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INDONESIA

small firm DIARIES

Financial Services

HOW SMALL FIRMS IN INDONESIA MANAGE THEIR FINANCES

By Michelle Kempis and Timothy Ogden

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Introduction

The Small Firm Diaries is a global research initiative to understand the role of small firms in poverty reduction. The study focuses on barriers to growth and productivity that limit these firms' contribution to local economies. The study uses financial diaries, a high-frequency quantitative and qualitative data collection process. In each country, a team of locally-hired field researchers visited a sample of small business owners weekly for a year, gathering data about financial flows and the decisions behind those flows. From 2021 to 2023, the project was active in 7 countries: Colombia, Ethiopia, Kenya, Nigeria, Indonesia, Fiji, and Uganda. For more details on the study methodology, see *Methodology and Process: An Introduction to the Small Firm Diaries*.[1]

In Indonesia, the study followed 161 firms from November 2021 to November 2022. For the study, we defined small firms as having 1-20 non-family workers. The firms were spread across four research sites: Bandung, Makassar, Medan, and Yogyakarta. Firms were selected from three industries: light manufacturing (30% of the sample), services (47%) and agri-processing (23%). In the Indonesian sample, 40% of firms were owned by women, 53% by men, and the remaining 7% were co-owned by 2 or more people including both men and women.

By tracking cash flows and listening to the words of the small firm owners themselves, the Small Firm Diaries study offers insight into a segment of this population that has, until now, been little studied and little understood. The Small Firm Diaries occupies the space between the high-level data of large, nationally-representative surveys and the focused data of individual business case studies. Our goal was to inform policy and practice for a wide variety of actors—financial services providers, business support organizations, government policymakers, funders, and researchers—who want to better understand and address the challenges facing small businesses in low- and middle-income communities.

In this report on financial services, we review data from the Indonesia Small Firm Diaries on the firms' use of financial tools, including bank accounts, mobile money, digital financial services, and credit. The financial diaries methodology allows us to explore crucial areas of research on firms and financial access with a new level of detail, for example using high frequency data to identify patterns of account usage.

Updates to this report and additional reports from this study will be published at www.smallfirmdiaries.org.

[1] Laura Freschi and Timothy Ogden, Methodology and Process: An Introduction to the Small Firm Diaries (New York: Financial Access Initiative at NYU Wagner, February 2024), https://www.smallfirmdiaries.org/global.

1. Financial Services Overview

SUMMARY

For the last decade, policymakers have focused on bringing more people into the financial sector, spurred by findings that half the world was "unbanked."[2] Efforts to bring more people into the formal and regulated financial system, comprising both traditional banking and mobile money, have borne fruit in many parts of the world as shown in the 2025 Global Findex, which reports that the share of adults with financial accounts has increased by 28% in the last 15 years.[3]

Most measures of "bankedness" focus on individuals or households, but these measures are generally perceived as a reasonable proxy for the not fully formal firms that operate in low-income neighborhoods. However, there is little actual data on the use of financial services by small firms.

In part this is because measuring the degree to which a person or firm is integrated into the banking and mobile money systems is difficult. Originally, measurements of financial inclusion focused on owning an account at a regulated institution, or more recently with mobile money providers. Quickly, researchers realized that simply owning an account did not mean much. If the account is rarely or never used, that's not materially different from not having an account at all—and it turns out this is true of a very large number of accounts nominally owned by poor households. More recently, measures of inclusion have attempted to incorporate measures of use, not just ownership.

A further complication in studying small firms' use of banking is that many, if not most, of the small firms in low- and middle-income countries are informal and therefore may not have an account registered specifically to the firm. This does not necessarily mean that the firm is not a user of these financial services—it's possible that the firms use accounts registered to the owner as an individual rather than to the firm. That creates another measurement complication—if accounts are registered to an individual, it's impossible to use administrative data to determine how much of the usage is for a business (when it could plausibly range anywhere from 100% business to 0% business). Finally, a true measure of integration also requires understanding how much of a firm's financial activity takes place outside the formal system—especially how much the business relies on cash.

The financial diaries methodology provides solutions to many of these challenges in measuring the most basic questions about small firms' financial inclusion. The methodology attempts to record all of a participant's financial flows, regardless of what medium (e.g. bank transfer, a mobile money, or physical cash) or accounts (e.g. a bank account, mobile wallet, or cash box) are used. We're also able

[2] Alberto Chaia et al., "Half of the World Is Unbanked," in Banking the World: Empirical Foundations of Financial Inclusion, ed. Robert Cull, Aslı Demirgüç-Kunt, and Jonathan Morduch (Cambridge, MA: MIT Press, 2013), 19–42.

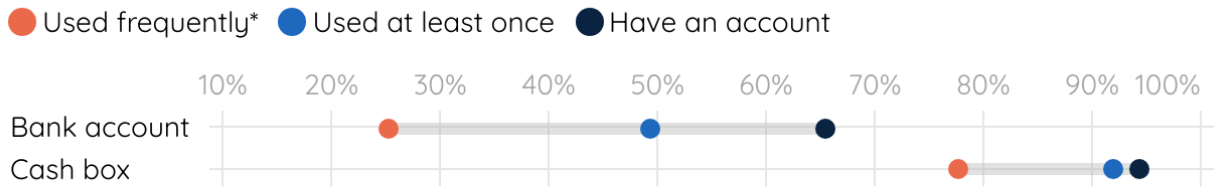
[3] According to the 2025 Global Findex Database, 1.3 billion adults worldwide lack any financial account; that number stood at 2.5 billion in 2011. See Leora Klapper et al., The Global Findex Database 2025: Connectivity and Financial Inclusion in the Digital Economy (Washington, DC: World Bank, 2025), https://doi.org/10.1596/978-1-4648-2204-9.

to separate the firm's use of financial services from personal or household uses, by asking the owners to report only the transactions and financial services (formal or informal) for the firm. In one-off surveys, we inquired about interest in, uses for, and satisfaction with different types of accounts. All of this data allows us to construct a novel measure not just of whether a firm is "banked" or "included" but the degree to which they are integrated into the formal financial system. Specifically, we use both bank account ownership and *percent of value of transactions through a bank account* to describe a firm's integration into the banking system.

BUSINESS ACCOUNT OWNERSHIP

In this report, we focus on account ownership and usage specifically for business purposes. At the beginning of the Diaries, we asked each firm owner to list the "accounts" they used for the firm—note that we considered a cash box (or drawer, or till) a type of account. As shown in Figure 1.1, 94% of firms report owning a cash box. About two-thirds as many (65%) say they also own a bank account that they use for the business. But looking deeper at how these accounts are used, we see a bigger gap: just 49% actually used that account at least once during the study. The gap widens further when we look at frequent use—just 26% of firms use their bank accounts for at least 25% of their total transaction value. In Indonesia we see that cash boxes are the predominant tool (80% of firms used cash boxes for 25% or more of their transaction value). Overall, this analysis shows that while a moderately high percentage of our firms report owning a bank account used for the business, few made bank accounts central to their operations.

FIGURE 1.1: ACCOUNT OWNERSHIP VS FREQUENT USE (FOR BUSINESS PURPOSES)

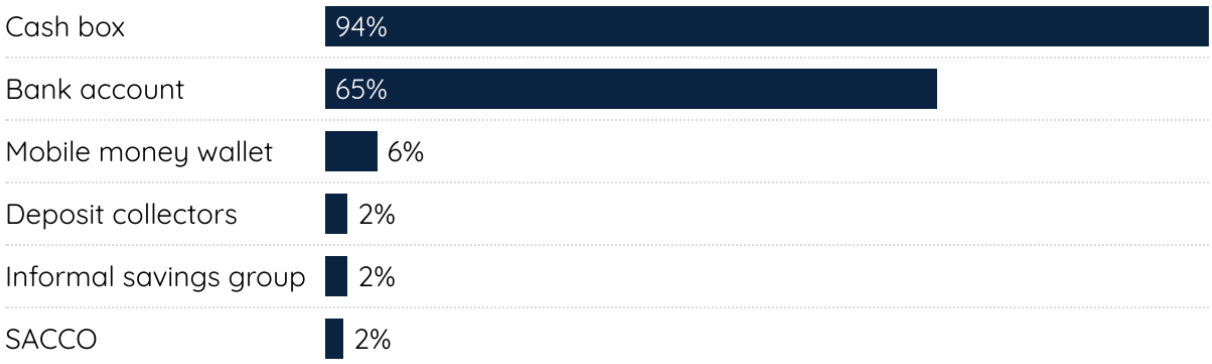


*for 25% or more of transaction value

Beyond bank accounts and cash boxes, other account types are much less prevalent. Fewer than 10% of firms reported accounts with mobile money providers (6%), and only around 2% of firms reported accounts with informal savings groups, deposit collectors, or Savings and Credit Cooperative Organizations, known as SACCOs (Figure 1.2).

FIGURE 1.2: ALL ACCOUNT TYPES REPORTED FOR THE BUSINESS

Percent of firms reporting at least one account per account type



BUSINESS ACCOUNT USAGE

Of the firms that do use their bank accounts, we can look at the high-frequency data gathered during weekly interviews to gauge the relative importance of a bank account in each firm's financial management. For each transaction recorded[4] we asked the firm owner the value, the mechanism of the transfer (e.g. cash or bank transfer), and the type of account used.

To better understand how firms use and value bank accounts, we look deeper into the cash flow data. We categorize each firm's level of banking activity based on the value of its total transactions into or out of a bank account. This analysis reveals a quite different picture of integration than measures of either ownership, or ownership and transaction alone. Figure 1.3 shows the percentage of transaction value going into or out of the two most frequently-used types of accounts—cash boxes (top) or bank accounts (bottom), revealing a wide distribution of banking activity across our sample.

[4] As our methodology allows firms to bundle small transactions, and most small transactions happen in cash, we choose to focus on *value of cash flows* instead of a *count of transactions* to avoid overestimating the role of cash.

FIGURE 1.3 A: DISTRIBUTION OF BANKING ACTIVITY INTO/OUT OF CASH BOXES

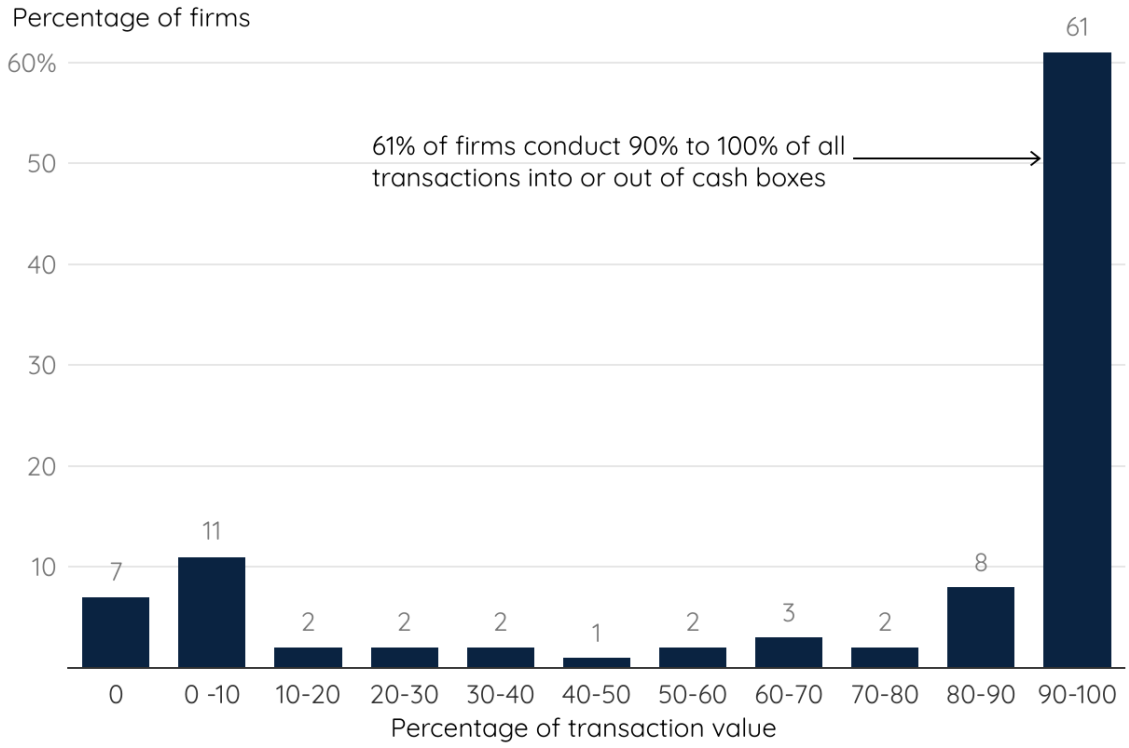
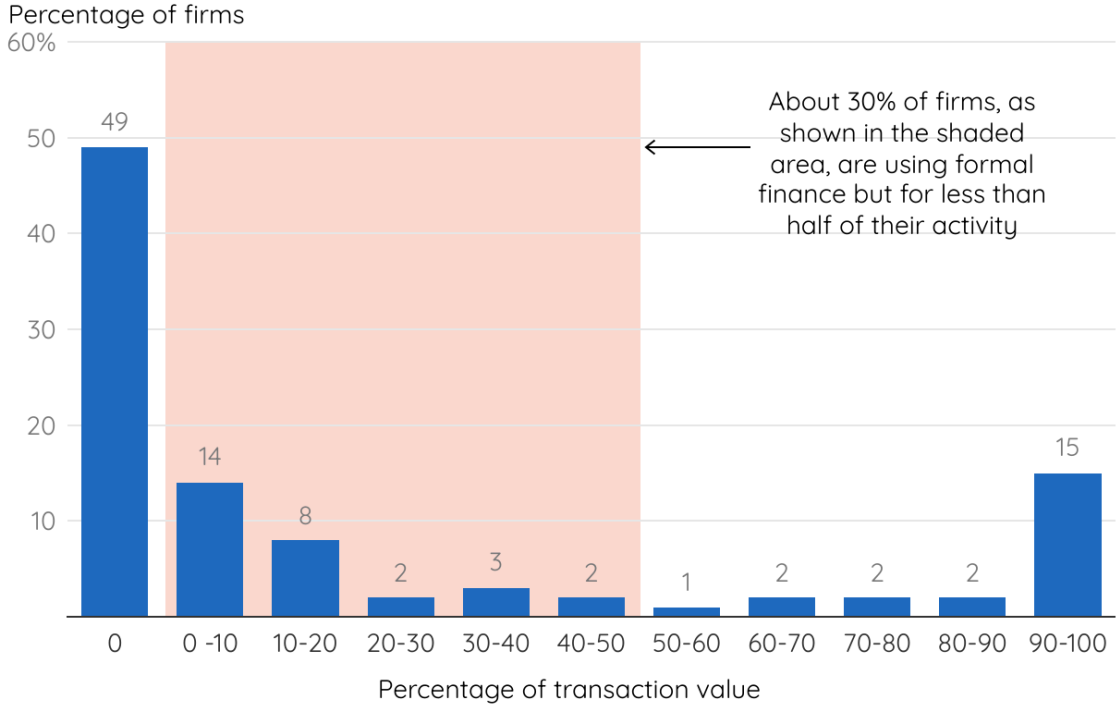


FIGURE 1.3 B: DISTRIBUTION OF BANKING ACTIVITY INTO/OUT OF BANK ACCOUNTS



Understanding bank and cash account usage at this level of granularity allows us to make recommendations about how best to advance formal financial integration for this population. For instance, based on the recorded flows, we see that there are two important dimensions for deeper integration. First, about 30% of firms already use formal finance but for less than half of their activity—increasing their usage is one opportunity. Second, nearly half of firms still operate entirely outside formal systems—bringing them in is another, likely harder, challenge. The former can likely be addressed through marketing and product design tweaks; the latter probably requires more significant interventions and potentially policy changes.

