small firm DIARIES

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COLOMBIA

Financial Services

HOW SMALL FIRMS IN COLOMBIA MANAGE FINANCES

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TABLE OF CONTENTS

Introduction 3

1. How Banked Are the Small Firms? 4

2. A Deeper Look at Formal Financial Integration 9

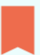
3. Exploring DFS Adoption and Usage 17

4. Credit Access 26

Credits 41

About the Study 41

References 42



Introduction

The Small Firm Diaries is a global research initiative to understand the role of low-income small firms in poverty reduction, and the barriers to growth and productivity of those firms that limit their 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*.

In Colombia, the project followed more than 120 firms from May 2021 to May 2022. The firms were spread roughly evenly between Barranquilla, Bogota, and Cali. Firms were selected from three industries: light manufacturing (52% of the sample), services (36%) and agri-processing (12%). Just over 30% of firms were owned by women, with another 20% co-owned by a man and woman. For more details on the sample and how it was selected, see *Colombia Country Report: Data from the Small Firm Diaries*.

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 in between the high-level data of large, nationally-representative surveys and the focused data of individual business case studies. Our goal in this study was to inform policy and practice by a wide variety of actors: financial services providers, business support organizations, government policy makers, funders and other researchers can all use the data and findings of the Small Firm Diaries project to deeply understand and address challenges of small businesses in low- and middle-income communities.

In this brief on financial services, we review data from the Colombia Small Firm Diaries on the firms' use of financial tools, including bank accounts, digital payment 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 accounts usage.

Updates to this brief and many additional reports and firm profiles using data from the Colombia sample will be published at *smallfirmdiaries.org*.

1. How Banked Are the Small Firms?

A major policy focus for the last decade has been bringing more people into the formal financial sector, spurred on by findings that half the world was “unbanked.”[1] Efforts to bring more people into the formal banking system have borne fruit in many parts of the world as shown in the 2021 Global Findex, which reports that the number of unbanked people has decreased by half in the last 10 years. Over that same period, in Colombia the number of people over the age of 15 who do not have any account fell from 60% to 40%.

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

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

A further complication in studying small firms' use of formal finance 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 to the firm. This does not necessarily mean that the firm is not a user of formal 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: a fundamental tenet of good business practice is separating business finances from household finances. 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 into the formal financial system would include not just use of the formal accounts, but use of alternatives to the formal financial system—especially how much of 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’ formal financial inclusion. The methodology attempts to record all of a participant’s financial flows, regardless of what medium (e.g. bank transfer or cash) or accounts (e.g. a bank account, mobile wallet, or cash box) are used. We’re also able to ask whether a firm owner separates firm and household finances, and about desire for and happiness with formal accounts. All of this data allows us to construct a novel measure not just of whether a

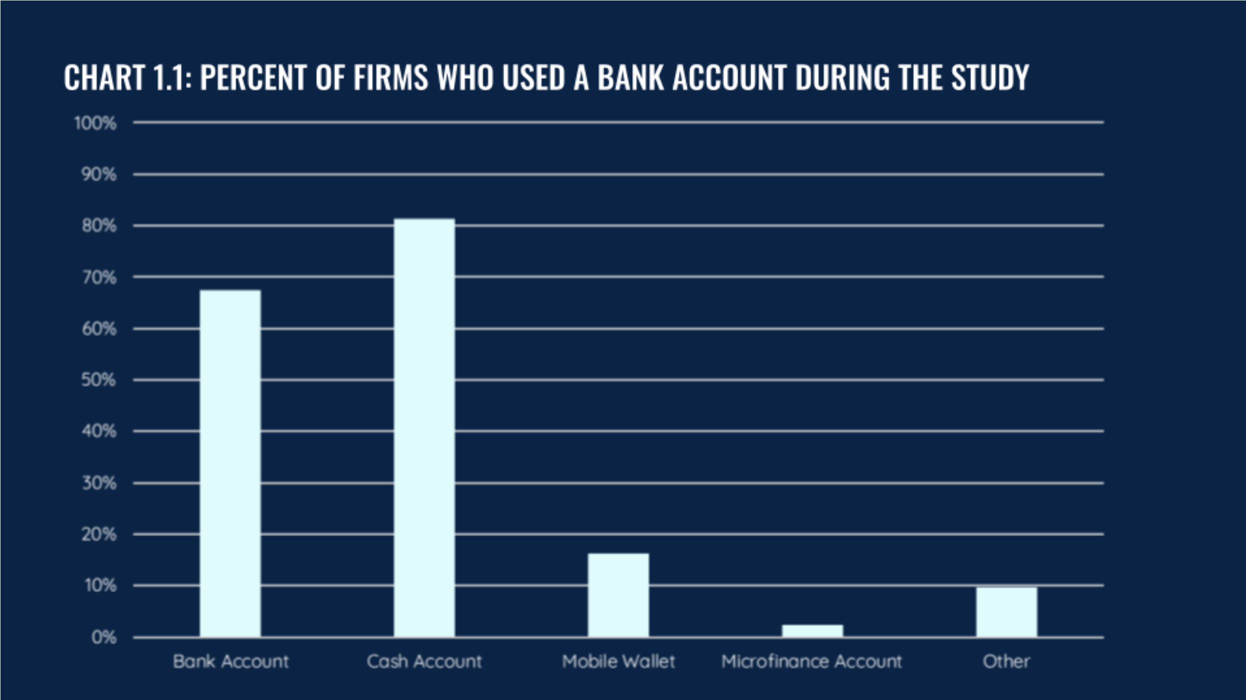
[1] Chaia et al., 2013

firm is "banked" but the degree to which they are integrated into the formal financial system. Specifically we use both account ownership and *percent of value of transactions through a bank account* to describe a firm's bankedness, which we categorize as unbanked, or marginally, partially, or highly integrated into the formal financial system (see Section 2 and Table 2.1 for results and further discussion of this metric).

ACCOUNT OWNERSHIP

To better understand the measures we use and how they compare to more traditional measures of financial inclusion, we'll begin with the most basic measure: account ownership. At the beginning of the diaries, we asked each firm owner to list the accounts they used for the firm. We asked specifically about any form of account—commercial bank, mobile wallet, microfinance institution, as well as use of a "cash box"—defined as any specific place people store cash, such as a box, a drawer, or a till.

Overall, 75% of our firms say that they own a bank account, mobile wallet, or account at a microfinance institution. However, mobile wallets and MFIs have minimal penetration in our sample (we'll go into more detail on digital financial tools, especially their use by those who do not have bank accounts later in the report); bank accounts are owned by 70% of firms. In line with more sophisticated measures of financial inclusion we can also look at not only ownership of a bank account, but whether the bank account was used even once during the study. Unlike many measures of household bank account ownership and usage, we don't see a meaningful gap: 68% of all firms—all but 2 of the firms that report owning an account—use their bank accounts at least once.

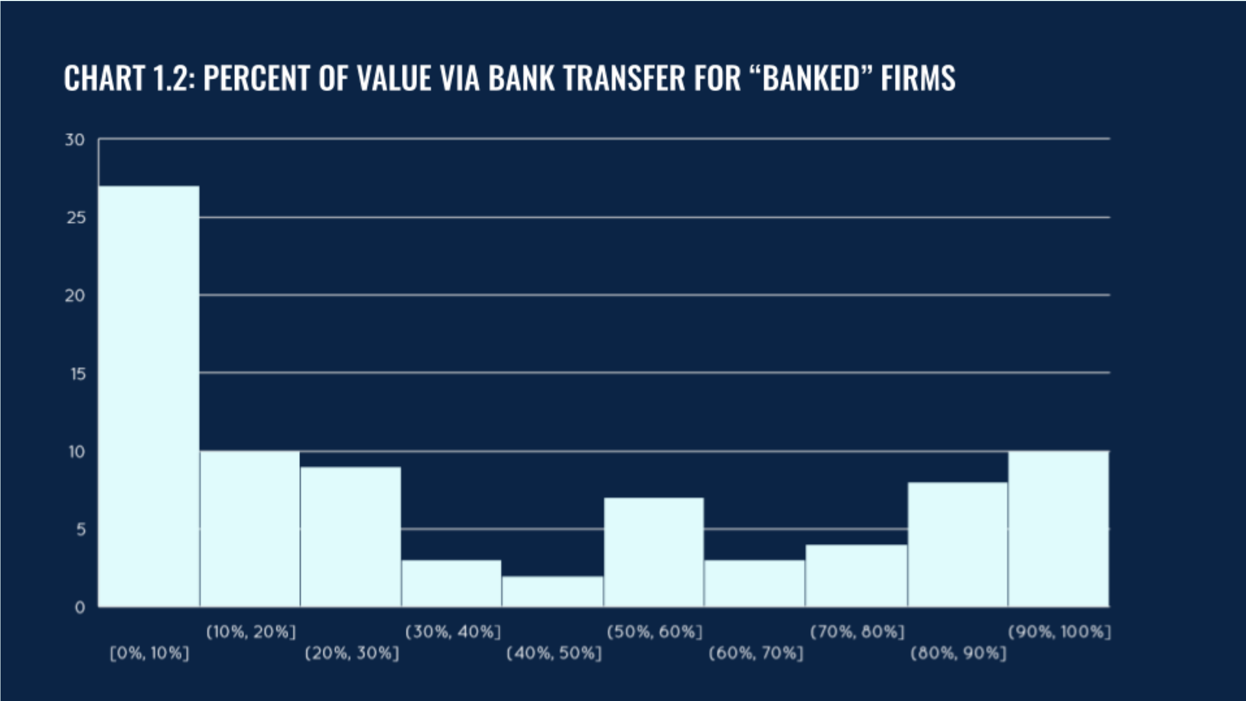


ACCOUNT USAGE

Using an account once is a better measure than just ownership, but it still falls far short of understanding a firm's level of integration into the formal financial system. Of the firms that do use their accounts, we can use the high frequency data gathered to see how important a bank account (or multiple accounts—30% of the sample report using more than one bank account) is in each firm's financial management. 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 underestimating the role of cash.

For each transaction recorded we ask the firm owner the value, the mechanism of the transfer (e.g. cash, bank transfer, mobile money), and the account used. When we ask what account was used, we record the firm owner's perception of where the transaction originated or terminated (for an expense or for income, respectively). For this reason it's important to note that not all transactions reported as into or from a bank account are made by electronic bank transfer or POS agent, but may have originally been cash transactions that are eventually deposited in a bank account. For example, when a firm owner receives income in cash, and then deposits that cash into a bank account, the firm owner may still report the "account used" for the transaction as the bank account— even if the cash is stored in a cash box or till for several days before the deposit is made. From the firm owner's perspective it is salient that that payment ends up in the bank account, which reflects the value that the firm places on the bank account as a useful tool, but adds a layer of complexity in interpreting the data.

To better understand how firms use and value bank accounts we look deeper into the cash flow data to categorize a firm's level of banking activity based on the value of its total transactions from or into a bank account. This analysis reveals a quite different picture of bankedness than measures of either ownership, or ownership and transaction alone. Here, even among firms that meet those simpler criteria for being banked, we see a sharp bimodal distribution: firms have either extremely low activity or run their businesses almost exclusively with a bank account (see Chart 1.2).



In sum, there are two important dimensions for integrating small firms like those we studied more firmly into the formal banking system: 1) increasing the usage of formal finance of the firms (about 30%) who are using formal finance but for less than half of their financial activity, and 2) reducing the substantial portion of the firms (again, about 30%) that are still unbanked and operating outside formal financial systems. It will likely be much easier to increase usage for firms who are already partially integrated than it will be to bring unbanked firms into the system. The former can likely be addressed through marketing and product design tweaks; the latter probably requires more significant interventions and potentially policy changes.

SEPARATION OF FINANCES

Separation of business and personal finances is a second key metric for understanding the financial lives of small firms. This fundamental business practice has been shown to be important to firm performance,[2] and is obviously important for understanding administrative data about small firms' accounts. Just over 80% of our total sample (including firms that are unbanked) report keeping specific separate accounts for their business. Among firms that do not have a bank account, 76% (29 firms) keep their business finances separate. Most (72%; 23 firms) do this through a dedicated cash box but some (15%; 5 firms) use mobile wallets (the use of digital financial services is discussed in detail in the section on digitalization below). Counterintuitively, we do not find that firms that own and use bank accounts are more likely to keep their finances separate; indeed nearly 15% of firms that meet the simple criteria for being banked commingle household and firm finances. Size of firm (by revenue) is a better proxy: 100% of firms in our highest revenue segment separate finances, while only 80% of those in the lower two tiers of revenue segmentation do so.[3] Interestingly, the combined group of women-owned and co-owned firms are more likely to separate their finances than men-only owned firms (85% compared to 76%, respectively). This may reflect household gender dynamics in which women risk losing control of commingled funds.

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. Officially, many banks require a Tax ID to register a business bank account. Since less than a third of the firms have a Tax ID, we surmise that many of the accounts are not legally registered to the business, but to the owner. There is an important interplay between separation of finances, integration into the financial system, and firms' self-perceptions of formality: firms that are more integrated are both more likely to separate their finances and to perceive themselves as formal. For instance, ¾ of the firms who have tax registrations have a separate business account, and 90% of firms who perceive their firms as formal have a separate business bank account. Unfortunately, we cannot determine the direction of causality—that is, does separation of finance lead to more use of bank accounts, or does more use of bank accounts cause firms to perceive themselves as formal and therefore separate their finances?

[2] McKenzie and Woodruff 2017

[3] Firms are categorized based on median monthly revenue. The cutoffs are: Low - less than COP 11M; medium - COP 11M to 22M; and high—COP 22M to 35M. Firms with revenue above COP 35M are considered outliers.

2. A Deeper Look at Formal Financial Integration

SUMMARY

In this section we examine how firms differ across levels of formal financial integration. We begin with a categorization of firms based on how much they use their bank accounts. We then ask whether owner gender, firm sector, level of formalization, and firm size measured by revenue predict different levels of formal financial integration. We also examine whether firms use bank accounts differently for income versus expenses.

