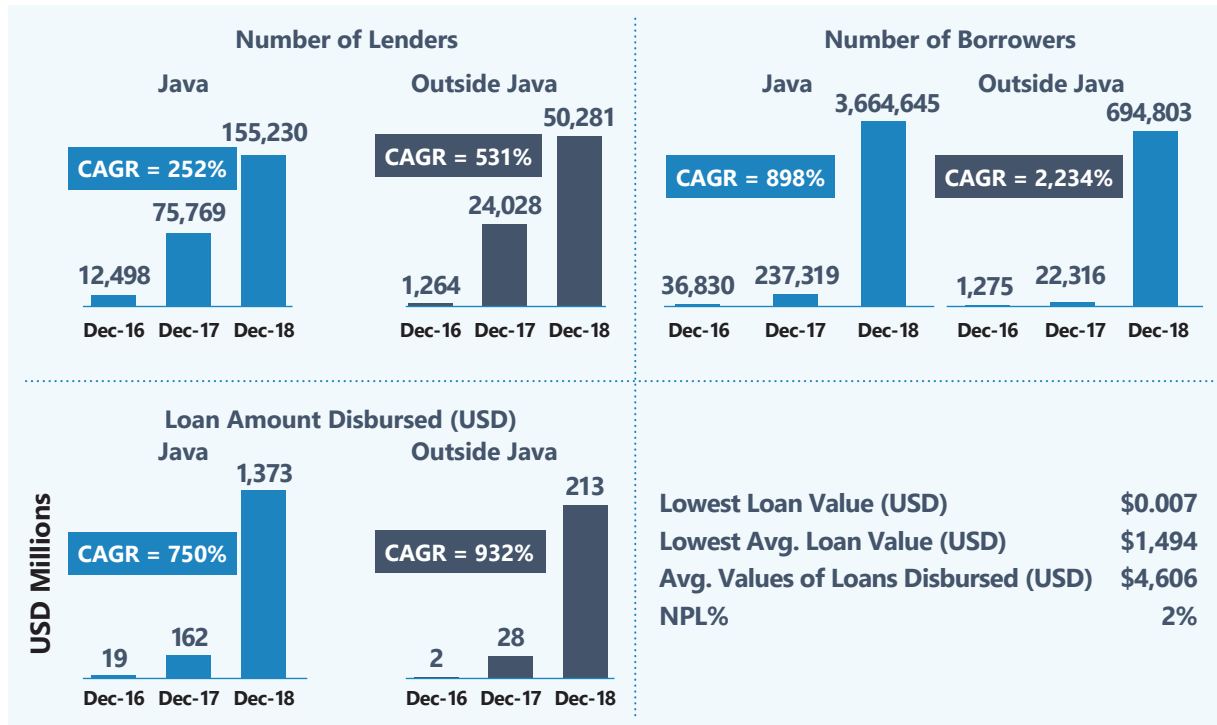
The P2P lending platforms serve as intermediaries connecting the lenders with the borrowers. Essentially, the platform performs the credit assessment of potential borrowers, and the assessment will be made available in the marketplace to all potential lenders. The lenders can read the information about the borrowers and make their own decision on how much to invest in each loan; alternatively, lenders can instruct the platform to deploy funds to borrowers that meet pre-specified criteria (usually including the platform's credit assessment). In most cases, the loan collection process is performed by the P2P lending platforms.

34. Two critical components are required for digital lending platforms to provide loans in Indonesia: KYC / identity and credit risk assessment mechanisms. As part of any loan application process, every financial institution must perform a Know Your Customer (KYC) check, consists of a number of customer identity checks that precede a decision to approve a new customer and start the on-boarding process. While this requirement may be straightforward for customers in developed economies, it is a significant barrier for the poor in developing economies. Currently, Indonesia has a national ID system

that covers 96% of the population aged 17 and over,¹⁴ and an estimated 92% of the whole population are in the national population database (SIAK).¹⁵ To evaluate the credit risk of borrowers, FinTech platforms use their own alternative credit scoring models and complement it with data from established credit bureaus in the country. In an environment where the unbanked have no credit history and have never accessed formal financial products and services, the use of alternative credit scoring mechanisms become essential to assess the credit risk of these individuals and provide them access to loans. FinTech firms develop their own credit risk mechanisms by using non-traditional data such as payment transaction data, insights based on psychometric tests, call data records from MNOs, and geolocation information. Consequently, providers are now able to target a previously untapped market, while previously excluded borrowers can access formal credit instead of being limited to informal loans.

35. P2P lending has demonstrated exponential growth since 2016, as the number of borrowers and investors steadily climbs, and lending volumes at \$1.6 billion. Over the last 3 years, the number of borrowers and lenders in Java, the biggest island and where most of the population resides, has increased at a CAGR of 898% and 252%, respectively. Outside of Java, the growth has been more impressive, with CAGR of 2,234% for borrowers and 531% for lenders. A cumulative total of \$1.6 billion of loans have been disbursed as of December 2018, with 85% of the loan value in Java. Loan volume average annual growth is also higher outside Java at 1,020%, while growth was 743% in Java. It is interesting to note that loan values are also extremely small; the lowest recorded loan value is 100 IDR, or \$0.007. This figure denotes that microloans are being made which can cater to the poor and individuals with limited resources. The lowest average loan value over the last 3 years is \$1,494, and the average value of all loans disbursed is \$4,606. Figure 15 shows the details.

Figure 15. FinTech P2P Lending Landscape in Indonesia



Source: OJK

¹⁴ Analysis of the ID4D questions in the 2017 Global Findex Survey.

¹⁵ 2019 Global ID4D Dataset (<http://id4d.worldbank.org/global-dataset>).

36. Given the large gap in funding for MSMEs, most Indonesian P2P lending platforms are focused on providing loans to small businesses, offering a variety of products to satisfy their needs and requirements. According to the Cambridge Centre for Alternative Finance (CCAF), P2P business lending platforms were the predominant contributor to P2P lending volume in Indonesia in 2017 at 67% (CCAF, 2018). P2P consumer lending only contributed 7.5% of the nation’s P2P loan volume in 2017, a decline compared to 2016 where the contribution was 18%.

37. P2P business lending platforms offer a wide variety of loan products to microenterprises, missing middle SMEs and formal SMEs in Indonesia. Micro businesses, which typically have annual revenue of less than \$100,000, have the largest acute funding gap, since most of them lack credible financial statements, limited assets to use as collateral, and lack of banking and credit history. This sub-segment is generally served by microfinance institutions (MFIs), as they have less-strict collateral policies and have deep local access that is critical to serve these businesses. There are a few P2P lending platforms such as Amartha and Mekar, which are providing loans to microenterprises in Indonesia. At the other end of the spectrum, established SMEs, which have annual revenue between \$1 million and \$5 million, are relatively well covered by financial services providers, but they often need financing on flexible terms to manage their working capital gaps. The sub-segment which has a significant unmet need is the “missing middle” SMEs, which have annual revenue between \$100,000 and \$1 million. Asian Development Bank estimates that lack of access to Indonesia’s missing middle represents a lost opportunity of \$130 billion to the broader Indonesian economy, or approximately 14% of GDP (Asian Development Bank, 2017). The Asian Development Bank study comments: “While missing-middle businesses are larger and more likely to be formally registered, they share a number of challenges with micro businesses. Financial statements are often available but hardly reliable. Past credit was often with informal lenders and MFIs, so the data is not available to formal financial services providers for credit underwriting. Also, their banking histories are generally limited” (pg.48). Thus, the missing middle represents an important focus area for P2P business lending platforms in Indonesia. Table 4 below provides a summary of the different P2P lending products being offered.

Table 4. Micro and SME P2P Lending Products in Indonesia

Type of Loan	Description	Loan Size	Tenor	Avg Annual Interest Rate
Invoice financing	<ul style="list-style-type: none"> Short term financing for formal SMEs using receivables as collateral Loan amount at a discount to invoice value – 60% to 80% of total Safe repayment through escrow bank account 	Up to 2 billion IDR	Flexible; 30 to 180 days	14% to 30%
Supply chain financing	<ul style="list-style-type: none"> Loans for micro to mid-size SMEs for buyer’s side of supply chain Disbursal of funds to supplier/anchor directly in return for goods/inventory Fast churning product for repeat buying; multiple drawdowns 	Starting at 2 million IDR	Bullet payment; 30 to 90 days	14% to 30%
Microfinance lending	<ul style="list-style-type: none"> One-time loan for micro-business Typically use group lending (Grameen model) 	Less than 25 million IDR	6 – 12 months	Up to 55%

Type of Loan	Description	Loan Size	Tenor	Avg Annual Interest Rate
Merchant cash advance	<ul style="list-style-type: none"> Short term working capital to reputable payment gateway regular users and merchant acquirers Fixed monthly repayment routed by partner payment gateway 	Up to 2 billion IDR	Up to 24 months	14% to 30%
Online seller financing	<ul style="list-style-type: none"> Working capital loan to sellers on E-commerce marketplaces, using historical data based working capital Direct repayment from E-commerce marketplace from B2C receivables 	Up to 2 billion IDR	6 months	14% to 30%

Source: OJK Presentation: FinTech Models; October 2018.

38. Supply-chain digital loan products have emerged in Indonesia which are helping to address the financing gap for MSMEs. Supply chain finance (SCF) refers to providing financing to fund working capital (inventory, goods, etc.) based on activity, data, or relationships from a supply chain in which the borrower is involved, usually as a seller but sometimes as a buyer. An example of seller SCF is factoring or the purchase of invoices based on the creditworthiness of the buyer (for example a large company that bought inputs from an SME supplier). Buyer SCF might take the form of credit offered by a supplier (i.e. trade terms permitting delayed payment). A digital lending platform can replace supplier credit by leveraging supplier transactional data on orders and payments by the buyer, which can be a proxy for sales, cash flow, and credit history (if the supplier provided payment terms). The loan can be disbursed to the MSME buyer or to the supplier as payment for goods being purchased by the MSME. Another loan product which is gaining popularity in Indonesia is online seller financing. This loan product is specifically focused on E-commerce sellers to help finance their working capital needs. The receivables that the E-commerce platform has can serve as collateral and/or repayment of the loans. If the e-commerce platform provides warehousing and logistics services, the seller may have inventory or goods in transit that can serve as collateral. The platform also has transactional data from the seller's activity that can serve as a proxy for revenues and cash flow. Several E-commerce platforms such as Tokopedia, Bukalapak and others are partnering with P2P Fintech business lending platforms and banks to offer these products to their e-commerce sellers. E-commerce players cannot lend directly to merchants or consumers. A platform needs an OJK license to offer a loan product, and fintech lending is a single-purpose company. Therefore, an e-commerce company must set up a subsidiary as a lending arm. To date, only Shopee has a subsidiary that is registered as fintech lender at OJK. According to OJK, additional E-commerce platforms have applied for a P2P lending registration and license.¹⁶ Some e-commerce platforms enable loans to consumers to purchase now, pay later or buy on installment. These are offered in partnership with a P2P.

¹⁶ Based on interview with Alvin Taulu, Head of Licensing Sub-Division, Directorate of Regulating, Licensing & Supervision of Fintech at OJK on December 21, 2018.

Policy and Regulatory Environment of Digital Lending FinTech Firms

39. OJK regulates the digital lending sector, as well as all other financial products except for payments. At the end of December 2016, OJK issued Regulation (POJK) No. 77/POJK.01/2016 on Information Technology-Based Lending Services (POJK 77/2016), regulating all P2P lending activities in the country. The regulation defines P2P lending services as financial services provided via online (or mobile) systems which facilitate the interaction between borrowers and investors for the purpose of entering into loan agreements in IDR currency. P2P platforms are referred to as “P2P lending service providers”, and they are defined as Indonesian entities that provide, maintain and operate the P2P lending services. Under the regulation, P2P lending service providers are specified as financial institutions. As noted above, according to OJK, the distinguishing regulatory features of P2P lending service providers are that the platform does not lend on its own balance sheet but rather connects investors and borrowers, and the investors must make the lending decisions. However, these features are not explicitly stated in the definition within the regulation or mentioned elsewhere in the regulation.

40. The P2P lending regulation stipulates various guidelines relevant to P2P lending services and the organization of P2P lending service providers. From the perspective of P2P lending service providers, it is important to highlight a few items covered by the regulation. Please refer to Annex 4 for more details on the P2P lending regulation.

