Financial Frontier to Strengthen and Widen the Opportunity for Developing Economies

Case Study of Indonesia

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Introduction

Economists have paid a lot of attention to the role and influence of money and finance in economic development.[1)] Recently, financial economists have emphasized the role of financial technology (Fintech) and, indeed, have seen it as playing a crucial role in the economic development process.

Many Fintech companies have been signaled out for the disrupting role they have played in the banking and investment industries. It is undeniably true that Fintech has the power to inculcate new grow in areas where traditional financial service providers have been unwilling or unable to venture into. *Cryptocurrency*, for example, has proven capable of making and executing payments and money transfers instantly and at a fraction of the cost charged by banks. This suggests that bank offices and ATMS may be unnecessary. Indeed, even traditional banking accounts may no longer be required to sustain daily economic activities. The end of banks, as we have known them, may be on the horizon. As Bill Gates quipped in 1994, "Banking is necessary, but banks are not."

This paper discusses financial inclusion in the era of Fintech; in particular, the role of the *micro, small and medium-sized enterprises* (hereafter MSMEs). Because, they have been less paid attention by the traditional financial institutions. The paper illustrates that MSME financial inclusion should be encouraged to widen the financing opportunities for an in-

1) Importance of money and finance in the area of economic development has been recognized by some leading scholars since the 1960s. Some of the breakthrough contributions are J. Tobin (1965), R. McKinnon (1973), E. Shaw (1973) and R. Goldsmith (1969). These studies, however, deal with the aggregate economy model, so the MSMEs are not generally dealt with in detail. The issue of MSMEs has been focused as an independent research topic since around the 1990s.

creased number of business entities. As will be discussed in detail in the paper, genuine financial inclusion is directly related to the issue of further economic restructuring; furthermore, it requires the provision of economic development incentives.

In this paper, Indonesia will be the sole case study. Our research suggests this narrow focus is appropriate since our preliminary investigation suggested that there are many opportunities for MSME financial inclusion to (a) create sustainable businesses, and (b) to make a big difference in the growth potential of the national economy.

Our approach treats financial inclusion solely in terms of an increase in lending and investment. Despite the apparent relevance of a broader range of financial services, such as payment/settlement and insurance, one clear finding is that the creation of greater and fairer funding opportunities is, without doubt, the most needed innovation for MSMEs.

The discussion proceeds as follows:

1. Importance of MSMEs
2. Landscape of financing gap at MSMEs
3. Indonesia's efforts for MSMEs financial inclusion
4. Fintech in action
5. Overall assessment
6. A breakthrough proposal

I Importance of MSMEs

MSMEs are rarely singled out individually, but, collectively, they account for some 99 percent of all firms and over 50 percent of employment and world GDP. Such a picture is commonly observed country by country, both in advanced and developing economies alike, as exemplified in the following table:

The table indicates that MSMEs are economically as important as large business corporations. Their importance, in fact, is more than the statistical data reveals. Consid-

1

SME Landscapes: Japan and Indonesia (2019)		
	Japan	Indonesia
GDP (US$ billion)	5,149	1,119
Number of SMEs	3,589,000	64,194,057
Percentage of All Firms	99.90%	99.99%
SME Contribution to Employment	70%	97%
SME Contribution to GDP	53%	61%

Source: METI 2019 SME White Paper. Statistics are taken from World Bank and Asian Development Bank

er, for example, the supply of parts and materials in the automobile industry. Automakers buy in the range of 10,000 - 30,000 different parts and materials to assemble one car. To meet their demand for quality, quantity, and timely delivery is tough enough. On top of this, required spec and design changes occur every now and then. Price must be competitive all the time. What if Toyota, for example, were heavily dependent on the importation of needed items? Reflecting on this question reveals the necessity of *industry clusters* with diverse and strong MSMEs surrounding Toyota HQs and providing dedicated *supply chains*. Should Toyota ever attempt to internalize the entire production process, it would soon appreciate the level of MSME specialized skills, the agility of their response to changes, and their production and other efficiencies. The *systemic* importance of MSMEs holds true in other businesses, industries, and in Japan's national economy.

II Landscape of MSMEs' Financing Gap

Given their *systemic* and *economic* importance, it is natural to inquire whether the level of MSME financial inclusion in the nation's primary financial systems is commensurate with their potential. We will address this issue by examining the current role of MSMEs in the capital markets and banking systems.

2.1 Capital Markets

From the outset, the question arises whether MSMEs have any access at all to the capital markets. As it turns out, this market is exclusively organized to serve the largest of large entities; namely, governmental bodies, multilateral organizations, and the large companies selected by stock exchanges and/or credit rating agencies. This suggests that it is virtually impossible for MSMEs to raise (a) equity capital and (b) debt by issuing bonds.

That said, the Indonesia Stock Exchange (IDX) does not appear to have lost interest in helping MSMEs. Firstly, among its traditional two sections, *Main Board and Developing Board*, the latter appears to welcome the listing of MSMEs. When it was revealed that only *seven* MSMEs were listed between 2003 and 2015, IDX created a *third* section, *Acceleration Board*, to encourage MSME listings. The incentive for listing was provided by lowering the conventional fixed amount of the listing fee.

Among Fintech companies, two *equity crowdfunding* arrangers, Santara and Bizhare, were licensed by OJK in 2019. So far, the number of MSMEs enabled have been 15 by Santara and 35 by Bizhare. The new arrangement allows equity capital to be raised without bothering the IDX. Although the number of financings to date is insignificant in the MSME financing gap, a path has been opened for elite MSMEs to gain recognition by and equity capital from the investment community.

2.2 Banking Systems

We next look at the current status of credit and financial services available to MSMEs. Since the commemorative study titled "Two trillion and Counting"[2], it is well established that MSMEs, collectively, are largely "underbanked" in developing economies. The study found that there are "approximately 70 percent" of "formal and informal MSMEs in the developing world," using no external financing

2) IFC and McKinsey, 2010 (Bibliography No.13)

2

Business Lending Landscapes: Japan and Indonesia (2017)		(US$ million)
	Japan	Indonesia
Bank Assets to GDP	**157.51%**	**38.03%**
Outstanding Business Loans	3,705,189	78,181
of which Share of SMEs	**66.29%**	**19.90%**
Venture Capital Investments	1,756	524
Leasing to SMEs	22,917	7,735

Source: OECD Financing SMEs and Entrepreneurs 2020—Japan, Indonesia

(Converted from local currencies with exchange rates: JPY/USD 112.14, IDR/USD 13,548.0)

and there is an annual credit gap "in the range of US$ 2.1 trillion to US$ 2.5 trillion". The annual global credit gap has since been estimated over and over, with US$ 5.235 trillion being the latest finding[3].