Unsurprisingly, there is a relationship between size of firm and financial integration—firms with higher revenues are more integrated. At the account level, most firms, regardless of size or integration, seem to pick one account type (which could be multiple bank accounts) to manage their finances. Unbanked firms rely on either cash boxes or mobile wallets. The firms that are partially integrated are the exceptions, splitting their activity between cash boxes and bank accounts.

Banked firms at all levels of integration use bank accounts for expenses and income equally. However there is one category of expense that is almost always managed in cash: employee payments. At all levels of integration there are firms that separate and do not separate their finances. Men-owned firms have the lowest levels of banking integration and are the most likely to be unbanked. Across industries, agri-processing firms are similarly more likely to be unbanked or be marginally integrated. As noted above, tax registration does not appear to be a barrier to financial integration, though it may be a barrier to legally registering an account with the business; level of integration does correlate with perceived formality.

CATEGORIZING FIRMS' INTEGRATION

Our sample is fairly equally distributed between highly integrated, moderately integrated, marginally integrated, and unbanked firms. We use this categorization to explore how our firms' integration correlates with other measures, including key demographics, but also on formalization and credit access.

TABLE 2.1: LEVEL OF FINANCIAL INTEGRATION

Level of Integration	Definition	Percent of Sample
High	More than 70% of activity conducted into or from a bank account	24%
Partial	Between 21% and 69% of activity conducted into or from a bank account	17%
Marginal	Less than 20% of activity conducted into or from a bank account	26%
Unbanked	Do not report using a bank account	33%

REVENUE AND GROWTH

In general, highly integrated firms have higher revenues than less integrated firms. However, there is not a strict alignment between integration and revenue. Some of the highly integrated firms' revenues are among the lowest in the sample. Clearly, then, there is opportunity to significantly increase the integration of firms at the lower end of the revenue distribution.

TABLE 2.2: LEVEL OF FINANCIAL INTEGRATION AND MEDIAN MONTHLY REVENUE

Level of Integration	Minimum	Median	Maximum	Standard Deviation
High	COP .8 M	COP 14.3 M	COP 70.0 M	COP 15.5 M
Partial	COP 1.0 M	COP 12.0 M	COP 50.0 M	COP 11.5 M
Marginal	COP 1.0 M	COP 10.1 M	COP 67.1 M	COP 12.8 M
Unbanked	COP .3 M	COP 3.4 M	COP 13.3 M	COP 3.7 M

We also examined the relationship between formal financial integration and growth. Measuring growth (by revenue or operating margin) is a challenge in the Small Firm Diaries because, as described in the Colombia Country Report in detail, we see a large amount of month-to-month volatility in revenues and margins for the firms. Comparing first month to last month revenues or

margins is highly influenced by unusually high or low months, for instance. To best measure whether a firm is growing, we try to assess the overall direction of change, while accounting for month-to-month volatility. To do so we use the slope for the best linear fit for monthly operating margin. We create this line by regressing monthly margins to find the best match, as if monthly margins were more consistent. We then classify any firm with a positive slope as a "grower" and those with negative slopes as "non-growers." To read more about our growth measurements refer to the aspirations and growth section (Section 9) of the *Colombia Country Report*.

We find no relationship between growth and formal financial integration. As shown in Table 2.3, only 40% of our highly integrated firms are growers, compared to over half of marginally integrated firms.

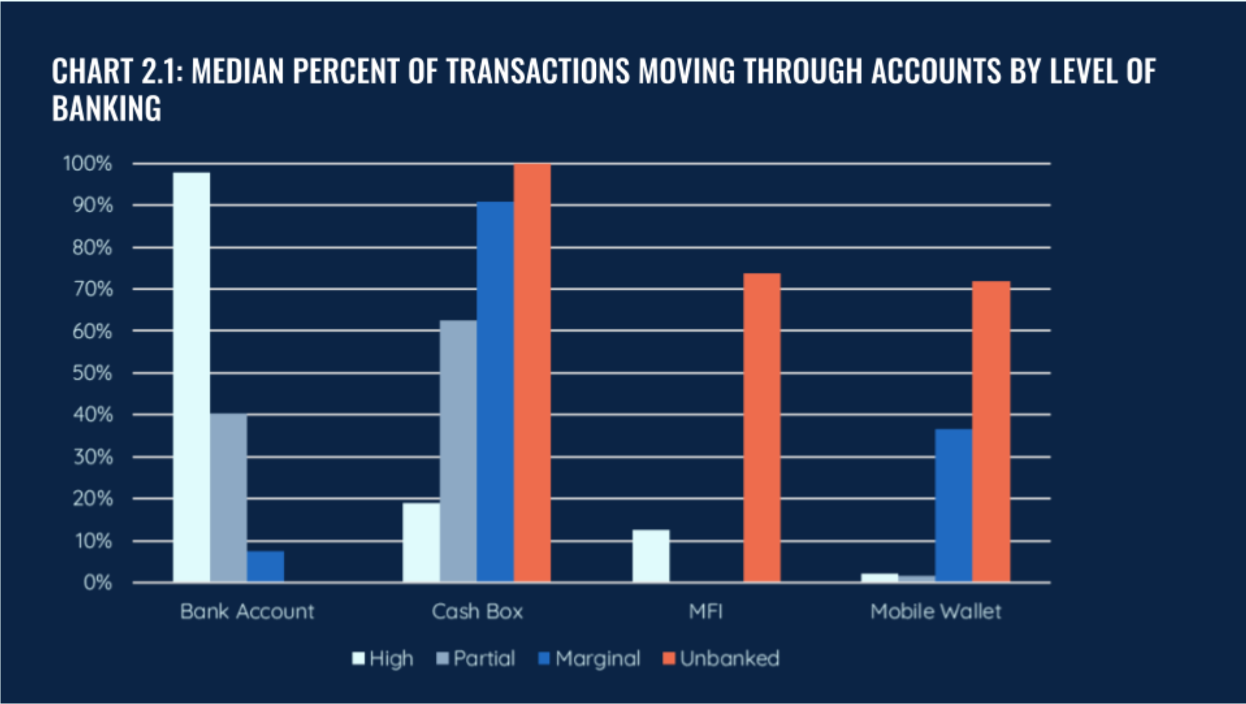
TABLE 2.3: LEVEL OF FINANCIAL INTEGRATION, GROWERS VS NON-GROWERS

Level of Integration	Grower (%)	Non-Grower (%)
High	40%	60%
Partial	52%	48%
Marginal	59%	41%
Unbanked	41%	59%

ACCOUNT CHOICE

One notable part of the firms' use of accounts is consolidation around specific tools. Typically, one explanation for how households manage finances without heavy use of formal accounts is that they use a variety of different tools that are best suited to specific needs. However, the small firms tend to concentrate their use in just one type of account. Highly integrated firms channel most of their business through bank accounts. But unbanked and marginally integrated firms tend to consolidate their use in just one alternative type of account rather than spreading their activity among different tools. Unbanked firms primarily use cash, but a few (3) unbanked firms use mobile wallets as their dominant form of account, using them for ⅔ of their flows. Two firms use a microfinance account, using that account for 80% of their flows.

The partially integrated firms are somewhat of an exception to the consolidation trend, but even these firms still do not spread their usage across several different types of accounts. These firms typically use only bank accounts and cash boxes, and don't diversify to mobile wallets or MFIs — the bank accounts are a pure substitute for these other types of accounts. (Chart 2.1)



We also find that firms at all levels of integration use bank accounts for their higher value transactions. The median transaction value per firm into or from a bank account is around COP 500,000, while the value into or from a cash box is around COP 400,000. This is partially driven by unbanked firms, who primarily rely on cash boxes, typically making lower value transactions (roughly COP 300,000), than banked firms (about COP 500,000).

BANK ACCOUNT USE PATTERNS

We also looked at what types of transactions the firms made from each account to confirm the implication of the consolidation pattern. While the customers and the suppliers of the firms are typically quite different (customers are households, while suppliers are businesses of the same or larger size) we find little difference between revenue and expenses in terms of value flowing through different account types. As there is a global effort to increase adoption of digital financial tools by encouraging employee payments via DFS, we looked specifically at the use of types of accounts for employee payments and how predominant cash is. By value, nearly 60% of all payments to employees are made in cash. When we look at the use of cash for employee payments by the level of financial integration, only the highly integrated firms use an alternative to cash for more than half of employee payments (see Chart 2.3).

A female clothes manufacturer in Cali explained “our form of payment [to employees] has been very informal, we manage most payments in cash,” adding that their clients pay in cash and they keep most of it on hand. Originally their workers were informal, and many did not have bank accounts, so cash was the only logical option. Since formalizing their business they have responded to requirements for electronic payroll and invoicing. However, paying employees in cash is still preferred by both sides. The firm owner says they pay the taxes they owe and so are not trying to hide payments from tax authorities, but want to avoid any additional fees that might be associated with moving money through banks.

Of note, the firms in Colombia are not using mobile wallets to make non-cash payments to employees except for a couple of the unbanked firms—bank transfers are the alternative to cash. Based on the overall patterns of cash flows, it is likely that many of the partially and highly integrated firms move cash received into bank accounts and withdraw cash from their bank accounts (in bulk) to pay cash expenses—in other words, the firm does not keep a fully separate cash account, nor does it withdraw specific cash amounts for specific expenses or types of expenses (like payroll) one at a time. This pattern of paying employees and managing employee payments in cash likely comes from employee preferences, though we do not have complete data on employee preferences that would answer this question definitively. That the most integrated firms do use bank accounts for employee payments does provide hope that once firms are deeply integrated into the financial system, they can “pull” employees into the formal financial system as well.

CHART 2.2: EMPLOYEE PAYMENTS BY MODE OF TRANSACTION

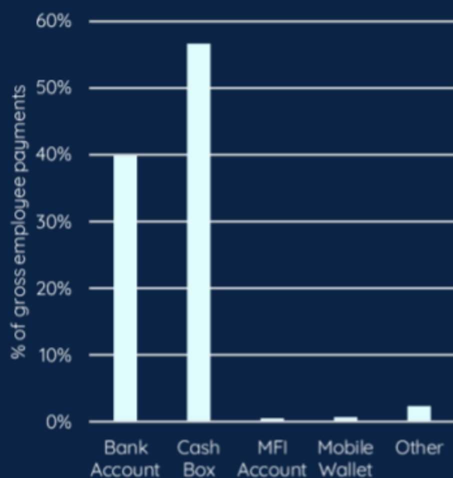
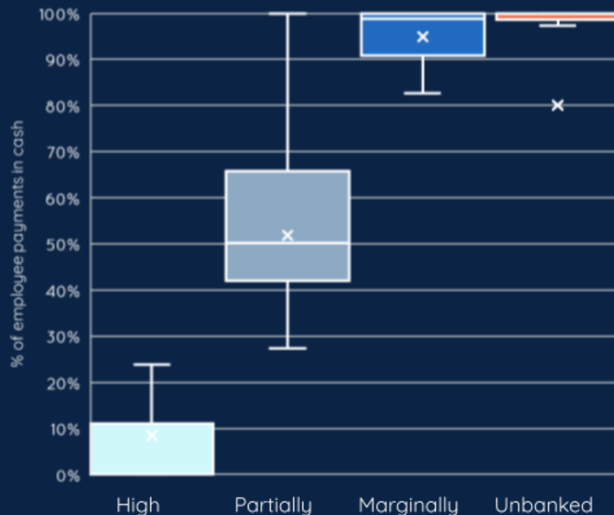