- **Registration and Licensing** – The regulation stipulates a 2-stage process for P2P lending service providers. P2P lending service providers need to register with the OJK. Once registered, P2P lending service providers are allowed to operate in the country. Within 1 year from the date of the registration certificate, P2P lending service providers must obtain their business license. Ostensibly this two-stage process allows a platform to develop its technology and market before incurring the full licensing cost and enables OJK to assess the P2P as an operating company at the time of licensing. For the licensing process, OJK requires P2P lending service providers to obtain ISO certification (cost approximately between \$30,000 to \$40,000) and the platform must undergo a detailed review of its business plan by OJK. The review includes a 1-week audit that evaluates the company’s current shareholders and their vision/commitment to the company. As of December 2019, 25 companies have received full license from OJK.
- **Capital Thresholds** – Issued and paid up capital must be at least 1 billion IDR when the P2P lending service provider applies for registration and must increase to at least 2.5 billion IDR by the time it applies for a business license. The minimum capital requirement is meant to ensure that the platform has the resources to operate. The capital is not maintained as cash but becomes part of the platform’s shareholder equity. OJK and the Indonesia FinTech Lending Association (AFPI) have reportedly discussed whether to scale the minimum capital with originated loans outstanding. However, there has not been any action from the regulator on this.¹⁷
- **Loan Amount:** The loan must be denominated in IDR and the amount cannot exceed 2 billion IDR for each borrower. However, the regulation does not clarify whether the loan amount refers to the limit for a single borrower, or for a single project. At present, the limit cannot be enforced for multiple

¹⁷ The platform’s obligation to service loans on behalf of lenders increases with the volume of loans originated. An increase in required capital reflects this liability, among other risks. The UK is an example of a jurisdiction in which P2P platform capital requirements scale up with lending activity.

loans taken from different platforms due to the fact that there is no central database with borrower data on P2P lending. For SME loans and some supply chain finance products, there may be cases where the loan limit of 2 billion IDR is too small.

- **Limits on Foreign Ownership** – The regulation provides that foreign investors can own up to 85% of total issued and paid up shares of P2P lending service providers, either directly or indirectly
- **Credit Insurance** – P2P lending platforms are required to have cooperation with a credit insurance company and maintain active credit insurance. Nevertheless, the regulation does not specify how much is required

While borrowers must be originated and domiciled in Indonesia, lenders can be local or foreign parties. In addition, the regulation does not specify maximum interest rates; the P2P lending platform can propose interest rates for a lender and borrower considering fairness and the state of the economy. The agreed interest rate must be stated on the loan agreement made in the online platform. Another important provision in the regulation is the requirement of virtual accounts where the P2P lender's funds are segregated, while repayment by borrowers must be conducted through escrow bank accounts.¹⁸

41. P2P lending platforms are subject to a number of obligations and restrictions which are established to promote business sustainability and consumer protection. The P2P lending regulation stipulates that P2P lending platforms must comply with customer protection guidelines, as well as apply risk mitigation and AML/CFT standards. Moreover, OJK requires P2P lending platforms to submit periodic reports every 3 months with the following statistics: (i) the number of lenders and borrowers (ii) the quality of granted loans (iii) the list of activities since the Provider was registered with the OJK (IFC, 2018). OJK defines qualifications of employment for the founders and employees of P2P lending platforms. For example, the regulation states that P2P lending platforms must have employees with IT expertise or background, and at least one director with at least one year's experience in the financial services sector (but the nature of that experience is not specified so there is in effect no specific financial services skill requirement). The regulation also imposes some restrictions for P2P lending platforms such as: not acting as lender or borrower, not providing recommendations, loans, or guarantees on investment returns. Refer to Annex 4 for more details on the P2P regulation.

42. In February 2019, OJK restricted P2P lending platforms from accessing data from borrowers' mobile phones, upon receiving numerous complaints of excessively intrusive debt collection practices by some P2P lending platforms which called contacts from the borrowers' address book. Some P2P lending platforms were using contacts to track borrowers and pursue collections through calls to borrowers' contacts. Since then the regulator has banned the use of call records, text messages and address books of borrowers' mobile phones. This move is problematic for these platforms since many of them rely on mobile data to develop their alternative credit scoring models. On the other hand, similar data technology is still used by some multi-finance institutions and banks, and these organizations were not banned from the use of mobile data for credit scoring. OJK has asked AFPI to present experts in data and IT to explain to OJK what information should be allowed to be retrieved from mobile phones. International experience shows that most of the data used to develop credit scores for SMEs refers to commercial transactions, cash flow, invoice, accounts payable, shipping history, bills of lading, economic

¹⁸ In other countries trust accounts are used. Industry participants indicated that there is no legal structure for trust accounts in Indonesia.

indicators, procurement data, client base for SMEs, even customer reviews – can then be used by non-traditional financial services providers / fintech companies to evaluate risk, determine credit capacity and to offer financial services to firms or individuals who may lack access to bank credit. Relevant information to develop scoring models for those consumers with thin files or no credit history includes: (i) data on payments (e.g. utilities, mobile phone, and certain other obligations like rental information, taxes, tuition, etc.), (ii) data on crowdfunding transactions, factoring, leasing and credit insurance, (iv) payment flows received by disadvantaged individuals (e.g. subsidies, pensions, domestic and cross-border remittances, etc.) when appropriate¹⁹. In addition, to the type of data collected, it is also considered good practice to request borrower's consent to capture data from their mobile or other additional sources to develop credit history.

43. The Indonesian FinTech Lending Association (AFPI) has been created to support and serve as an advocate for the P2P lending sector, and more importantly, to aid in the prudential and market conduct supervision of P2P lending platforms. Established in March 2019 as a spinoff from the Indonesia FinTech Association (AFTECH), AFPI has been designated as OJK's strategic partner in carrying out the regulatory and supervisory functions of the P2P lending service providers in accordance with OJK No. S-D.05/IKNB/2019. Moreover, OJK requires that all P2P lending service providers must register themselves as AFPI members. As part of AFPI, a new Code of Conduct for responsible lending is being implemented which all P2P lending platforms must follow. Failure to comply with the Code of Conduct may result in the revocation of AFPI membership, which can be the basis for OJK to review the company's business registration or license.

44. Like Bank Indonesia, OJK has set up a regulatory sandbox and an innovation research office called OJK Infinity / Digital Financial Innovation Group, to cover all FinTech innovations other than P2P lending. Currently, 30 FinTech firms have expressed an interest to join OJK's regulatory sandbox; according to OJK, 26 of them will go through the process.²⁰ Due to limited resources at OJK, the sandbox process will use a clustering approach which will group Fintech firms based on similar products/activities and choose the most complex one to serve as the example of the process. Unlike BI's regulatory sandbox, the length of time in the sandbox is 12 months and can be extended by an additional 6 months. The following areas are being explored as part of OJK's regulatory sandbox:

- Aggregator / Financial marketplace
- Blockchain-based
- Claim service handling
- Credit Scoring
- Financial planner
- Financing agent
- Funding agent
- Insurance broker marketplace
- Online distressed solution
- InsurTech and insurance broker marketplace
- E-KYC and verification technology
- Project financing
- Property investment management
- RegTech
- Tax and accounting

The regulatory sandbox has been running operationally since the second half of 2019.

¹⁹ International Committee on Credit Reporting (ICCR), Policy Brief on Credit Reporting and Financial Inclusion, 2017.

²⁰ Based on interview with OJK's Infinity Team in Jakarta on the week of December 10, 2018.

C. Digital Insurance

Overview of the Landscape and Regulatory Aspects

45. The insurance market remains underpenetrated in Indonesia. According to OJK,²¹ domestic insurance penetration (measured by insurance premia) remains at 2.99% of GDP, despite a 20% year-on-year growth in life insurance revenue in the Q3 2017. Insurance penetration in Indonesia is significantly below peers such as Singapore, Thailand and Malaysia, which have average penetration rates of at least 5% of GDP. According to Lloyds, Indonesia has the second largest insurance gap in the world at \$14.6 billion, or 1.4% of GDP.²² According to the Indonesian Life Insurance Association,²³ Indonesia has only 17.66 million people with life insurance as of Q2 2017, which represents a 7.6% decrease when compared to the corresponding period in 2016.

46. The Indonesian insurance market is characterized by a narrow range of products, mostly individual, regular premium life insurance products sold mainly through brokers and the bancassurance channel. Life insurance is by far the largest insurance segment in Indonesia, with more than 45% of the total insurance premium income.²⁴ The top life insurance firms in Indonesia are mainly joint ventures of the international players such as Prudential, Allianz, and AIA. Please refer to Annex 5 for the list of the top 10 life insurance providers in the country. Given the importance of bancassurance as a key distribution channel, many of the life insurance firms have developed ties with the major banks in the country. According to KPMG, insurance companies have been aggressive in obtaining bank ties and increasing the productivity through this channel.²⁵ BRI represents an interesting opportunity for insurance companies since it is largely untapped, and it is one of the largest microfinance providers in Indonesia, providing access to micro-insurance products. Agent network is the second largest distribution channel, and agents who are technologically enabled will be essential given the geographic spread of the islands and lack of consumer education.²⁶ It is important to note that the insurance agent network is different from LKD and Laku Pandai, and a certification process is required to become an insurance agent. In terms of health insurance, more than 130 million Indonesians are registered for the country's Mandatory Health Insurance Scheme, managed by Badan Penyelenggara Jaminan Sosial (BPJS). BPJS covers medical and non-medical benefits but excludes services such as esthetics, orthodontics and infertility. The rise of online marketing and referral services has added new complexities to the issue as individuals who are neither brokers nor agents use websites and blogs to promote brands.

47. OJK assumed the role of insurance industry regulator in 2013 and introduced the "New Insurance Law" (UU No. 40/2014) in 2014. The main highlights of the insurance law are related to foreign ownership limitations and minimum paid up capital requirements. Under the new insurance law, foreign shareholders are allowed to own 80% of the issued capital of any Joint Venture Insurance Business Company (IBC). In addition, a foreign investor must be able to demonstrate that it is actively engaged in the insurance business and have capital of at least 5 times its investment in the Indonesian entity. Regarding capital requirements, insurance firms are required to have a minimum paid up capital of 100 billion IDR. Given the challenges in insurance penetration, OJK has emphasized the use of technology to develop customer-centric products and drive customer adoption.

²¹ <https://insuranceasianews.com/indonesias-insurance-penetration-still-lagging-behind-neighbours/>

²² https://www.lloyds.com/.../lloyds_underinsurance-report_final.pdf

²³ Ibid.

²⁴ <https://www.insurancebusinessmag.com/asia/news/breaking-news/indonesia-has-low-insurance-penetration-but-high-profitability--report-107316.aspx>

²⁵ <https://assets.kpmg/content/dam/kpmg/id/pdf/id-ksa-insurance-in-indonesia.pdf>

²⁶ Ibid.

48. The microinsurance potential in Indonesia is significant and largely untapped. Mobile and digital channels represent the easiest and most effective distribution channels to onboard the unserved and underserved. Microinsurance, which refers to providing insurance for small amounts of coverage by paying very small premiums, provides an opportunity for the poor and marginalized to access affordable insurance products. The first microinsurance product in Indonesia was introduced in 2006, and it provided credit life insurance protection if the participant died of illness or accident during the credit period. The benefit received by the beneficiary is twice the amount of the loan. This product, called Payung Keluanga, now has 3.9 million policyholders in the country (KPMG, 2016). OJK, the financial regulator which is responsible for the insurance sector, is working to introduce insurance products to the lower-middle income and low-income brackets through microinsurance services with affordable premiums. According to OJK,²⁷ as of 2015, there were 53 companies that sell micro-insurance products. Its six million participants have paid premiums reaching 106 billion IDR (US\$8.21 million) and received claim payments reaching 71.76 billion IDR (US\$5.6 million). Currently, microinsurance is mainly focused on microcredit life insurance since it is required by the regulator and automatically included as part of the loan.

49. Due to the low penetration rate, in 2013, OJK launched a microinsurance blueprint. Subsequently, OJK, together with the AAUI and AAJI, has designed four basic micro-insurance products for personal accident insurance, term life insurance, home fire insurance and business interruption insurance (KPMG, 2016). Given that the poor have limited safety nets, there is strong latent demand for microinsurance products to cover wider protection/risks such as death obligations, poor harvests due to droughts/floods, etc. However, very few insurers have explored the low-income market since it may be costly to develop distribution networks that will reach out geographically, and the return on investment takes a long time to materialize.

Digital Insurance FinTech Business Models

50. FinTech new ventures in the insurance sector, or also referred to as InsurTech, are slowly emerging in Indonesia, but the number of companies is still relatively small. OJK has started to look at new business models not covered under the regular licensing of insurance business. The Digital Financial Innovation Group (GIKD) of OJK has defined “InsurTech” as a platform that works with registered insurance brokers to provide information, sales, and claim services, and “Insurance Broker Marketplace” as a closed joint platform whose participants are limited to registered insurance companies. These are treated as distinct business models. Opportunities for growth lie in strategic partnerships with insurance firms, MNOs and other players. Based on information provided by AFTECH, InsurTech firms are mostly focused on providing a portal for comparison of insurance products and services, and are thus not yet regulated. Refer to Annex 5 for the list of top InsurTech firms in Indonesia. One of the few exceptions is BIMA, which partners with MNOs and insurance firms to offer microinsurance products through the mobile phone to low income people and the unbanked. BIMA is an international FinTech firm which was founded in 2008 and has operations in 15 countries globally, serving 26 million customers. More than 75% of its customer base is accessing insurance for the first time, and 93% of its customers live on less than \$10 per day.²⁸

²⁷ <http://www.asiainsurancereview.com/News/View-NewsLetter-Article?id=32158&Type=eDaily>

²⁸ <http://bimamobile.com/about-bima/about-us-new/>

51. Although the InsurTech landscape is limited, there is growing interest in forming partnerships with insurance and other firms to help them scale up. In March 2018, Go-Jek, Traveloka and Tokopedia announced they were going to invest in PasarPolis, which is one of the first online portals in Indonesia to offer insurance options in health, vehicle, accident, property, travel and life cover.²⁹ PasarPolis' platform allows users to compare, select and buy insurance policies from 30 different insurance providers in Indonesia. Specifically, once the user finds the insurance policy they desire, PasarPolis then refers the user to the appropriate insurance provider. Thus, PasarPolis is mainly acting as a referral to the different insurance providers. Pasarpolis also recently formed a partnership agreement with government-backed workers' insurer BPJS Ketenagakerjaan to permit workers to register for its program.