It is instructive to see the situation in Indonesia in comparison with that of Japan:

There are several notable features in the table: (a) a nation's banking system tends to be bigger in large, wealthy or growing economies, with the only exception being the United States (62.45%/GDP), and (b) Japan holds one of the largest banking systems, along with Hong Kong, Singapore and China and wealthy West European countries; while (c) Indonesia's banking system is *exceptionally* small even in comparison with other smaller developing economies.[4]

It should also be noted that Indonesia made it mandatory for banks to allocate 20% of their loan portfolios to MSMEs[5], so that the MSME share, 19.90%, in the table reflects

3

Commercial Bank Lending									
Item	2011	2012	2013	2014	2015	2016	2017	2018	2019
COMMERCIAL BANKS									
Number of commercial banks, total	120	120	120	119	118	116	115	115	110
State-owned banks	4	4	4	4	4	4	4	4	4
Foreign exchange commercial banks	36	36	36	38	39	42	42	42	41
Non-foreign exchange commercial banks	30	30	30	29	27	21	21	21	19
Regional development banks	26	26	26	26	26	27	27	27	27
Joint venture banks	14	14	14	12	12	12	12	12	11
Foreign owned banks	10	10	10	10	10	10	9	9	8
COMMERCIAL BANK LOANS									
Loans outstanding, total (IDR trillion)	2,200	2,708	3,320	3,674	4,057	4,377	4,735	5,295	5,620
Total commercial bank loans to GDP (%)	28.1	31.4	34.8	34.8	35.2	35.3	34.9	35.7	35.5
MSME LOANS									
MSME loans outstanding, total (IDR trillion)	458	526	609	763	790	857	942	1,033	1,111
MSME loans to total loans outstanding (%)	20.8	19.4	18.5	20.4	19.3	19.4	19.7	19.3	19.6
MSME loans to GDP (%)	6.2	6.4	6.7	7.2	6.9	6.9	6.9	7.0	7.0
Source: IFC Enterprise Financing Gap Database (as of Feb. 6, 2022)									

3) IFC, MSME Finance Gap, 2017 (Bibliography No.14)

4) The size of banking system herewith discussed in relative terms to the size of the national economy

5) https://www.theglobaleconomy.com/rankings/bank_assets_GDP/

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MSMEs Financing Gap in Indonesia

No. of SMEs	Owned by	Size	Have				Feel			
(thousand)			Checkig A/C	Overdraft	Loan	Credit Access	Unserved	Underserved	Well served	No need
24,482	Male		32%	7%	11%	13%	45%	9%	4%	42%
16,634	Female		21%	7%	9%	11%	45%	8%	3%	44%
22,991		Informal	22%	7%	9%	11%	41%	8%	3%	48%
12,549		Micro								
5,378		Very Small	46%	4%	15%	16%	61%	10%	5%	23%
184		Small	82%	11%	28%	33%	41%	22%	11%	27%
14		Medium	90%	25%	36%	45%	30%	29%	16%	26%
41,116	All	All	27%	7%	10%	12%	45%	8%	4%	43%

Source: IFC Enterprise Financing Gap Database (as of Feb. 6, 2022)

an all-time best effort of its banks and is not likely to be a turning point from a trend line of growth in MSME lending. As shown in the following table, the MSME share of bank loans has not grown significantly over the observed period.

We can also see up-to-date details of MSMEs' credit gap. The following table of *selected* figures updates results for today's Indonesia.

This table suggests less attention should be paid to the right side, summarized as "Feel" factors. Even if an MSME has "no need for external finance" today, the situation may easily change tomorrow. It is unlikely that a growing nation's MSMEs, upwards of 43% of them, can keep going for years without external finance.[6] A more meaningful assumption is that those MSMEs which do not have any credit access today, accounting for 88% of them, will most likely continue to find it difficult to get funding when necessary.

III Indonesia's Efforts at MSME Financial Inclusion

Given MSMEs' importance, the Government of Indonesia (hereafter GoI[7]') announced, in an MOU[8] (2007) with major banks, a firm commitment to promote MSME financial inclusion. Since then, a wide range of policy measures have been implemented, including: (a) a government credit guarantee system and (b) official supportive funding, and (c) schemes for credit information sharing. These are highly commendable and straightforward measures for addressing the main obstacle—*information asymmetry*. Their effectiveness has been demonstrated in the earlier history of advanced economies.

Following the MOU of 2007, GoI created a special MSME lending program named "Kredit Usaha Rakyat (KUR)."[9] Under the new measure, two program guarantors, Serum Jamkrindo and PT Askrindo, were appointed and provided with IDR 2 trillion (USD140

6) We do not believe that only 1% of Indonesia's MSMEs would manage to grow to the size of sustainable SMEs (Oliver Wyman). We believe the current ca. 60 million will be reduced to 8-12 million during competitive growth and integration of the nation's supply chains.

7) In this paper, the government (GoI) represents all branches of the government, including Bank of Indonesia, unless more precise identification is necessary.

8) GOI entered an MOU with 4 state-owned-banks, 26 regional banks, 2 Sharia banks and 1 private bank) to provide easier access to financing for MSMEs.

9) "People's Business Credit Program"

10) GoI funding is added annually. It covers guarantee fees payable at the participating banks, but not the principal of loans. In line with the principle of partial guaranteed schemes, the risk of loan loss as well as the cost of collection is supposed to be incurred by the lenders.

million) of guarantee funds.[10] Participating banks obtain protection against default for up to 80% of the principal amount of each KUR-backed loan.