CHART 2.3: EMPLOYEE CASH PAYMENTS BY FIRM LEVEL OF FINANCIAL INTEGRATION

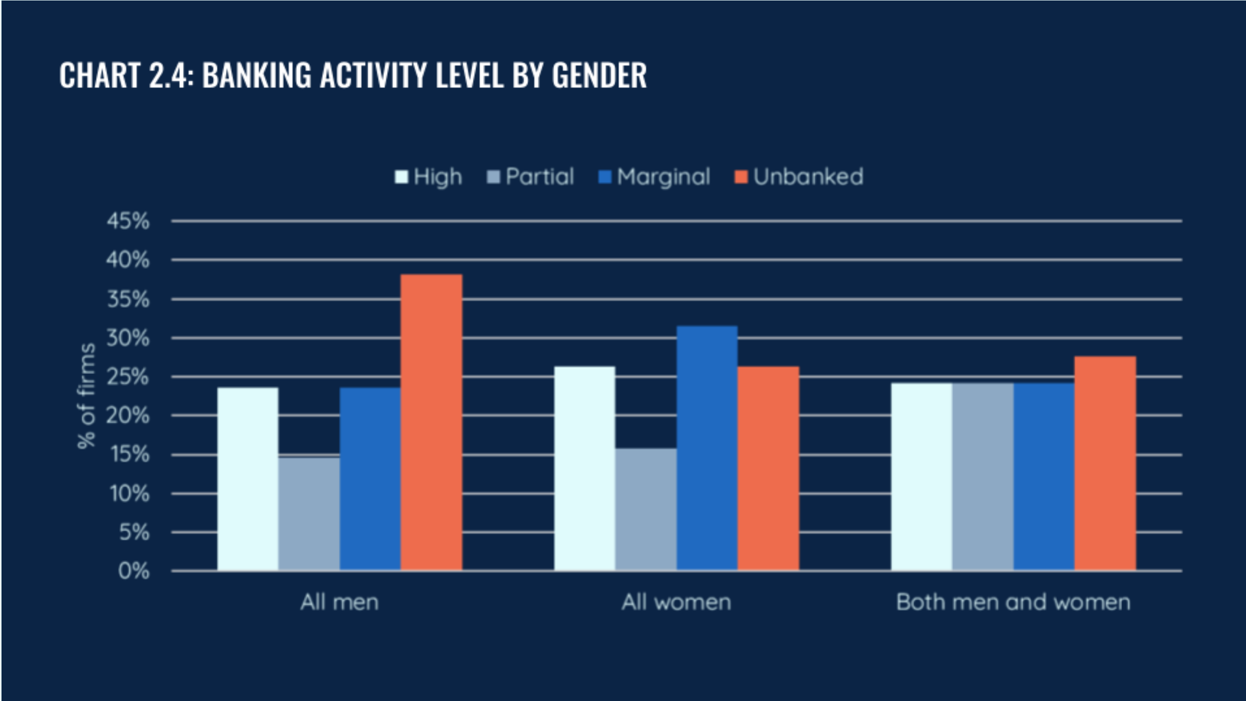


INTEGRATION AND FIRM/OWNER CHARACTERISTICS

Gender

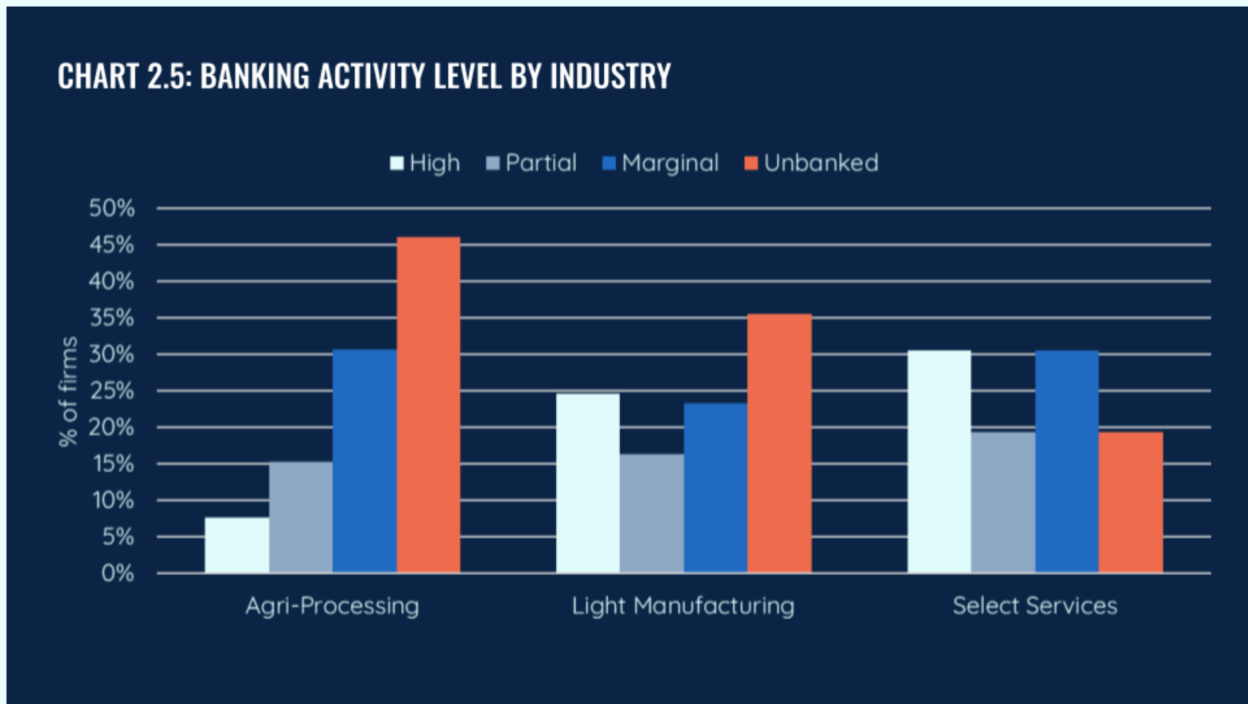
Male firm owners have the highest rates of being unbanked, at 38%. In contrast, only about a quarter of women-owned and co-owned firms are unbanked. Female firm owners also use their bank accounts for more of their business—the median percent of transaction value into or from a bank account is 50% for women, compared to 33% for men.

Our results here vary from global trends, as well as national data. Findex 2021 reported that men were banked at a higher level than women, 64% vs. 56%. The difference in our sample is likely driven by sampling bias - the women in our sample are those who had already overcome significant barriers to start and run firms with employees. Looking at only the firms that are at least partially integrated, the distribution of banking *activity* is similar across gender of owner.



Industry

Agri-processing firms are unbanked at higher rates than light manufacturing and select services (see Chart 2.5). These firms also have the lowest levels of banking activity. Services have the lowest proportion of unbanked firms and the highest proportion of highly integrated firms. The median percent of value flowing into or from a bank account is significantly lower for agri-processing firms, at 18%, compared to 61% and 57% for light manufacturing and services firms respectively.



Formality

In Colombia, firms must have at least a tax registration to be considered formal by the government. Only 32% of SFD participants have a tax registration. While firms with a tax registration are much less likely to be unbanked, having a tax registration does not perfectly predict financial system integration, as partially integrated firms are most likely to have tax registration. So, while the high level distribution suggests that having a tax registration and running a business using a bank account go hand in hand, Chart 2.6 shows that having a tax registration is not a barrier to the owner's formal financial access (though, as noted, these bank accounts are most likely not in the name of the firm, but of the owner). Chart 2.7 also shows that there is a close correlation between level of integration with the firms' own perceptions of their formality.

CHART 2.6: PERCENT OF FIRMS WITH TAX REGISTRATION, BY LEVEL OF BANKING ACTIVITY

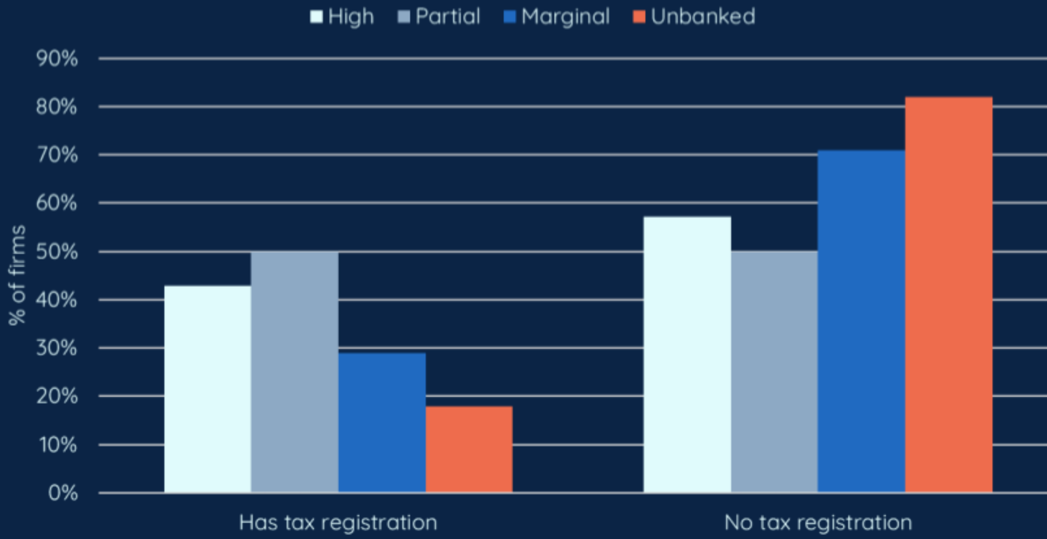
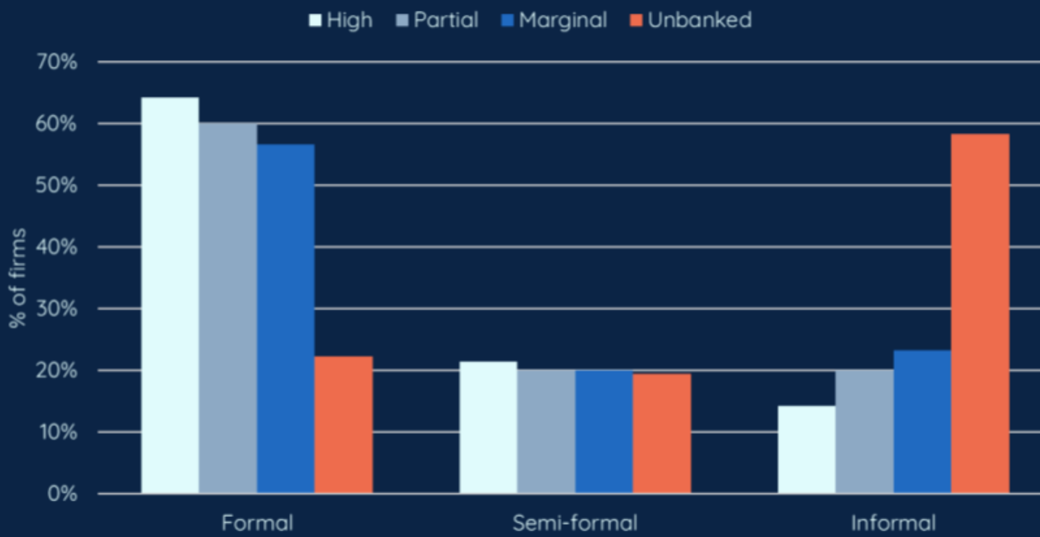


CHART 2.7: SELF-REPORTED FORMALIZATION STATUS BY LEVEL OF BANKING ACTIVITY



3. Exploring DFS Adoption and Usage

SUMMARY

The innovation of mobile money and its rapid adoption by low-income households in Bangladesh and Kenya created a wave of enthusiasm that digital financial services could be the pathway to financial inclusion—and significant benefits—for formerly financially excluded populations around the world. Over the last decade, while mobile money has spread to more than 50 countries, it's become clear that East Africa and South Asia are outliers rather than templates for the rest of the world.

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 we use the term "mobile money" or "mobile wallets" only for payment accounts accessed through a mobile phone[4]. We use Digital Financial Services as an umbrella term that includes banking and payments services delivered through the internet (which may be accessed via a smartphone or a PC), banking apps accessed via a smartphone, and what might be called "traditional" alternatives to cash like credit cards and debit cards that allow non-cash payments (as opposed to simply being used for withdrawing physical cash from an ATM). However, the distinctions between the terms, which are often used interchangeably, make conducting research difficult as users don't always make clear cut distinctions between types of services, mechanisms/modes of delivery, or service provider. A further complication is that some of our questions about technology and DFS use may have been interpreted by firms to include any use, not just use for business purposes. 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. Thus, a key area of investigation for the Small Firm Diaries was the extent to which the small firms 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 study were generally proficient users of technology, but had very low usage of mobile money, and large segments of the sample showed relatively little usage of DFS, but a capacity and willingness to increase usage significantly.

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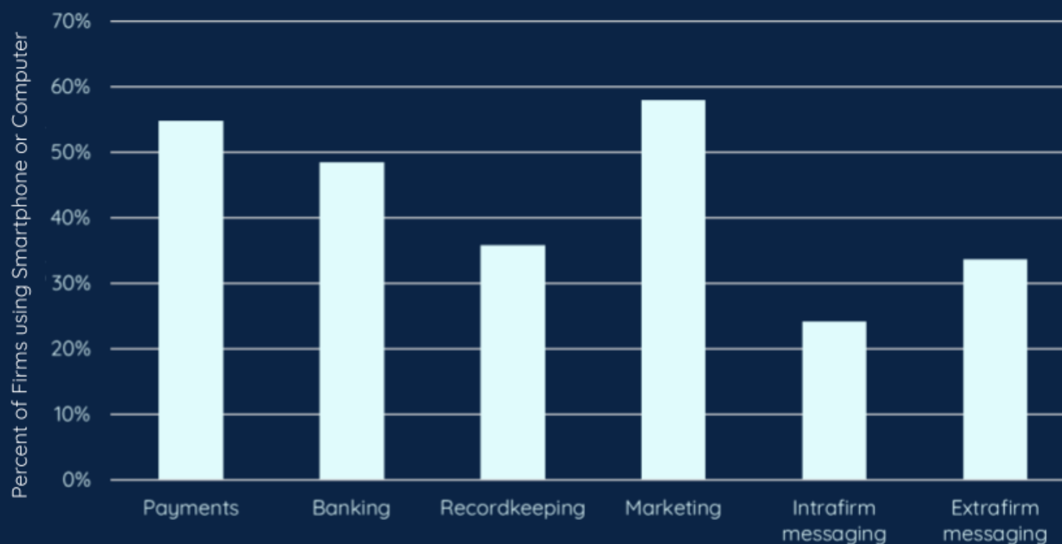
[4] The IMF defines mobile money as "a pay-as-you-go digital medium of exchange and store of value using mobile money accounts, facilitated by a network of mobile money agents"

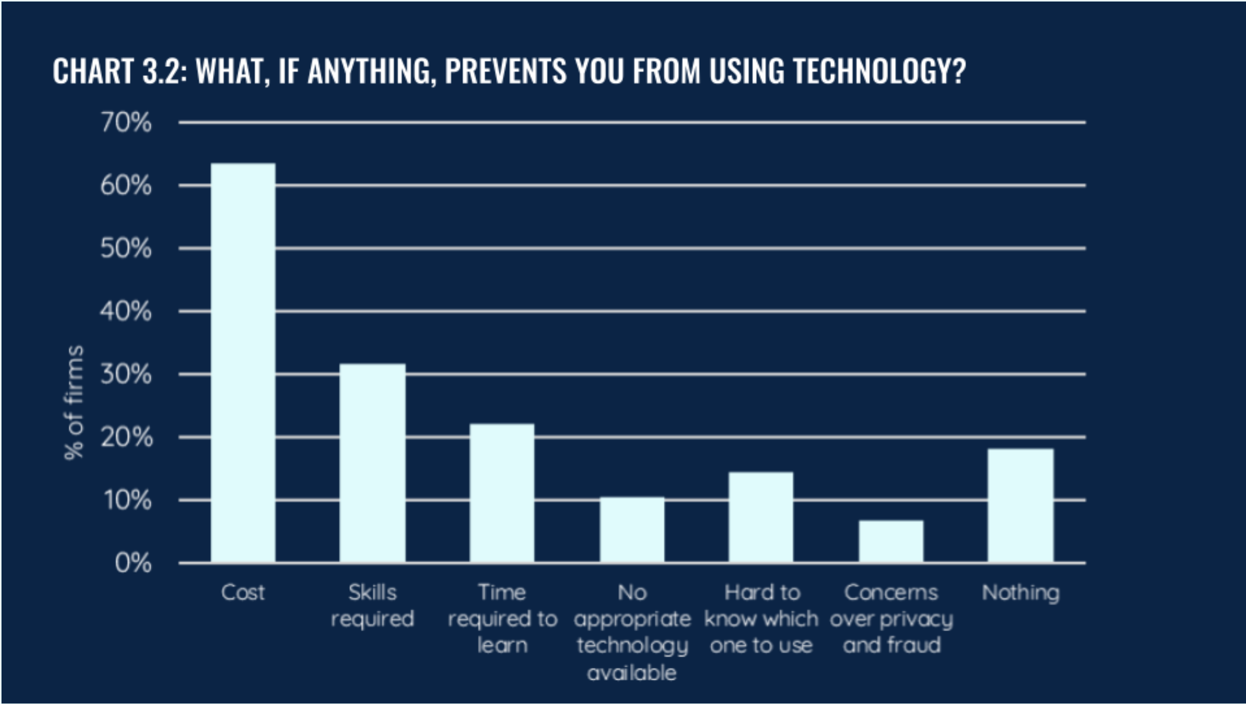
HOW DO FIRMS USE TECHNOLOGY FOR BUSINESS?