²⁹ <https://insuranceasianews.com/three-indonesian-unicorns-to-invest-in-insurtech-startup/>

BOX 1. FinTech and the Insurance Market

Mobile phones have become an essential distribution channel for providing microinsurance to the poor, delivering significant benefits over traditional insurance products. Essentially, insurance providers partner with MNOs to offer microinsurance products – the mobile phone is used to enroll clients, collect premiums, communicate with clients and insurance staff as well as capture data on clients. By using the mobile phone infrastructure, the process becomes more efficient thereby lowering costs and reducing turnaround times for enrollment, claims processing and collection of premiums. What makes mobile microinsurance (as it is commonly referred) so attractive is the ability to reach significant scale at lower costs when compared to traditional methods. By lowering operational costs and reducing inefficiencies, mobile-phone-based processes make it possible for insurers to carry out low value, high-volume transactions in a financially viable way (Microinsurance Network, 2016). The mobile microinsurance market has expanded significantly over the last 5 years. At the end of 2015, there were 120 mobile insurance live services available in 33 emerging markets, with a total of 31 million policies issued representing a 68% increase from 2014 (GSMA, 2016). The GSMA report describes three main business models that are used in mobile microinsurance: (i) Loyalty, which encourages the customer to spend a certain amount of airtime or keep a certain balance in their mobile money account to qualify for insurance; (ii) Premium, where customers pay a premium for coverage; and (iii) Freemium, which is a combination of Loyalty and Premium. An innovative feature that makes the mobile microinsurance product easy to adopt is the ability to pay for the insurance premiums using mobile airtime, in addition to mobile money. This feature provides convenience to the customers, since they can easily allocate airtime without any significant hassle.

In general, the mobile microinsurance value chain consists of the following players:

- **Insurance company** – these firms underwrite the microinsurance products, and pay any claims
- **Mobile Network Operator (MNO)** – serves as the main distribution channel to the customers
- **Technology Service Provider (TSP)** – technology firms that partner with both the insurance companies and MNOs to develop and design microinsurance products that meet the exact needs of customers. These firms manage the client relationship, the collection of premiums, and the claims management process. Effectively, these firms bridge the gap between the MNOs and the insurance providers, since they have a good understanding of the insurance industry (which MNOs lack) and the low-income customers (which insurance firms lack). The two largest TSPs globally are BIMA and MicroEnsure, and they serve more than one third of all of the customers currently signed up for mobile microinsurance. BIMA and MicroEnsure have become essential players in the value chain, by developing customized software platforms that simplify the entire process and get involved in the education of customers as well as the training of the agents
- **Agents** – individuals who actually sell the microinsurance products to potential customers. The agents may be a part of the MNO, the TSP or the insurer

AI, ML and Big Data have impacted the microinsurance segment in emerging markets, by developing credit risk algorithms that are coupled with satellite imagery and crop yield data to offer crop insurance to farmers. These insurance products rely on the analytics of the different data sources to build insurance products that are tied to the crop yield production and/or weather-related incidents such as floods, droughts and other natural disasters. For farmers, weather-based insurance products allow for more stable income streams and improve their economic livelihood.

D. Digital Savings

Overview of the Landscape and Regulatory Aspects

52. The use of savings accounts at financial institutions in Indonesia remains low, with most of the savings taking place through semi-formal (arisans) or other informal methods (cash under mattress, lockboxes, etc.). According to the Global Findex Survey, about half of the unbanked, or 45 million, save semi-formally or by other informal means in Indonesia as of 2017 (Demirgüç-Kunt et al., 2018a). On the other hand, only 22% of Indonesians save through a savings account at a financial institution, which is about half as many as in China, Malaysia and Thailand. As expected, the richest 60% of the population in Indonesia are twice as likely to save formally as the poorest 40% (Demirgüç-Kunt et al., 2018a).

53. To help increase the usage of formal savings accounts, in 2015 OJK enacted “branchless banking” rules via the Laku Pandai program to provide formal financial products and services to the poor by agents. The program allows banks (which meet certain criteria) to extend their banking activities by recruiting individuals and legal entities as agents and leveraging digital technology to deliver financial products to the unbanked and underbanked in rural and remote areas. The main financial product offered is a basic savings account (BSA) which earns minimal interest. There is no minimum deposit required for the savings account, but there is a maximum balance of 20 million IDR, and maximum debit transactions of 5 million IDR per month. The Laku Pandai program also offers microinsurance (insurance premium under 50,000 IDR) and microloans of up to 20 million IDR to BSA holders who have been a banks’ customer for a minimum of 6 months. Permitted agent activities include account opening, cash-in, cash-out, transfer, bill payment and balance inquiry. Laku Pandai agents are exclusive to the banks that set them up, since they are viewed as an extension of that particular bank. To onboard clients, a simplified customer due diligence process is used which requires minimal identification information (name, address, place and date of birth) from individuals. The Laku Pandai program has an agent classification system consisting of 7 categories (A – G), where agents are classified based on the types of products and services they can offer.

54. Over the last 3 years, the Laku Pandai program has made great progress in providing basic savings accounts to the poor, but more work needs to be done. According to OJK, as of September 2018, there were approximately 22 million customers with basic savings accounts opened via Laku Pandai agents, with an outstanding balance of 1.5 trillion IDR.³⁰ While some of the unbanked are using BSA and other financial products offered by Laku Pandai agents, there is still low awareness about Laku Pandai providers. Please refer to Section 4 for a detailed discussion of main barriers/constraints related to agent networks.

³⁰ <https://www.ojk.go.id/id/Pages/Laku-Pandai.aspx>

BAB IV

BARRIERS/CONSTRAINTS, GAPS AND OPPORTUNITIES



IV. BARRIERS/CONSTRAINTS, GAPS AND OPPORTUNITIES

A. Regulatory Barriers/Constraints

55. Regulators have played a crucial role to enable the growth of FinTech for financial inclusion; however, there are a few policy-related areas that are making it difficult, or could potentially make it difficult, for the further expansion of FinTech firms to serve the unbanked, underbanked and MSMEs. Based on feedback from numerous FinTech firms and other stakeholders (i.e., AFTECH), the following areas have been identified as regulatory barriers:

- Agent Networks
- E-KYC Process / Digital ID
- P2P Lending Regulation

Agent Networks

56. Agents are a vital component in the distribution of digital financial products to the unbanked, underbanked and MSMEs in Indonesia. Given Indonesia's large population which is spread across more than 17,000 islands and the limited number of bank branches mainly focused in urban areas, agent networks become necessary infrastructure to drive higher financial inclusion. As covered in the previous sections, the Laku Pandai program set up by OJK and the LKD program introduced by BI rely on agents, which can be legal entities or individuals, to deliver financial products to the unbanked, underbanked and MSMEs by leveraging technology such as mobile phones and the internet. OJK has made progress in terms of the increasing number of Laku Pandai agents, especially with local-based initiatives of partnering with the local regents and mayors to set up regional financial access acceleration teams (TPKAD). These initiatives may involve fintech providers, subject to regulatory compliance requirements.

57. FinTech firms and banks view the use of agents as essential to drive higher financial inclusion, but a few regulatory barriers are limiting their effective use of agents. Based on interviews with FinTech firms and other stakeholders in the FinTech ecosystem, a few key regulatory barriers have been highlighted:

- For the LKD program, FinTech firms are only allowed to have agents which are legal entities, not individuals.
- Third party agent network managers are not allowed for the LKD and Laku Pandai programs
- Agent exclusivity to only one service provider in the Laku Pandai program

58. BI Regulation No. 20/6/2018 on Electronic Money explicitly states that individuals are only permitted as LKD agents for commercial banks, while business entities can be used as agents for banks and non-banks. This provision has significant negative consequences on FinTech new ventures and other non-bank firms. For example, it is impossible for technology startups such as Go-Jek to use their drivers as agents for digital payments and potentially other financial transactions. As a result, the universe of potential agents that FinTech firms can use becomes more limited, making it difficult for these FinTech startups to scale up to reach the unbanked and underbanked. A related issue is the fact that

banks which implement the LKD program are allowed to recruit individual agents, in addition to agents through business entities, but FinTech startups and other non-bank companies can only recruit business entities as agents. Even though both banks and FinTech startups offer similar products and target similar customer segments, this provision gives an unfair advantage to the banks.

59. Engaging franchisees with large distribution networks as LKD agents can also pose challenges for non-banks, since only the franchisee's fully-owned outlets can be used as part of the legal entity arrangement.³¹ When engaging a telecom company, gas station or other franchisees as a LKD agent, the distribution network of shops owned by the franchisee cannot be engaged as part of the legal entity arrangement, but would need to be contracted one-by-one under an individual agent arrangement, which is not allowed for non-banks. This restriction is based on risk considerations. This distribution network is much larger than fully-owned outlets, for example one telecom company reported having around 300 fully-owned outlets, but over 400,000 shops selling air-time vouchers spread all over the country including reaching remote areas. This is also the case with organized retail like Indomart and Alfamart, these institutions have a large component of their stores operate in a franchisee arrangement.

60. It is estimated that three banks, BRI, BTPN, and BNI, account for 90% of all agents in Indonesia (MicroSave, 2017). Due to their size, these banks are able to manage a large agent network, but for most other service providers, it is expensive and resource intensive to manage large agent networks. A survey conducted by MicroSave in 2017 and confirmed by a study performed by the World Bank in 2018, demonstrated that Indonesian agent networks rank relatively low on several aspects related to branding, liquidity management and training. In particular, the survey showed that 11% of agents in Indonesia display tariff sheets while only 45% display agent IDs. Moreover, most agents have rudimentary liquidity management practices and they must travel outside to their respective link branches to manage the float (MicroSave, 2017). Therefore, having a third-party agent network manager could help make the process more efficient. Currently, regulation of the Laku Pandai program restricts banks from hiring third parties to manage their agent networks. There is no mention of third-party agent network managers in the regulation of the LKD program. The key concerns that regulators have regarding third party agent network managers are the capabilities of these providers to ensure high-quality customer service, training to agents, customer protection, and risk management at the agent level.³²

61. Laku Pandai regulation mandates agents to partner with only one bank / service provider. The reason for this provision is to give the regulator clarity on who is responsible for agent training and monitoring, customer redress and consumer protection. However, over one third of agents surveyed by MicroSave in Indonesia have expressed an interest in becoming an agent for additional service providers (MicroSave, 2017). A negative consequence of agent exclusivity is that agents are limited in their potential profitability since they are tied to one bank. According to MicroSave, the median daily transaction volume for agents in Indonesia is among the lowest when compared to emerging market countries in Africa and South Asia, partly due to the regulation on exclusivity (MicroSave, 2017). As a result, many agents are not profitable and have limited scale to serve the unbanked and underbanked.

³¹ Information is taken from the Indonesia Financial Sector Assessment Program (FSAP) Technical Note on Digital Financial Services published in June 2017

³² <https://www.microsave.net/2018/01/29/third-party-agent-network-managers-the-missing-element-in-indonesias-dfs-sector/>

62. The World Bank is providing technical assistance to OJK and BI on the harmonization of agent banking models and has identified similar barriers/constraints as highlighted above, as well as additional overarching issues regarding agent network structure and regulations. Below is a list of additional barriers identified by the technical assistance program which are relevant to FinTech firms:

- Laku Pandai regulation is overly restrictive and too detailed in terms of what is permitted and what is prohibited. For example, the 7 different categories of Laku Pandai agents fragments the market, limits business autonomy and raises opportunity for regulatory arbitrage. Also, having too detailed provisions limits the bank's autonomy to compete effectively and reduces agent profitability
- The Laku Pandai program only refers to agent networks for banks, while the LKD program has a wider scope, which raises the risk of regulatory arbitrage and may lead to distortions in competition

E-KYC Process / Digital ID

63. Direct access to the national population database (SIAM, managed by Dukcapil of the Ministry of Home Affairs), which houses legal identity of individuals, is limited to selected government entities and companies, which makes it difficult for many FinTech firms to perform the required KYC and customer onboarding processes. Identity authentication for KYC is typically either a staff manually accessing, through a secure web portal, the customer's identity information using their personal identification number (NIK), which poses data protection risks, or biometric authentication against the national identity smartcard (e-KTP), which requires a device that can cost more than \$400. These methods are used by Government agencies, major financial service providers and payment providers to verify the identity of individuals as part of their KYC process. Some financial service providers have access to photos in population database and thus are able to do facial recognition using their own Automated Biometric Identification System (ABIS). Dukcapil, together with Bank Mandiri and BRI, is piloting automated biometric authentication with a NIK and fingerprint or facial recognition.