TRANSACTION MECHANISMS

In this report, we rely primarily on "account type" data for our analysis of financial integration. The downside is that we don't know how money moved into or out of the account—by bank transfer or in cash. However, we did separately collect data on these "transaction mechanisms."

We analyze these two types of data together to understand the relationship between "account used" and "transaction mechanism," and are able to see whether firm owners are moving money into and out of their bank accounts electronically using bank transfers, or manually in cash. The key finding here is that even for the minority of total transactions that do originate or end up in a bank account, many transfers happen in cash rather than by bank transfer, meaning that the firm owner is (for example) taking money received from customers in cash, and carrying it by hand to a neighborhood bank agent or bank branch.

Figure 1.4 shows the distribution of transaction value against transaction mechanism for bank accounts for one sample firm. Like the median firm in Indonesia, this firm conducts most transactions into or out of a cash box. But for those transactions originating or ending in bank accounts, as shown below, this firm reports two different types of transaction mechanisms: bank transfer (for 78% of transactions by value) and cash (for 22% of transactions by value).

FIGURE 1.4: TRANSACTION MECHANISM DISTRIBUTION INTO BANK ACCOUNT FOR SAMPLE FIRM, IDR

For this reason, the percentage of transaction value we see reported as into or from a bank account should not be directly interpreted as a reliance on bank transfers or branches, but rather as bank accounts providing an important storage mechanism and interoperable tool that our firms use in combination with cash. In particular, any discrepancies between account used and transaction type, particularly for bank accounts, illustrate that firms are moving funds between account types and interoperability between these modes is crucial.

Our interpretation of the mixed transaction mechanisms occurring from or into bank accounts is that firms need to constantly shift working capital between different modes, to manage unpredictable costs. There may also be a mismatch between payment modes from customers and the payment modes for firm expenses.

Given our limited insight into the specifics of transaction types and the importance of having appropriate storage mechanisms for business capital, the remainder of our report focuses on the "accounts used" data point to analyze a firm's level of banking integration.

SEPARATION OF FINANCES

Separation of business and personal finances is another key metric. This fundamental business practice has been shown to be important to firm performance,[5] and is obviously important for understanding administrative data about small firms' accounts. The majority (66%) of our total sample (including firms that are unbanked) report keeping specific separate accounts for their business. Banked firms report keeping separate finances at higher rates than the total sample: 74%. They do this both via maintaining a cash box and bank account—half of banked firms that report separating finances have both a business bank account and a business cash box.

Size of firm (by revenue) is correlated to account separation: 75% of firms in our high revenue segment separate finances compared to 63% of those in the lower two tiers of revenue segmentation.[6] Men-owned firms are most likely to separate their finances, as 76% of men-owned firms have a separate business account compared to 54% of women-owned firms.

Whether a bank account legally belongs to a business or to the owner is a different but related question that can be more difficult to untangle. We did not ask owners to verify the legal status of the bank accounts they reported. However, we did ask about business registrations for the firm, and whether the firm owner considers the firm to be formal, semi-formal, or informal. While requirements to register a business bank account vary across banks, the most common requirement is a copy of the resident identity card (*kartu tanda penduduk or KTP)* and tax registration number (*nomor pokok wajib pajak or NPWP)*.[7] In our sample, 30% of firms had a tax registration number. Given the low number of registrations, we surmise that the vast majority of the bank accounts are not legally registered to the business, but to the owner. Firms that are highly integrated are more likely to perceive themselves as formal and more likely to separate their finances—showing an interplay between integration, perceived formality, and financial separation. We see that 83% of firms that perceive themselves as either formal or semi-formal separate their finances, compared to only 67% of those that see themselves as informal, and 47% of those that declined to answer the perceived formality question. We see no difference in separation of finances between firms that have tax registrations and those that do not.

[5] David McKenzie and Christopher Woodruff, "Business Practices in Small Firms in Developing Countries," Management Science 63, no. 9 (2017): 2967–2981.
[6] Firms are categorized based on median monthly revenue. The cutoffs are: Low (less than IDR 10 million, 49 firms); medium (IDR 10 million to IDR 30 million, 59 firms); and high (IDR 30 million to IDR 80 million, 36 firms). Firms with revenue above IDR 80 million (18 firms) are considered outliers.
[7] Bank Mandiri and BritAMA requirements

2. A Deeper Look at Banking Integration

SUMMARY

In this section we create a measure of how integrated the small firms are into the formal banking system in Indonesia, and then examine firm characteristics that may relate to different levels of banking integration. We begin by categorizing firms based on how much they use their bank accounts, then examine whether owner gender, sector, formalization, and firm size predict different levels of integration. We also look at whether firms use bank accounts differently for income versus expenses.

Unsurprisingly, there is a relationship between size of firm (in terms of revenue) and whether firms are banked at all—higher-revenue firms are more likely to be banked than lower-revenue firms. However, the relationship between the more nuanced *levels* of banking integration and size is less clear cut, as more integrated firms do not always earn more than less integrated firms.

Banked firms at all levels of integration use bank accounts for expenses and income equally. However, nearly half of payments to workers remain in cash, even among banked firms, due to worker preferences. The exception is the most highly banked firms that use bank transfers for essentially all worker payments. Banked firms report keeping separate finances at higher rates than the total sample. Women-owned firms are the most likely to be unbanked. Across industries, banked rates and banking integration levels are similar. As noted above, firms with a tax registration are much more likely to be banked, but registration doesn't perfectly predict integration levels.

CATEGORIZING FIRMS' INTEGRATION

Our sample skews toward lower banking integration levels (Figure 2.1). We use our categorization (highly integrated, partially integrated, marginally integrated and unbanked) to explore how levels of banking integration correlate with other measures, including key demographics, formalization, and credit access. As shown in Figure 2.1, we consider a firm unbanked if they say they own a bank account for the business but at no point during the year-long survey do they report using that account for any transaction.

FIGURE 2.1: LEVEL OF BANKING INTEGRATION

Level of banking integration	Definition	Percentage of Firms
High	More than 75% of transaction value conducted into or from a bank account	18%
Partial	Between 25% and 74% of transaction value conducted into or from a bank account	9%
Marginal	Less than 25% of transaction value conducted into or from a bank account	23%
Unbanked	Do not report using a bank account	50%

REVENUE

In general, bank account use is correlated with higher revenue. The relationship between level of financial integration and revenue is not as clear-cut—partially integrated firms have lower monthly revenues than marginally integrated firms and there is a large overlap in the distribution of median monthly revenues across all levels of financial integration (Figure 2.2). This suggests an opportunity to increase banking integration across the revenue distribution.

FIGURE 2.2: REVENUE PARAMETERS BY LEVELS OF BANKING INTEGRATION

Level of banking integration	Number of firms	Minimum monthly revenue (IDR)	Median monthly revenue (IDR)	Maximum monthly revenue (IDR)
High	28	4,790,000	29,250,000	344,511,193
Partial	14	1,285,000	12,276,000	243,474,050
Marginal	39	2,662,250	20,150,000	238,685,500
Unbanked	79	480,000	12,590,550	98,296,625

BANK ACCOUNT USE PATTERNS

We also looked at what types of transactions the firms with differing levels of banking integration made to and from each account, summarized in Figure 2.3. Highly integrated firms used their bank accounts to receive nearly all payments from customers, pay expenses, and pay workers. Partially and marginally integrated firms primarily used cash for expenses and worker payments. However, we found that partially integrated firms typically split revenues between bank accounts and cash. In other words, partially integrated firms used their accounts to receive revenue from customers more than to make payments.

FIGURE 2.3: HOW FIRMS HANDLE THREE DIFFERENT TYPES OF TRANSACTIONS

Table shows the median percent of transaction value into or out of each account type

	Revenues		Expenses		Worker Pymnts	
Level of Banking Integration	Bank Account	Cash Box	Bank Account	Cash Box	Bank Account	Cash Box
High	100%	0%	99%	1%	100%	0%
Partial	53%	47%	46%	54%	19%	81%
Marginal	6%	94%	0%	100%	0%	100%

Given global efforts to encourage digital payments to workers, we looked specifically at how firms pay workers and how common cash remains. By value, 51% of all worker payments are made in cash; 47% come from bank accounts. When we look at the use of cash for worker payments by the level of banking integration, we find that unbanked and marginally integrated firms pay their

workers entirely in cash. Partially integrated firms also tend to pay workers in cash. Only highly integrated firms pay their workers from a bank account (see Figure 2.4).

FIGURE 2.4: ACCOUNTS USED TO PAY WORKERS

Median percentage of transaction value by account type

Level of Integration	Bank Account	Cash Box
High	100%	0%
Partial	19%	81%
Marginal	0%	100%
Unbanked	0%	100%

When we asked firm owners about their payments to workers, we heard that the pattern of paying workers in cash is often linked to worker preference. Firms seem to have the power and willingness to dictate to customers how they pay, but not to push workers into their preferred forms of payment. For example, a male firm owner who runs a carpentry business in Makassar made 100% of his payments to workers in cash over the course of the study, despite his preference to use mobile banking through an application to make payments. He explained that paying workers using mobile banking would ease his process for distributing salaries while also keeping an electronic record of the payments. However, most of his workers do not have bank accounts and prefer to be paid in cash.

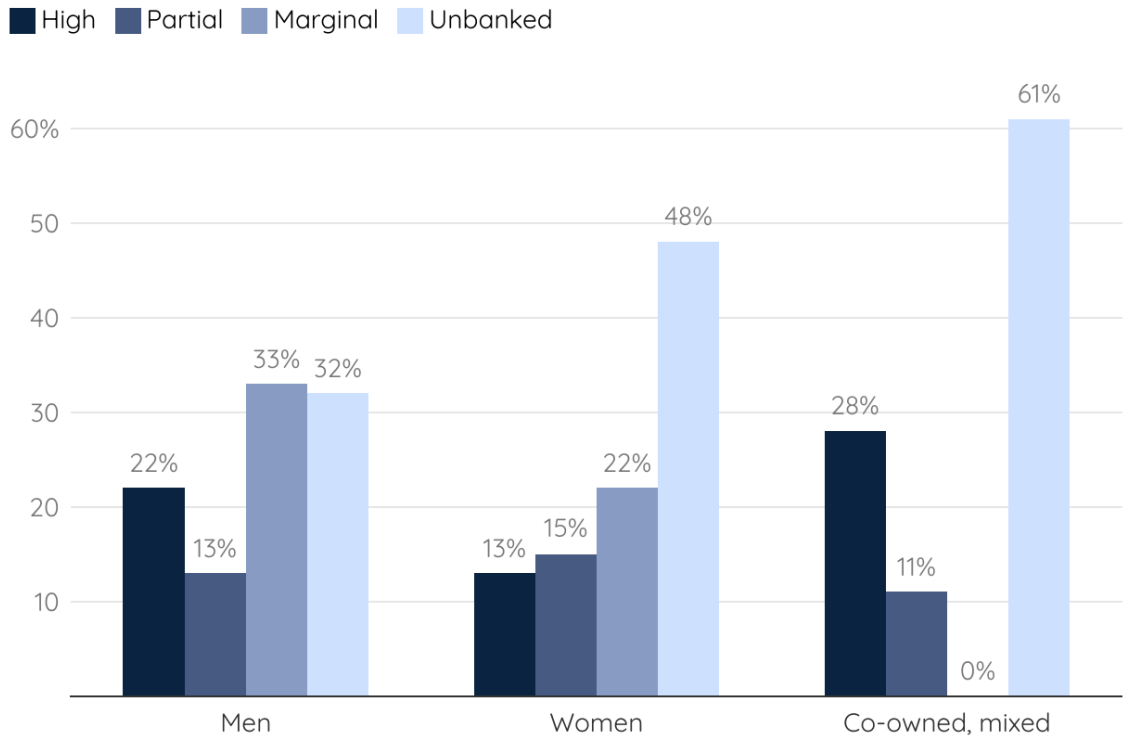
INTEGRATION AND FIRM/OWNER CHARACTERISTICS

Gender

Female firm owners in the Indonesian sample are more likely to be unbanked (48%) than male firm owners (32%). This is in line with global findings, but diverges slightly from national trends: Findex 2025 found that women in the wider Indonesian population are banked at slightly higher rates than men (58% vs 55%) and have been since 2014.[8] However, Indonesian women score lower on other Findex 2025 indicators: women save formally and access formal credit at lower rates than men.