Smartphones are important tools for the majority of businesses in our Colombian sample. Over three quarters of our firms use either a smartphone or computer or both for their business, almost all firms that use a computer also use a smartphone for their business. This holds true across industries and gender. Unbanked firms have significantly lower smartphone adoption rates than financially integrated firms (~60% vs. ~80%).

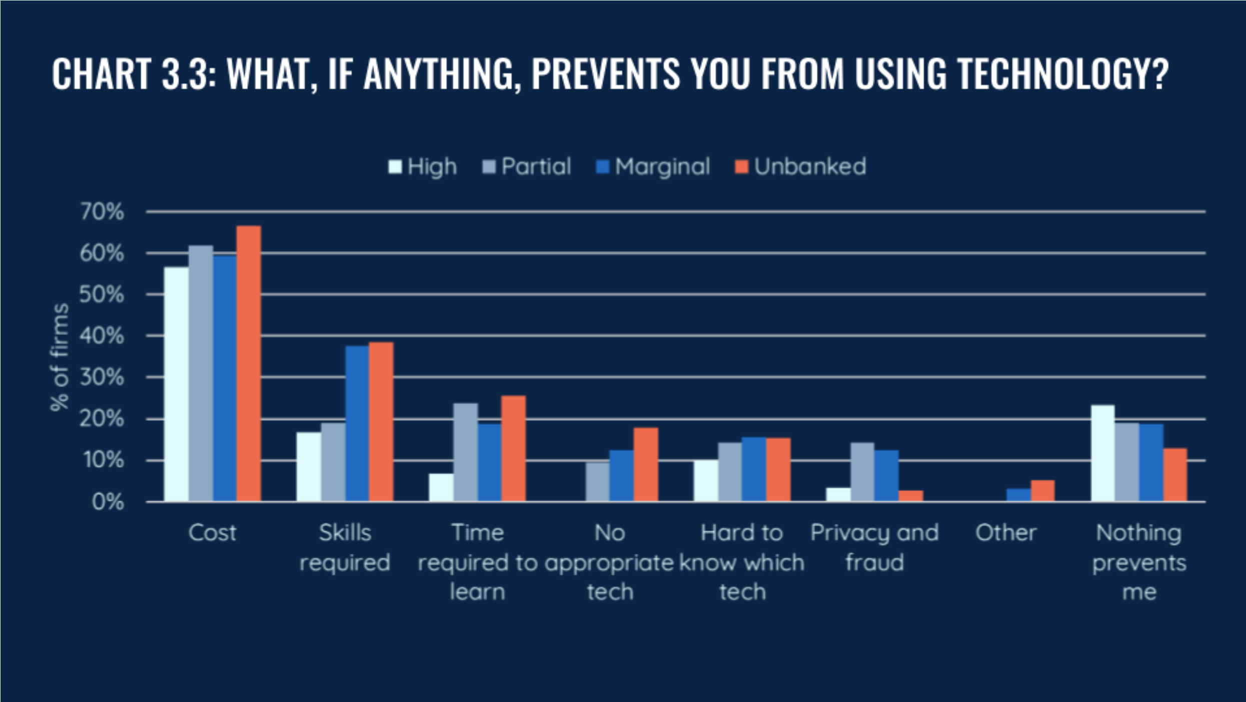
Of the ~80% of firms who use a smartphone and/or computer for business, about three quarters use these tools for payments and/or banking (see Chart 3.1). Findex 2021 reports slightly lower national figures: 36% of banked adults have used a phone to make payments or send money using a financial institution account. There are 27 firms who report using smartphones or computers in their business, but *not* doing any banking or payments—these firms use technology for marketing, recordkeeping, and messaging. Use of technology varies along with level of financial system integration. 90% of highly integrated firms and 95% of partially integrated firms report using a smartphone/computer for business purposes, compared to 66% of unbanked firms (though below we'll also look at a few unbanked firms who use mobile money extensively). Of the highly integrated firms using technology, two-thirds use a smartphone for payments and/or banking.



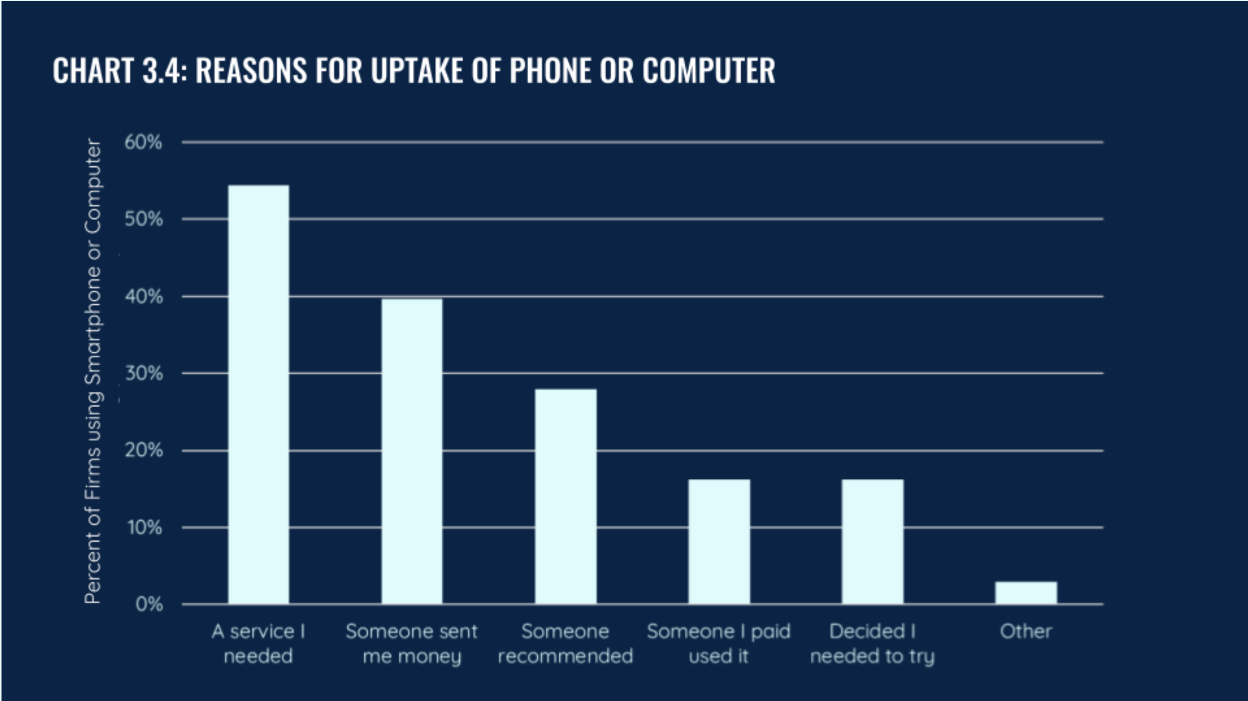
In a separate survey on attitudes towards and adoption of technology, we asked firms what prevents them from using technology broadly (Chart 3.2). Over half of firms reported cost as a barrier to using technology, while about a third reported a skills barrier. Interestingly, less than 10% of firms reported concerns over privacy and fraud.



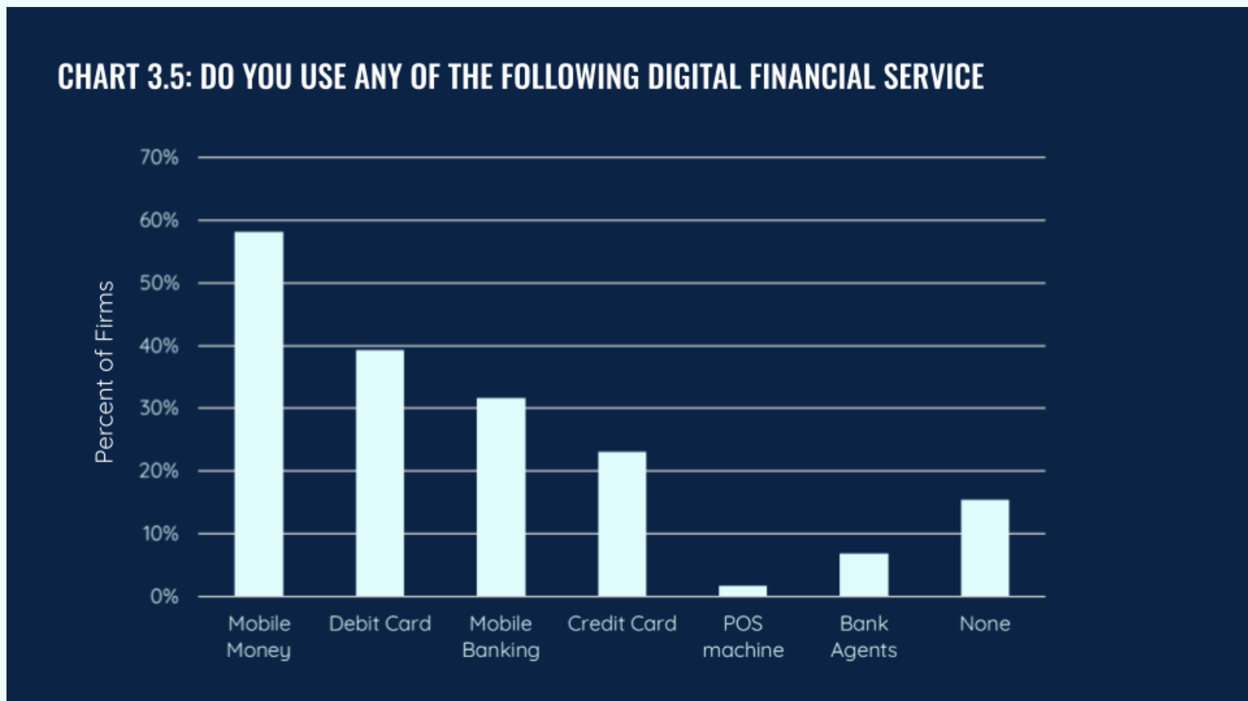
Cost was the most prevalent barrier across levels of formal financial integration. However, a much higher proportion of unbanked and marginally financially integrated firms reported skills required as a barrier than more highly integrated firms. Partially and marginally integrated firms were the most likely to report fraud and privacy concerns, though still only ~10% of firms reported these concerns. (Chart 3.3).



We also asked the firms who used a smartphone/computer for business purposes why they had begun using the tool and if they perceived value from using the tool. The most common response was essentially self-driven adoption: the firms saw the digital tools as something that benefited their business. Consistent with patterns of digital adoption from many other surveys, the second most commonly cited reason (in aggregate) was encouragement from existing users—either receiving a digital payment or a request for a digital payment, or a recommendation from a trusted associate (see Chart 3.4). In terms of value, three times as many users (60%) reported time savings as reported cost savings. That being said, more than 80% of users said the cost of services was good value.



In addition to general technology usage, we specifically ask all firms about what forms of *digital financial services* they use generally - not just for business, regardless of whether they report using a smartphone/computer for business. There is a wide disparity between tools: POS terminals and credit cards, staples of the move away from cash in high-income countries, are much less in use than mobile money, mobile banking and debit cards (which are more closely tied to physical cash than credit cards) (Chart 3.5). Mobile money adoption shown in our cash flow financial data was significantly lower than our reported adoption according to our one-time survey module here, ~20% vs. ~50%. This discrepancy could be driven by usage of mobile money platforms in firm owners' personal lives.[5]



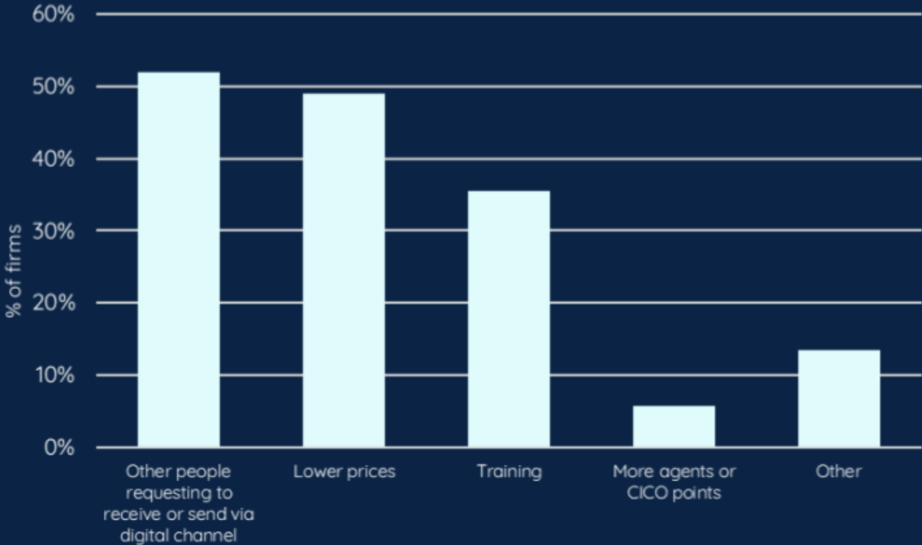
We also ask users of DFS, as reported in the question above, what challenges they've experienced. Less than one fifth of our sample of DFS users reported experiencing issues with the services. The most common issue reported varied across financial integration levels. Highly and partially financially integrated firms mostly experienced missing or delayed funds and surprise fees. While marginally integrated firms were also impacted by missing and delayed funds, they experienced fraud and stolen funds in addition. Unbanked firms only reported loss of access as an issue.