64. Most FinTech firms currently do not have access to the SIAM database for identity authentication, which makes it difficult for them to conduct the KYC process, but there is strong demand for this to change – both from FinTech firms (as users) and from Dukcapil's perspective (as a service provider). Based on a survey conducted by the FinTech Association of Indonesia (AFTECH) in 2018, approximately 62% of FinTech firms acknowledge that customer identification and verification is the number one regulatory barrier to serving the unbanked and underbanked customers (Fintech Association Indonesia (AFTECH), 2018). Any company that wants to access Dukcapil today needs to set up a separate cooperation agreement with them, which can be an inefficient and time-consuming process. To make the process of getting access more efficient, Dukcapil could set service standards for the time it takes to process requests for cooperation agreements and use uniform cooperation agreements (with data needs dependent on the business requirements of the user).

65. Several third-party identity service providers (IDPs) (including e-signature services and licensed "Certificate Authorities" (CAs)) are emerging already.³³ If the operations of these companies

³³ "Certificate Authority" (CA) has a specific meaning in the context of cryptography and Public Key Infrastructures (PKI) as a trusted (and typically licensed) entity that manages and issues security certificates and public keys that are used for secure communication in a public network, including electronic signatures. The term "CA" is being used by some stakeholders in Indonesia as potentially being synonymous with a third-party digital identity provider, but a third-party digital identity provider does not necessarily have to be a CA.

are governed under a unified regulation comprising of all relevant Government stakeholders (Kominfo, Dukcapil, OJK, and BI), including their access to the population database for the initial onboarding of customers, they provide can be leveraged by FinTech to onboard customers through apps and the internet (i.e. without the need for face-to-face interaction). Such a federated model, where an ecosystem of digital identity providers offers authentication services to institutional users, typically based on the legal identity of individuals, has emerged in Europe (e.g. the UK and Scandinavia) and is emerging in ASEAN (e.g. Thailand). The benefits of such an approach are competition, choice, innovation and less need for the Government to invest in the infrastructure. However, these models require strong regulations and oversight to prevent the misuse of sensitive personal data and to provide protection to individual users. Further assessment is required to understand the regulatory and supervisory framework for this proposed model.

66. Resolving the customer identification issue is the first step towards the digitization and automation of the KYC process, or e-KYC, which eliminates the requirement of physical face-to-face interactions for onboarding, and greatly reduces the amount of time for verification and due diligence. At this time, the KYC processes used vary by financial product. Tiered KYC is in place for limited use bank and e-money transaction accounts. Anti-money laundering regulations allow KYC to be done remotely (i.e., no face-to-face requirement), and e-money regulation allows biometric verification (against SIAK) as a substitute for presenting the national identity card. On the other hand, for banking and/or lending products which are regulated by OJK, biometric verification can be used, but it must be checked against the Dukcapil database. To avoid fraud/spoofing of ID cards, e-money FinTech players are also interested in checking against the Dukcapil database, but as mentioned above, most of them do not have access to the system.

P2P Lending Regulation

67. There are a few areas in the P2P lending regulation which require further clarity and may negatively impact the growth of P2P lending platforms to drive higher financial inclusion if not properly addressed. Below is a list of some of the most important areas:

- **Automated / programmatic lending.** The regulator requires that investors make the decision on which loans they want to fund through the platform. While this provision works well with retail investors, it can be challenging and inefficient for institutional investors to individually select hundreds or thousands of loans to invest. A common solution is automated or programmatic lending, in which the investor sets lending criteria and the P2P platform deploys capital automatically to any loan that meets the criteria. In Indonesia, institutional investors define the parameters they would like to see regarding borrowers (i.e. sector, amount, risk rating), and the P2P lending platform engine does the matching process. OJK interprets programmatic deployment as the investor making the lending decision (by setting the parameters), although this is not covered in the regulation. This flexible interpretation of decision-making has enabled P2P platforms to take on institutional lenders and grow their volumes. The lack of explicit treatment of this activity leaves a gray area when the platform sets the credit rating of a borrower and the credit rating is one of the lender's criteria. Does setting a credit rating that happens to coincide with a borrower's lending criteria constitute making the decision, or providing a recommendation? In the event of a loan default attributed to faulty credit scoring this could emerge as a basis for litigation.

- **Trust Framework.** The legal framework for trust accounts in Indonesia may not protect lender funds in the event the platform went bankrupt.³⁴ Thus while the P2P regulation (Article 24) requires the segregation of funds into escrow and virtual accounts, these may not provide full protection to the investors.
- **Resolution Plan.** A resolution plan typically designates a third-party payment institution to ensure business continuity for the servicing and loan collection on behalf of investors. The resolution plan would cover distribution of funds held in trust as well as ongoing servicing and other wind down issues. There is no provision within the P2P regulation on resolution plan, which could discourage some investors from participating in the platform

68. Debt collection standards for P2P lending platforms have not been clarified, which can become a concern if platforms follow aggressive collection practices. Currently, there is no specific law or guidance on debt collection, although there are rules for bank collection practices. OJK does have a regulation under Regulation (POJK) No. 18/POJK.07/2018 on Financial Consumer Complaints that require all financial institutions registered in OJK, including P2P lending platforms, to establish and maintain a customer complaint handling procedure. Although most P2P lending platforms have their own internal debt collectors, third party debt collectors could be used, but P2P lending platforms would need to certify them on the use of digital information. In this absence of debt collection standards, AFPI has initiated an industry standard in the form of a code of conduct that requires member companies to obtain certifications for their employees or agents. AFPI may impose sanctions against its members, which can be the basis for OJK to review the company's business registration and license. AFPI has also been playing a role in investigation and mediation of consumer complaints regarding collection practices. This role may later be developed, or integrated, into an alternative, out-of-court, dispute resolution body endorsed by OJK. Since 2020, OJK-endorsed associations have initiated the establishment of this body. By 2021, the integrated alternative dispute resolution body is expected to start resolving disputes, including on P2P lending cases, covering disputes between lenders and platforms, or between the platforms and their borrowers.

69. An important operational consideration is the lack of tax clarity for P2P lending platforms. Based on the P2P lending regulation, it is unclear whether P2P lending platforms are considered a financial institution or non-financial institution. Tax law defines financial institution as bank, MFI, and multi-finance. If P2P platforms are considered a non-financial institution, a VAT of 10% would be applicable. Lack of tax clarity on interest income is also an issue. Non-financial institutions have to apply a 15% withholding tax on the interest earned by the lender, but the obligation to withhold the tax is on the borrower. The platform is not the borrower and not a withholder. The SME or the retail borrower would technically be responsible to withhold and do the tax submission for each of the lenders. AFPI suggests the P2P lending platform be the withholder but that requires a ruling from the tax office. OJK and AFPI have had several discussions with the Directorate General of Taxation (DGT) at the Ministry of Finance to resolve this matter; to date there has been no decision from the DGT.

³⁴ See Budiarto Law Partnership Newsletter Issue 2, December 2013 "ownership of the Regulation No. 14 trust asset remains with the settlor and as such, if the settlor becomes insolvent, the trust asset is subject to the claims of the settlor's creditors." See also <http://www.companyformationindonesia.com/establish-a-trust-in-indonesia>

70. As the P2P lending market matures in Indonesia, securitization of loans may eventually be a way to significantly expand the market. Other jurisdictions such as the U.S. and UK have demonstrated that having the ability to issue securities based on a pool of P2P loans can help drive higher capital investment in the market, because such instruments provide a clear structure and some potential for liquidity, which are features attractive to institutional investors. The Indonesian market may not be ready for securitization at the moment: loan tenors are relatively short, with invoice financing averaging 2 months, while cash loans may be shorter. Also, it is not clear there is enough volume to structure a dynamic pool. The OJK regulation specifies: “In conducting its business activities, a Provider shall be prohibited from...issuing debt securities” (Chapter X. Prohibitions. Article 43). Whether this applies to funding of loans or to the capital of the platform is not clear. The intent of this prohibition should be clarified to the market so that securities issuance can become part of the funding structure for P2P lending, when the market is ready for it.

B. Non-Regulatory Barriers/Constraints

Low Financial Literacy

71. Low financial literacy represents one of the most important demand-side barriers to financial inclusion in Indonesia. According to the National Literacy and Financial Inclusion Survey (SNLIK), OJK in 2016, **only 29.7 percent of Indonesians have the knowledge, skills and confidence to say that they understand their financial products and services in full.**³⁵ Given the low levels of financial literacy and limited understanding of financial product offerings, The National Strategy for Financial Inclusion (SNKI) has made financial education one of the 5 pillars for their strategy to achieve the ambitious target of 75% financial inclusion by end 2019. The lack of adequate financial literacy contributes to exposing individuals to risks and frauds in the country. SNKI noted that there are different financial literacy programs embedded within the different ministries in the country, however, many of them are not related to digital financial awareness, which is also an important barrier to tackle.³⁶ The lack of financial literacy among the unbanked and the poor has also been highlighted as a constraint to further growth by FinTech firms, banks and other non-bank financial institutions. A survey conducted by Deloitte Consulting and AFTECH in 2016 highlights that FinTech firms in Indonesia feel that low financial literacy is a major challenge for further expansion and scale up in the country (Daily Social ID, 2016). The recent FinTech annual survey conducted by AFTECH in 2018 reiterates the point that low financial literacy is a key barrier for FinTech firms to expand their services to the unbanked.

Internet and Mobile Infrastructure Issues

72. While significant progress has been made in mobile phone, smart phone and internet penetration over the last few years, low and unreliable connectivity remains an issue, especially in rural and remote areas of Indonesia which have the highest levels of financial exclusion. Indonesia is in a unique position relative to other emerging and developing economies since it enjoys high mobile

³⁵ <https://www.ojk.go.id/en/berita-dan-kegiatan/siaran-pers/Documents/Pages/Press-Release-OJK-Announces-Higher-Financial-Literacy-and-Inclusion-Indices-/SIARAN%20PERS%20SURVEI%20LITERASI%20DKNS%20%20final-ENGLISH.pdf>

³⁶ Based on interview with Pak Djauhari Sitorius, Head of PMO at SNKI on December 11, 2018.

phone and internet penetration rates relative to the country's population. However, high penetration rate is mainly observed in urban areas and among the upper and middle class. The Global Findex survey points out that the issue of connectivity is concentrated among the poor and people living in rural areas. The Findex data shows that the richest 60% of households in Indonesia are 15 percentage points more likely than the poorest 40% of households to have a mobile phone, compared to 9 percentage points globally (Demirgüç-Kunt et al., 2018a). **Unreliable and unstable internet network connectivity has been noted by agents as a key supply side barrier to growth of their digital financial services business in villages and rural areas, which results in low transaction activity and user adoption (MicroSave, 2017).** Due to Indonesia's geographic landscape of more than 17,000 islands, it has been a challenge to provide reliable internet and mobile phone connectivity across the entire country. Finally, based on interviews with founders of FinTech firms focused on serving the poor and the unbanked in rural and semi-urban areas, it was cited that **one of the biggest challenges for further expansion is the lack of internet access and connectivity for users.**³⁷

Large Talent Gap

73. The limited talent pool of technology professionals is a key challenge highlighted by investors to drive higher financial inclusion in Indonesia. VC firms and corporate investors agree that the limited talent pool in Indonesia is a major barrier for the further scale up of FinTech firms. Key areas that have the largest talent gap are: software engineering, risk management, advanced analytics / data scientists, and cybersecurity.³⁸ According to the Google-A.T. Kearney study published in 2017, every year Indonesia only produces 278 software engineers per 1 million population, far behind Malaysia (1,834), Thailand (1,248), Vietnam (1,094) and India (1,159) (Google-A.T. Kearney, 2017) The talent gap is leading FinTech firms to look outside of Indonesia to find the required technical resources.

Digital Payments Interoperability

74. There has been a proliferation of bank-led, telco-led and FinTech e-money issuers in Indonesia, enabling the use of digital payments; however, active usage and customer adoption still remains low. One key reason for the low active usage is the lack of interoperability between e-money issuers and other payment services providers. Interoperability refers to the ability of different systems to be interconnected, so that all participants are able to operate across all systems. In Indonesia, most of the e-money issuers operate in a closed loop where they are limited within their own system. Therefore, it is extremely difficult to scale up and increase customer adoption. There is also a lack of interoperability within the different digital payment schemes for LKD agents, which results in sub-optimal efforts to increase access to the unbanked and the poor. Interoperable digital payment systems can provide lower-cost transactions, enabling greater participation in the payment system and increasing payment efficiencies. The National Payment Gateway regulation enacted in 2017 can address the interoperability issues highlighted above, however, the implementation of the National Payments Gateway has not yet taken into account FinTech firms and agent networks.

³⁷ Based on interviews with Amarta and Mekar during the week of December 10, 2018.

³⁸ Based on interviews with Mandiri Capital, Kejora and Alpha JWC Ventures during the week of December 10, 2018.