[8] Klapper et al., Global Findex Database 2025.

FIGURE 2.5: BANKING INTEGRATION LEVEL BY FIRM OWNER GENDER

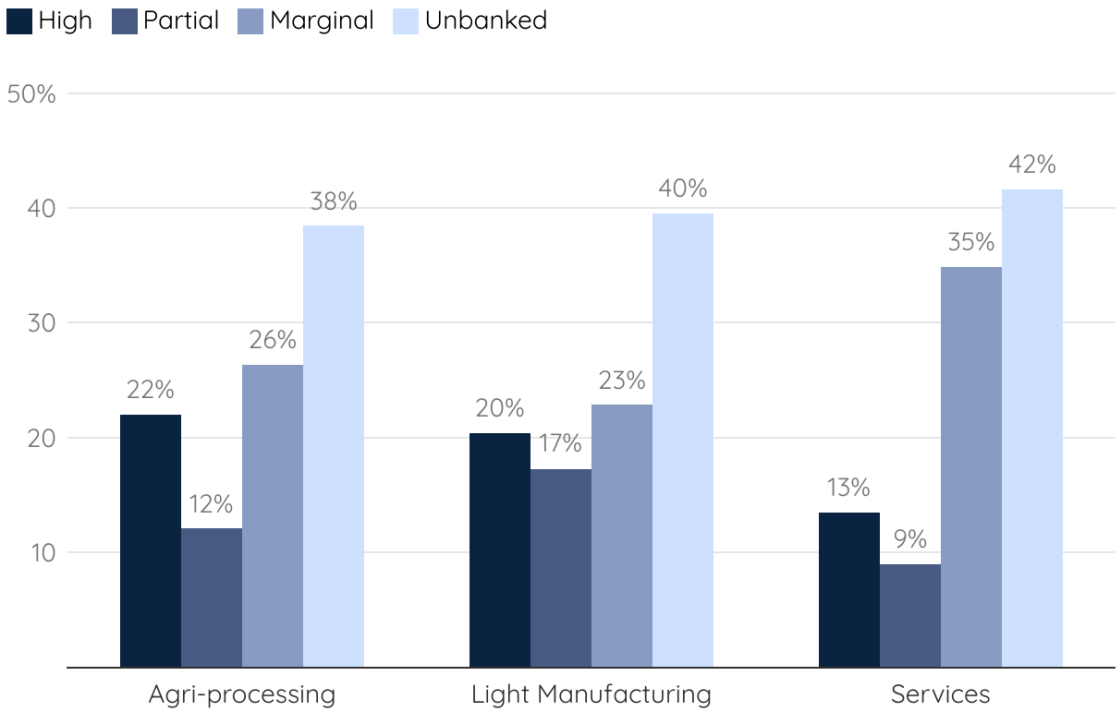


Among firms with accounts, men-owned firms are more likely to be highly integrated (22% vs. 13%) but also more likely to be only marginally integrated (33% vs. 22%) (see Figure 2.5). On the other hand, among those who do have bank accounts, female firm owners use their bank accounts somewhat more intensively than their male counterparts— the median woman-owned firm conducts 32% of total transactions into or out of bank accounts (measured by value of those transactions). For the median men-owned firm, it's 24%.

Industry

Firms across the three industries are similarly distributed across levels of banking integration: 60% of agri-processing and manufacturing firms are banked and 57% of services firms are banked. Among banked firms, light manufacturing shows the highest median percentage of value flowing through a bank account (42%), compared to agri-processing (27%) and services (13%).

FIGURE 2.6: BANKING INTEGRATION LEVEL BY INDUSTRY



Formality

As noted earlier, 30% of firms had a tax registration, while just 8% had a domicile letter, 6% had a business license, and 3% had a deed of establishment. Tax registration is associated with having a bank account—just 20% of registered firms are unbanked, compared to 80% of unregistered firms—but it does not reliably predict how much a firm uses that account. In fact, partially integrated firms are the most likely to have tax registration (see Figure 2.7).

FIGURE 2.7: BANKING INTEGRATION LEVEL AND TAX REGISTRATION

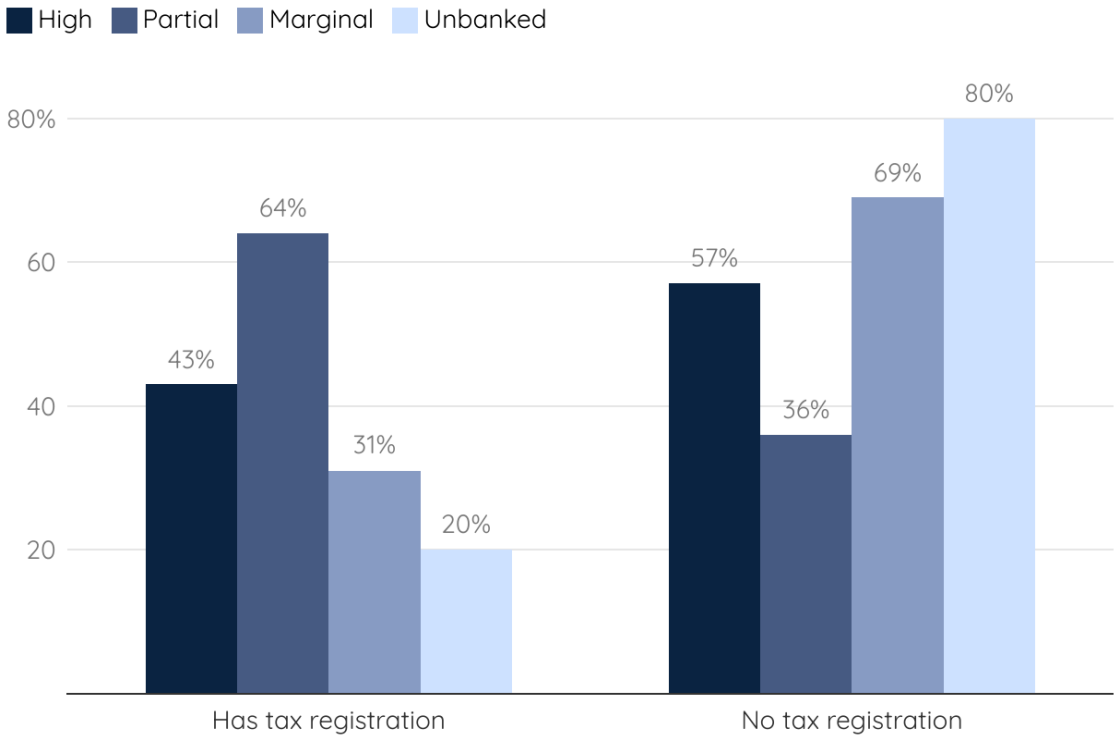
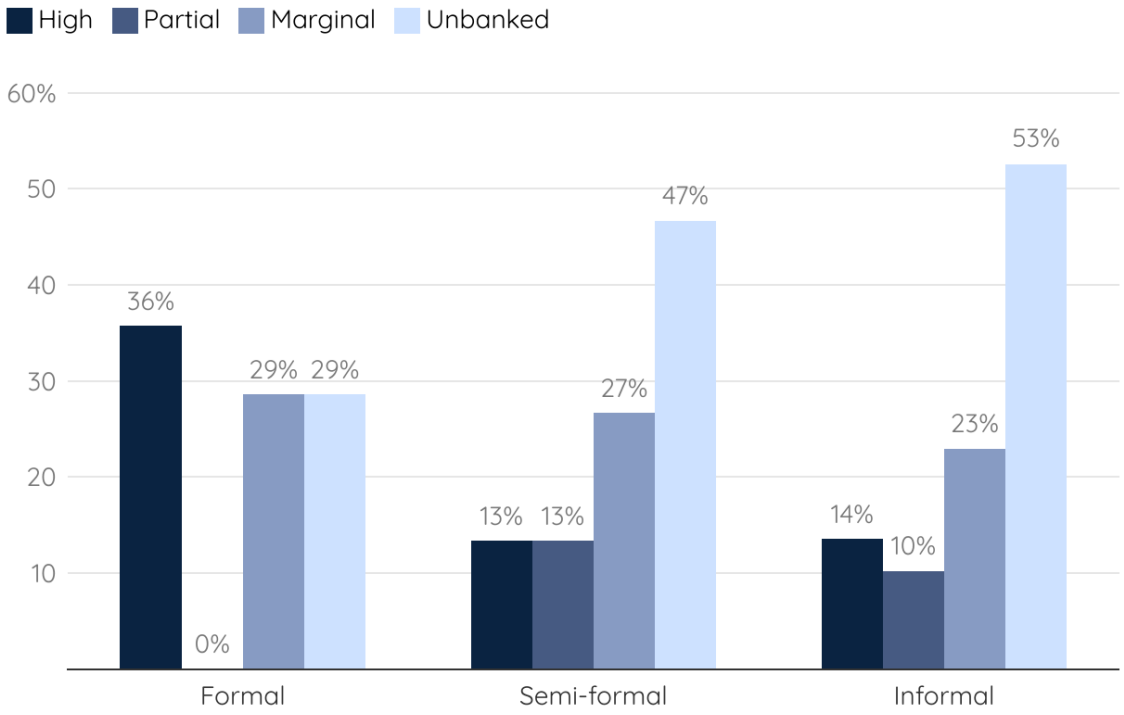


Figure 2.8 shows that there is a weakly positive correlation between level of integration and the firms' own perceptions of their formality.

FIGURE 2.8: LEVEL OF BANKING ACTIVITY AND PERCEPTION OF FORMALITY



3. Exploring DFS Adoption and Usage

SUMMARY

The rapid adoption of mobile money by low-income households in Bangladesh and Kenya created a wave of enthusiasm. Many hoped digital financial services could be the pathway to financial inclusion—and significant benefits—for excluded populations around the world. Over the last decade, mobile money has spread to more than 50 countries, but East Africa and South Asia have proven to be outliers rather than templates.

That is in part because many different types of service providers quickly recognized the potential uncovered by mobile money's rapid growth in a few countries. The term digital financial service, or DFS, was coined to recognize that there were many ways and many potential providers of services that could compete with or replace physical cash that were unlike the specific providers and mechanisms in Kenya and Bangladesh. Here and in other Small Firm Diaries reports, we use the term "mobile money" and "mobile wallet" *only* for payment accounts accessed through a mobile phone. We use digital financial services as an umbrella term that includes banking and payments services delivered through the internet—whether accessed via smartphone, SIM toolkit, USSD, or PC. It also includes "traditional" alternatives to cash like credit and debit cards used for non-cash payments (as opposed to ATM withdrawals). However, these terms are often used interchangeably, and users themselves don't always distinguish between types of services, delivery mechanisms, or providers—which makes research difficult. A further complication: some firms may have interpreted our questions about technology and DFS to include personal use, not just business use. As a result, while we offer our own categorizations and statistics, throughout this section we try to be clear about the exact questions we asked in case others would categorize or analyze the responses differently.

Digital financial services continue to offer significant possibilities for bringing households and firms into, or further into, the formal financial system. DFS also potentially enables business models for delivering financial services to customers who have been viewed as too expensive or unprofitable to serve by financial services providers. So a key question for the Small Firm Diaries was how much these firms actually used DFS, the reasons they did or didn't use DFS, and the factors that might induce them to use DFS more.

In summary, we find that the small firms in the Indonesian sample were generally proficient users of technology, but more firms used technology for marketing or messaging than for banking. Newer innovations in DFS, such as mobile banking or mobile money, were used by fewer firms than debit cards or ATM machines.

HOW DO FIRMS USE TECHNOLOGY FOR BUSINESS?

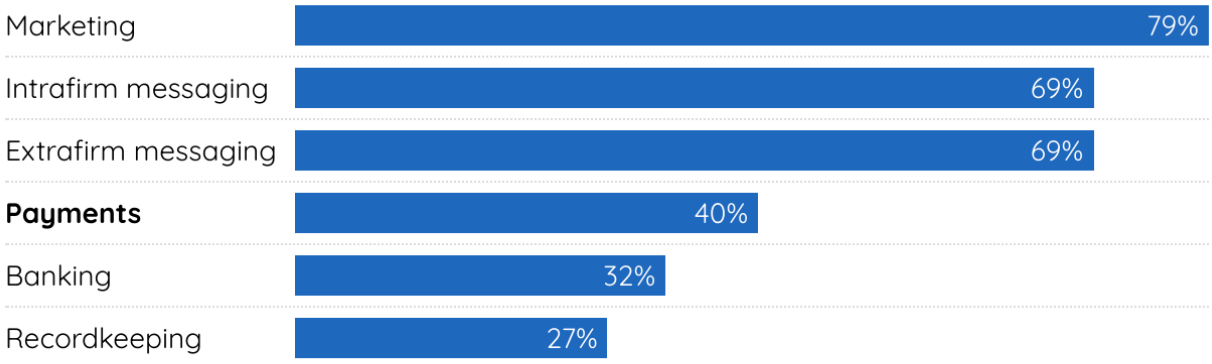
Smartphones are important tools for the majority of businesses in our Indonesian sample. Close to 80% of our firms use a smartphone or computer for business—and almost all who use a computer

also use a smartphone. More men than women use smartphones for business (84% vs. 68%). By industry, light manufacturing leads (92%), followed by services (67%) and agri-processing (52%).