In a set of questions on attitudes towards and adoption of technology, we asked about what changes to digital payments, specifically, would increase firms' usage (Chart 3.5). Half of firms reported other people, like suppliers or customers, requesting to send or receive a digital payment,

[5] Because the question of DFS use was not conditional on reported use of technology for business purposes, there are some firms who report using mobile money (10) and mobile banking (5) but not using a smartphone for their business, presumably because they use these for personal rather than business accounts

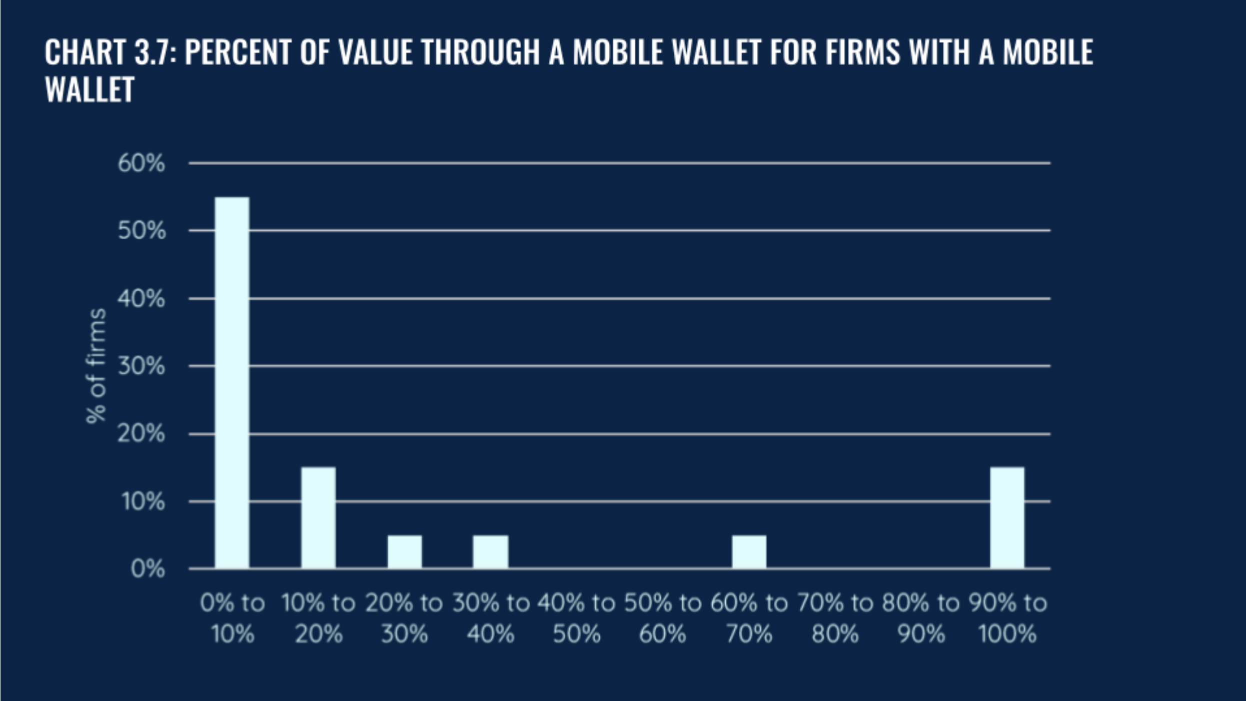
and lower prices as reasons to use digital payments more. A third of firms also noted training would encourage them to use the services more. Answers varied across formal financial integration levels. About half of marginally and partially integrated firms and two thirds of unbanked firms quoted lower prices as a potential driver to digital payments usage. In contrast, less than a third of highly integrated firms noted price as a consideration. Similarly, close to half of marginally integrated and unbanked firms would use digital payments more if provided with training, while 20% or less of partially and highly integrated firms noted training as a factor in DFS usage rates.

CHART 3.6: WHICH OF THE FOLLOWING CHANGES WOULD BE A REASON FOR YOU TO USE DIGITAL PAYMENT SERVICES MORE?



DRILLING DOWN ON MOBILE MONEY

Overall, our sample has very low adoption rates of mobile money such as Nequi and DaviPlata, despite growing national usage. Only 20 of our firms reported owning a mobile wallet and 50% of those firms used their mobile wallets for less than 10% of the value of their business transactions (see Chart 3.6). Given these low adoption rates, here we focus on two small subsamples: "super users" and "casual users" of mobile money. This analysis may provide some insight on the use case and profile of mobile money adopters but should be considered anecdotal given the small number of firms. We find that these firms are typically smaller than the rest of the sample, unbanked, and informal.



SUPER USERS OF MOBILE MONEY

Three firms (one led by a woman, one led by a man, and one co-owned) were "super users" of mobile money, reporting 100% of their transaction values through that mechanism: two services firms and one agri-processing firm. One firm reported a business bank account but did not report any transactions through it. The other two firms did not report owning a bank account.

These three super users are, on average, lower earning than other firms in our study. Revenue is less than 40th percentile (39th, 16th, and bottom 1 percentile respectively). These values are similar for operating margin. The firms are also smaller in terms of employment; two did not report any employee payments during the study period (though they did note employees in the initial census). None of the firms has a tax registration. The firms told us that they found significant value in mobile money because it eased their monthly accounting and allowed them to plan better.

CASUAL USERS OF MOBILE MONEY

We define “casual” mobile money users as firms using mobile wallets for more than 10% but less than 90% of their transaction value. We separate out the <10% value users because their “one-off” usage of mobile money may not be meaningfully different from those who do not have mobile wallets at all.

There are 6 such casual users. Four of them are agri-processing firms, one is a manufacturing firm and one is a services firm. These firms are even smaller as a whole than our super users, mostly clustered around 10th percentile in terms of monthly revenue, with the highest earner at the 50th percentile. Only one of the firms has a tax registration. Three of the six are unbanked and the other three are banked but are only marginally integrated. These casual users appear to be using mobile money as a supplement to their mostly cash operations, but as an alternative to running more of their business using a bank account.

4. Credit Access

SUMMARY

When thinking about helping small businesses thrive, policymakers—taking the lead from the message of the microcredit revolution—have generally focused on access to credit as a key intervention. After 40 years, however, the results of increasing credit access to microenterprises has 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.[6] 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 borrowers seem to "graduate" to larger loans at more commercial banks (though it's important to note that this is in part because of opposing pressures on MFIs—the borrowers capable of graduation are the borrowers that are most profitable for the MFIs and key to their sustainability).[7] In the Small Firm Diaries we were eager to understand the credit access, needs and behaviors of small firms. Were there firms "graduates" of microfinance programs? Did they have access to credit at all? If so, where was the credit coming from? How big of a barrier was credit access 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 who were partially or highly integrated into the formal financial system.

In our sample, we see little relationship between the level of financial system integration and credit usage. Firms who are only marginally integrated borrow from banks at higher rates than those that are more integrated. Still, credit usage is relatively low: only 43% of our sample in Colombia had at least one active loan during the study period. We find that the firms in the middle of our income distribution, women, and services firms were more likely to use credit. Two-thirds of the firms who took loans borrowed from a commercial bank and had low reliance on informal sources. We found zero usage of MFI or mobile money loans.

Firms say they want or use credit to make investments or address cash flow issues, and cite paperwork, availability, and cost as the most important barriers. We do find that a higher proportion of women than men say they need credit frequently.

Banks are not the only source of credit. Almost a third of firms report taking loans from suppliers (but we think this is an underestimate), not much lower than reports of credit from banks. There's also a large overlap between the use of formal bank credit and supplier credit—they are complements, not substitutes. At the same time, the firms are an important *source* of credit: roughly

[6] 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 Cull and Morduch 2018 and Klein and Ogden 2023 (forthcoming) respectively.

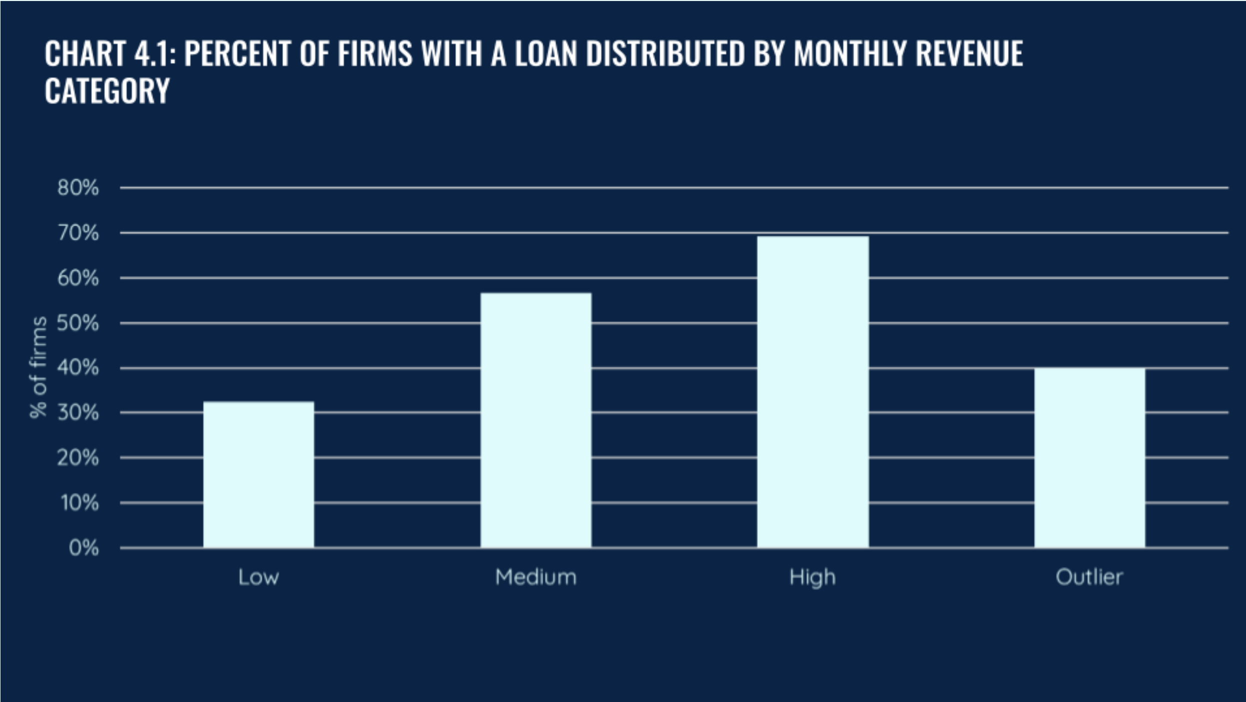
[7] See Banerjee, Karlan and Zinman 2015, Meager 2019, Rigol and Roth 2021

a third of firms (and 80% of firms who engage in any form of supply chain finance) *give customers credit.*

But perhaps the most important finding from the Small Firm Diaries in terms of credit access is that working capital, or liquidity management credit is the most pressing need for many firms. So while we see firms saying they want credit to "invest" we most commonly see large purchases being raw materials. We also see firms note that access to finance is a barrier to their success but many who say they rarely or never need loans. We interpret this mismatch generally as a statement about the need for more tools to manage liquidity rather than a need for asset lending.

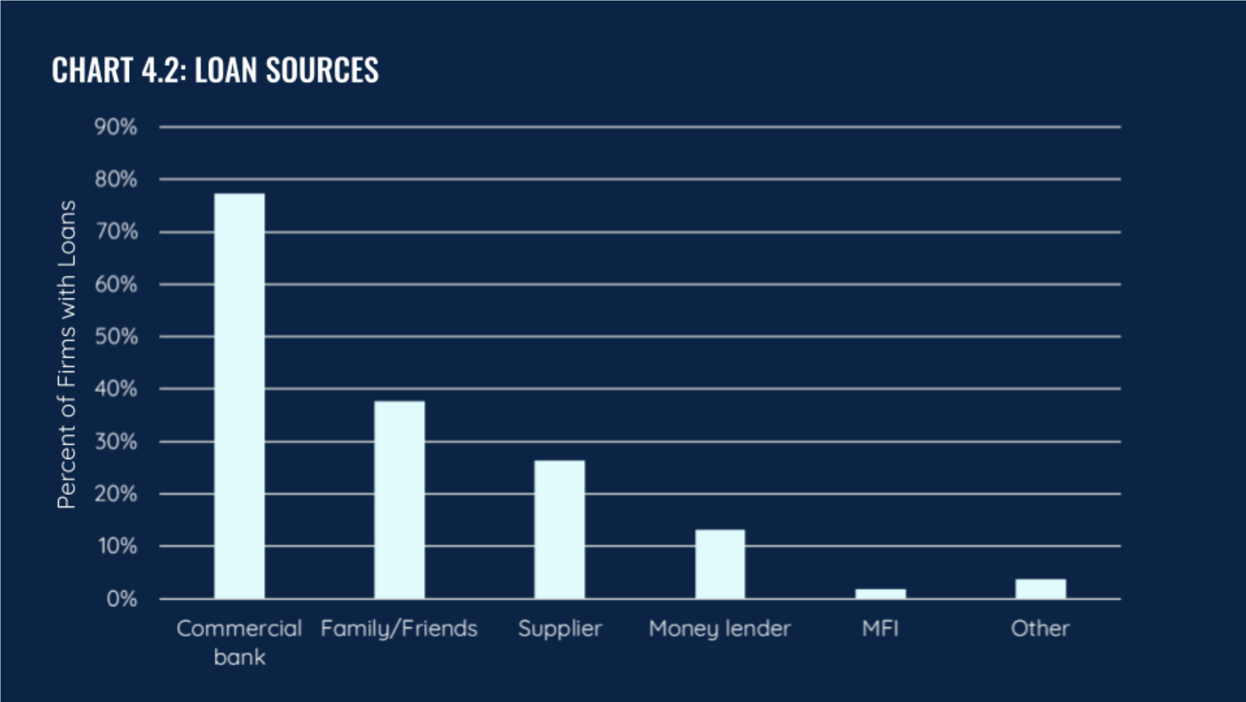
CREDIT ACCESS AND SOURCES

Less than half (43%) of our firms reported holding a loan of any kind during the study.[8] As with a number of other metrics the stereotypical gender gap is reversed: a higher proportion of our female firm owners (55%) took loans than male firm owners (40%). There were minimal differences across industries: services firms were most likely to take a loan at 45%, compared to 40% for light manufacturing firms, and 38% of agri-processing firms. High and medium revenue firms use credit at the highest rate (see Chart 4.1).