Credit Bureau Technical Issues

75. OJK requires P2P lending platforms to access and report to a credit bureau, but several technical issues have surfaced. Credit bureaus collect credit related information from SLIK, launched by OJK in 2017, on customers from banks and other regulated financial institutions. Credit bureaus may also capture additional information from other sources directly and add it to the credit history. However, credit bureaus in Indonesia are only providing credit reports and alerts, and only recently starting to develop credit scoring model as their database is relatively new. While there are currently 3 credit bureaus licensed by OJK and the only requirement for Fintech companies is to become member of the respective credit bureau and submit data based on the rules established by the credit bureau, Pefindo, the largest credit bureau in Indonesia, shows some capacity constraint. So far, Pefindo has accepted 18 P2P lending platforms as members, giving priority to those that already applied for a license from OJK. Industry participants understand that Pefindo's infrastructure cannot support immediate onboarding of all P2P lending platforms currently registered with OJK, which would generate a lot of transactions. Many P2P lending platforms target the unbanked/underbanked segments whose members are not yet registered in SLIK, and strive to leverage alternative data such as cell phone data, within the regulatory constraints. Those un(der)banked customers can eventually graduate to being banked as they build a credit profile accessible to banks via the bureaus. Furthermore, P2P lending can also provide important competition to banks and other finance companies serving customers already registered in SLIK. Development of balanced diversified portfolios by P2Ps is important for their stability and sustainability. The requirement that P2P lending platforms access and report to a credit bureau recognizes the importance of developing over time a unified pool of credit information to which all registered lenders contribute and which all can access.

In addition, credit bureau inquiries are charged the same whether there is a hit or no hit in any inquiry. Most inquiries made to FinTech customers are no hit, which means that there is no previous history in the database for such customer – as they do not have any prior credit with banks and financial institutions and might be the case that they do not have yet an existing facility with any other P2P lending either. FinTech firms need to pay for every inquiry, resulting in additional expense that generates limited useful information that could reduce credit losses.

C. Gaps and Opportunities

In addition to the regulatory and non-regulatory barriers hindering the growth of FinTech firms for financial inclusion, there are gaps that are currently not being addressed as well as opportunity areas where there should be an increased focus.

Digitization of Other Deposit Taking Institutions (ODTIs) which provide microfinance through FinTech Solutions

76. Indonesia has a diverse and fragmented microfinance landscape with more than 140,000 Other Deposit Taking Institutions (ODTIs) ranging from formal, semi-formal to informal institutions. All of these ODTIs provide microfinance services and can be categorized into 2 groups:

- Financial Cooperatives (KSP / USP) – there are approximately 80,000 cooperatives in the country with 22 million members, and they are governed by the Cooperative Act of 25/1992. The Cooperatives are regulated and supervised by the Ministry of Cooperatives (MoC)

- Microfinance Institutions (LKM) – there are approximately 60,000 microfinance institutions which currently operate in a legal grey zone and foreseen to come under the purview of the Microfinance Institutions Law of 1/2013. OJK regulates and supervises microfinance institutions.

77. Digitizing ODTIs which are providing microfinance services is an attractive opportunity to increase scale and reach more of the BoP and MSMEs. ODTIs have played an essential role in driving financial inclusion for the poor and microenterprises in rural areas. However, most of these organizations still rely on outdated technology and paper-based systems which hinders their growth, scale and scope of product offerings unless they have large amount of resources available. Technology is a key enabler to financial inclusion, and the digitization of MFIs is an opportunity for these organizations to leverage their customer base and outreach to rural areas and low-income clients. Digital solutions help financial institutions deepen customer engagement and product usage, and in turn promote and increase financial inclusion.³⁹

78. Digitization of ODTIs through FinTech solutions provides significant benefits to these organizations and their customers helping to drive higher financial inclusion. Digitized operations and alternative distribution channels bring a range of benefits to microfinance providers and their customers that traditional branches and paper-based banking cannot provide. Some of these benefits are listed below:

- **Convenience and proximity.** Digital financial services offer more convenience for customers, as they open access to a broader range of financial services (credit, but also savings, insurance and payments), and allow them to access these products from their homes without the need to travel to physical branches
- **Faster transactions.** Digital finance enables customers to transact, save, take out and repay loans in seconds, or even pay insurance premiums, without having to travel or close their business. It can also reduce the length of microfinance group meetings.
- **Greater operational efficiency for the ODTI.** Using digital solutions increases the productivity of ODTIs as staff do not have to spend time filling out paper forms before entering data into the system, while introducing automated processes and using e-money for transactions reduces staff fraud, errors and the risks associated with handling cash
- **Reaching rural areas at a lower cost.** The cost of using digital devices and operating through agents is about 25 percent lower than opening and operating a brick and mortar branch.⁴⁰
- **Client acquisition and diversification of customer base with value-added services.** Equipping field staff with digital devices (smartphones or tablets) to collect savings and/or having loan officers use tablets for loan requests and approvals enables MFIs to increase the amount of savings collected from existing clients and expand their loan portfolios. The convenience of these methods may also attract new customers

³⁹ https://www.afi-global.org/sites/default/files/publications/2018-08/AFI_AfPI_Special%20Report_AW_digital.pdf

⁴⁰ Susie Lonie, IFC, Field Note 7, "Turning MFI Digital Strategies into Reality", available at: https://www.ifc.org/wps/wcm/connect/67a1ee9e-9f95-4baa-8430-2a101ca77a9e/MFI+Digital+Strategy+Field+Note_8.pdf?MOD=AJPERES

One example of an Indonesian ODTI which has undergone a digital transformation is KOMIDA, the second largest cooperative in Indonesia. By digitizing their operations, KOMIDA has been able to realize significant operational cost savings, better serve their customer base, expand their reach with minimal additional resources and reduce fraudulent transactions (Yeow & Lim, 2018).

79. Although there are significant financial benefits to digitizing ODTIs, the initial investment required for the digital transformation can be very high and difficult to justify for the smaller MFIs. Additionally, other challenges such as poor technology infrastructure, training of personnel and customers, and the need to integrate with other platforms can add up to the software implementation costs, making it economically challenging for ODTIs to consider this alternative.

Reduce Barriers to ODTI Partnerships with Large Banks Serving as Platforms to Provide FinTech Solutions

80. An innovative approach to help ODTIs digitize some of their key operations and transactions is by building a partnership program where some of the larger banks in the country can serve as a platform to provide FinTech solutions to these smaller institutions. An example of this approach is Project i2i launched by Union Bank of the Philippines in November 2018.⁴¹ The objective of this project is to build a platform that connects rural banks in the Philippines, which have been traditionally excluded from mainstream payment networks and infrastructure, to each other and to national commercial banks, using blockchain technology. Project i2i is taking advantage of blockchain to create a decentralized, cost efficient, and near real-time payment network that will not rely on existing payment infrastructure and intermediaries, such as SWIFT.⁴² A similar approach could be envisioned in Indonesia, as well as potentially offering other digital capabilities to the ODTIs.

Open Banking

81. Open banking can be a catalyst to more collaboration between FinTech firms and financial institutions, which in turn can drive higher financial inclusion in Indonesia. Open banking can be defined as a collaborative model in which banking data is shared through Application Programming Interfaces (APIs) between two or more unaffiliated parties to deliver enhanced capabilities to the marketplace.⁴³ Open banking requires banks and other financial institutions to open their data to third parties like FinTech firms, but only at the customer's request. Thus, open banking essentially requires interoperability between providers so that users can conveniently switch between them for different transactions. Another important benefit is that open banking can potentially pave the way to greater competition, lower prices and a wider range of more efficient services. By allowing authorized third parties (i.e. FinTech firms, technology providers, etc.) to access banking data with consumers' permission, open banking could contribute to lowering barriers for those companies providing financial inclusion services.

⁴¹ <https://media.consensys.net/project-i2i-an-ethereum-payment-network-driving-financial-inclusion-in-the-philippines-233e5eda135e>

⁴² Ibid.

⁴³ <https://www.mckinsey.com/industries/financial-services/our-insights/data-sharing-and-open-banking>

82. There is strong interest in open banking and the use of APIs in Indonesia, with several banks taking the lead. Bank of Central Asia (BCA, the country's largest private bank) has set up a developer portal with 19 APIs, and in February 2018, the bank launched its corporate and SME cash and liquidity management platform, benefiting over 275 SMEs by granting access to the bank's credit facilities. Another example is Bank Bukopin, which focuses on SMEs and the middle market. The bank created an incubator in 2017 called BnV Labs, which allows FinTech firms to access the bank's APIs and other ecosystem partners. BRI claims to be the first bank to get an API product approval from OJK – in total, the bank offers 40 different APIs, with the top 3 being balance inquiry, funds transfer and virtual payments.

83. By having open banking, the banks can improve the customer experience, add new revenue streams and create a sustainable service model for underserved markets. BRI's vision to progress from bank as a service to bank as an ecosystem relies on the use of APIs. For instance, official store Indonesia Mall powered by BRI allows SMEs to go online. The bank's service center helps the SME open an online store on the top e-commerce websites (Bukalapak, Tokopedia, Shopee, Blanja, Blibli). So far, 60 SMEs have participated in the program. Through the e-commerce sites, the SMEs sales have exponentially grown, and BRI provides the working capital loans needed. BRI cannot earn non-financial services revenue, so it doesn't charge for the service center but can make a margin on the lending that gets enabled. Given that banks cannot earn revenues outside banking activity, there may be limits on how they can monetize the use of APIs.

84. While open banking offers many benefits, it is based on the broad sharing of customer data across the financial system, which will require commensurate protection of customer data. Deliberations over data rights often focus on privacy issues, as increasing connectivity makes customers more vulnerable to hacks such as improper access to and use of their data by malicious third parties. Consequently, customer protection needs to be considered when implementing Open banking regulation. To address these concerns, in November 2019, BI issued a blueprint titled Bank Indonesia: Navigating the National Payment System in the Digital Era. The Blueprint looks into important aspects in the implementation of open partner API (Application Programming Interfaces), including customer data protection concerns, customer protection in general and risk management. With this as background, BI expects to standardize Open API, encompassing, among other things, the standards on data, technical aspects and governance issues. The standards on data are envisaged to encompass the scope and extent of data sets that may be disclosed by banks and fintech players. While for the governance aspect, BI is looking at consumer consent, dispute resolution and API life cycle aspects.

Reduce Barriers to Partnerships between FinTech Firms and Financial Institutions

85. Partnerships between FinTech firms and financial institutions can bring significant benefits to both parties and can be extremely effective in expanding access to formal financial products to the unserved and underserved in Indonesia. With partnerships, Fintech firms get to scale their technology and access capital to grow, while financial institutions gain assistance in their efforts to improve product offerings, increase efficiency and lower costs (Ferenzy, Kelly, & McGrath, 2017). These mutual benefits allow the partners to offer high quality, more convenient and affordable products that meet the financial needs of the unbanked and underbanked. In the era of digital disruption, banks and other financial institutions are realizing that in order to survive and remain relevant with their customers they

need to transform to a digital business model, but this process is costly and time consuming. Therefore, building partnerships with FinTech new ventures can be a more cost-effective alternative and open the door to new customer segments which banks were unable to reach economically in the past. These partnerships may face regulatory barriers such as outsourcing limitation. Pursuant to OJK Regulation No. 9/POJK.03/2016 on Prudent Principles for Banks that Outsource Services to Other Parties ("POJK 9/2016), banks can delegate activities to any third party only for auxiliary activities. This potentially limits the type of services that Fintech Firms can offer to banks.

86. By partnering with banks, FinTech firms can participate in bank-led programs which are driving financial inclusion by helping to make the processes more convenient and efficient. One example where partnerships between FinTech firms and banks could be valuable in Indonesia is in the digitization of G2P payments. Indonesia has made progress over the last few years in digitizing social benefits programs for the poor; out of the 89 G2P social benefit programs in Indonesia, 3 of them have been digitized⁴⁴, and in the near future, 1 additional social benefit programs⁴⁵ will be digitized.⁴⁶ All of the digitized G2P payments are done through the banks in the country. However, most of the accounts remain dormant, or are only used to withdraw the money immediately when received. To drive higher usage, awareness and convenience, FinTech firms could partner with banks to become alternative distribution channels for G2P payments, similar to the role of Laku Pandai agents / e-warong.

87. A number of banks have already developed strategic partnerships with FinTech firms, with the regulators encouraging the collaboration between the two parties. For example, Investree, one of the largest P2P lending platforms in Indonesia focused on SME lending has partnered with BRI. Through the Investree platform, BRI is able to tap into creative industries (film, media, advertising) which typically do not have collateral, but have invoices. BRI sets its risk parameters, Investree sends the clients, and BRI chooses on a per transaction basis. Investree then services the loan (manages the invoice, repayments). There appears to be potential for regional and rural banks to partner with FinTech firms. These banks may have sufficient liquidity but lack borrowers or the ability to underwrite and service certain borrowers. Rural banks could invest via P2P lending platforms, which would also help diversify beyond a narrow geography. For P2P lending platforms, the rural banks could help provide customers. OJK is working to encourage collaboration of FinTech companies with regional and rural banks. It is also conducting workshops for banks on specific topics such as IT, Fintech, capital markets, and housing finance.