Of the close to 80% of firms that use a smartphone for business, only 40% use it to make payments. Marketing and messaging are much more popular uses (see Figure 3.1). Use of technology varies with the level of banking integration: 86% of highly integrated firms and 100% of partially integrated firms report using a smartphone for business purposes, compared to 68% of unbanked firms. Of the highly integrated firms using technology, 63% use a smartphone for payments and/or banking.

FIGURE 3.1: BUSINESS USES FOR SMARTPHONES

Among firms that use smartphones

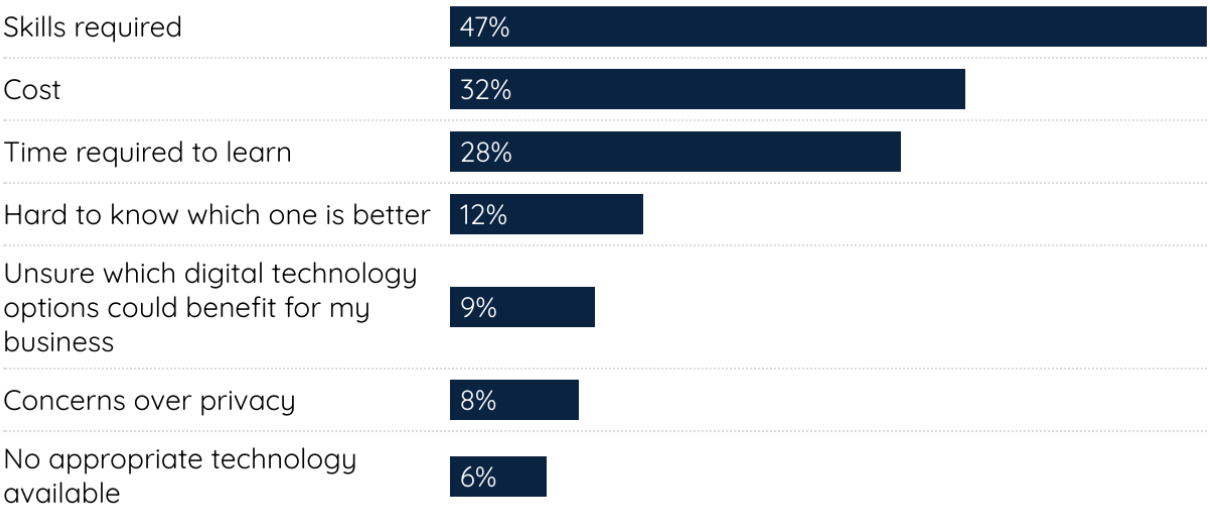


In a separate survey, we asked firms what prevents them from using technology (Figure 3.2). The largest group—almost half of respondents—reported skills as a barrier to adoption, a finding supported by a survey conducted by the National Financial Inclusion Council, which found that three-quarters of adults in Indonesia report little or no ability to perform a financial transaction on their phone.[9] In our sample only a third viewed cost as a barrier, and less than 10% of firms reported concerns over privacy and fraud.

[9] National Council for Financial Inclusion Secretariat, Financial Inclusion Indonesia 2020 (Jakarta: DNKI, 2021), 30, http://snki.go.id/wp-content/uploads/2023/02/FII-Indonesia-2020-Report_IND-1.pdf.

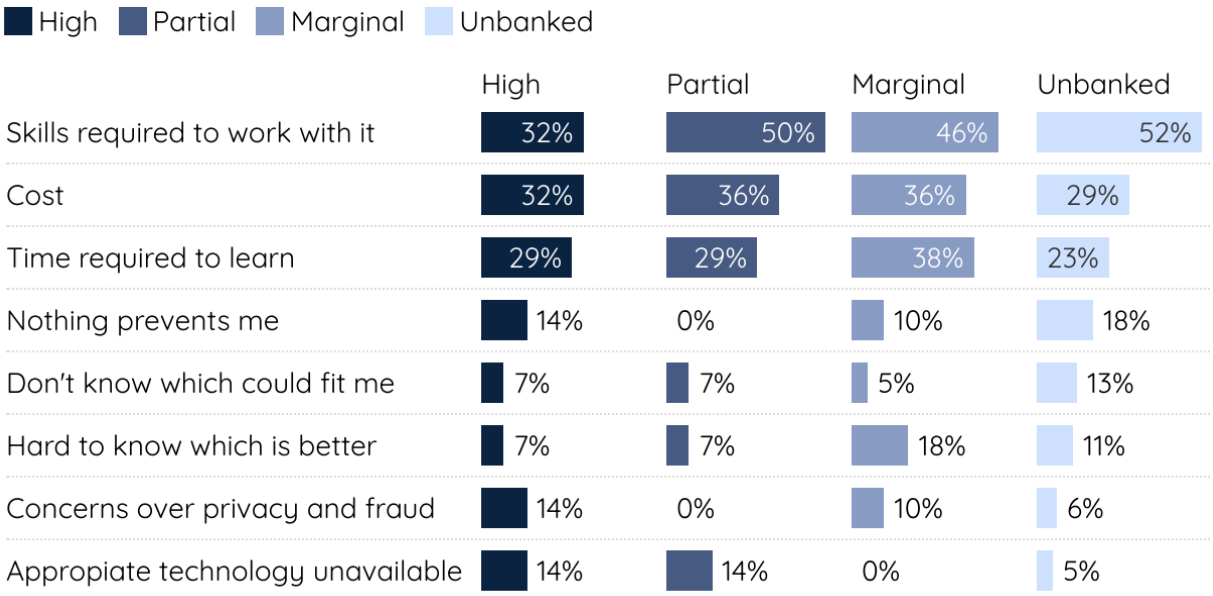
3.2: BARRIERS TO TECHNOLOGY ADOPTION

What prevents you from using technology?



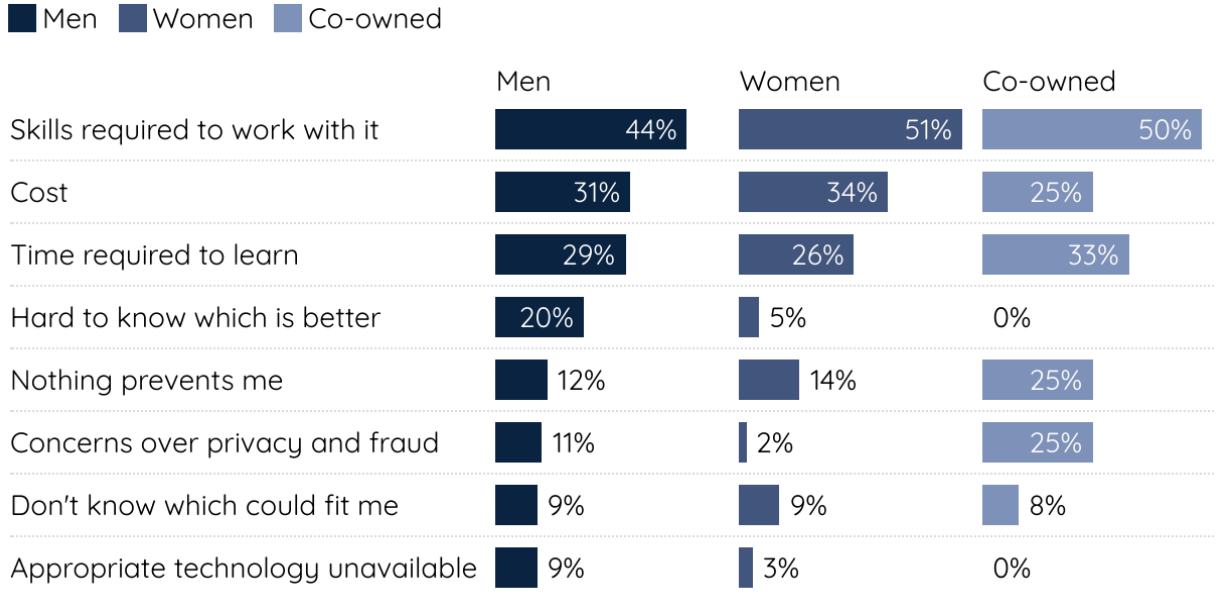
Across all levels of banking integration, the most common barrier to DFS adoption was lack of skills. However, unbanked, marginally, and partially integrated firms reported this barrier at much higher rates than highly integrated firms. Marginally banked firms are more likely than others to cite the time required to learn and set up smartphones as a barrier (Figure 3.3).

FIGURE 3.3: BARRIERS TO TECHNOLOGY ADOPTION BY LEVEL OF BANKING INTEGRATION



As shown in Figure 3.4, women were slightly more likely than men to report skills as a barrier to adoption (51% of women compared to 44% of men). Men were significantly more likely to report that they don't know which service or tool would be a good fit for them (20% of men as opposed to 5% of women).

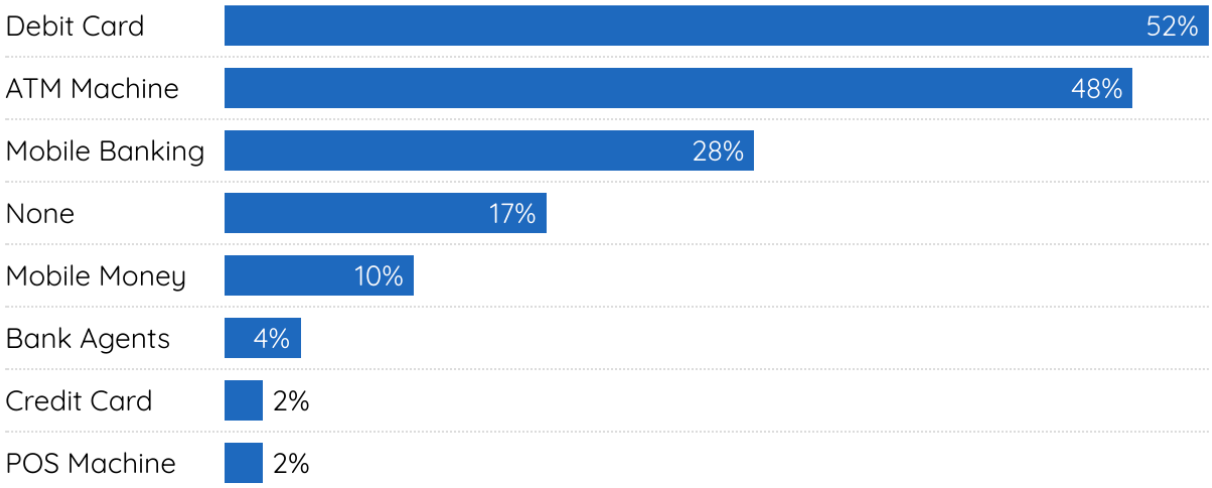
FIGURE 3.4: BARRIERS TO TECHNOLOGY ADOPTION BY GENDER



We also asked all firms what forms of digital financial services they use—for business or personal purposes—regardless of whether they use a smartphone or computer for business. Debit cards and ATMs are the leading tools—also staples of the move away from cash in high income countries—followed by mobile banking (28% of firms). However, it is notable that 17% of firm owners still report no use of digital financial services, whether for business or personal use (Figure 3.5).

FIGURE 3.5: USE OF DIGITAL FINANCIAL SERVICES

Percentage of firm owners reporting experience with a specific DFS, whether for personal or business use



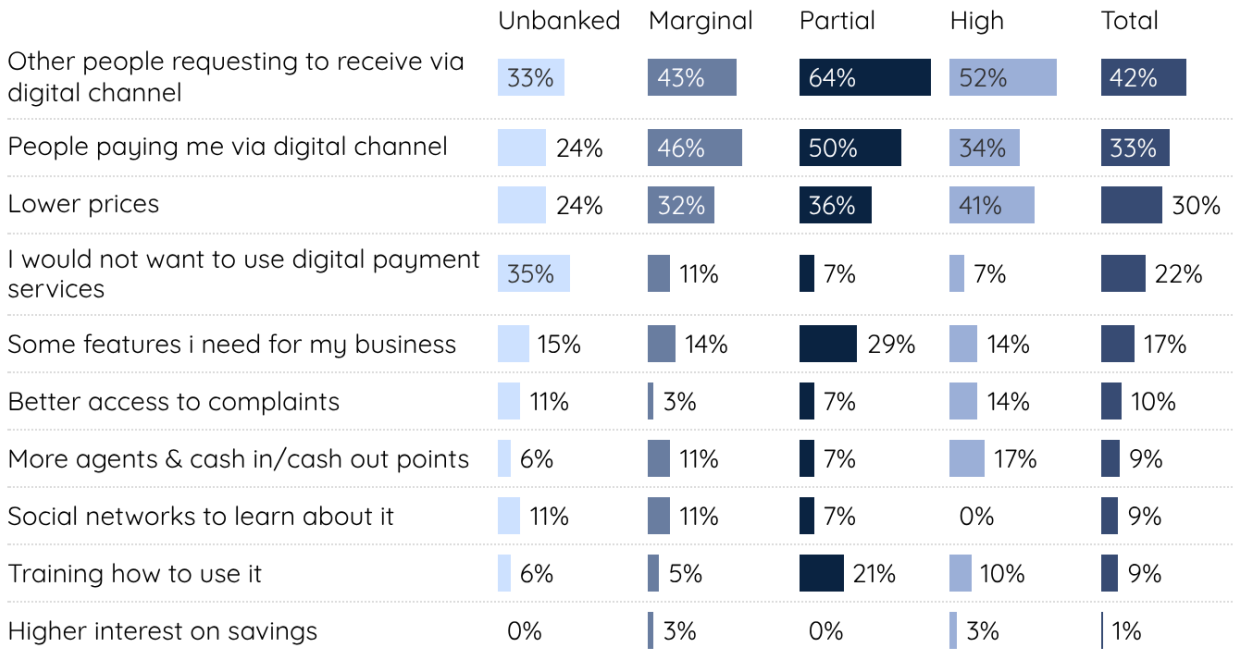
We also ask users of DFS, as reported in the question above, what challenges they've experienced. A clear minority (only 12%) reported experiencing issues with the services. Among those firms, the most common issue was "money arriving late"(5 firms, or 30%), followed by loss of access (3 firms, or 20%).