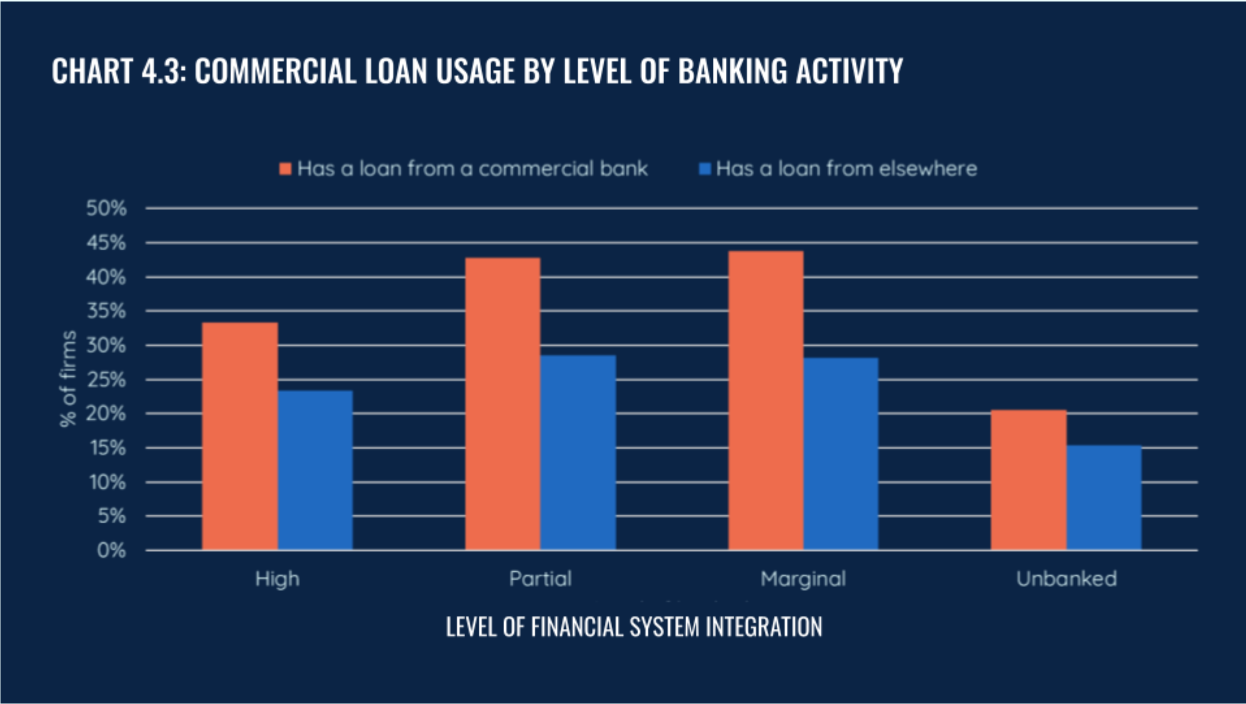


[8] For comparison purposes, Global Findex 2021 finds that 19% of Colombians over age 15 have borrowed from a formal financial institution or mobile money provider, while 48% have borrowed from any source.

Commercial banks are the most common loan source in Colombia (see Chart 4.2). In other countries in the Small Firm Diaries, we find that firms rely on supplier loans or friends and family more often than bank loans. Interestingly, despite being able to take loans from financial institutions, none of our firms took a loan from an MFI or mobile money lender. In the graph below, other includes informal savings groups, co-ops, and credit cards.

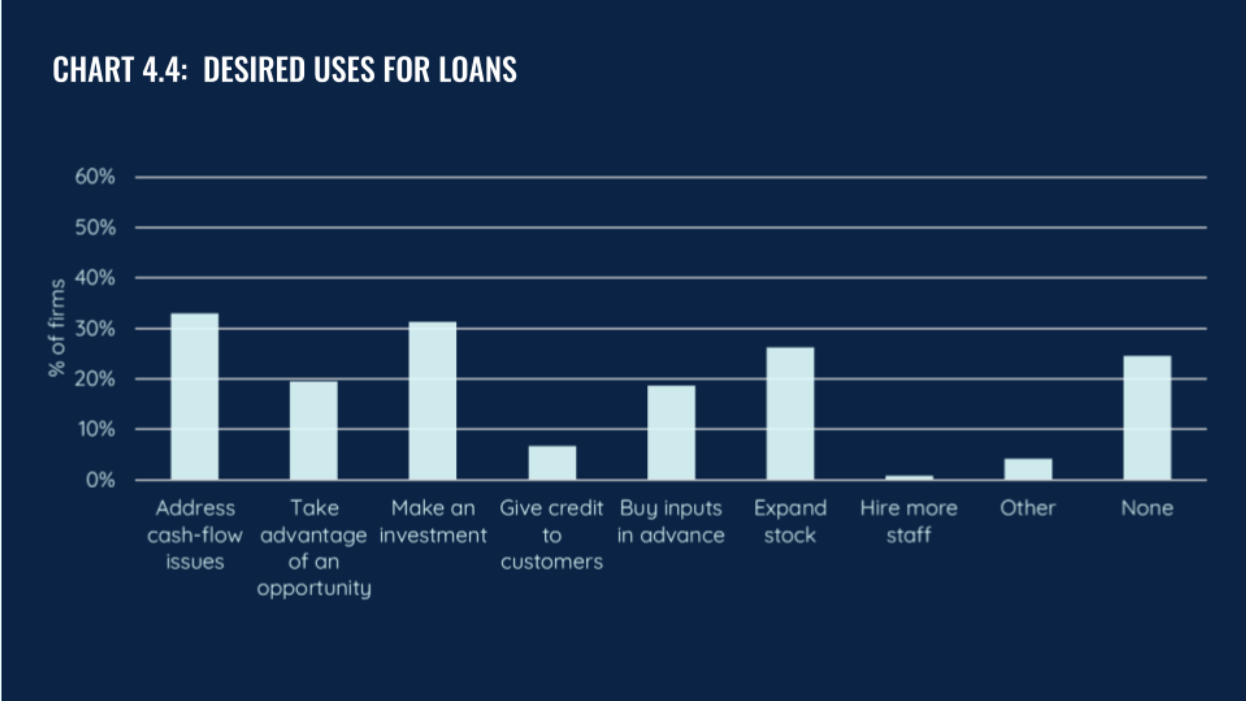


Being significantly integrated into the formal system is not a prerequisite for access to bank credit. The marginally integrated firms have the highest rate of borrowing from banks; even 20% of our unbanked firms report having a commercial bank loan (Chart 4.3). However, borrowing from moneylenders was limited to unbanked and marginally integrated firms (with just 1 exception).

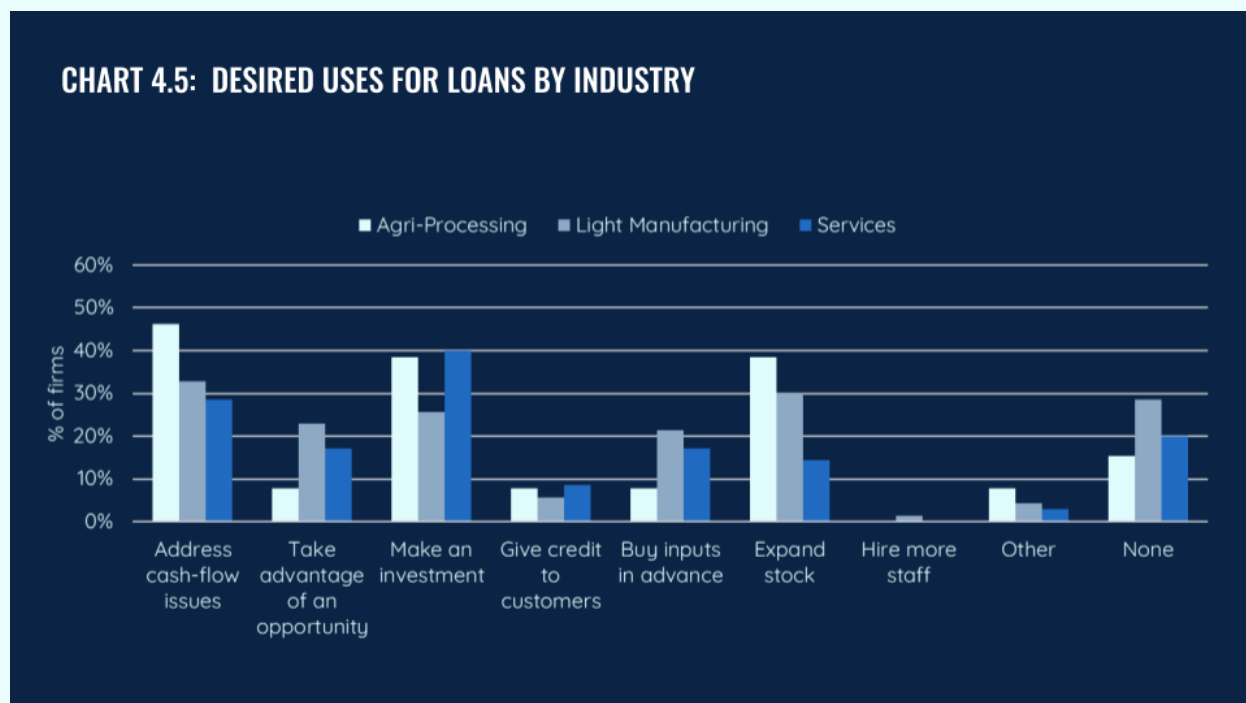


CREDIT USE

During the study, we asked firm owners what they use or would want to use a loan for, with a variety of options. The possible answers were not fully mutually exclusive—for instance, a firm owner could respond "Address cash-flow issues" and "buy inputs in advance." Still, less than a third of firms chose any particular category (see Chart 4.4). The most popular options (Address Cash Flow Issues, Make an Investment, and Expand Stock) were of interest to only slightly more firms than said they did not want to take loans. There was some variation between industries, where agri-processing firms and light manufacturing firms were especially likely to say they were interested in loans to address cash flow. This is particularly striking because those industries, more than services, would seem to have more opportunities for capital investment.



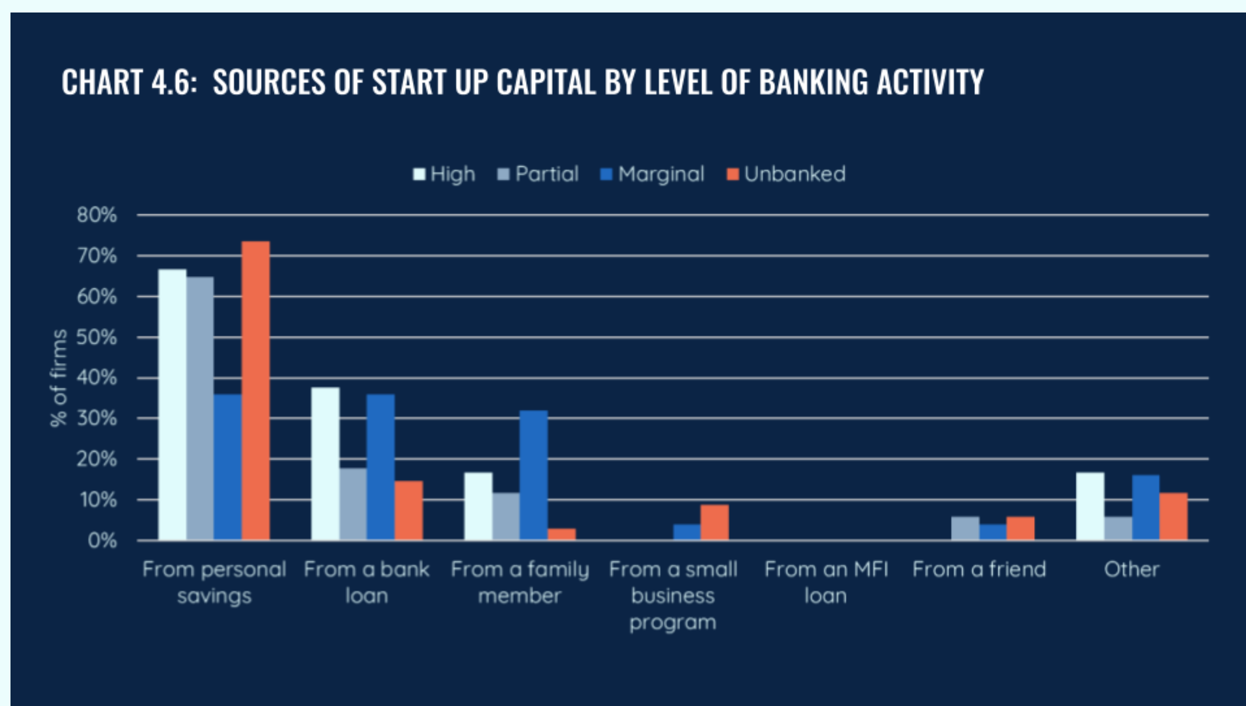
However, it's important not to over-interpret the desire for "investment." As a check on what firms meant when they said "make an investment" we also looked at the firms' reports of "assets" acquired during the study. The majority of these asset investments were raw materials/inventory, not a capital good (such as a machine or expanded/improved facilities).[9] We also see that most large purchases are similarly for raw materials/inventory. We believe, therefore, that the vast majority of the expressed interest in borrowing is for working capital purposes (i.e. the combination of address cash-flow issues, give credit to customers, buy inputs in advance, expand stock and at least part of make an investment). Using this interpretation we do not see a difference between men- and women-owned firms in terms of desired uses for borrowing (see Chart 4.5)



[9] Colombia was one of the first two countries where the study was conducted. Initially we did not expect firms to use "investment" as a synonym for raw materials so we did not ask what the investment was when a firm responded that they desired to make or had made an investment. In later countries we specifically ask, and find a more definitive pattern that for small firms investment and raw materials are synonyms.