For credit information sharing, GoI started, in 2007, modernizing the Debtor Information System (SID) under management of the Bank Indonesia (BI). Under the scheme, the central bank collects *credit information* for all categories of debtors[11] on a monthly basis from all financial service providers across the country. Created in 1998, SID had become outdated and infested with unreliable data and operational troubles. Its original aim was enabling financial institutions to share credit information under a clear policy objective "to expedite the process of provision of funds (credit) to encourage the development of Indonesia's growing economy."[12] In 2010 the Indonesia Central Bureau of Statistics started collecting financial data for MSMEs. Finally, in 2017, OJK, the newly created Financial Services Authority, launched SLIK[13] (System Layman Informs Keuangan), or Financial Information Services System, as an upgraded successor of SID.

The governmental system extended further down to the transaction front, where State Banks were the largest program lenders with about 50% of their combined share but these were soon found to be lacking capacity and information necessary to identify *bankable* MSMEs in every rural town and village[14]. Consequently, GoI had them team up with *linkage institutions* with local presence. On top of borrower identification, the linkage institutions assist MSMEs in preparing a proper loan application, participate in the guarantee contracting process on their behalf, and initiate loan disbursement through them. Debt payment follows a similar process. These changes accelerated the nationwide penetration of KUR, especially from 2015 onward, when the BI directed banks to increase, step by step, their MSME lending up to 20% of total loan portfolios. Regional Development Banks (BPDs) joined in the scheme as linkage institutions. By 2018, when the BI decree was largely fulfilled, the total disbursement of KUR lending amounted to IDR506.37 trillion[15], or US$ 35.74 billion. The accumulated number of beneficiaries in the same period was approximately 26 million, with over 4 million of annual count[16] in the recent *four* years since 2016.

It is worth noting that, despite its success, KUR lending accounts for a mere 12.2% of total MSME loans outstanding as of 2018. With 13.8% in 2019 marking a historical high, loans are expanding very rapidly. The program's achievement, in terms of the accumulated number of beneficiaries, reached around 30 million or half of Indonesia's MSME population in 2019. This is truly remarkable, but its share in overall MSME lending remains rather limited as a share of total loan portfolios as is its impact on the national economy.

Another notable development about KUR is the reported shift in the program's focus from credit enhancement by *official guarantees*

11) Mostly individual consumers.

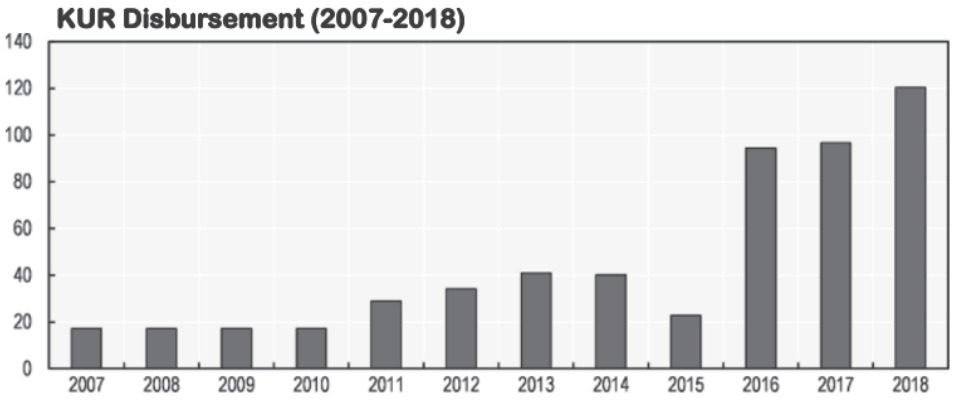
12) Idris Gautama So et al., Enhancing Bank Reputation by Centralizing Bank Debtor Information System.

13) At the start, SLIK took over 96.4 million debtors from SID. Although no announcement was made on the company-consumer compositions thereof, it is unlikely it holds millions of MSME debtor data, let alone their financial data.

14) The word "bankable" has been commonly utilized in various World Bank reports. Nevertheless, it is rather difficult to identify the pioneering publication on this case although the Cambridge Dictionary lists the word Bankability. This suggests that this word has been commonly used to deal with lender and borrower relations. For example, Hampel and others (2013) and World Bank Report (2017) are some of the useful sources.

15) source: ADB Asia SME Monitor 2020 database.

16) source: ADB Asia SME Monitor 2020 database.



Source: Ministry of Economic Coordination of The Republic of Indonesia and Ministry of Cooperatives and SMEs of The Republic of Indonesia.

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towards *interest subsidies* of government provision. GoI introduced the new initiative on July 30, 2015. The renewed KUR with interest subsidy scheme increased GoI expenditure more than proportionately. In 2016, the case count for eligible lending jumped *three* times and the total loan amount more than *doubled*.

The non-performing loan (NPL) ratio of KUR-backed loans *dropped* as much as two-thirds in the years since 2016. It seems contrary to common sense, because the occurrence of NPL would be expected to *increase* along with the rise in the number of borrowers, as is the case in advanced economies where the bank has (a) an established way of MSME due diligence, and (b) adequate numbers of well-trained loan officers are in charge, and (c) where MSMEs are all registered and equipped with reliable financial statements.

In Indonesia, in contrast, MSMEs are largely unaccountable, and the KUR supports the least accountable MSMEs in the bottom segment of business lending markets. A possible explanation for such unusual NPL behavior is that the increase in KUR lending was directed more to *recurring* borrowers whom banks know well, rather than new, unknown MSMEs.[17] This resulted from a perverse incentive whereby banks could exploit the subsidized, enlarged earning opportunity without risking deterioration in asset quality.

The following is a listing of GoI's other policy measures of significance for addressing

6

KUR; Growth and Performance

Item	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of KUR loans (thousand)	4	1,653	718	1,438	1,910	1,962	2,347	2,444	723	4,363	4,087	4,440	4,730
KUR loans disbursed (IDR billion)	982	11,475	4,733	17,229	29,003	34,230	40,047	41,149	16,050	94,409	96,714	120,349	140,073
NPR (% of total KUR loans)	--	--	3.4	2.5	2.1	3.6	3.2	3.3	--	0.4	1.1	1.0	1.1

Source: IFC Enterprise Financing Gap Database (as of Feb. 6, 2022)

17) KUR was originally dedicated to new borrowers but, in 2019, 90% was reportedly disbursed to recurring borrowers. (ADB, Asia SME Monitor 2020)

MSME information asymmetry and/or credit gap:

A. Coordinating with Ministry for Economic Affairs
- Created and promoted SAK, the MSME-special accounting standard and formats.
- Published e-commerce roadmap and promoted digital transformation of MSME commerce and financing.