Challenges aside, the firms in our study saw various advantages in using digital financial tools, such as security, convenience, and record keeping. For instance, the Makassar carpenter discussed in Section 2 aspires to conduct all of his business transactions via mobile banking and is succeeding, with the large exception of worker payments, as his workers do not have bank accounts.

At the same time, we see that even less-technologically savvy firm owners are moving towards mobile transaction methods as demand from their customers grows. A furniture maker in Yogyakarta explained that while he doesn't use mobile banking himself, his customers prefer it because they get an electronic record immediately. When people pay him via mobile banking apps he does not need to provide them with a paper receipt, which he also finds convenient. During the study, only 25% of his revenue came in cash. Despite feeling too old to learn much new technology, he recognized the importance of basic digital literacy and said he planned to adopt mobile banking himself.

We asked firms what changes would increase their use of digital payments (Figure 3.6). The most common reasons were people requesting to send or receive digital payments, followed by lower prices.

FIGURE 3.6: REASONS TO USE MORE DIGITAL PAYMENT SERVICES BY INTEGRATION LEVEL



Countries: Indonesia

Answers vary with the level of banking integration. Highly integrated firms were more likely to cite customer requests for digital payments (50% vs. 33% of unbanked), lower prices (40% vs. 24%), and more cash-in/cash-out points (18% vs. 6%).

4. Credit Access

SUMMARY

Policymakers hoping to help small businesses thrive have generally focused on access to credit, taking a cue from the microcredit revolution. After 40 years, however, the results of increasing credit access to microenterprises have been decidedly mixed. On the one hand, it's clear that there is demand for credit, that microenterprises can be good credit risks, and that there is a business model for providing microcredit at scale in developing countries with minimal subsidy.[10] On the other hand, the promise of microcredit as a stepping stone to growth has proven false. The majority of borrowers do not grow their microenterprises, and few, if any, "graduate" to larger loans at commercial banks. This is partly because of opposing pressures on MFIs: the borrowers capable of graduation are also the most profitable ones, and key to MFI sustainability.[11]

In the Small Firm Diaries we were eager to understand the credit access, needs and behaviors of small firms. We wanted to understand whether these firms were "graduates" of microfinance programs, whether and where they had access to credit, and how much of a barrier credit access posed to their growth and aspirations. The answers to these questions turned out to be surprising, especially given what we saw in terms of the number of firms that were partially or highly integrated into the banking system.

We see little relationship between banking integration and credit usage: marginally integrated firms borrow from banks at similar rates as more integrated ones. Still, credit usage for the business is not widespread: only 54% of our sample in Indonesia had at least one active loan for their firm during the study period. A higher proportion of male firm owners had loans than female owners, but we find few patterns in credit usage overall. Two-fifths of the firms that took loans borrowed from a government bank.

Firms say they want or use credit to make investments or buy inputs, and cite cost as the most important barrier. Very few firms, whether male- or female-owned, report needing loans frequently.

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[10] It's important to note two caveats: subsidy is still prevalent in microfinance, though often hidden by being delivered via below-market-rate capital to MFIs, especially for MFIs that serve the most excluded populations; much larger subsidies are necessary as countries become wealthier as the "soft" costs of serving marginalized customers rise much faster than profit margins. See: Robert Cull, Asli Demirgüç-Kunt, and Jonathan Morduch, "The Microfinance Business Model: Enduring Subsidy and Modest Profit," World Bank Economic Review 32, no. 2 (June 2018): 221–44, and Joyce Klein and Timothy Ogden, "Lessons for Global Microfinance from . . . the United States?," Financial Access Initiative Working Paper 1/2024 (New York: Financial Access Initiative, 2023), respectively.

[11] See: Abhijit Banerjee, Dean Karlan, and Jonathan Zinman, "Six Randomized Evaluations of Microcredit: Introduction and Further Steps," American Economic Journal: Applied Economics 7, no. 1 (January 2015): 1–21; Rachael Meager, "Understanding the Average Impact of Microcredit Expansions: A Bayesian Hierarchical Analysis of Seven Randomized Experiments," American Economic Journal: Applied Economics 11, no. 1 (January 2019): 57–91; and Natalia Rigol and Benjamin N. Roth, "Loan Officers Impede Graduation from Microfinance: Strategic Disclosure in a Large Microfinance Institution" (NBER Working Paper 29427, National Bureau of Economic Research, Cambridge, MA, October 2021).

Banks are not the only source of credit. Suppliers were named as the second most common source of credit, after government banks. At the same time, the firms themselves are an important source of credit: roughly a third of firms (and 50% of firms that engage in any form of supply chain finance) supply credit to their customers.

Perhaps the most important finding is that "working capital"—or credit used for day-to-day liquidity management—is the most pressing need for many firms. So while firms say they want credit to "invest," we most commonly see them making large purchases of raw materials. We consider this a liquidity need rather than an investment in increased productivity, such as equipment upgrades. While firms report that access to finance is a barrier to their success, many of these firms also say they rarely or never need loans. We interpret this mismatch as reflecting a need for tools designed to manage liquidity—not the loan products currently on the market.

CREDIT ACCESS AND SOURCES

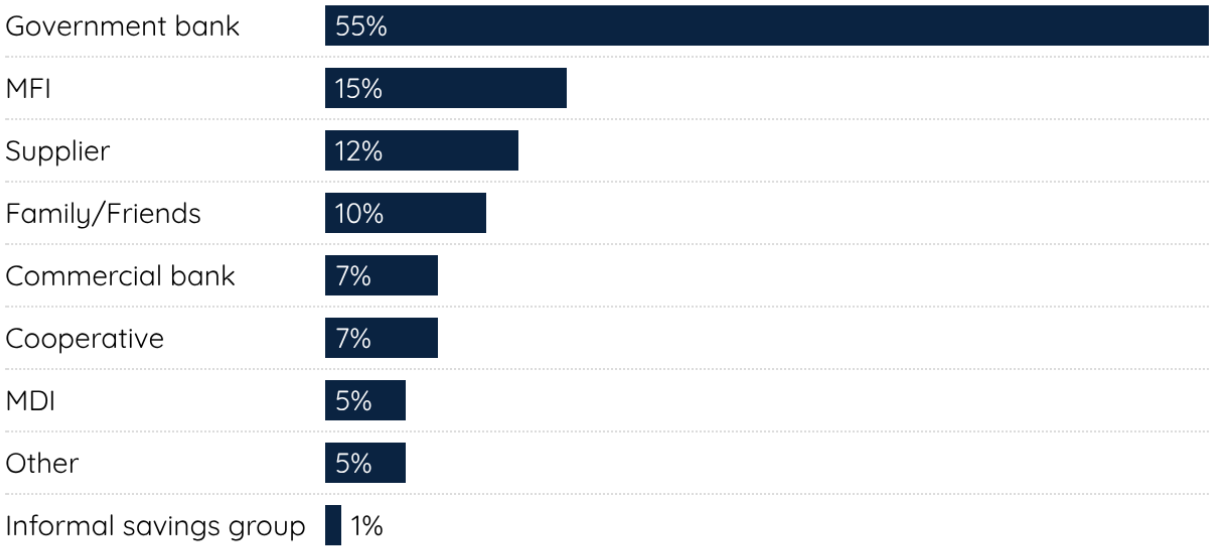
About half (54%) of our firms reported holding a loan of any kind during the study (including loans that were active at the start of the study and new loans taken during the study). Male owners were more likely to take loans (60% vs. 46%) and took higher-value loans—a median of IDR 30 million (approximately USD 6,038) compared to IDR 7.5 million (approximately USD 1,509) for women. Agri-processing firms were most likely to take a loan (59%), followed by light manufacturing (54%) and services (41%). Agri-processing firms took higher-value loans than light manufacturing or services firms at a median of IDR 16 million (approximately USD 3,219) compared to IDR 14 million (approximately USD 2,820) and IDR 9 million (approximately USD 1,831) respectively.

Government banks, suppliers, and MFIs are the most common loan sources in Indonesia (see Figure 4.1). Half of firms that took loans borrowed from a government bank. Most firms rely on one source

of credit.

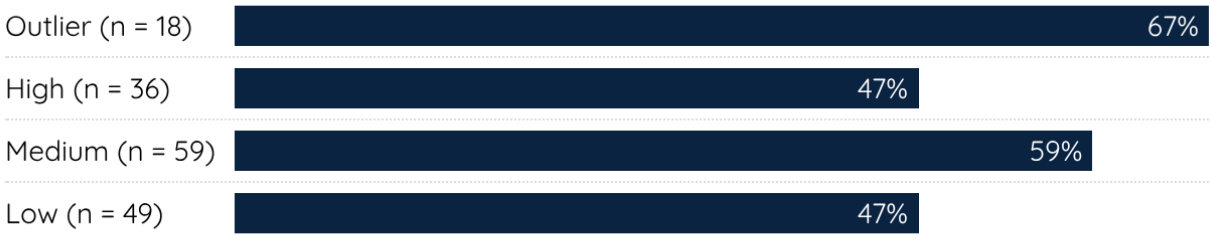
FIGURE 4.1: BUSINESS LOAN SOURCES

Of the subset of firms that report having a loan (54%), percent of firms reporting loans from each source type



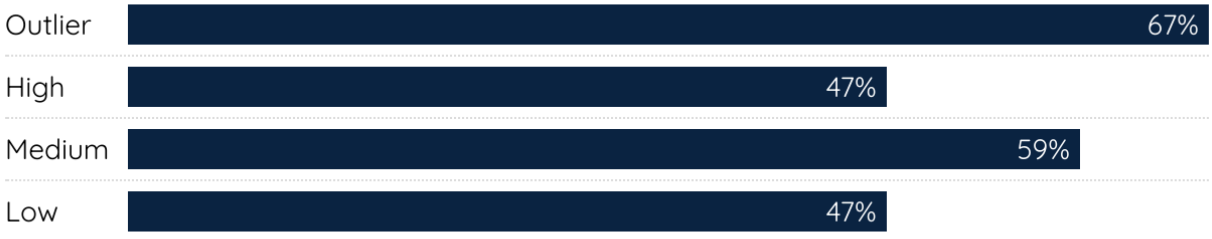
Low and high revenue firms show a similar credit use rate, lower than that of medium and outlier revenue firms (see Figure 4.2).

FIGURE 4.2: PERCENTAGE OF FIRMS WITH A LOAN BY MONTHLY REVENUE CATEGORY



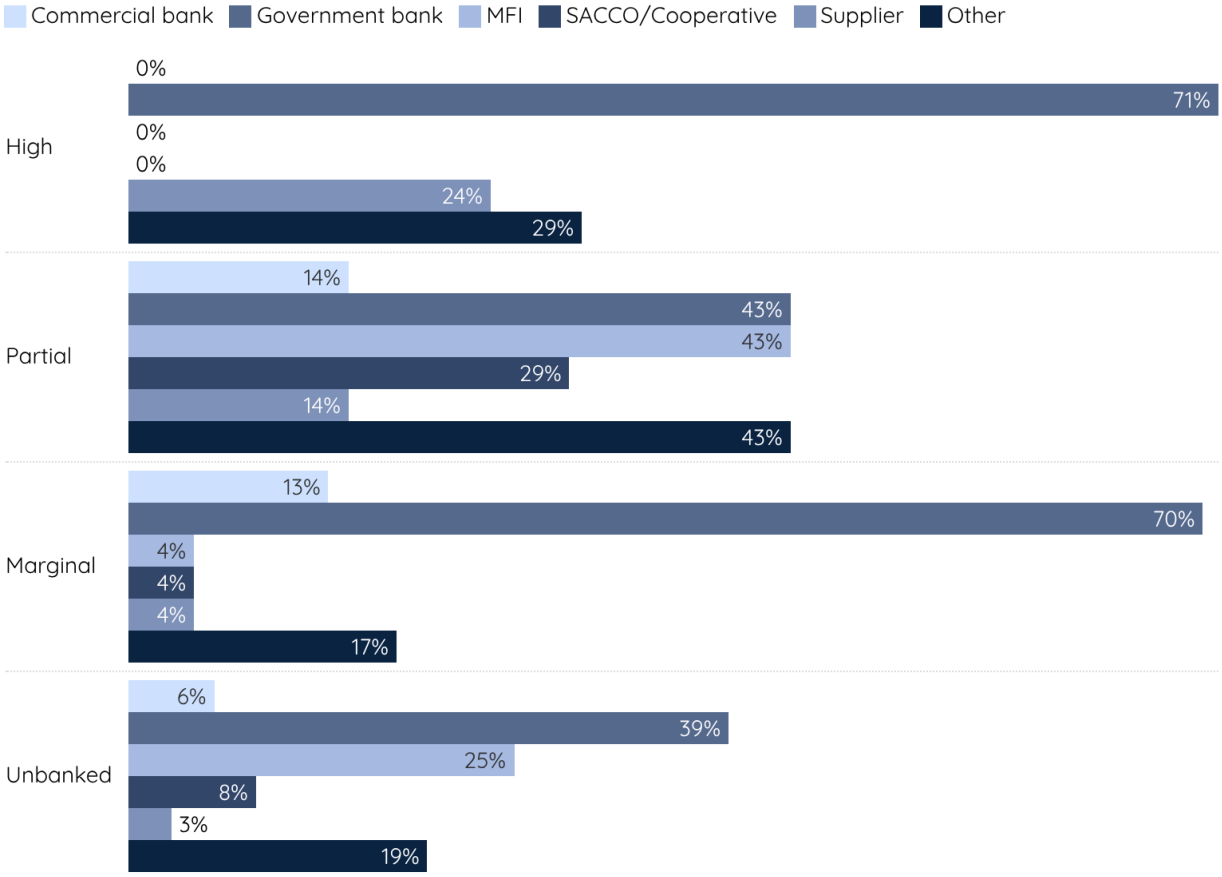
Countries: Indonesia

FIGURE 4.2: PERCENTAGE OF FIRMS WITH A LOAN BY MONTHLY REVENUE CATEGORY



Being integrated into the formal system is not a prerequisite for access to bank credit. Unbanked firms received 30% of government loans, while highly integrated firms received 26% of them, and marginally integrated firms received 35% (Figure 4.3).