START-UP CAPITAL

In alignment with our low credit usage during the period of the study, firms also reported low usage of any form of credit, notably including MFI loans, to start their businesses. In comparison, using data from India on microfinance borrowing, Banerjee et al calculate about one-third of borrowers are "gung ho entrepreneurs" who grow their business with microcredit while the remaining two-thirds either do not grow or never start an enterprise. Regardless of level of financial integration, the majority of firm owners used their own savings for start-up capital—similar to rates seen among small business start-ups in the United States.



Use of loans as start-up capital also does not predict current loan usage. 65% of loan takers during our study used savings to open their businesses.

WHAT DRIVES CREDIT USAGE?

Most firms report relatively low desire to actively use credit, noting only an occasional, rare, or nonexistent need for a loan. Over 50% of agri-processing firms report never needing a loan. Light manufacturing firms mostly need loans occasionally or rarely, while almost 50% of services firms only rarely need a loan, and ~25% never need a loan (Chart 4.7). Overall, women say they need loans slightly more frequently than men although very few firms across both genders report needing loans constantly or often (Chart 4.8).

CHART 4.7: LOAN NEEDS BY INDUSTRY

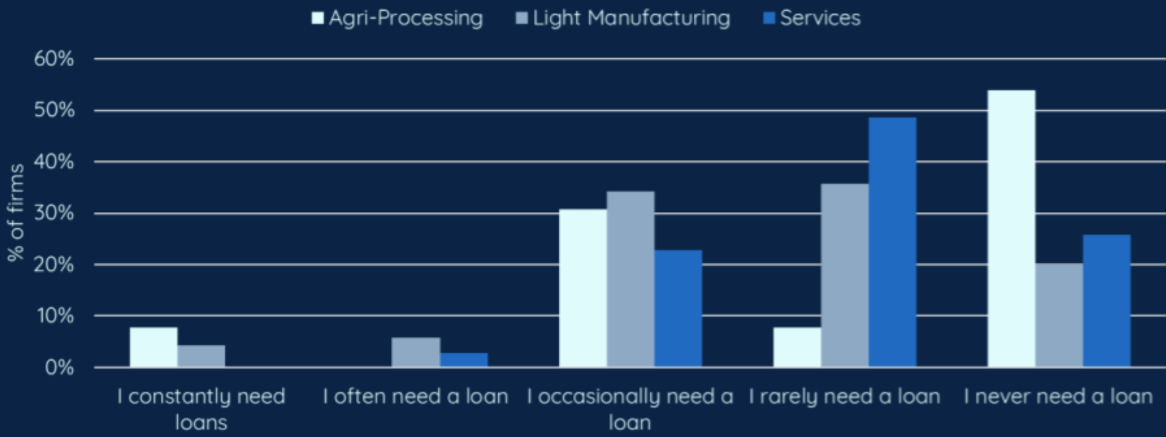
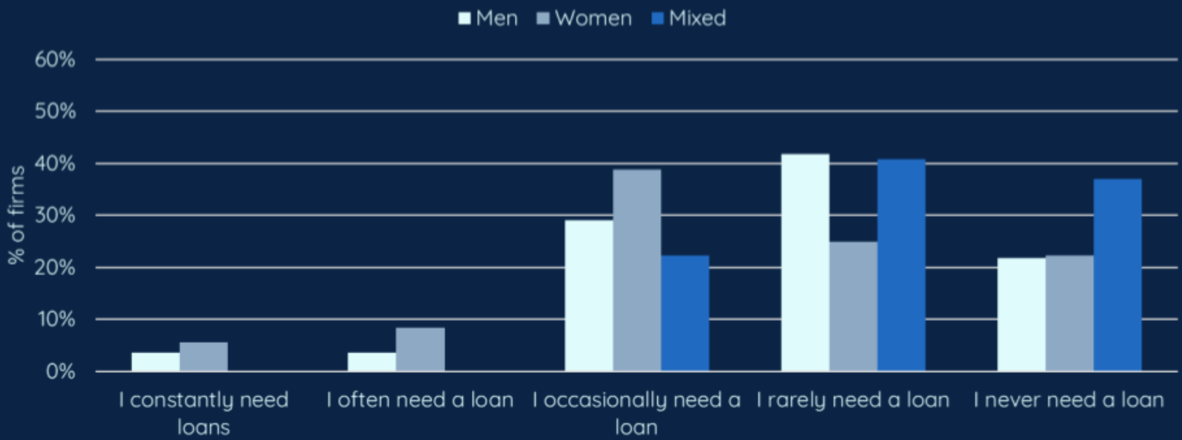
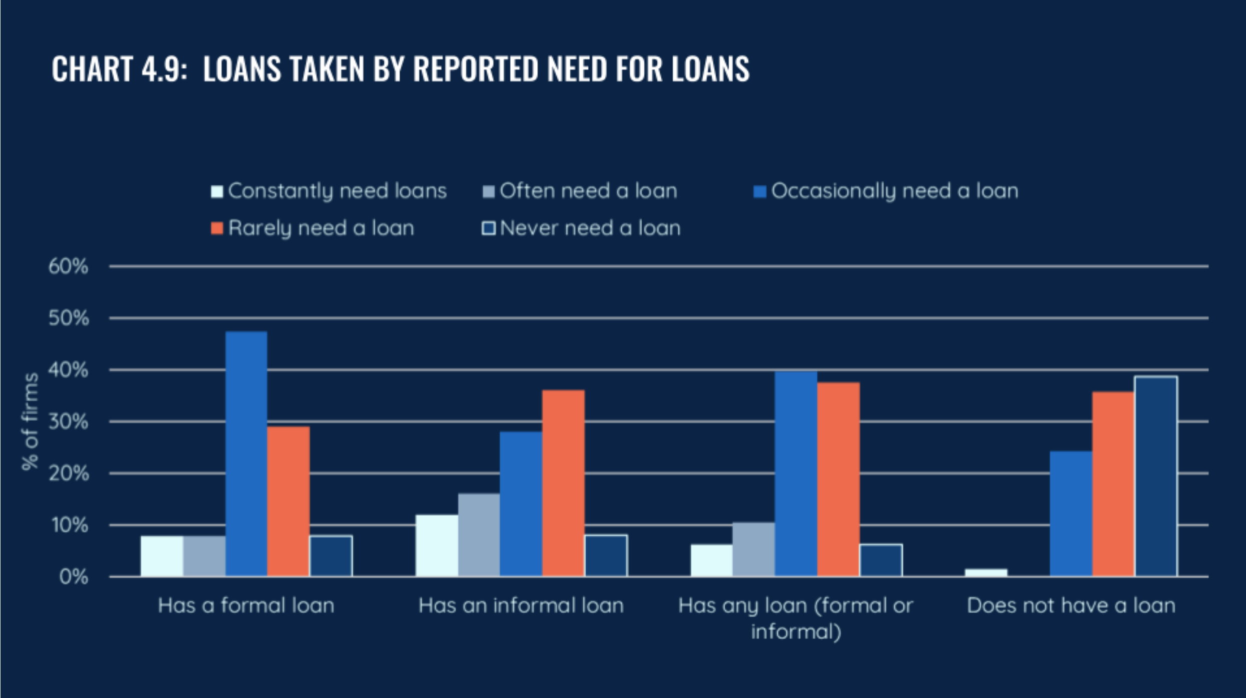


CHART 4.8: LOAN NEEDS BY GENDER

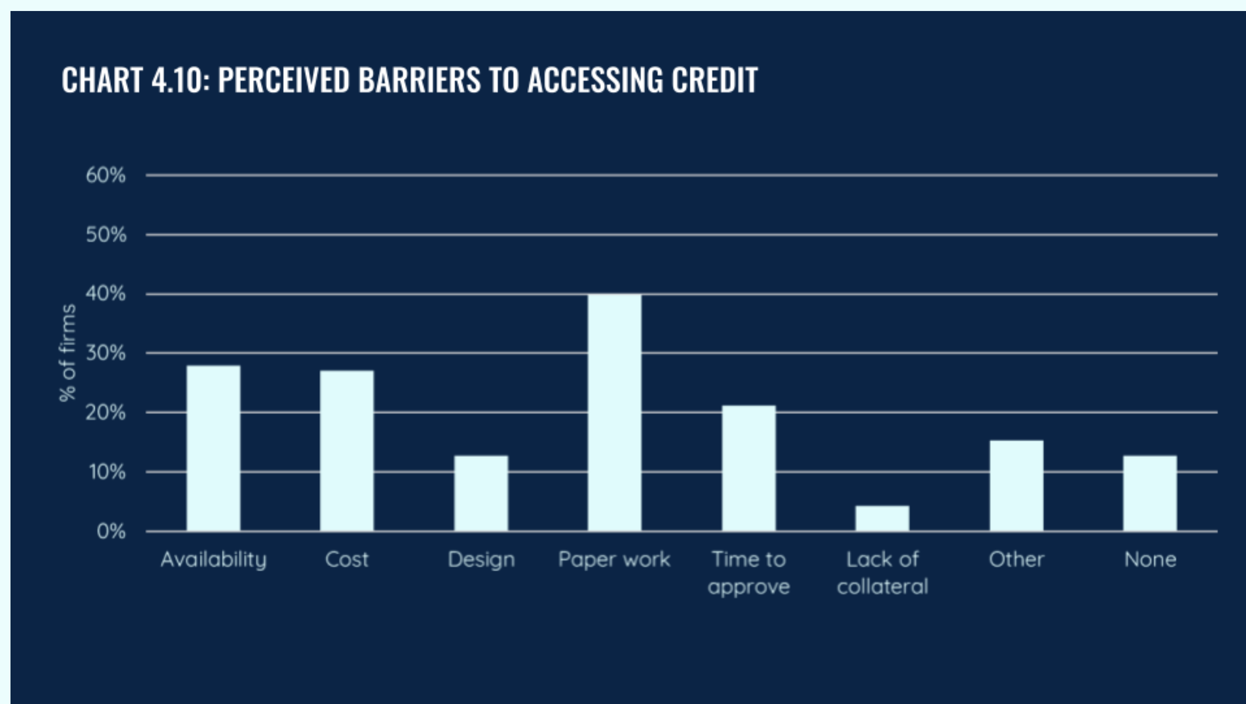


There is some mismatch between desire for credit and reported use of credit. About a third of our sample who say they only occasionally or rarely need loans took a loan during the study (Chart 4.9). Meanwhile, firms that say they constantly or often need loans are less likely to have reported a loan during the study. It is very possible that this pattern is explained best by accurate judging of the firms' credit risk—the firms that constantly need loans are firms that are riskier and find it harder to be approved; while the firms that "never" need a loan, don't need a loan because of they can generally self-finance, which makes them more attractive customers for lenders. This interpretation is supported by the fact that there isn't a correlation between "constantly needing" loans with firms that are growers; in other words, the firms that constantly need loans don't need them to fund rapid growth (which would make them more attractive to lenders).



WHAT ARE THE BARRIERS TO CREDIT ACCESS?

We also asked firms about the barriers that prevented them from accessing credit. No strong trends emerged—none of the barriers was cited by more than half of the firms no matter how they were segmented. Most notably, less than a third of firms said that credit was not available (see Chart 4.10). Paperwork was the main barrier cited by those who used informal loans; for those who used formal loans, cost was more likely to be cited as a barrier. Cost was more likely to be cited by services firms and those in other industries. Women cited availability at slightly higher rates than men; most likely reflecting that male-owned firms were more likely to be informal and unbanked, men cited paperwork at significantly higher rates than women.



Rather than looking at firms' perceptions of barriers to credit, we can also look at other firm characteristics to see which firms are less likely to use credit. Based on a firm's perceived level of formality, two-thirds of informal firms have no loans, in contrast to about half of formal and semi-formal firms. Between perceived formal and semi-formal firms, we see differences in the usage rate of "informal loans"; 40% of semi-formal firms took one during the study, compared to only 20% of formal firms. Similar to the formal financial integration measure above, a firm's level of perceived formality may be driven by its use of financial institution loans rather than the inverse.

FIRMS DESCRIBE THEIR STRUGGLES WITH CREDIT

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—they might be digging themselves into a financial hole too deep to dig out of. The experience of one woman in the study—the 57-year-old owner of a repair and maintenance firm who opened a credit card in 2017—provides an example. She charged COP 1.2 million to the card and soon owed COP 1.6 million. She tried to pay down the balance, but by the start of the study she reported still owing COP 500,000. She told us she could not afford to make the payments, and in fact did not report any payment during the study. We recorded her median monthly operating margin was positive at COP 377,000 and her annual operating margin was COP 1.46 million. Even in her highest revenue months, making payments against the credit card debt would have been difficult since, she explained, she used all the money she made at her business to fund household consumption. When asked if she was interested in other loans to allow her to expand the business, she said yes, but that she could not afford it at her current level of sales.