B. Bank of Indonesia
- Created and promoted SI APIK, a free accounting app for MSMEs.
- Provided education programs for MSME accounting.

C. Ministry of Cooperatives and SMEs
- In collaboration with the Ministry of Communication and Information Technology, created and promoted Aye UMKU Juan Online, an e-commerce platform for MSMEs.
- Created the Revolving Fund Management Agency (LPDB) and extended IDR trillions of MSME loans in collaboration with P2P lenders.

IV Fintech in Action

A growth opportunity for Fintech in MSME financing markets has been created given the importance of MSMEs for the national economy and the urgency of filling their prolonged financing gap as well as the inadequacy of conventional financial services in terms of (a) the unfilled financing gap and (b) unimproved accessibility as perceived by MSMEs.

Despite the much propagated and provocative images of *incumbents vs. Fintech*, Indonesian banks seem to be highly open and cooperative in promoting the rise of Fintech companies. A good example is Mandiri Capital, a largest Fintech-specific venture fund created by Bank Mandiri, the largest state-owned bank in 2016. Another example is an incubation laboratory for Fintech companies named BnV Labs which is a creation of a MSME-specialized local bank.

GoI is supportive. Even more than the banks, as OJK itself states[18], "Indonesia is among Asia's most prominent countries when it comes to FinTech use" due to the existence of a huge financing gap and fast-growing Internet and smartphones users in the enormous middle-class population.[19] Furthermore, "OJK encourages the presence of technology-based financial services to increase financial inclusion, especially for MSMEs." While there is uncertainty about its future, the perspective of OJK's administration is forward-looking and well-balanced between promotion and regulation. It should be noted that governments of developed countries tend to be slow in reacting to the economic and human-right problems caused, typically, by GAFA and other unicorn enterprises of the data business. Considering this, Indonesia's regulatory framework over Fintech looks reasonably well-prepared on issues, such as consumer protection, data privacy, and abuse of superior commercial position.

Regulatory Sandbox, introduced by BI in 2017 and later subjected to the division of labor between BI and OJK[20], is worth special attention as it reflects GoI's high expectation for Fintech to promote financial inclusion. Regulatory Sandbox aims, on the one hand, to be a "safe space" for Fintech companies to test the viability of their products/services, technologies and business models for a period of 12 to

18) OJK, Financial Inclusion for MSMEs through Fintech, December 2020.

19) The issue of Financial Inclusion has received much attention by many scholars concerned with individual economic or sectoral investigation. In this line of studies there is a need for more specific information on sectoral characteristics. In the case of Indonesia, Shrestga (2020) is dealing with the fundamental role of Financial Inclusion.

20) Roughly speaking, BI is responsible for the supervision of e-money and payment system providers, whereas OJK oversees financial service providers.

18 months and, on the other hand, for the authorities to watch them in action and establish an in-depth understanding of them to make sure of their fitness and positive/negative implications for the market and economy. Should any problem of an examinee arise, the Regulatory Sandbox provides an opportunity for its correction. Given continuing innovation of the Fintech companies, it also helps develop ways of effective regulation and supervision.

In general, a Fintech startup is required to file an application with OJK to get *Recorded*, undergo *Regulatory Sandbox* for 12 months under OJK/BI supervision, and obtain *Registration* subject to OJK/BI assessment as "Recommended" (as opposed to "Not recommended"). The term is to extend another 6 months for correction or improvement in the case that the evaluation indicates "Correction/Improvement". Fintech registration is not just promoted by sandboxing but enforced by regulatory authority. When any unregistered Fintech companies are found at work, the OJK via SWI, the Investment Risk Warning Team, orders them to stop business, have all their apps deleted immediately, and requires them to apply for the Sandbox/Registration process.

As to accomplishment, it is rather difficult to find much convincing evidence of credit gap reduction, although Fintech is certainly making a difference in individual cases and in transactional levels:

1) *P2P lending* is highly demanded for *working capital*, or short-term credit of 1-12 months, while KUR lending is dominated by *investment capital*, or long-term credit of 3-5 years.
2) *Crowdfunding* has enabled a greater number of MSMEs to raise equity capital than IDX.
3) In general, Fintech provides *unbanked* MSMEs with a reasonable chance to get funded, and in a fraction of the time and labor that banks would require, for which it embraces superior technologies and innovative approaches, not necessarily by individual entity but surely as its growing *ecosystems*, which include:
   - KYC on owners by *digital signatures*[21], *face recognition*, ID-card scanning, etc.
   - *Credit scoring by algorithm* using alternative data, such as power bills, telecom bills, etc. and non-financial data, such as shopping and communication traits, etc.
   - *Credit enhancement and monitoring by grouping* of borrowers with known reliable characters.
   - *Blockchain-based* contracting and collecting/distributing transaction proceeds.
   - *Project finance* for the joint investment by MSMEs of uncertain credit standing.
   - *SaaS and Cloud services* of consulting, accounting, tax reporting, etc.