FIGURE 4.3: LOANS PER PROVIDER BY LEVEL OF BANKING ACTIVITY



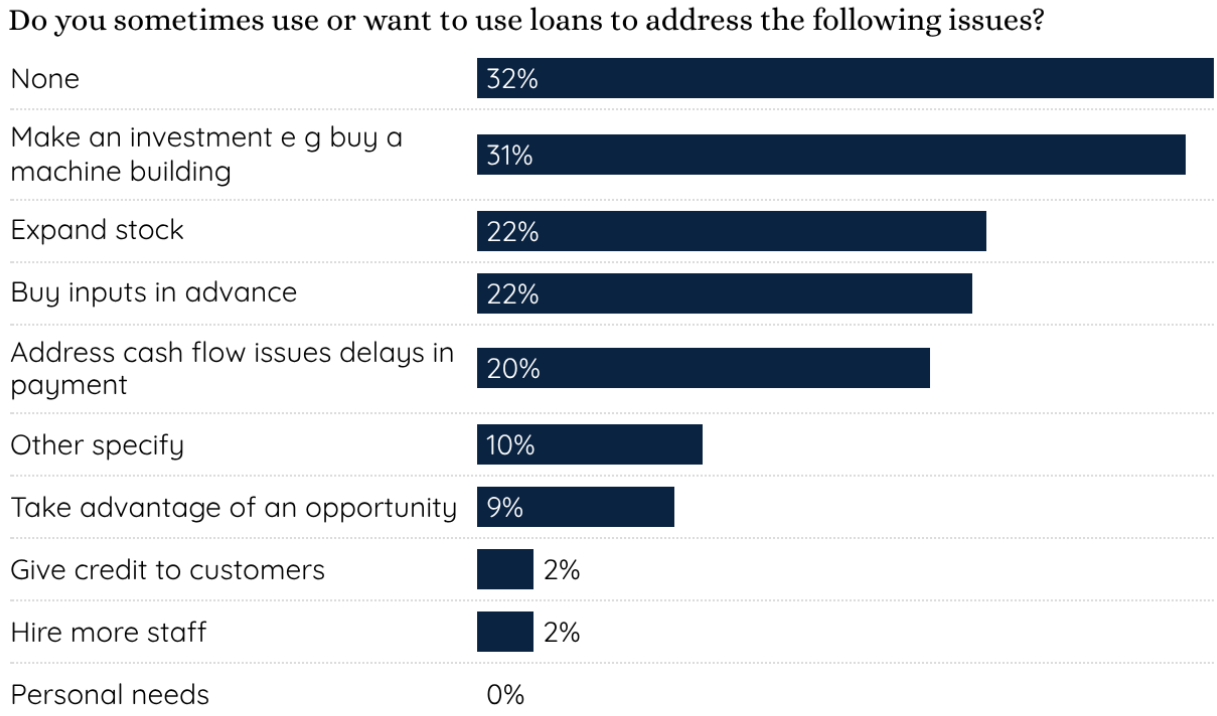
CREDIT USE

During the study, we asked firm owners what they use or would want to use a loan for, with a variety of options (see Figure 4.4). The answer choices were not mutually exclusive: firm owners could choose multiple responses. The most common responses were “make an investment” or “none” (indicating no desire to use loans), followed by “expand stock” and “buy inputs in advance”.

“Make an investment” was a common choice, yet in interviews many firms were hesitant to make large purchases like equipment or machinery. We wanted to understand what they actually meant. To find out, we examined reported asset purchases and then identified each firm's largest expenses, categorizing them by type. During the study, 40% of firms bought new “assets”—most commonly tools (52% of asset purchasers) and machines (20%). However, when we looked for large purchases, we saw that the vast majority were for raw materials or inventory (86% of large purchases, made by

87% of firms).[12] Only 9% of firms making large purchases classified them as assets. This analysis of the data leads us to believe that some significant portion of the firms that said they want to use loans to "make an investment" in fact would want to use loans to buy raw materials or inventory. We interpret these responses to mean that firms desiring loans would use them for day-to-day liquidity (or working capital) needs as well as capital investments.

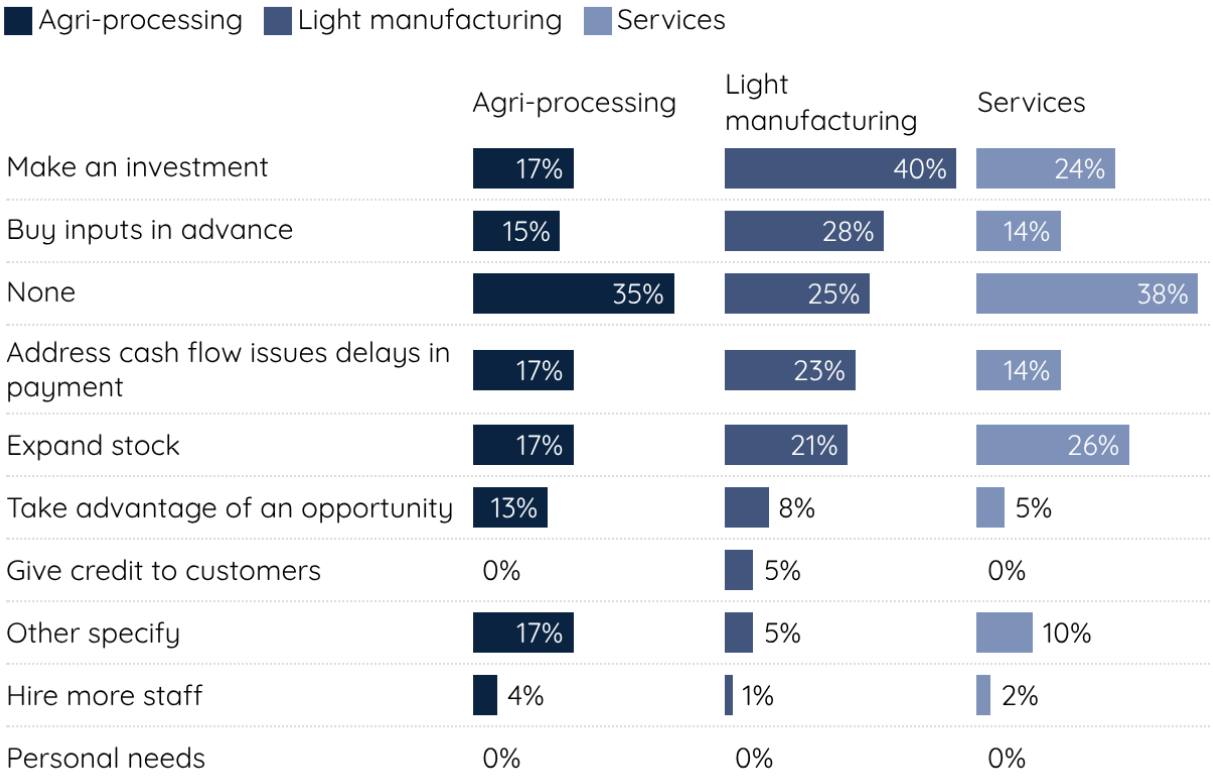
FIGURE 4.4: DESIRED USE FOR LOANS



Responses to this question differ somewhat by sector. For instance, a higher proportion of light manufacturing firms report they want a loan to make an investment or buy inputs in advance compared to services and agri-processing firms. In general, more light manufacturing firms desire to use a loan than firms in the other two industries (see Figure 4.5).

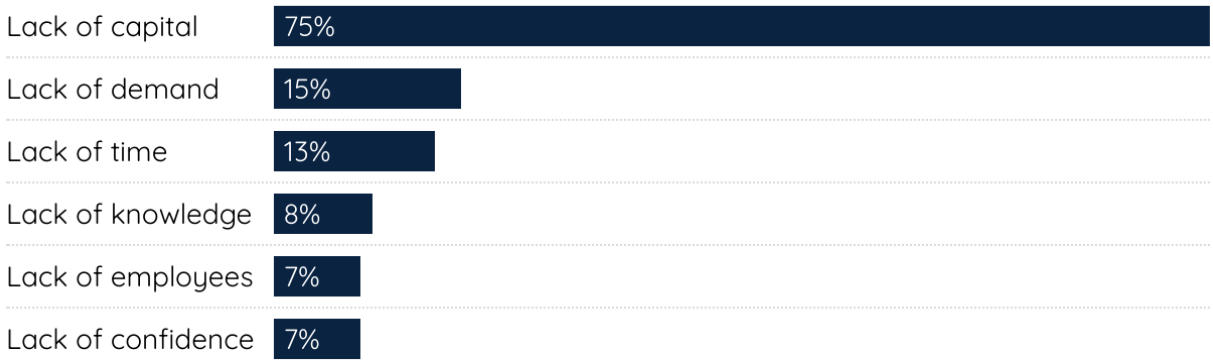
[12] We defined large purchases as single expenses more than three standard deviations above the firm's mean expense.

FIGURE 4.5: DESIRED USES FOR LOANS BY INDUSTRY



Moreover, when asked in a separate survey about desired future investments in general, firms followed a specific pattern, with 40% of firms wanting to invest in a productive machine, compared to 22% wanting to expand stock. When asked what prevented firms from making these future investments, lack of capital was the predominant answer by far—reported by two-thirds of firms, compared to 15% or fewer for any other category (Figure 4.6). Of the 64 firms that wanted to invest in productive machines, 77% (49 firms) of them said lack of capital was a barrier. Additionally, of those 49 firms, 41 firms reported constantly or occasionally needing a loan.

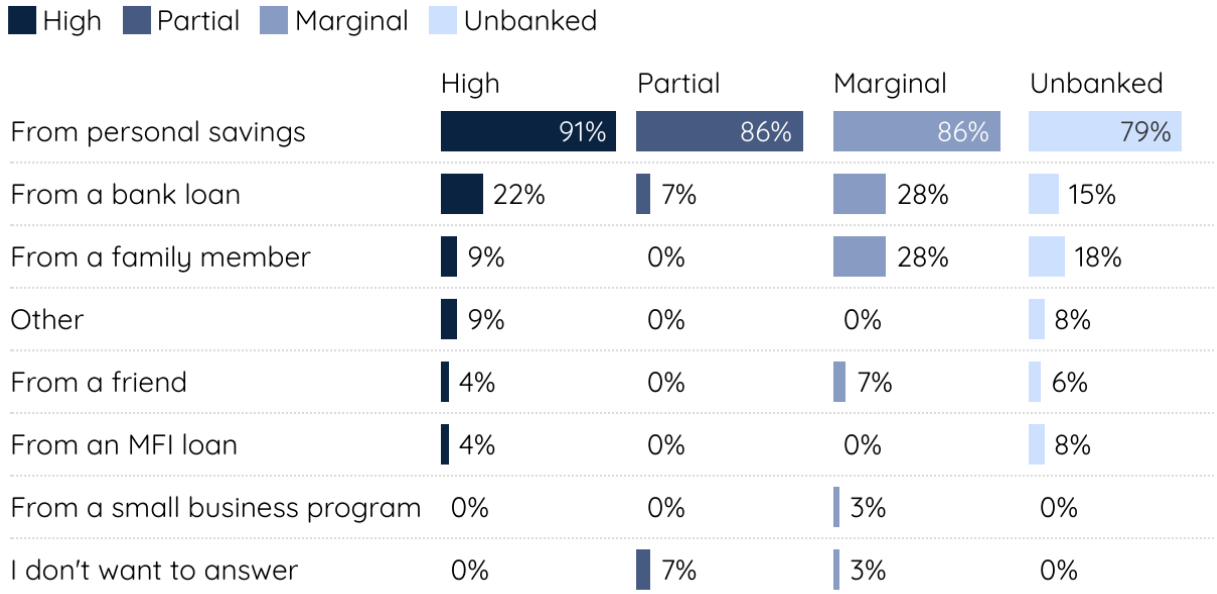
FIGURE 4.6: REPORTED BARRIERS TO FUTURE INVESTMENTS



START-UP CAPITAL

Even among firms that held loans during the study, most had not used credit to start their businesses—they relied on personal savings instead. This echoes findings from Banerjee et al., who found that microcredit in India produced meaningful benefits only for households already running businesses; for those starting new ventures, effects were negligible.[13] Regardless of level of financial integration, the majority of firm owners used their own savings for start-up capital— at rates similar to small business start-ups in the United States.[14] Use of loans as start-up capital also does not predict current loan usage: 68% of loan takers during our study used savings to open their businesses (Figure 4.7).

FIGURE 4.7: SOURCES OF START-UP CAPITAL BY LEVEL OF BANKING INTEGRATION



WHAT DRIVES CREDIT USAGE?

Firms in the Indonesian sample report low need to actively use credit, with the vast majority (90%) responding that they occasionally, rarely, or never need a loan. We did not find significant differences among male-owned, female-owned or co-owned firms in their desire for credit (Figure 4.8). Services firms reported less appetite for loans than those in other industries, with 32% reporting they "never" need loans, compared to 18% of manufacturing firms and 13% of agri-processing firms. (Figure 4.9).

[13] Abhijit Banerjee et al., "Can Microfinance Unlock a Poverty Trap for Some Entrepreneurs?" (NBER Working Paper No. 26346, National Bureau of Economic Research, Cambridge, MA, October 2019), https://doi.org/10.3386/w26346.