88. Although partnerships between FinTech firms and banks represent a win-win situation for both parties and can drive higher financial inclusion, there are a number of challenges that need to be addressed. First, sometimes it is difficult for banks to identify the right FinTech solutions that could help them solve their customer's and/or internal business process issues. The process to evaluate and select the right partners can be lengthy – in some cases, it can take more than 1 year – and involve many different departments within the bank. Another issue which exacerbates the length of time is that banks want to carefully vet FinTech firms to make sure they are viable business models. Another

⁴⁴ PKH, BPNT and PIP

⁴⁵ LPG

⁴⁶ Based on interview with Bank Indonesia's FinTech Team on December 12, 2018.

challenge is the differences in culture between banks and FinTech firms. In general, FinTech firms tend to be small, highly entrepreneurial and innovative; on the other hand, banks tend to be large, highly risk averse and comfortable with the status quo. These differences can make it challenging in forging strong partnerships. Finally, a lack of consistency within and across regulators may pose challenges to enabling these partnerships. Cases were cited of a bank-FinTech partnership being approved by the FinTech side of the regulator but blocked by the bank supervision side. Across regulators there are now different requirements for different institutions. For example, OJK requires regular bank and financing loans to have a wet signature but permits digital signatures for online lenders.

BAB V

RECOMMENDATIONS ON HOW TO ADDRESS BARRIERS / CONSTRAINTS, GAPS AND OPPORTUNITIES



V. RECOMMENDATIONS ON HOW TO ADDRESS BARRIERS / CONSTRAINTS, GAPS AND OPPORTUNITIES

A. Recommendations to Address Regulatory Barriers/Constraints

This sub-section summarizes the key recommendations for potential regulatory barriers/constraints that are directly impacting FinTech firms from driving higher financial inclusion. Certain aspects of the identified regulatory barriers / constraints are being partially addressed by the regulators in Indonesia – namely, e-KYC process and digital payments interoperability. In addition, several areas have been identified which may warrant further clarity from regulators but are not directly impacting FinTech firms' ability to target the unbanked and underbanked.

Agent Networks

89. As part of the implementation of Indonesia Financial Support Framework (FISF), the World Bank is engaged in a technical assistance program on the harmonization of agent banking models.

The main objective of the program was to develop recommendations on how to improve Indonesia's agent network policy, including the regulatory, supervisory and oversight frameworks, based on surveys and analyses conducted. The findings from the regulatory review exercise are presented in Box 2.

BOX 2. Financial Inclusion Support Framework (FISF) Harmonization of Agent Banking Models – Key Findings and Recommendations⁴⁷

In October 2018, the World Bank team conducted a mission on the harmonization of agent banking models. The main findings of the surveys and regulatory analyses were as follows:

- Laku Pandai and LKD regulations have very detailed approach which may constrain business choices on how to organize agent networks
- Different scope of the regulations (Laku Pandai refers to agents for banks while LKD both banks and non-banks) raises risk of regulatory arbitrage that may distort competition. Overlapping and inconsistencies between the two regulations have also been identified, which require alignment to avoid confusion

Based on these findings, the World Bank recommended the revision of BI and OJK's current policy framework, covering three interconnected areas: (i) developing a policy vision to be shared by the authorities and used by both to guide their policy decisions and mutual cooperation; (ii) revising each policy and regulation following the agreed common policy vision; and (iii) promoting greater role of the National Council for Financial Inclusion in tracking the progress of both programs. The common policy vision entails the adoption of a single "Principles-based Policy Preamble" which should guide to coherent policy decisions by BI and OJK, and include the following principles: financial stability, market competition, consumer protection and sound market conduct, clarity of mandate, adoption of functional, risk-based and proportional regulations and inter-institutional cooperation.

⁴⁷ Contents of this box are part of the Aide Memoire on the Harmonization of Agent Banking Model

The following recommendations, specifically for the LKD and Laku Pandai programs, were also suggested:

LKD Program

- **Infrastructure and regulation should be improved.** Interoperability should be required for all authorized retail payment schemes, and all financial institutions should be given access to the national payments system through direct or indirect participation.
- **An infrastructure for instant real-time payments should be established,** which would allow for funds to be instantly transferred across bank accounts on a mobile platform
- **Consolidate all revisions of the regulation** into one single document.

Laku Pandai

- **Regulation should be simplified and liberalized.** The number of rules and restrictions should drastically reduced, and rules should be simplified to the extent possible. In addition, the provisions for the Basic Savings Account are too detailed, with the result that banks are left with very limited autonomy to compete effectively for offering it and find it unattractive as a profit-making business.

90. As part of the interviews conducted with FinTech firms, banks and other stakeholders in the ecosystem, there are particular regulatory modifications recommended, which could directly help FinTech firms drive higher financial inclusion. These recommendations match the recommendations of the World Bank's technical assistance program discussed above.

- **Remove the restriction on non-banks (i.e. FinTech firms, MNOs) to recruit individual agents under the LKD program.** The regulatory restrictions on non-banks for recruiting individual agents significantly restrict their ability to serve the unbanked and under-banked segments significantly. Removing the restriction creates a level playing field with banks, which currently have an advantage to use individuals as agents and promotes healthy competition. On the other hands, to ensure the viability and capacity of these non-banks, they should comply with the same degree of compliance requirements to that of banks. Other emerging markets such as Kenya, India, Bangladesh and Pakistan allow non-banks and banks to use individuals as agents. It is essential for agents which are individuals to follow the AML / CFT standards as well as consumer protection regulations.
- **Explore the possibility of third party agent network managers for both the Laku Pandai and LKD programs.** Third party agent network managers can greatly assist financial service providers in identifying agents and helping them get started and manage agent operations more efficiently. Third party agent network managers can also assist in recruiting, training, and on-boarding agents, as well as provide marketing support, liquidity management, monitoring, and supervision of agents. Current regulation does not permit the use of agent network managers for banks and non-banks; however, it would be helpful to modify the regulation to allow it. As the digital financial services market matures in Indonesia with providers offering more complex products and services, the service levels of agents will be critical to ensure the success of financial inclusion initiatives in the country. Various business models and commercial arrangements among the banks/non-banks, the agent network managers, and the individual agents can be further assessed to ensure that this model would work for the Indonesian local context. The concept of third-party agent network managers has been very successful in India, where third-party

agent network managers recruit and manage 65% of all agents.⁴⁸ In addition, there are FinTech firms such as Zoono in Africa, which uses third party agent network managers. **To mitigate the concerns of regulators, service providers (in this case, banks and non-banks) should be made accountable for all activities performed by the third-party agent network managers on their behalf.** This ensures that service providers conduct proper due diligence in selecting appropriate managers and introduce sufficient monitoring and control measures to supervise the operations of the third-party agent network managers.⁴⁹

Since work is already under way as part of the World Bank's technical assistance program, it is envisioned that these regulatory modifications can be addressed in the short to medium term. Ultimately, the modifications in the Laku Pandai and LKD regulations proposed above closely follow the Bali FinTech Agenda's third principle: reinforce competition and commitment to open, free and contestable markets.

E-KYC Process / Digital ID

91. To improve the KYC process, OJK and BI have already stipulated the use of non face-to-face verification through biometric authentication in the AML/CFT regulations, but the actual implementation requires close partnership with Dukcapil. The e-KYC process will greatly speed up the account opening process. As part of the e-KYC process, one of the options being explored is the use of automated biometric authentication against the biometric data in the SIAK database to verify the customer's identity, instead of using an identity document. The World Bank performed a legal review to evaluate whether the legislative and regulatory environment would support the introduction of automated biometric authentication financial institutions for the verification of a customer's identity. The legal review's objective was to also identify relevant legal issues and possible need for regulatory reform. The key findings showed that there are no legal obstacles for the implementation, and slight revisions to clarify AML/ CFT of BI and OJK regulations should be considered to allow automated biometric authentication. Several pilots have been carried out by Dukcapil to test the implementation of biometric authentication, especially with fingerprint and facial recognition, involving the private sector and other government agencies (SNKI). Simultaneously OJK is also reviewing the business models of third party E-KYC providers that can help FSPs verify the identity of prospective customers. It is recommended that OJK and other relevant government stakeholders (including SNKI and the Regional Team for Financial Access Acceleration (TPKAD)) assess and review these pilots to feed into the authentication system design at scale.

P2P Lending Regulation

92. There are several areas in the P2P lending regulation which OJK may want to consider revising and/or provide more clarity to aid P2P lending platforms to scale up and target more the unbanked and underbanked.

- **Licensing** – It is recommended that OJK provide more clarity on the licensing process for platforms that have already finished the one-year under registration, as well as speed up the licensing process

⁴⁸ <https://www.microsave.net/2018/01/29/third-party-agent-network-managers-the-missing-element-in-indonesias-dfs-sector/>

⁴⁹ Ibid.

- **Automated / Programmatic Lending** – That the P2P investor makes the lending decision is not explicit in the P2P regulation but has been understood by all stakeholders to be a defining characteristics of P2P lending. Automated lending against an investor’s pre-defined criteria allows investors to more easily diversify their P2P loan portfolios or deploy larger amounts of capital efficiently. In other countries automated deployment is a key component of attracting institutional investors, who generally will not wish to examine small loans individually. The participation of institutional investors as lenders can lead to significantly higher scale and growth of P2P lending platforms. Current interpretation of the P2P regulation with respect to how the investment decision is made is flexible, allowing P2P lending platforms to offer programmatic lending to investors. This interpretation has not been tested in the courts, however. In particular, the question of who made the lending decision when the investor specified a desired risk score and the platform determined that score for a given company could be subject to differences of opinion. OJK should consider providing more clarity in the definition of P2P lending and specifically address programmatic lending in the regulation, to avoid uncertainties in the event of future legal challenges.-
- **Resolution plans** – OJK should consider requiring P2P platforms have a resolution plan that, among other elements, designates a backup third party servicer to service outstanding loans in the event the P2P lending platform goes bankrupt or otherwise ceases operations. This issue has been put forth as an agenda in the upcoming revision to OJK regulation.
- **Trust Framework** – OJK should explore with the relevant authorities and experts the introduction of trust structure that would better protect beneficiaries in the P2P and other contexts. Although not part of the P2P regulation per se, this would enhance the protection of P2P lenders. Trust Framework has been governed under sectoral regulation, such as capital market regulation or banking regulation. A potential regulatory avenue to secure a Trust Framework for P2P lenders may be through revision of the Fund Transfer regulation, which is under the purview of BI.
- **Securitization of loans** – OJK should explore piloting of securitization of loans if there is any demand from the market, which can drive higher capital investment to P2P lending platforms.

93. Although they don’t directly constrain FinTech firms from targeting the unbanked and underbanked, there are a few additional areas which regulators should consider revisiting in the P2P lending regulation and oversight framework. These areas are as follows:

- **Collection standards** – Develop collections standards and oversight to eliminate aggressive collection behavior
- **Tax status** – Clarify tax status for P2P lending platforms and investors
- **Mobile data for credit scoring** - Enable use of alternative data from mobile phones, under appropriate client consents and oversight.

B. Recommendations to Address Non-Regulatory Barriers/Constraints

Low Financial Literacy

94. The use of digital technologies can be an effective way to conduct financial education programs, and FinTech firms can play a role in educating their customers through innovative business models. Government programs to promote financial literacy should explore leveraging innovative technologies to support the objectives. Technology offers exciting opportunities to communicate with more people at the right time. This includes communications linked to electronic transactions, as well as interactive courses and learning games. For instance, Danabijak, a P2P lending platform that serves underbanked and unbanked consumers in Indonesia, uses gamification to teach their customers the basic concepts of loans, savings and other important financial topics. By participating and completing different “games”, the borrowers can earn incentives such as lower interest rates on their loans. Crowde, an Indonesian FinTech P2P lending platform serving the agricultural sector, has embedded educational programs for farmers, teaching them about savings and how to best manage their finances. Another example is Halofina, an Indonesian FinTech which uses artificial intelligence (AI) to help its customers manage their personal finances and develop investment strategies according to their financial abilities. The company’s vision is to enhance lives through financial education and solutions. It is important to note that in order to provide financial literacy to the poor and the unbanked, it is essential to design products that are relevant, targeted and easy to use and understand. These alternative financial literacy programs offered by FinTech firms can complement existing government programs, such as the issuance of e-book and other public outreach campaigns initiated by OJK and BI. FinTech firms can also complement programs initiated at the regional level by the regents or mayors that have partnered with OJK (known as TPKAD, or Regional Team to Accelerate Financial Access) to better understand the local context or culture suitable to such specific regions.

Digital Payments Interoperability

95. Bank Indonesia is leading two initiatives which will enhance digital payments interoperability in the country: (1) National Payments Gateway (NPG) and (2) QR Payment Code Standardization (QR Indonesian Standard). Several phases of the NPG are live but FinTech firms and agent networks are not yet connected. To promote fair competition and open markets, interoperability should be required for all authorized payment schemes, including LKD agents and e-money transaction accounts. In particular, direct or indirect participation in the NPG should be allowed to all banking institutions (including rural and development banks), microfinance institutions, payment gateways, and all FinTech firms that can facilitate the operation of electronic exchange platforms. While the regulation captures all issuers, including e-money issuers, the implementation of the NPG has not yet taken place for FinTech firms and LKD agents. Additional work which is beyond the scope of this study is needed to understand the economic impact of the full implementation of the NPG.