An interesting development is that there are a fair number of Fintech companies who employ significant amounts of human labor in their business processes. Some of them, for example, use more than a thousand people as *agents* to coach borrowers on loan application and payment collection. Others spend time before contracting in the *manual* task of due diligence about borrower's businesses and in-

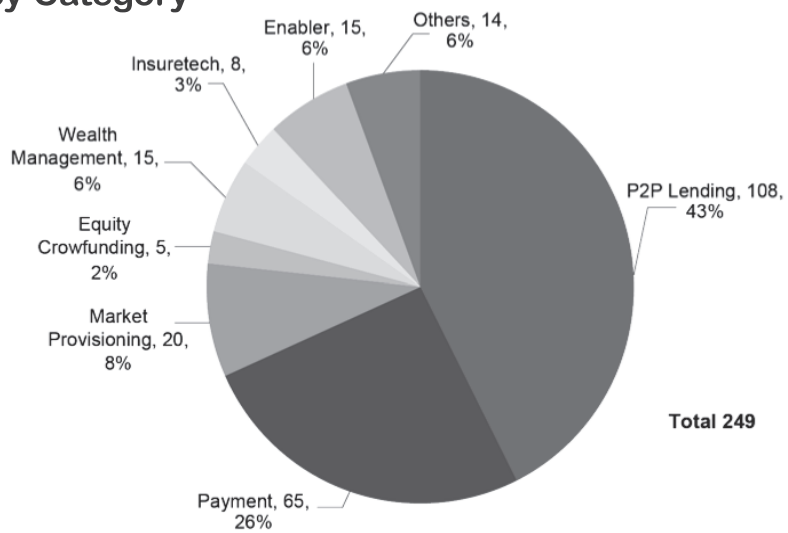
21) OJK requires the use of digital signatures and promotes e-KYC in its Sandbox-Registration processes.

7

P2P Lending			
Item	**2018**	**2019**	**2020**
Total Disbursement (in IDR trillions)	22.62	81.49	128.62
% in Total commercial bank loans outstanding	0.44	1.45	2.32
Number of lenders (thousand)	200	600	680
Number of borrowers (thousand)	4,400	18,600	29,200

Source: OJK, "Supporting Financial Inclusion for MSMEs through FinTech", December 2020

Indonesia's Fintech Companies by Category



Source: ADBI, Fintech Development and Regulatory Frameworks in Indonesia 2019

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vestment projects. It may be a sign of their practicality, but the dependence on human labor is reducing the effect of digitization.

P2P lending platforms, so-far the largest group of available Fintech services, have grown fast but, unfortunately, have not added much to the volume of credit in total commercial lending.[22] Considering the fact that the figures in the following table include both consumers and MSMEs, it is hard to assume P2P lenders prefer MSMEs to consumers, since the share of MSME borrowers is likely to be rather limited, perhaps to the same proportion as in conventional lending—around 20%. The amount of P2P disbursement as of 2020 comes to IDR25.72 trillion or 2.36% of total MSME loans outstanding.

The following is the composition of Indonesia's Fintech companies as of May2019.

22) Volumes of the loan disbursement and the outstanding are not directly comparable. But the amount of P2P lending outstanding, if available, is less meaningful, as its tenure tend to be shorter than a year.

V Overall Assessment

Can Indonesia's MSME financial inclusion since 2007 be deemed successful? Whether it is fair to say or not, we do not find the nation's remarkable efforts well rewarded, and Fintech, so far, has not brought about much change either in the landscape of the financing gap or in the progress of its reduction. Is it, perhaps, a matter of time before the Fintech companies can establish a significant market presence and share in Indonesia's financial industry?[23)]

This case study suggests a more realistic stance would entail being *cautiously* optimistic. We do find all necessary institutions and regulatory supports in place, but not one of them seems to be truly operating towards the intended goal. This is due to their intrinsic weak link—the still largely missing financial data of MSMEs.

Official credit guarantees are an established way of risk abatement on the part of banks, but it only transfers an amount of credit risk incurred by banks to the government and it does not reduce the risk itself. On what ground can we believe that the government is in a better position than the banks for assuming the risks of MSME lending? It is groundless, unless the government holds superior knowledge of the credit standing of a particular borrower, which, obviously, seems unrealistic. The truth is that, in all cases of the official guarantee scheme, the government cannot help and must trust the banks' ability to make suitable borrower selection and credit assessment.

With such problems in mind, GoI created an MSME-specialized credit rating agency (CRA). This has been superimposed on top of the existing two CRAs, for the same purpose of information asymmetry resolution for large companies. To date, little has been heard about its performance, however. Such is the case with other CRAs and we are not surprised because we doubt the effectiveness of CRAs when it comes to the MSME markets. Once again, the question surfaces: on what ground can a CRA be superior to banks in the knowledge of MSME borrowers given that a CRA has few offices, less than a hundred credit analysts, and makes few visits? In fact, it is simply impossible in the MSME markets for CRAs to be of any use. Also, the level of their addiction to the capital market practices of large companies is no better than bankers. If banks need help in coping with unaccountability of MSMEs, so do CRAs.

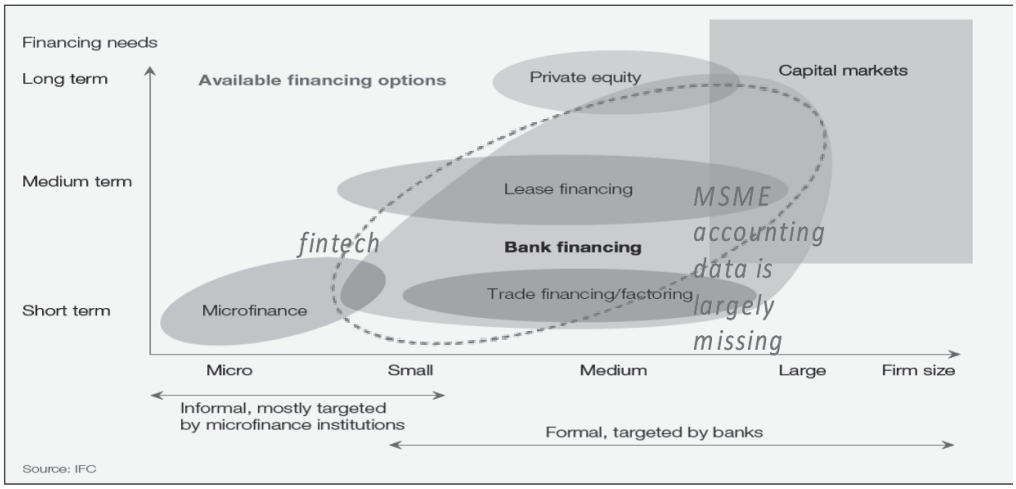
Fintech boasts AI and machine learning technologies for "alternative data", and GoI praises such "technology-based" credit scoring. Since MSME financial data is largely missing, not only in Indonesia but in many other countries, it is common for people to hold high opinions on the use of "alternative data". Useful as they might be for limited types of financing and for closely monitored borrowers in some closed community, such as the *supplier credits* extended by an e-commerce portal operating company for its tenants and the *automotive credits* of a ride-share service company for its drivers, etc., we seriously doubt their applicability in general to the broader use, least of all for nation-wide MSME credit gap reduction. It is unthinkable that there will be any *big data*, even with further data-tech advancement, becoming so powerful as to make the financial data of individual MSMEs unnecessary.