[14] For a discussion of how the typical small firm in the US is financed, see Chapter 5 in Scott A. Shane, The Illusions of Entrepreneurship: The Costly Myths That Entrepreneurs, Investors, and Policy Makers Live By (New Haven: Yale University Press, 2008).

FIGURE 4.8: DESIRE FOR LOANS BY GENDER

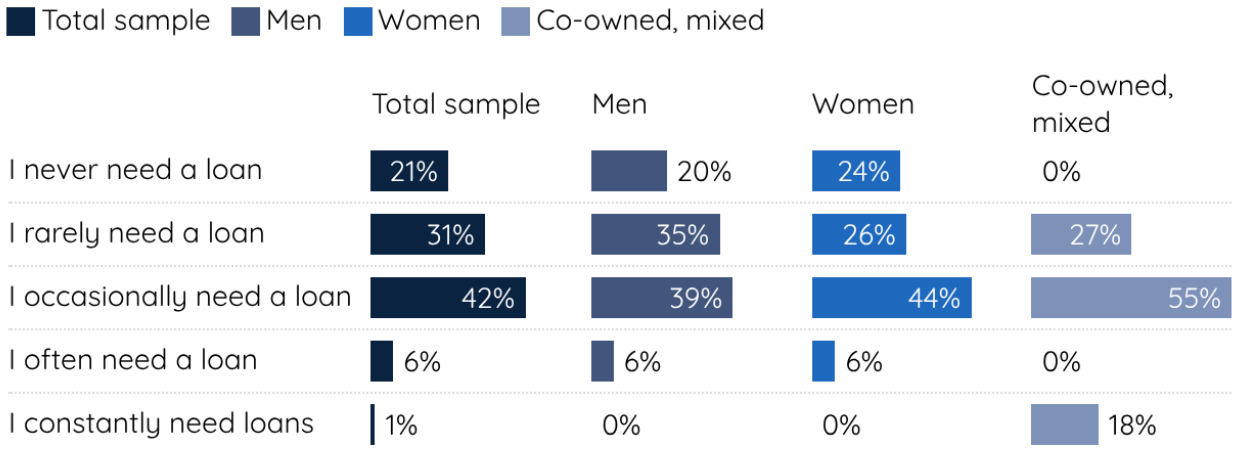
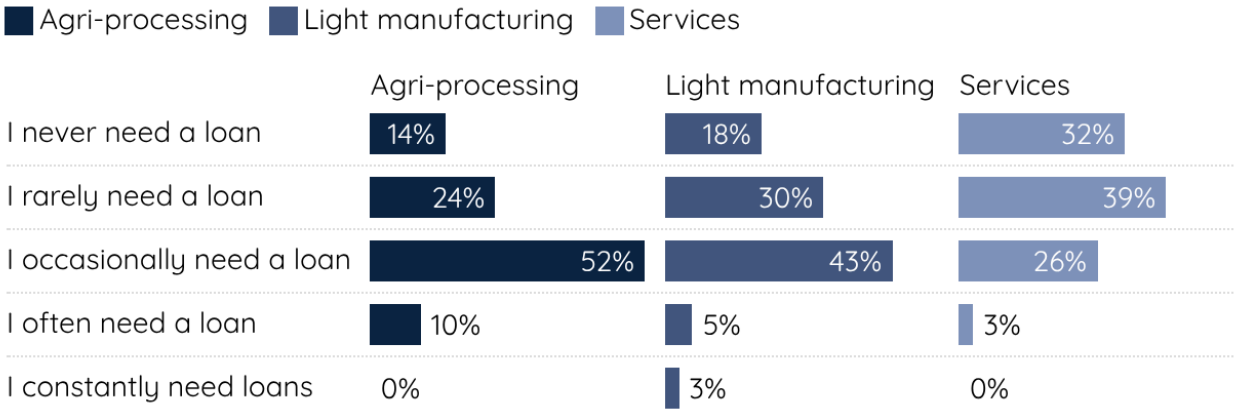


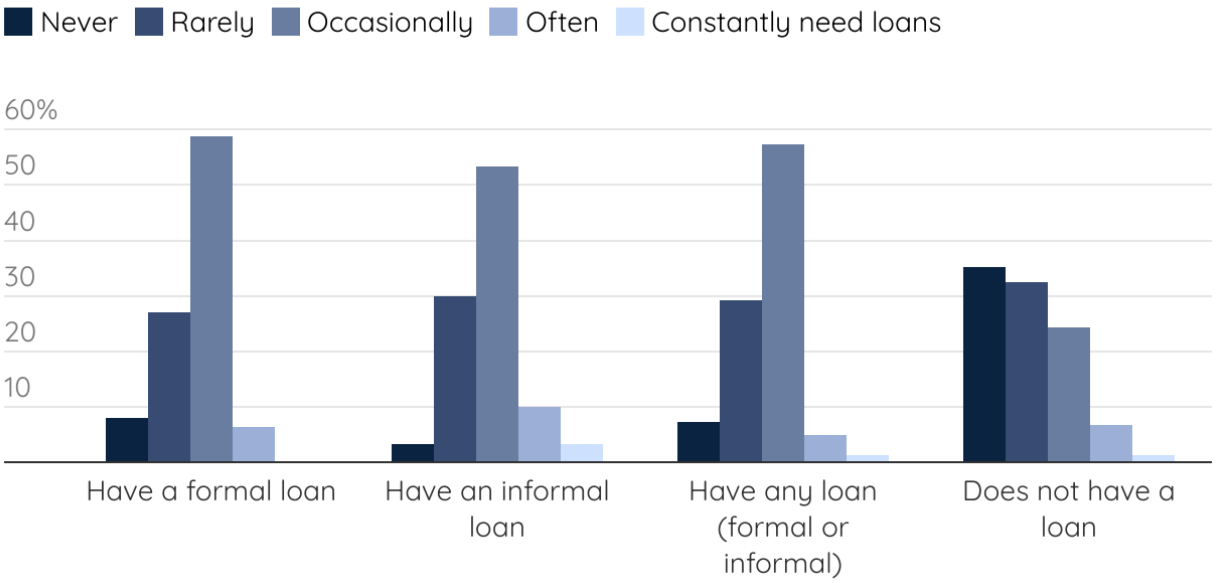
FIGURE 4.9: DESIRE FOR LOANS BY INDUSTRY



Countries: Indonesia

Reported need for credit generally aligned with credit usage during the study: 36% of firms without a loan of any kind said they never need loans compared to just 7% of firms that reported any loan. (Figure 4.10)

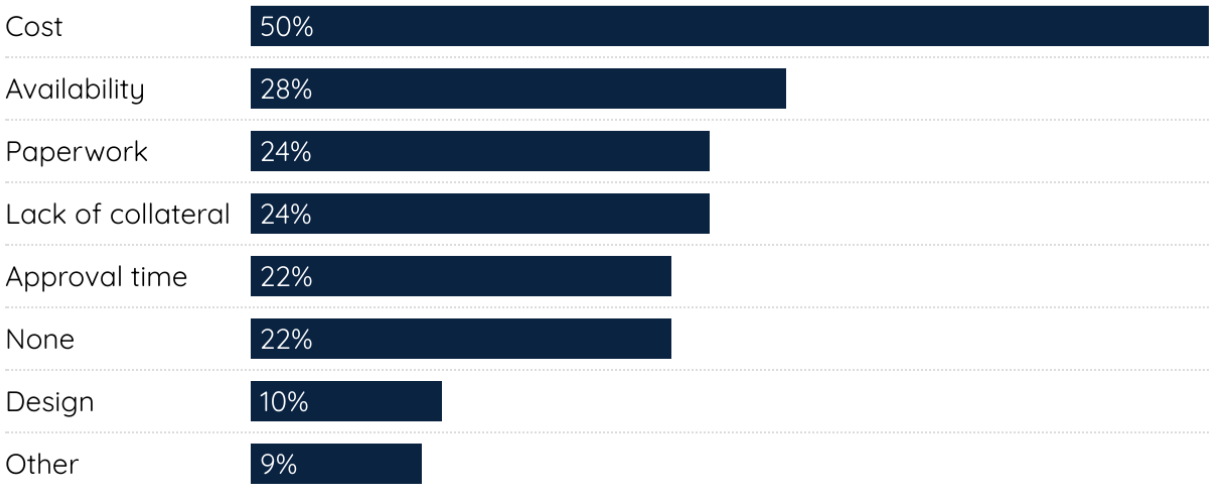
FIGURE 4.10: REPORTED DESIRE FOR LOANS COMPARED TO LOANS TAKEN



WHAT ARE THE BARRIERS TO CREDIT ACCESS?

We also asked firms about the barriers that prevented them from accessing credit. Cost was the most frequently cited barrier—regardless of firm owner gender, or industry—reported by close to a third of firms. Issues at the forefront of policy design, such as lack of collateral, availability, and design were reported much less frequently (see Figure 4.11). Notably, 39% of Indonesian firms—a higher proportion than in other countries—reported no barriers to credit access. However, 39% of those firms also said they never wanted loans. So we interpret "none" as split between firms with no desire for credit and those who genuinely perceive no barriers.

FIGURE 4.11: PERCEIVED BARRIERS TO ACCESSING CREDIT



HOW FIRMS WEIGH COST AND FLEXIBILITY IN CREDIT DECISIONS

In qualitative interviews, when asked about their experiences with loans, respondents most consistently mentioned concern about the cost of a loan and apprehension that if they did get a loan they might not be able to keep up with the payments. The volatility in small firms' revenue and expenses[15] substantiates the respondents' concern that taking a loan might mean digging themselves into a financial hole too deep to dig out of.

Globally, concerns about interest rates and payback periods drive firms toward informal sources of finance. The fish processors in Medan are a good example. These firms report taking very few formal loans from commercial or government banks, in favor of informal and supply chain finance. They perceive informal loans as less risky because they often come with little to no interest and more flexible payback periods.

Other firms in the Indonesian sample, however, report using the government-subsidized *Kredit Usaha Rakyat* (KUR) loan program, which gives small business owners access to no-collateral, low-interest loans with terms that suit at least some of their needs for working capital. From our data we see that these aspects of the KUR loan system are both drawing in new borrowers and incentivizing those that already borrow by offering larger loans to timely payers. For example, since 2016 a carpenter in Bandung has been taking, repaying, and renewing loans from a Sharia cooperative MFI. During the study the firm owner finished paying off a loan for IDR 40 million but reported that he was shopping for cheaper options, most likely the KUR loan.

For the fish processors, who report low need for loans, as well as for businesses that are more inclined to borrow, cost and duration are central to firm owners' decision making. While the KUR loan is providing that for some, many still turn to informal loans as the safest source for finance.

[15] See chapter 3 of Michelle Kempis and Timothy Ogden, "Small Firm Diaries Firm Profile: Indonesia Country Data Overview" (Small Firm Diaries, June 23, 2023), https://smallfirmdiaries.org/indonesia.

In addition to looking at firms' perceptions of barriers to credit, we also asked whether firms that see themselves as formal are more or less likely to use credit.

Firms that regard themselves as formal are surprisingly less likely to have a loan from a government bank (only 14%) compared to 27% of semi formal firms, and 31% of informal firms. Formal firms have informal loans at similar rates (14%) compared to semi-formal (13%) and informal (21%) firms. This suggests that formal firms with access to institutional sources of credit still rely on informal credit due to issues with credit product design, cost or other barriers noted above. Follow-up work among small firms in Colombia corroborates this hypothesis: firms report using formal credit for asset purchases while relying on informal credit for liquidity and working capital.

SUPPLY CHAIN FINANCE

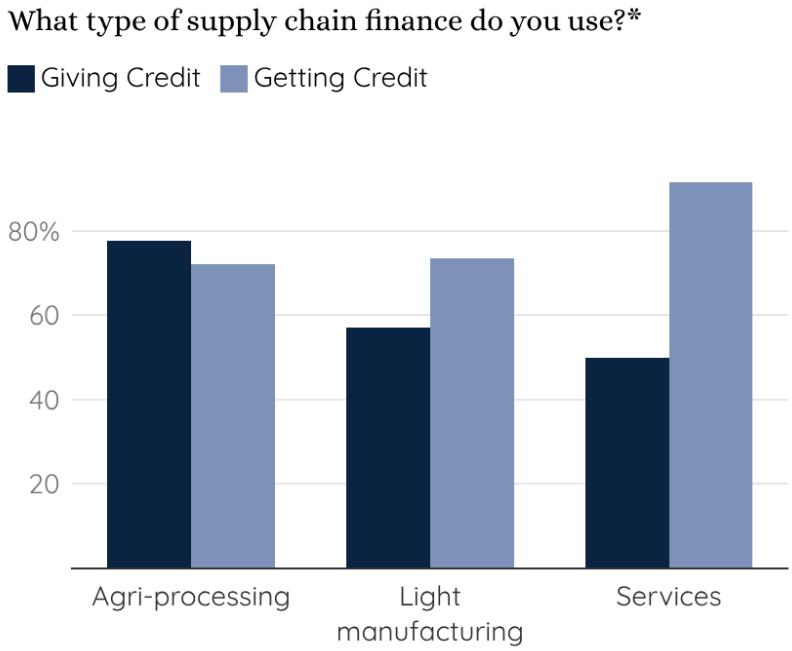
Given firms' interest in using credit for working capital and liquidity management, understanding supply chain finance for small firms is particularly relevant. Supply chain finance is highly evolved in many high-income countries, with formal contracts, secondary markets for receivables, and more recently an explosion of "buy now, pay later" services for both consumers and small businesses. Where firms and contracts are less formal, supply chain finance is even more informal and hard to see. We attempt to get a complete picture of supply chain finance as it illuminates the tools, challenges and opportunities around working capital and liquidity management for small firms. We define supply chain finance broadly to include both financial flows and tacit or in-kind transfers between firms and their suppliers or customers. According to this definition, about half of our firms participate in supply chain finance.