Respondents also frequently mentioned The "Datacredito" credit rating system as a barrier to accessing loan products. For many firms, past woes in personal finance which gave them a bad credit score create current barriers for their businesses, no matter how productive the firm is today. A 52-year-old female shoemaker in Barranquilla explained to us that she went into debt 20 years ago because of medical expenses for one of her children, resulting in a poor rating from Datacredito. Though her finances have since stabilized and her firm had a positive annual operating margin around COP 64 million during the study, she still does not have access to credit products that require a score above a certain level. She has struggled to improve her score, but regardless expressed wariness of the high interest rates in products that she has seen, saying that 15-20% interest is far too high for them to afford.

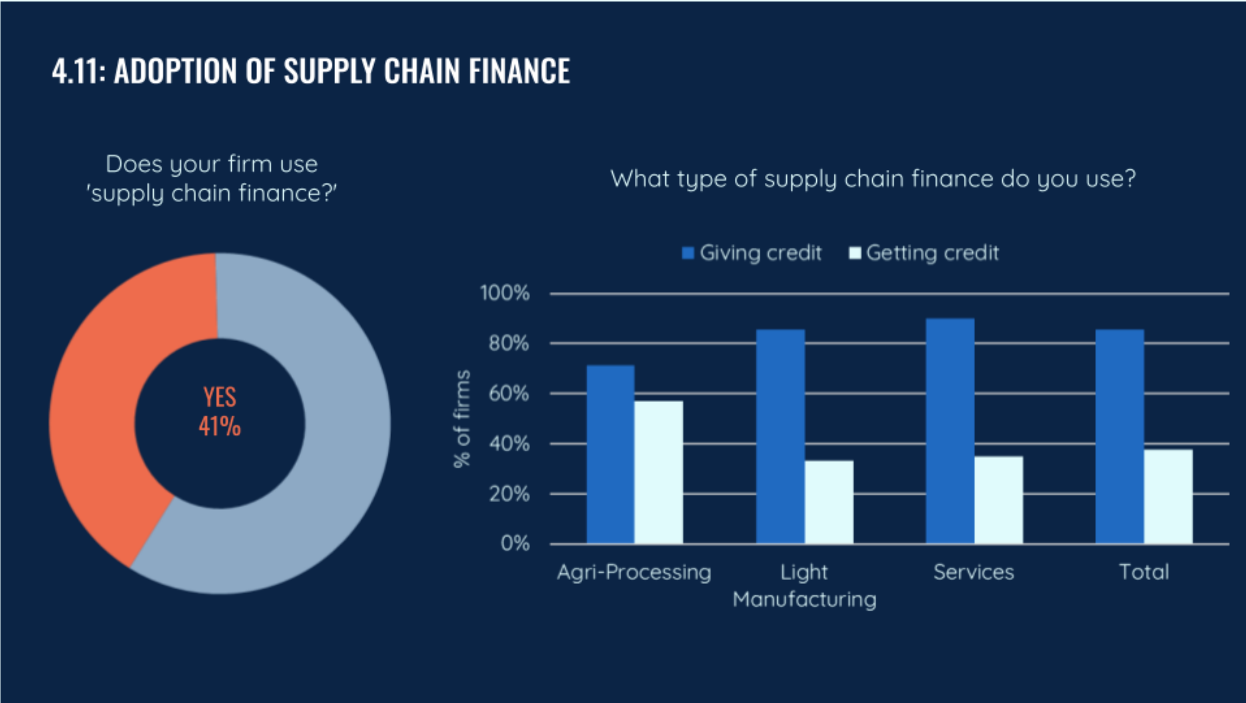
SUPPLY CHAIN FINANCE

Given what we see of firms' interest in using credit for working capital and liquidity management, understanding the opaque domain of supply chain finance for small firms is particularly interesting. 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. We include both financial flows and tacit or in-kind transfers—in other words, the lack of a financial flow—regardless of whether they are between firm and supplier, or firm and customer, and find that about 40% of our firms use supply chain finance.

Perhaps the most common form of supply chain finance that comes to mind is a firm taking delivery of raw materials and paying the supplier only after goods have been sold (or simply after some time has passed). But supply chain finance also includes a firm agreeing to build a custom product for a

customer before payment is received, or a customer pre-paying for an order so that the firm can buy raw materials. These arrangements do not have to be fixed or formal—a supplier may be willing to be very flexible on when repayment happens. Given the flexibility or informality, we believe our measures of supply chain finance flows are an underestimate—there is likely more liquidity being exchanged in this way, and our measures can be thought of as a lower bound.

Supply chain finance is an integrated part of the financial tools at use for almost half of the small firms' in our study. We can separate out the use into two categories: getting credit and giving credit. Based on the struggles with liquidity that firms face it is at first glance surprising that the firms give credit—transferring liquidity to customers—more than they receive it (Chart 4.11). On further thought however, it is likely true that the firms are serving low-income customers who have even greater liquidity challenges than they do.[10] Thus, while these firms are liquidity constrained they are providing a lot of liquidity to their customers and play a very large role in the financial lives of low-income households and neighborhoods. Overall use of supply chain finance is fairly similar across industries, but agri-processing firms receive more credit and give less credit than light manufacturing or services (see Chart 4.11).



Supply chain finance is an important tool, and we find it is complementary to bank credit. As the factors that make a firm creditworthy are similar regardless of whether a bank is lending cash, or a supplier is allowing a firm to pay 60 days after delivery, some of the overlap in bank borrowing and

[10] The extreme liquidity challenges and volatility that low-income households face are documented in the books *Portfolios of the Poor* and *The Financial Diaries*.

supplier borrowing is probably a reflection of a firm's creditworthiness. Those who do receive credit from banks or suppliers are also in a better position to extend that liquidity to customers.

Why do firms seek credit from suppliers, other than the obvious benefit of not having to hand over cash? We ask the firms about their reasons for and perceptions of use of supplier credit. Chart 4.13 shows that some firms view supplier credit as a way of building deeper ties with suppliers in terms of quality and relationship.

CHART 4.12: Do you take loans from suppliers?

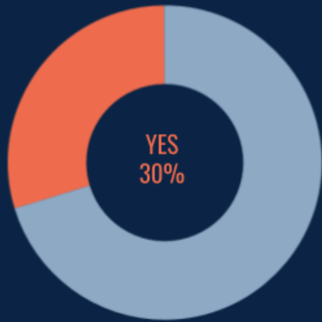
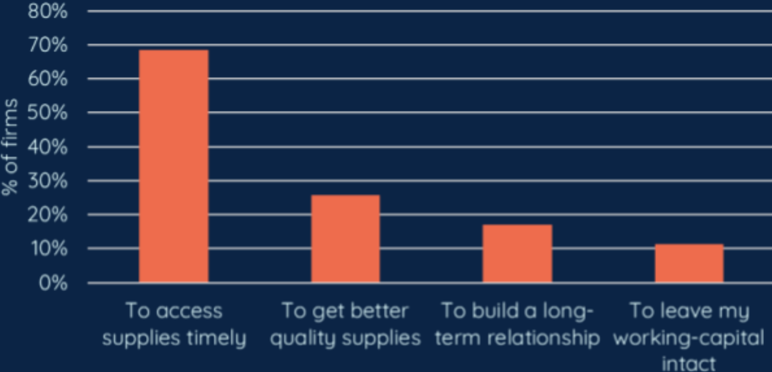
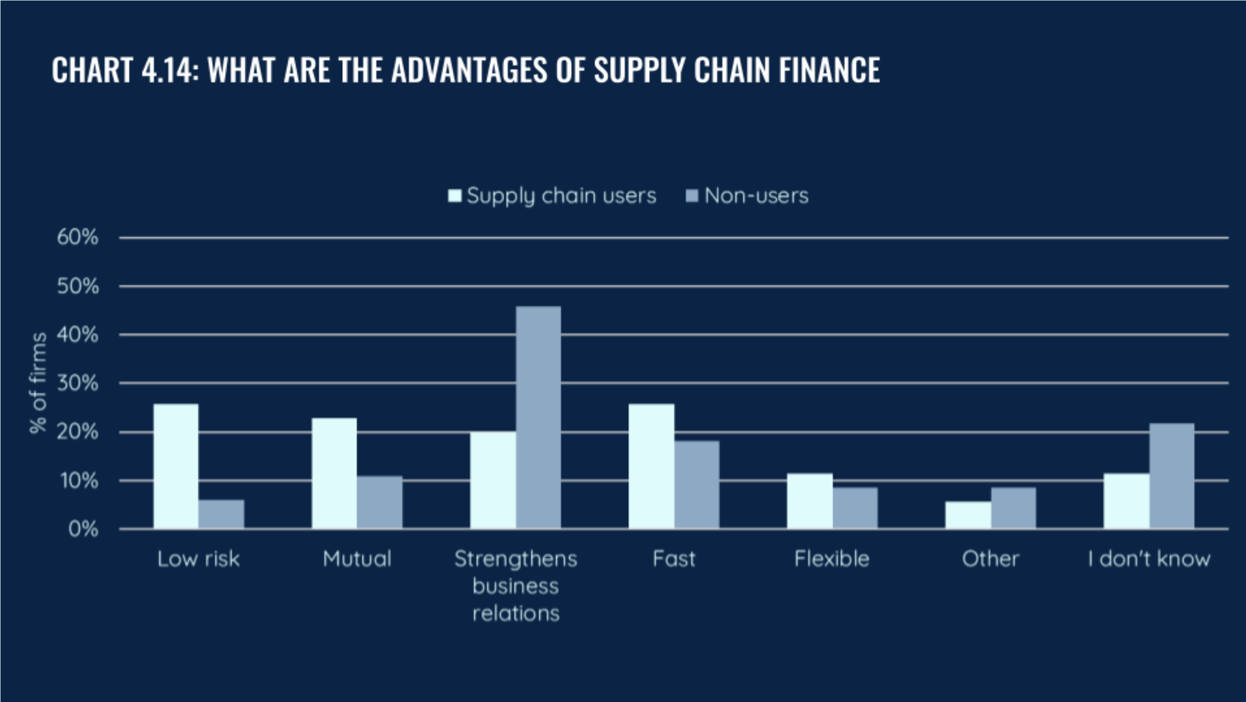
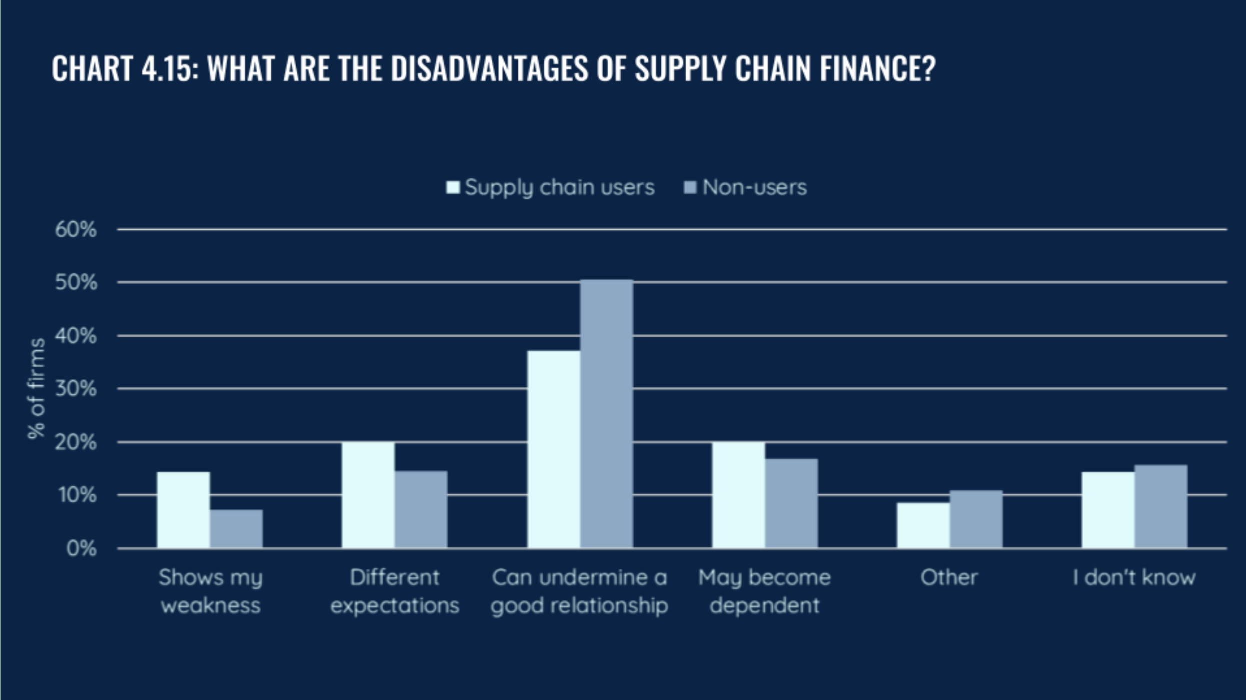


CHART 4.13: For what reasons do you take loans from suppliers?



Firms see a variety of advantages of supply chain finance compared to other sources of credit (see Chart 4.14). Of note is that those who do not borrow from suppliers perceive that it can strengthen relationships at twice the rate of actual borrowers. Of course there are risks as well as advantages (Chart 4.15). Non-users and users of supply chain finance alike believe that it poses a risk to their relationships with suppliers and customers.





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. Providing liquidity to suppliers to enhance their provision of credit or gathering information from suppliers in order to underwrite working capital loans to the firms themselves would also likely trickle down to the firms' customers by allowing the firms to offer more credit than they already do.

Credits

The principal investigators for the Small Firm Diaries global project are Timothy Ogden and Jonathan Morduch; and for the Colombian arm of the study, Luz Magdalena Salas Bahamón and Jana Schmutzler De Uribe. The principal investigators acknowledge the contributions of Rachael Eplee, Laura Freschi, Michelle Kempis, Yeji Lee, Camila Londoño Sanin, and David Pinedo de la Hoz in creating this Issue Brief.

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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.

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