23) As of 2019 Fintech is not regarded as a SLIK reporting member. Its lending market share is less than 1%.

Another question about "alternative data" is whether it is desirable to *not* use financial data for MSMEs, which would not be acceptable in the case of large companies. In other words, consider the situation in which we have *two different ways* of credit assessment—one is for the large companies, which *use* financial statements as standard records of given companies' actual operations and financing; the other is for MSMEs, which do *not* use financial statements of given companies, but, rather, so-called "alternative data" of lenders' choice, such as power bills, phone bills, credit cards bills, logistics and SNS footprints, etc. The choice of data is done behind MSMEs' back, and there is no way the MSMEs can learn the explanation for why their application was approved or declined. This uncertainty is not the result of lender intentions, but because lenders, themselves do not know the reason for the decision. After all, "alternative data" provides only partial and *circumstantial* evidence, which can hardly tell the whole facts of a given business or businesses.

The reason P2P lenders favor *short-term* loans is not due to their strategic choice to differentiate banks who do not care much about *short-term* lending. Instead, Fintech lenders are forced by their awareness of the limited applicability of "technology-based" credit scoring. Likewise, the reason for banks single-mindedly making 3–5-year loans is primarily because of the design of KUR which forces such behavior for loan eligibility. Given the smaller risk of shorter-term lending, their preference for *long-term* lending looks contradictory to the principles of portfolio management. Considering this, along with an-

MSMEs' Financing Options in the Global Financial Markets



IFC/McKinsey "Two Trillion and Counting" Oct. 2010

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other peculiarity of their MSME lending, namely the absolute dominance of the least accountable *micro business* borrowers, it is hard to find commercial motivation behind the current practice of MSME lending.

In conclusion, it seems rather certain that all concerned know the desirability of the use of financial data regarding the credit assessment of MSMEs, if only it were available. Fintech would choose the use of "alternative data" only if practical and as a second-best solution to meet the market demand. There is no other choice given the absence of MSME financial data. On the same grounds many banks do not take a stance on increasing MSME lending more than required to meet regulatory and public expectations for their action. They cannot go further, because, so far, they are not really convinced of the level of credit risk assessment they can do on MSME borrowers without financial data.

The last chapter presents some ideas on a social project for the resolution of MSME information asymmetry, which OJK might call a Digital Financial Innovator project. The chart below is the famous IFC/McKinsey depiction of the global financial markets in 2010 (plus one clear addition of Fintech in its best potential). It shows MSMEs' dependence on commercial banking services, which looks even more practical and meaningful today with Fintech. This study finds the project will help make MSME financial data available and thereby contribute to the resolution of both MSME information asymmetry and the financing gap.

VI A Breakthrough Proposal

Assume Indonesia has established the necessary social and political consensus as well as the legal and regulatory frameworks, public and private institutions, and technological and industrial capabilities, and, finally, it is ready for a great leap forward on the road to MSME financial inclusion. Given these prerequisites, our study outlines some ideal yet operational ideas for a social project of digital services. The services required are made clearer in order to directly address the last troublesome issue—namely, the absence of reliable financial data of individual MSMEs.

The project is designed to enable MSMEs to generate *financial data* in accordance with the principles of financial accounting. A significant number of MSMEs, we believe, have structures simple enough to need nothing more than double-entry bookkeeping to be accountable. It would be inappropriate, however, to presume any level of accounting standard. Instead, we will make sure that they have the proper accounting for their commercial and financial transactions by the double-entry system. Small as such a step may be, it is the minimal requirement for MSMEs to *make themselves accountable*. It is essential and crucial to have those recommended standards and forms of financial statements, etc., readily installed in the system for the use of qualified MSMEs.

As previously stated, it is crucial not to neglect the commercial viability of the MSME financial inclusion project. Therefore, its accounting service is to be made most *useful* and *affordable* for MSMEs, so that it can obtain as many users as possible. Hence, it is *free of*

charge, and equipped with *artificial intelligence* to help account selection, etc. for the users with little to no knowledge of double-entry accounting.

Assuming MSME financial literacy to be next to nil, *automatization* is a necessary condition for the accounting service to be *usable*, but it is not sufficient. In order to be perceived *useful*, the service should be made available when they feel most desperately in need of it—at the time when they try to make an approach to banks or other financiers for the needed funding.[24] Incidentally that is the time when the financiers find their need arises for information gathering on those MSMEs. Hence, the financing needs on the side of MSMEs become a great, *intrinsic incentive* for them to try the free-of-charge, easy-to-use accounting service, and their loan requests provide an excellent opportunity to gain open access to the service.

We assume Indonesia's on-going efforts at raising MSME accountability continue, but there is no further need of marketing for their own sake. For example, MSME-specialized accounting standards and formats (SAK) can be built-in as an optional part of the proposed accounting service, which we call ARS for *Accounting and Reporting Support*, for the use of selected capable MSMEs. Also provided will be so the APIK (BI's free accounting app) and other apps and software for financial accounting. ARS is designed to make a platform/marketplace to which all interested vendors/service providers get connected and find new clients and obtain shares of profit according to the count of usage.