Mobile and Internet Infrastructure and Large Talent Gap

96. To address the mobile and internet infrastructure issues, Indonesia is finalizing the Palapa Ring Project, which will provide internet and mobile connectivity to all of Indonesia. The Palapa Ring Project, one of Indonesia's priority infrastructure projects, involves an undersea fiber optic cable network that stretches across 13,000 kilometers and an onshore network of nearly 22,000 kilometers. The project aims to provide fast broadband Internet to Indonesians in both the urban and rural areas. The eastern package of Palapa Ring was launched in October 2019. Total estimated cost of the project is 14 trillion IDR, or approximately 1 billion USD.⁵⁰ As this package has been completed, the Government has already moved forward to next step implementation of middle and last mile delivery for both fixed and mobile broadband. In order to be more in line with the financial inclusion goal, infrastructure programs led by the Ministry of Kominfo should collaborate with OJK, BI, and regional teams responsible for accelerating financial inclusion at district/municipality level (TPKAD). The regional teams can better inform the specific areas or populations that may be prioritized based on the financial access gap.

97. To address the talent gap, more work is needed to evaluate how to best solve this issue. The large talent gap is common across a lot of the ASEAN countries, and a wide variety of general alternatives have been suggested, such as providing incentives for VC funds and angel investors to invest in more FinTech startups focused on financial inclusion, as well as government-led funds and incubator programs that target startups willing to help the unbanked and MSMEs. However, an assessment is required in Indonesia to better understand what the key factors are leading to the large talent gap, and what would be the most effective ways to address this issue.

Credit Bureau Technical Issues

98. To address the technical issues with Pefindo and the lack of coverage of P2P lending data by credit bureaus, AFPI is creating an independent, complementary credit risk database that captures all borrower exposures. Specifically, the database will collect 84 different data elements, including payments, and eventually it will be connected to Pefindo and create a single pool of credit data.⁵¹ Another issue is payment for every credit inquiry even if there is no hit. It is recommended that credit bureaus reach an agreement with banks and fintech lenders alike to create a different enquiry price for no hits than when a credit history is available. This is common practice in other markets, recognizing that a populated data record is more valuable than selling an empty data record, and the same price for both could only prevail due to monopolistic practices and users who have no choice but to purchase, e.g. due to regulatory requirements to do so. For the development of the interim shared database for borrower exposures of P2P lending platforms, it is recommended that AFPI follow the General Principles of Credit Reporting published by the World Bank in 2011. The General Principles outline requirements related to data and data processing, governance and risk management, legal and regulatory environment and cross-border data flows. Please refer to Annex 6 for more details.

⁵⁰ <https://www.thejakartapost.com/news/2018/05/28/indonesian-govt-expects-to-complete-eastern-palapa-ring-by-september.html>

⁵¹ Information exchange amongst P2P platforms is permitted under the P2P regulation (Article 23) "A Provider may cooperate and exchange data with information technology-based support services providers in order to improve the quality of Information Technology-Based Loan Services."

C. Recommendations to Address Gaps and Opportunities

Digitization of ODTIs through FinTech Solutions

99. To digitize ODTIs through FinTech solutions, two innovative programs should be evaluated: (1) Digital transformation workshops and (2) Industry sandbox. Digital transformation workshops and other capacity building programs have been successfully implemented in other parts of the world and are partially funded by MFIs and development organizations such as IFC, the World Bank, FMO (Dutch Development Bank) and the Inter-American Development Bank (IADB). NGOs such as Omidyar Networks and Financial Sector Deepening Africa (FSDA) have also financially supported these initiatives. Another way to digitize ODTIs in Indonesia is by creating direct partnerships with FinTech firms, which may be able to assist in the last mile distribution of financial products and in digitizing the internal operations of these institutions. However, the process of selecting the right partner can be time consuming for the MFIs and FinTech firms. On the other hand, the ODTI may have concerns about the viability of the FinTech firm, since in a lot of cases, these startups are fairly young enterprises. The objective of the industry sandbox is to allow the financial institutions and ODTIs to test the products and services of multiple FinTech firms at the same time, and vice versa, thereby making the process more efficient and less risky. It is important to highlight that both the FinTech firms and the ODTIs may need to significantly spend resources (financial and people) to implement these initiatives, but the cost savings and higher revenue from an expanded customer base should more than compensate the upfront investment.

Open Banking

100. Open banking regulations have been enacted in different parts of the world using similar frameworks and provisions. The UK Open banking regulation obligates the UK's 9 largest banks to release their data in a secure, standardized form, so that it can be easily shared between authorized organizations online. Currently, the UK Open banking regulation only allows the sharing of checking account information, as long as the customer provides explicit approval. In Mexico, Open banking regulation is significantly broader and more ambitious than the UK. For instance, it covers all financial institutions, while the UK's regulation is limited to the top 9 banks. Also, Mexico's Open banking regulation covers all types of transaction data (UK only covers checking account data), which will require strict consent from the consumer. As covered in Section 4, Indonesian banks have already introduced APIs, which are being used by some FinTech firms, SMEs and e-commerce players. BI has also approached 10 banks and AFTECH to explore open APIs, and how to best collaborate with FinTech firms on this initiative. Therefore, we encourage continued dialogue in this topic and look forward to an evaluation of open banking to understand the benefits, challenges and determine if it makes sense to implement in Indonesia.

FinTech Partnerships with Banks

101. From a regulatory perspective, it would be helpful to provide clarity and ultimately consider a regulatory framework that can be used to establish effective partnerships between banks and FinTech firms in Indonesia. By having a regulatory framework in place, it can provide certainty to FinTech firms and banks on how to best proceed in establishing partnerships.

102. Similar to recommendation for the digitization of MFIs, FinTech firms and banks may want to explore building partnerships through an Industry Sandbox. Through an industry sandbox, banks are able to connect with multiple FinTech firms at the same time through the use of APIs and evaluate their products/services in a safe environment. This approach can be more efficient and cost effective than trying to build partnerships with each FinTech firm separately.

ANNEXES



ANNEXES

ANNEX 1. Indonesia FinTech Startup Landscape by Business Category



Note: This chart is representative of the different FinTech new ventures in Indonesia as of May 2018. However, it does not capture all of the FinTech

Source: Indonesia Fintech Landscape Report by Fintechnews.sg

FinTech Digital Lending Landscape by Type of Borrower

Recipients	Product	Startups
Individual/ Consumer	Special Purpose	KOINWORKS, DANA, GRADANA, KIRIACC, PINJAMAN24.ID, DANACITA, dynamic credit, Kitabisa.com, Kredina, cicil
	Payday Short Term	Pinduit, Uangteman
	Pawnshop	PawnHero, Pinjam.com
	Consumptive	KOINWORKS, artemana, SOFIS, JULU, Tunaikita, DISITU, DanaKita, danamas, Ruma, Kredivo, ggc, pinjamaku.com, Kreditrapati, PINJAM WIN/WIN, danabijak, BOS Tunai, tunaiiku, credy, TangBull, Doctor Rupiah, pendanaan.com, CashTada, Shoot Your Dream
	Payroll Financing	tardilite, investree, Awan Tunai
Business	SME Invoice Financing	KOINWORKS, investree, KIRIACC, MEKAR
	SME Long Term Financing	Tanfund, amantha, gandangangan, modalfin, FINTAG, CROWDO, KIRIACC, MEKAR, KIMO, KOINWORKS, IGrow, INDVES, ETHIS CROWD, ALAMI, KAPITALBOOST, Akseleran, Peragano, CR WDE, MODALKU, IWA, pinjamaku.com, danamas, Kitabisa.com

Source: IFC Indonesia FinTech Presentation

ANNEX 2. Payment Services Providers Licensed by Bank Indonesia

E-Money Issuers

No.	Electronic Money Operator	Product Name (Server Based)	Product Name (Chip Based)
1	PT Artajasa Pembayaran Elektronik	MYNT E-Money	-
2	PT Bank Central Asia Tbk	Sakuku	Flazz
3	PT Bank CIMB Niaga	Rekening Ponsel	-
4	PT Bank DKI	Jakarta One (JakOne)	JakCard
5	PT Bank Mandiri (Persero) Tbk	Mandiri e-Cash	Mandiri e-Money
6	PT Bank Mega Tbk	Mega Virtual	Mega Cash
7	PT Bank Negara Indonesia (Persero) Tbk	UnikQu	TapCash
8	PT Bank Nationalnobu	Nobu e-Money	Nobu e-Money
9	PT bank Permata	BBM Money	-
10	PT Bank Rakyat Indonesia (Persero) Tbk	Tbank	Brizzi
11	PT Finnet Indonesia	FinnChannel	-
12	PT Indosat, Tbk	PayPro (d/h Dompetku)	-
13	PT Nusa Satu Inti Artha	DokuPay	-
14	PT Skye Sab Indonesia	Skye Mobile Money	SkyeCard
15	PT Telekomunikasi Indonesia, Tbk	Flexy Cash	iVas Card
16	PT Telekomunikasi Seluler	T-Cash	Tap Izy
17	PT XL Axiata, Tbk	XL Tunai	-
18	PT Smartfren Telecom Tbk	Uangku	-
19	PT Dompot Anak Bangsa (d/h PT MVCommerce Indonesia)	Gopay	-
20	PT Witami Tunai Mandiri	Truemoney	-
21	PT Espay Debit Indonesia Koe	Dana (d/h Unik)	-
22	PT Bank QNB Indonesia Tbk	Dooet	-
23	PT BPD Sumsel Babel	-	BSB Cash
24	PT Buana Media Teknologi	Gudang Voucher	-
25	PT Bimasakti Multi Sinergi	Speed Cash	-
26	PT Visionet Internasional	OVO Cash	-
27	PT Inti Dunia Sukses	iSaku	-
28	PT Veritra Sentosa Internasional	Paytren	-

No.	Electronic Money Operator	Product Name (Server Based)	Product Name (Chip Based)
29	PT Solusi Pasti Indonesia	KasPro (Formerly PayU)	-
30	PT Bluepay Digital Internasional	Bluepay Cash	-
31	PT Ezeelink Indonesia	Ezeelink	-
32	PT E2Pay Global Utama	M-Bayar	-
33	PT Cakra Ultima Sejahtera	DUWIT	-
34	PT Airpay International Indonesia	SHOPEEPAY	-
35	PT Bank Sinarmas Tbk	Simas E-Money	-
36	PT Transaksi Artha Gemilang	OttoCash	-
37	PT Fintek Karya Nusantara	LinkAja	-

E-Wallet Operators

No.	Company Name	Effective Operational Date	Name of Product
1	PT Nusa Satu Inti Artha	8-Nov-17	DokuPay
2	PT Bank Negara Indonesia	26-Jan-18	Yap!
3	PT Espay Debit Indonesia Koe	3-Sep-18	Dana

Payment Gateway Operators

No.	Company Name	Effective Operational Date	Name of Product
1	PT Media Indonusa	6-Nov-2017	Faspay
2	PT Finnel Indonesia	24-Nov-17	Finpay
3	PT Ionpay Network	10-Jan-2018	Nicepay
4	PT Nusa Satu Inti Artha	19-Jan-18	Doku
5	PT Bimasakti Multi Sinergi	21-Feb-18	Winpay
6	PT Aino Indonesia	16-Mar-18	Aino
7	PT Multi Adiprakarsa Manunggal	6-Apr-18	Kartuku
8	PT Midtrans	27-Aug-18	Veritrans
9	PT Pembayaran Lintas Usaha Sukses	16-Oct-18	Espay
10	PT Module Intracs Yasatama	10-Dec-18	Intracs
11	PT MCP Indo Utama	28-Dec-18	MCPayment

ANNEX 3. Summary of Digital Payments Regulation

Regulation on Digital Payments – Summary of Key Provisions

Figure 16. Bank Indonesia Regulation on Digital Payments – No. 18/40/2016

Topic	Description
Min. Capital	3 billion IDR (213 k USD) paid up capital
Active users	All payment gateway Service Providers, and e-wallet Service Providers that have (or plan to have) at least 300,000 active users, must obtain a Service Provider license from BI. While e-wallet Service Providers with less than 300,000 active users do not require a BI license, they are required to file regular reports to BI.
Max. E-wallet balance	10 mn IDR
Feasibility Requirements	Service Providers must implement (i) effective and consistent risk management, (ii) information system security standard, (iii) domestic payment transaction processing, and (iv) consumer protection measures
Currency	Prohibited from using virtual currencies. BI does not recognize virtual currencies as means of payment in Indonesia.
Foreign Ownership Restriction	Principal, Switching Operator, Clearing Operator, and/or Settlement Operator, a company must be in the form of limited liability with minimum 80% local shareholding.

Source: IFC Indonesia FinTech Presentation.