Looking deeper than the general category of supply chain finance, we can separate out the use into two categories: getting credit (from suppliers) and giving credit (to customers). There are differences across industries in the patterns of giving or getting credit—91%% of services firms that use supply chain finance get credit, while only 50% give it. In contrast, agri-processing firms are equally likely to give or receive credit (about 75% of agri-processing firms that use supply chain finance give and receive credit), while light manufacturing firms are slightly more likely to get credit than give it. Setting aside industry differences, a large proportion of firms that use supply chain finance do so to give credit. Given their liquidity struggles, it seems counterintuitive that firms transfer liquidity to customers more than they receive it. But these firms likely serve low-income customers with even greater liquidity challenges than their own. Thus, while these firms are liquidity constrained, they are providing liquidity to their customers and play a large role in the financial lives of low-income households and neighborhoods.[16]

[16] The extreme liquidity challenges and volatility that low-income households face are also documented in the following books: Daryl Collins, Jonathan Morduch, Stuart Rutherford, and Orlanda Ruthven, Portfolios of the Poor: How the World's Poor Live on $2 a Day (Princeton: Princeton University Press, 2009), and Jonathan Morduch and Rachel Schneider, The Financial Diaries: How American Families Cope in a World of Uncertainty (Princeton: Princeton University Press, 2017).

On the receiving side, we see that 23% of all firms report in surveys taking loans from suppliers. This is more than the 10% who reported an active supplier loan during the study (see Figure 4.1). This may be due to the fact that firm owners don't always regard taking in-kind credit (that is, receiving stock from a supplier and delaying payment to the supplier until some or all of that stock has been sold) as a loan per se, but the size of this discrepancy suggests that the practice is quite common.

FIGURE 4.12: TYPE OF SUPPLY CHAIN FINANCE

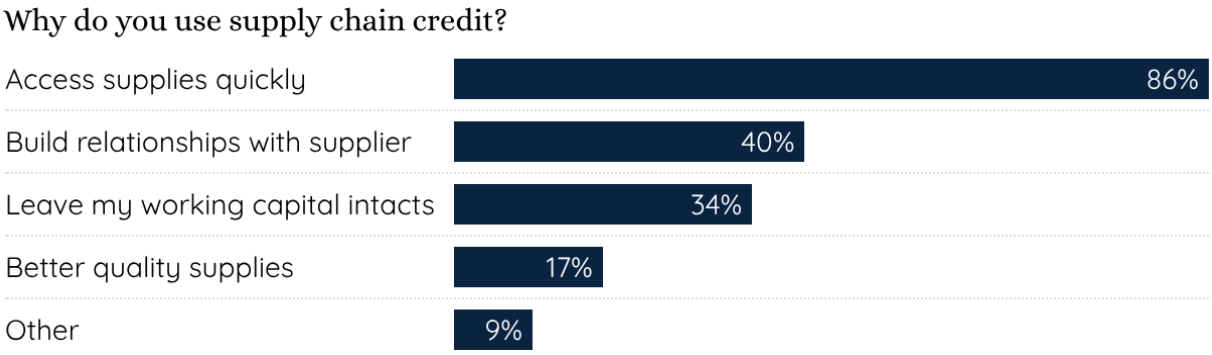


*of firms that say they use supply chain finance

We also found that supply chain finance is complementary to bank credit, giving further support to the idea that existing bank credit products are not a good match for working capital needs. Creditworthiness looks similar to banks and suppliers alike: firms that qualify for one often qualify for both, which likely explains the overlap between bank borrowing and supplier credit. And firms that receive credit from banks or suppliers are also in a better position to extend that liquidity to customers.

Beyond the obvious benefit of not having to hand over cash, firms have other reasons for seeking supplier credit. We asked the firms about their reasons for and perceptions of use of supplier credit. Figure 4.13 shows that some firms viewed supplier credit primarily as a way to access supplies quickly.

FIGURE 4.13: REASONS FOR TAKING LOANS FROM SUPPLIERS



Firms see a variety of advantages of supply chain finance compared to other sources of credit (see Figure 4.14) but both users and non-users of supply chain finance frequently mention that it strengthens business relationships. Unsurprisingly, users of supply chain finance are much more likely to perceive that it can strengthen relationships than non-users. Of course there are risks as well as advantages (Figure 4.15). Non-users and users of supply chain finance alike believe that it poses a risk to their relationships with suppliers and customers. Users of supply chain finance most frequently answered as an advantage that it is fast to get as soon as you need it and that it is flexible in terms that you repay as soon as you can.

FIGURE 4.14: ADVANTAGES OF SUPPLY CHAIN FINANCE

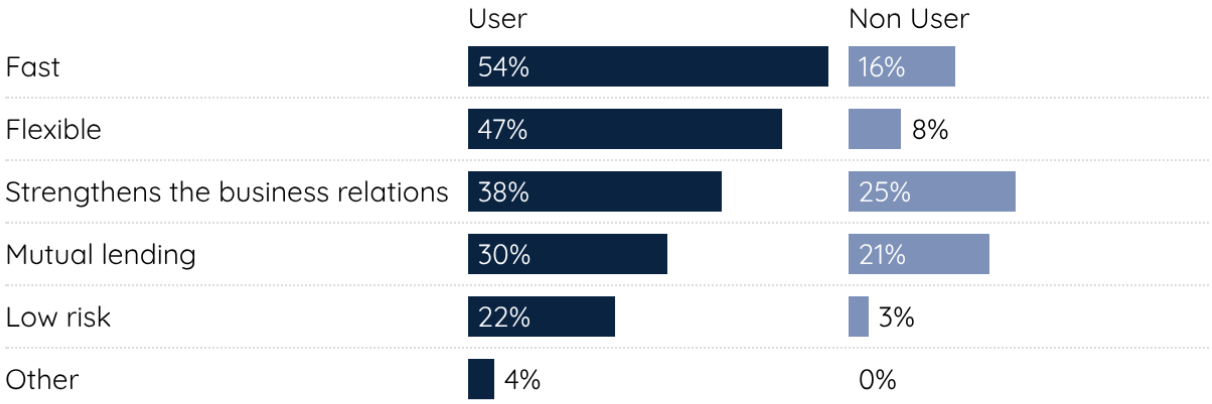
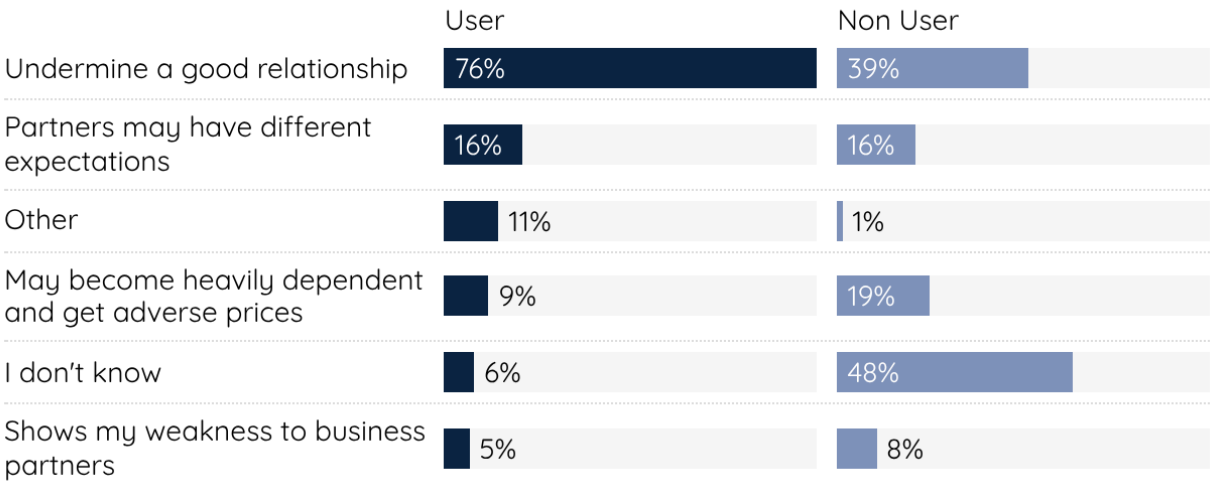


FIGURE 4.15: DISADVANTAGES OF SUPPLY CHAIN FINANCE



Overall, supply chain finance seems to be an underexploited opportunity for supporting small firms and their customers. Using the knowledge of suppliers can solve one of the major challenges of business lending—understanding credit risk in the context of limited and incomplete information and limited enforcement. Providing liquidity to suppliers—or using supplier information to underwrite working capital loans—could help firms extend more credit to their own customers.

5. Conclusion

This report has reviewed data gathered during the Small Firm Diaries in Indonesia on small firms' use of financial services. While we have tried to provide a comprehensive overview of the data we have, there are many remaining areas for further analysis, including better understanding differences by gender, geography, demographics, and industry. We will also seek to better understand the firms' choices in using accounts and the transaction mechanisms that they use as we publish profiles of participating firms and industries.

The Small Firm Diaries Indonesia team welcomes feedback from stakeholders, practitioners, and policymakers on additional questions or areas of interest, as well as insights to help better understand the nuances of the data. To get in touch and to read additional publications on Indonesia and other countries in the study, visit smallfirmdiaries.org.

Credits

The authors of this country data overview are Michelle Kempis and Timothy Ogden.

The authors acknowledge the research and editorial contributions of Ira Aprilianti, Rachael Eplee, Laura Freschi, Raunak Kapoor, Laura Macready, and David Pinedo De La Hoz in creating this report.

The principal investigators for the Small Firm Diaries global project are Timothy Ogden and Jonathan Morduch.

MSC Indonesia and L-IFT managed data collection for the Indonesian arm of the Small Firm Diaries study. The MSC Indonesia team contributed to Indonesia-specific elements of the research design, and collaborated in creating research outputs, including this report. MSC Indonesia also convened the project's Indonesian Advisory Group which served as a valuable sounding board throughout the project, responding to early research findings and advising on Indonesian priorities and context.

The Small Firm Diaries global project is led by the Financial Access Initiative (FAI) at NYU Wagner. Field research was carried out by L-IFT and MFO. Funding for the global study was provided by the Mastercard Center for Inclusive Growth, the Gates Foundation, and the Argidius Foundation.

About the Study

The Small Firm Diaries is a global initiative to better understand small firms in low-income neighborhoods of developing countries.

Visit smallfirmdiaries.org for more information and additional publications.

References

Banerjee, Abhijit, Dean Karlan, and Jonathan Zinman. "Six Randomized Evaluations of Microcredit: Introduction and Further Steps." *American Economic Journal: Applied Economics* 7, no. 1 (2015): 1–21.

Banerjee, Abhijit, Emily Breza, Esther Duflo, and Cynthia Kinnan. "Can Microfinance Unlock a Poverty Trap for Some Entrepreneurs?" NBER Working Paper No. 26346, National Bureau of Economic Research, October 2019. https://doi.org/10.3386/w26346.

Chaia, Alberto, Aparna Dalal, Tony Goland, Maria Jose Gonzalez, Jonathan Morduch, and Robert Schiff. "Half of the World Is Unbanked." In *Banking the World: Empirical Foundations of Financial Inclusion*, edited by Robert Cull, Aslı Demirgüç-Kunt, and Jonathan Morduch, 19–42. Cambridge, MA: MIT Press, 2013.

Collins, Daryl, Jonathan Morduch, Stuart Rutherford, and Orlanda Ruthven. Portfolios of the Poor: How the World's Poor Live on $2 a Day. Princeton: Princeton University Press, 2009.

Cull, Robert, Asli Demirgüç-Kunt, and Jonathan Morduch. "The Microfinance Business Model: Enduring Subsidy and Modest Profit." *World Bank Economic Review* 32, no. 2 (June 2018): 221–44.

Freschi, Laura, and Timothy Ogden. Methodology and Process: An Introduction to the Small Firm Diaries. New York: Financial Access Initiative at NYU Wagner, February 2024. https://www.smallfirmdiaries.org/global

Kempis, Michelle, and Timothy Ogden. "Small Firm Diaries Firm Profile: Indonesia Country Data Overview." Small Firm Diaries, June 23, 2023. https://smallfirmdiaries.org/indonesia.

Klapper, Leora, Dorothe Singer, Laura Starita, and Alexandra Norris. *The Global Findex Database 2025: Connectivity and Financial Inclusion in the Digital Economy*. Washington, DC: World Bank, 2025. https://doi.org/10.1596/978-1-4648-2204-9.

Klein, Joyce, and Timothy Ogden. "Lessons for Global Microfinance from . . . the United States?" Financial Access Initiative Working Paper 1/2024. New York: Financial Access Initiative, 2023.

McKenzie, David, and Christopher Woodruff. "Business Practices in Small Firms in Developing Countries." *Management Science* 63, no. 9 (2017): 2967–2981.

Meager, Rachael. "Understanding the Average Impact of Microcredit Expansions: A Bayesian Hierarchical Analysis of Seven Randomized Experiments." American Economic Journal: Applied Economics 11, no. 1 (January 2019): 57–91.

Morduch, Jonathan, and Rachel Schneider. The Financial Diaries: How American Families Cope in a World of Uncertainty. Princeton: Princeton University Press, 2017.

National Council for Financial Inclusion Secretariat. *Financial Inclusion Indonesia 2020*. Jakarta: DNKI, 2021. http://snki.go.id/wp-content/uploads/2023/02/FII-Indonesia-2020-Report_IND-1.pdf.

Rigol, Natalia, and Benjamin N. Roth. "Loan Officers Impede Graduation from Microfinance: Strategic Disclosure in a Large Microfinance Institution." NBER Working Paper 29427. National Bureau of Economic Research, Cambridge, MA, October 2021.

Shane, Scott A. *The Illusions of Entrepreneurship: The Costly Myths That Entrepreneurs, Investors, and Policy Makers Live By*. New Haven: Yale University Press, 2008.