ARS service is half of the platform, which we call Financial Inclusion Platform (FIP). The other half is DDS, the *Due Diligence Support* service. As readers might have suspected, ARS cannot be free, unless there is someone who pays for the cost *willingly* on the users' behalf. We believe financiers hold such a motive, since, firstly, they want loan applicants to be as accountable[25] and, secondly, they can expect cost recovery by way of interest earnings from the loans--not in every case, but in total. Suppose *three* out of *four* loan applications end up unconsummated, the *interest* charge on the successful *one* should be larger than the compensating cost of *four* counts of ARS services. It seems certain that Indonesia possesses a viable opportunity, given that the current situation of prevailing high rates of interest. This situation[26] is expected to continue for years to come until (a) the nation's financial systems achieve a reasonable *market efficiency* along with resolution of the currently prevalent and large *information asymmetry* and/or (b) Indonesia succeeds in overcoming the structural macroeconomic imbalance; that is, the chronic current account deficit and weak exchange rate prospect, and the prevalence of inflationary pressure. From the banking business' point of view, if there is anything to discourage banks from expanding MSME lending *on a commercial basis*, the biggest concern would be the steadily rising cost of due diligence. It is discouraging enough if three out of four loan applicants are found to be *non-bankable*, and the result is only known after so much time and so much manpower have been expensed. Harder yet is communicability. For generalists, as most financiers are, it is next to impossible to make a meaningful business conversation with MSME owners and managers

24) As in Japanese history, the use of accounting was promoted often with some tax incentives, making certain forms of tax reporting eligible for refunds and/or lower tax rates. We consider it better to avoid such a policy in Indonesia, however, unless it is deemed necessary. Retrospectively it was misleading as a matter of accounting culture, as well as counterproductive for the management efforts, to raise operational productivity.

25) There are more than a few banks who are, directly or indirectly, providing their borrower MSMEs with accounting service for the purpose of raising their accountability.

26) Fortunate refers to the high interest rate spreads that banks can exploit to pay fees to FIP.

with no reliable company data and no publicly available industry statistics.

Hence DDS, once integrated along with ARS into the FIP, is to be subscribed and paid for by banks and other financiers of MSMEs. DDS internally receives financial and non-financial data of given MSMEs from ARS and delivers initial[27] due diligence reports on them to the relevant subscribers. The reports composed with the results of algorithmic scoring on the *credit standing*, *solvency*, *earning power*, *equity performance* and others that are supposed to be valuable and useful for the financiers to contemplate the *bankability* of given MSME lending. Hence, our preferred name for the process is "bankability rating" instead of "credit rating". The delivery is made in the form of pages of a digital dashboard that is viewable through any browsers installed on PCs and/or smartphones.

The operation flow starts with (1) the financiers' admission of MSMEs' loan requests, online or over-the-counter, and proceeds to (2) KYC opens or updates their accounts, (3) send KYC to FIP and instruct the applicant to create an account of FIP at its website, (4) the MSME is connected to FIP and starts using ARS or, if it has on-going use of an accounting software, connects it to FIP by way of API (to be provided for free) so that the data selected becomes transferrable to FIP, (5) ARS processes all data made available by the MSME into journals and financial tables, (6) DDS computes scores of bankability and writes an initial due diligence report for delivery.

Seen from the viewpoint of functionality, FIP looks like a digitized CRA, the credit rating agency. It serves the investors/lenders by providing for the resolution of information asymmetry. "Bankability rating" is an adaptation of "credit rating" in the practice of MSME lending. So is ARS. Its accounting service constitutes FIP's way of *information gathering*[28] *for its own use*. Therefore, ARS accounting service should be carried out at its own expense.

Please note that independence has merit as an accounting service. Were it provided by the financier, for instance, borrowers might become suspicious. They would be tempted to make up perceived weaknesses in such things as a down-trend of sales or profits. Given their intrinsic conflict of interest with lenders, it is simply impossible to convince them to go along. If the provider were the government, any business owner or manager would become hesitant to use it because any information reflected in the collected data might be applied with unforeseeable tax implications. Thus, a fundamental requirement for this service is unquestionable prudence and confidentiality. FIP is, therefore, designed to be an operation of an independent agency for all parties, analogous to CRA. It serves all banks and other financiers equally and regardless of competition or any other relations with each other.

With respect to the FIP's need for independence, it would be better to elaborate answers to these questions:

- Why shouldn't FIP provide original financial tables, or all the data, of MSMEs, which it collects on behalf of its subscribers?
- Why shouldn't FIP contribute MSME data of it collected to SLIK, the nation's central credit information database?

These are legitimate questions and valid points. Firstly, the borrowers' financial tables

27) DDS is used also on the periodical credit reviews. Thus, it occurs at the time of credit events. We name it "initial" as we assume the financiers conduct due diligence of their own whenever they find it necessary in the DDS reports.

28) For the sake of CRA's independence, the information gathering on its own is more important than who pays the fee. The latter can be mitigated by discipline but not the informational dependence.

would be the most useful piece of information, especially since they are largely missing. Banks and any other financiers who subscribe to FIP are perfectly entitled to get them. Secondly, if the financiers are helped by FIP, so, too, is the SLIK collection of the otherwise hard to obtain financial data of MSMEs. SLIK, after all, serves a larger population and purpose than FIP. However, although FIP is technically capable, it is not recommended to have FIP become involved in either of those ways. If it did, MSMEs would have second thoughts about their honest use of the ARS accounting service. Suppose FIP is a hen for producing golden eggs, it would be desirable to give her the most productive environment. As a matter of fact, it is not necessary to move her around. Instead, since banks and the government know the very existence and whereabouts of readily available *original* data, MSMEs could not decline to release them if legitimately and directly requested by banks for the purpose of, say, negotiation of the terms and conditions on the requested loan or the government through banks, as members of SLIK.

Among many possible ways of incorporation of the project to secure its absolute independence, we would recommend a nonprofit Joint-Venture of all financiers concerned, with 10-20 top banks acting as founding shareholders. In all cases the entity must be commercially sustainable on its own. This fundamental condition should be preserved and honored by all participating partners.

Concluding Remarks:

To close the chapter, let us summarize, for the sake of clarity, the arguments made above.

A. FIP enables double-entry financial accounting to penetrate into MSMEs, directly raising their accountability, and allows MSME loan applicants to establish a ready access to credit by way of (i) opening a bank account and (ii) completing the first step of due diligence by way of being assigned a DDS Bankability Rating, for which:
   1) ARS helps bookkeeping,
   2) ARS helps prepare best possible financial statements,
   3) DDS helps present "well-structured financial reports", and
   4) DDS helps communication with the financier.