Comparison of Registered vs. Unregistered E-Money User Classification

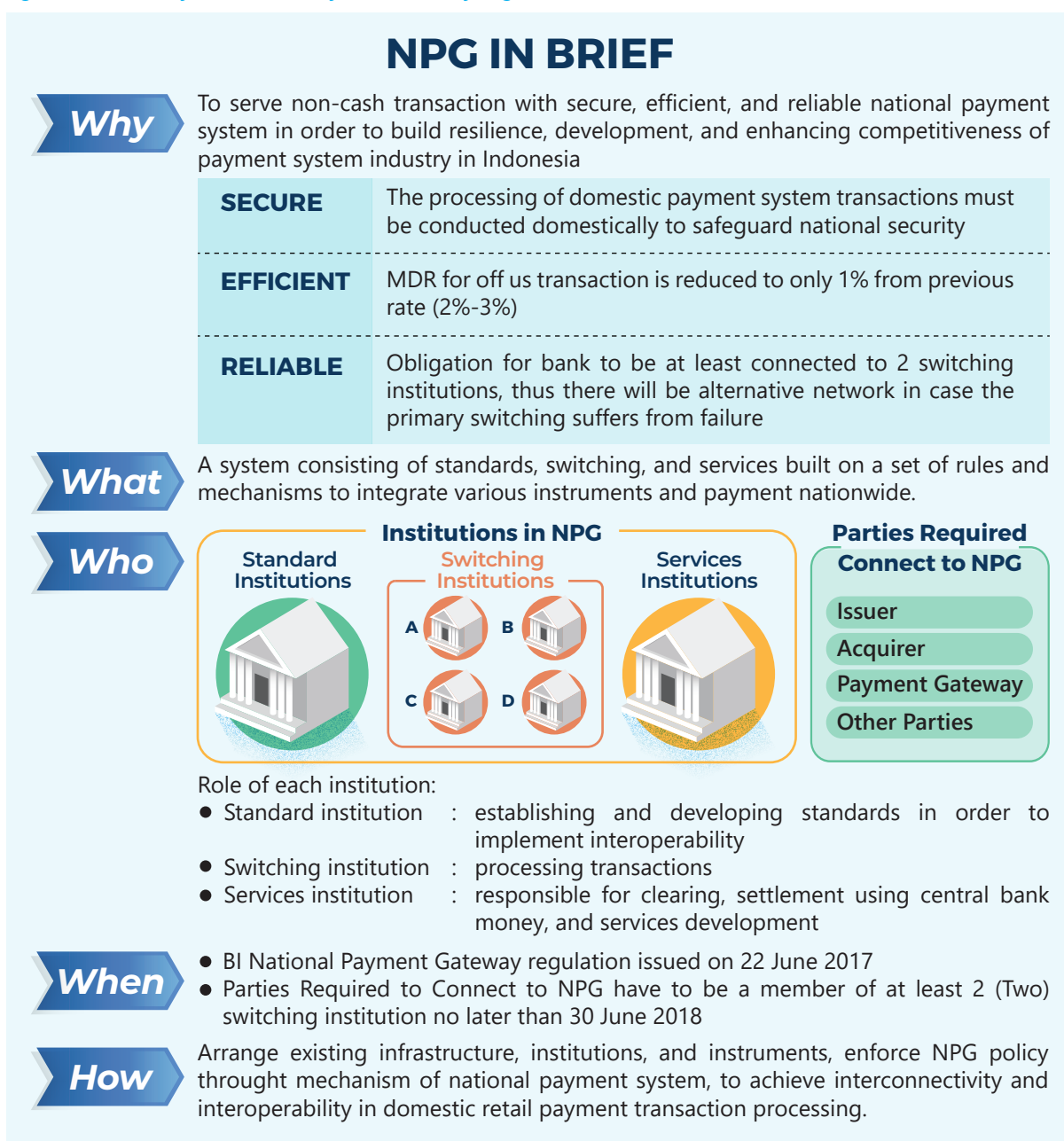
	Unregistered Users	Registered Users
Registration Requirement	E-mail accounts/ mobile phone number	
	Name	Name
	Date and Place of Birth	Date and Place of Birth
	Address	Address
		National ID Number
		Mother's Maiden Name
Deposit Limit	Rp. 1,000,000	Rp. 5,000,000
Monthly Transaction Limit	Rp. 20,000,000	
Service Limit		
Cash Withdrawal	Not Applicable	Can be done in full or partial amount through respective channels (Banks', ATMs, EDCs, or other channels)
Remittance/ Transfer	Not Applicable	Among registered E-money users
		Registered E-money to Unregistered E-money accounts for Top-up purposes

	Unregistered Users	Registered Users
Remittance/ Transfer		From registered user's E-money account to registered user's savings account
		From registered user's savings account to registered user's E-money account
		Government social assistance

Source: Bank Indonesia, MDI Ventures & Mandiri Sekuritas Research

National Payment Gateway Regulation

Figure 17. Summary of National Payment Gateway Regulation (Bank Indonesia)



Source: Bank Indonesia Presentation: Digital Payment Transformation. <https://www.bi.go.id/en/institute/kegiatan-bins/mendatang/Contents/Digital%20Payment%20Transformation.pdf>

ANNEX 4. Summary of P2P Regulation

Figure 18. OJK P2P Regulation – POJK 77/2016

Topic	Description
Min. Capital	Registration: 1 billion IDR (USD 71k); Licensing: 2.5 billion IDR (USD 178 k) paid up capital. Minimum capital is a fixed amount
Loan restrictions	<ol style="list-style-type: none"> 1) No limit on interest rate 2) Loan amount capped at 2 billion IDR (~USD 160k) to a single borrower 3) Rupiah denominated 4) Online
Foreign ownership	Max. 85%
Cash management	Must use escrow & virtual accounts in order to prevent operators from directly accessing the capital flow between lenders & borrowers.
Borrowers	Indonesian citizens or legal entities
Lenders	Open to both local & foreigners, citizens, entities, and International Organizations
Automated / Programmatic Lending	Not allowed
Business Continuity/ Resolution Plans	Not mentioned in the regulation
Prohibitions	<ol style="list-style-type: none"> 1) Conducting any business activities other than as regulated under the regulation 2) Acting as lender or borrower i.e. only off-balance sheet 3) Providing guarantees for third party's liability 4) Providing recommendations to users 5) Issuing bonds/debt securities (e.g. promissory notes, medium term notes) 6) Conducting direct marketing to users or the public through personal communication media without user consent
Qualifications of employment	Providers must have, among others (i) employees who have IT expertise or background (ii) a data center and disaster recovery center located in Indonesia (iii) at least one director and commissioner with at least one year's experience in the financial services industry

Source: OJK, IFC Indonesia FinTech Presentation.

ANNEX 5. Insurance in Indonesia

Top 10 Life Insurance Firms in Indonesia

Groups	Insurer	GWP (IDR trillion)	Claim & OPEX Ratio(%)	Total assets (IDR Trillion)	Number of bancassurance ties	Key bank relationships
Privately-owned	Jiwasraya	10	59	26	7	Bank BTN mandiri BANK BRI
	Indolife Pensionsantama	9	91	16		
	Adisarana Wanaartha	5	86	4	6	BANK MAYAPADA BCA bank VICTORIA
Joint Ventures	Prudential Indonesia	28	62	46	5	UOB BANK BRI Standard Chartered
	Allianz Indonesia Life	11	83	38	7	BANK EKONOMI HSBC bank btpn
	Manulife Indonesia	10	75	29	13	中國銀行 BANK OF CHINA ANZ citibank
	AIA Financial	8	82	37	9	BNI BCA CIMB NIAGA
	AXA Mandiri	8	64	22	2	mandiri mandiri syariah
	Sinarmas MSIG	7	n/a	20	2	bank sinarmas bank VICTORIA
	Panin Dai-ichi	4	121	9	13	PaninBank DBS citibank

Note: (a) Claims & OPEX Ratio is the sum of the net incurred claims and operating expenses over GWP.

(b) Sinarmas MSIG show 2014 data, as 2015 results were not included in AAJI reporting.









Sources: (1) AAJI unaudited annual report 2015

(2) Company' Financial Statements and websites

(3) KPMG Analysis

Source : <https://assets.kpmg/content/dam/kpmg/id/pdf/id-ksa-insurance-in-indonesia.pdf>

Top InsurTech Players in Indonesia

	Company	Business Model	Founded	Description
	Leads			
	BIMA	Mobile/ Online brokers	2010	BIMA targets customers who are new to insurance and has a salesforce of agents in the field to educate users. It is the global insurtech leader in mobile microinsurance across Asia, Africa and Latin America.
	PasarPolis	Aggregator/ Online broker	2014	PasarPolis started out as-an insurance comparison site but now offers micro and modular insurance online. It has developed an instant and digital claim feature and onboarded over 100 insurance products from 30 companies. It recently received Series A funding from three unicorns, namely Go-Jek, Tokopedia, and Traveloka. It has developed micro-insurance product for Go-Jek drivers and is looking to develop products with Tokopedia and Traveloka.
	Others			
	Futuready	Aggregator	2011	Futuready.com is an online insurance supermarket. It is an initiative and a subsidiary of AEGON, one of the world's leading providers of life insurance, pensions and assets management based in Jakarta, Indonesia.
	Duit Pintar	Aggregator	2013	Duit Pintar was founded with the simple aim to help Indonesians make better financial decisions. A portal helping consumers compare loans, insurance and credit cards.
	Raja Premi	Aggregator	2013	RajaPremi is an online portal that provides information and comparison of various insurance products. RajaPremi is focused on financial services that provide various auto and personal accident insurances for Indonesia market.
	Asuransi88	Aggregator	2014	Asuransi88.com is the most comprehensive website for insurance products in Indonesia.
	Cekpremi	Aggregator	2014	Cekpremi.com is an online portal that provides information and comparison of various insurance products such as: car insurance, health insurance, personal accident insurance, property insurance, life insurance, and travel insurance.
	Asuransiku	Aggregator	2015	Asuransiku is currently managed by PT. Artha Bina Bhayangkara (ABB Insurance Broker).
	Cermati	Aggregator	2015	Financial comparison site for credit cards, insurance, and loans. Recently raised a Series B round led by Djarum Group, a cigarette manufacturer.
	Premiro	Aggregator	2016	Premiro.com is an independent online service provider that lets you compare different insurance products provided by our insurance partners. Premiro managed under PT Mitra Ibisnis Terapan (MIT), an insurance brokers based on technology that is fully owned by PT Mitra, Iswara & Rorimpandey, leading insurance broker that has stood for more than 40 years.

Source: IFC Indonesia FinTech Presentation, January 2019

ANNEX 6. Summary of General Principles for Credit Reporting

The General Principles

The General Principles aim at the following public policy objectives for credit reporting systems: Credit reporting systems should effectively support the sound and fair extension of credit in an economy as the foundation for robust and competitive credit markets. To this end, credit reporting systems should be safe and efficient, and fully supportive of data subject and consumer rights.

Data

General Principle 1: Credit reporting systems should have relevant, accurate, timely and sufficient data - including positive - collected on a systematic basis from all reliable, appropriate and available sources, and should retain this information for a sufficient amount of time.

Data Processing Security and Efficiency

General Principle 2: Credit reporting systems should have rigorous standards of security and reliability and be efficient.

Governance and Risk Management

General Principle 3: The governance arrangements of credit reporting service providers and data providers should ensure accountability, transparency and effectiveness in managing the risks associated with the business and fair access to the information by users.

Legal and Regulatory Environment

General Principle 4: The overall legal and regulatory framework, for credit reporting should be clear, predictable, non-discriminatory, proportionate and supportive of data subject and consumer rights. The legal and regulatory framework should include effective judicial or extrajudicial dispute resolution mechanisms.

Cross-Border Data Flows

General Principle 5: Cross-border credit data transfers should be facilitated, where appropriate, provided that adequate requirements are in place

Roles of Key Players

Role A: Data providers should report accurate, timely and complete data to credit reporting service providers, on an equitable basis.

Role B: Other data sources, in particular public records agencies, should facilitate access to their databases to credit reporting service providers.

Role C: Credit reporting service providers should ensure that data processing is secure and provide high quality and efficient services. All users having either a lending function or a supervisory role should be able to access these services under equitable conditions.

Role D: Users should make proper use of the information available from credit reporting service providers.

Role E: Data subjects should provide truthful and accurate information to data providers and other data sources.

Role F: Authorities should promote a credit reporting system that is efficient and effective in satisfying the needs of the various participants, and supportive of data subject/ consumer rights and of the development of a fair and competitive credit market.

Recommendations for Effective Oversight

Recommendation A: Credit reporting systems should be subject to appropriate and effective regulation and oversight by a central bank, a financial supervisor, or other relevant authorities. It is important that one or more authorities exercise the function as primary overseer.

Recommendation B: Central banks, financial supervisors, and other relevant authorities should have the powers and resources to carry out effectively their responsibilities in regulating and overseeing credit reporting systems.

Recommendation C: Central banks, financial supervisors, and other relevant authorities should clearly define and disclose their regulatory and oversight objectives, roles and major regulations and policies with respect to credit reporting systems.

Recommendations D: Central Banks, financial supervisors and other relevant authorities should adopt, where relevant, the General Principles for credit reporting systems and related roles, and apply them consistently.

Recommendation E: Central banks, financial supervisors and other relevant authorities, both domestic and international should cooperate with each other, as appropriate, in promoting the safety and efficiency of credit reporting systems.

Source: World Bank. <http://www.worldbank.org/en/topic/financialsector/publication/general-principles-for-credit-reporting>

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