B. It allows financiers to save cost and labor in the initial screening process of finding bankable MSMEs, and of information gathering for due diligence, and thereby discovering commercial justification for expanding MSME lending, for which:
   1) ARS helps make all MSME loan applicants the most accountable by way of double-entry accounting.
   2) ARS makes all transactional and financial data readily available, as much as possible, in the form of financial statements up to their ability at given MSMEs.
   3) DDS helps identify at a glance the best bankable MSMEs from the summary page of the DDS due diligence report on its dashboard.

4) DDS helps conduct 2nd-phase due diligence for selected MSMEs; namely, management interviews on an informed basis by way of detailed bankability scores along with their explanatory comments and graphics.

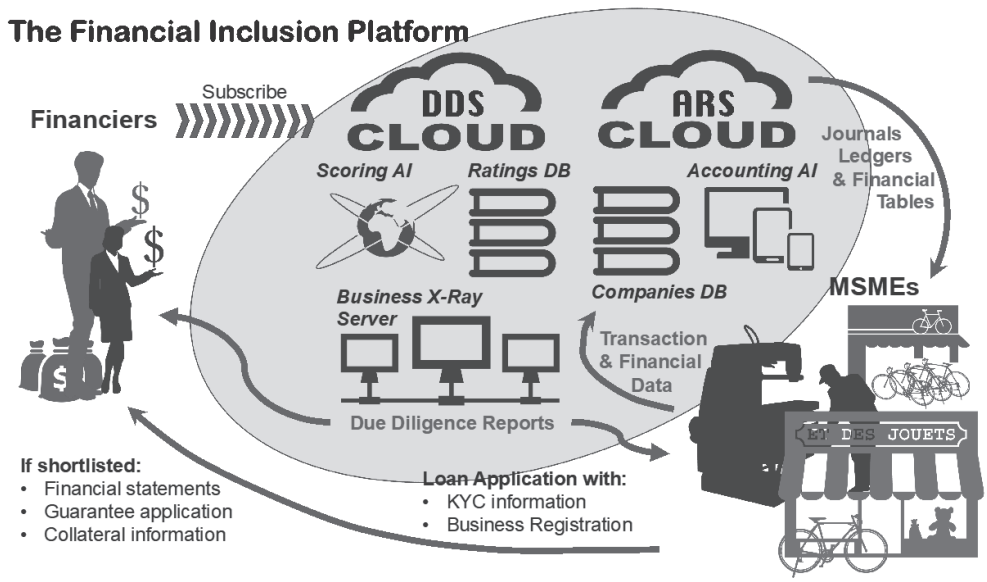
C. It allows P2P lenders and other Fintech companies to make the most of their technologies and collaboration with banks, for which:

1) FIP creates, for the first time, big data of MSME financials as well as all sorts of transactions, logistics and supply chains, all of which are direct and purposeful capture.

2) FIP helps scientific clarification of an MSME's risk profile as well as its financing needs and eligibility, which facilitates target segmentation with banks.

3) FIP helps find suitable borrowers with greater speed and certainty.

The following illustrates FIP's macroeconomic implications:



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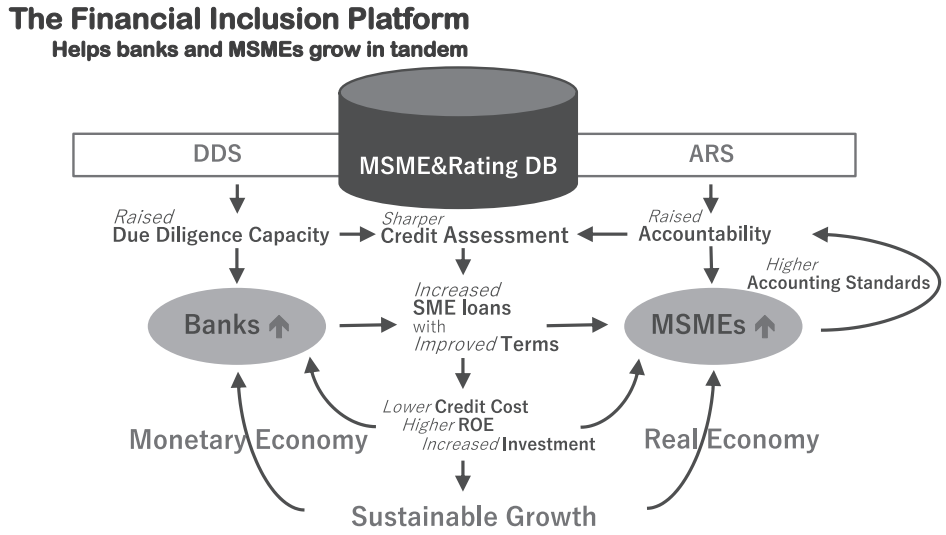

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Financial Frontier to Strengthen and Widen the Opportunity for Developing Economies

Case Study of Indonesia

Sumimaru Odano
Shingo Muraoka

This paper discusses the financial inclusion of MSMEs under the rapidly emerging fintech influence. The needs and effects are discussed in addition to the status of on-going efforts and some of the underlying inherent problems. This paper deals exclusively with the case of Indonesia where fintech and financial restructuring are being seriously debated within the related policy-making agencies.

After reviewing the economic and systemic importance of MSMEs, the study describes the landscape of underbanked MSMEs and the ways and amounts of their financing gap both of which have remained largely unchanged even in the last decade. It must be noted that more than 80% of MSMEs have been kept away from any means of accessing formal credit opportunities. As many research findings point out, MSMEs should be acknowledged to have the potentiality to be competent players and technological suppliers. It highlights the fact that the vast majority of MSMEs are not utilizing and facilitating formal accounting knowledge and practice. This, in fact, is the largest and single most important impediment for further advancement for MSMEs. The study finds problems in the use of so-called alternative data to overcome such a disadvantage, but suggests it is only a second-best solution.

This study describes the situation of MSMEs in Indonesia and proposes a scenario to overcome the current underdevelopment situation. A key message of the study is the need to generate financial data in a more practical and operational way. This approach will also serve to initiate more relevant studies. The discussion is concluded by presenting an idea for a social project to encourage the practice of double-entry accounting in Indonesia's MSME sector.