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Consultative Group to Assist the Poor
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THE CREDIT PUZZLE
Greta Bull, CGAP CEO

I have spent a lot of time thinking about what I wanted to talk to you about today, and my remarks are the product of more than a year's reflection on what I think is a growing priority for our community: credit. CGAP has invested heavily in the last 10 years in understanding and improving payments systems. We made that shift because M-Pesa made it clear that payments are an important gateway for low income people to access both financial and non-financial services, leaving data trails that providers can use to deliver those services. But if we want to see livelihoods, growth and jobs for low-income people, we are going to need more than just payments. We'll need micro, small and medium-sized businesses that are able to sustain poor families, employ people and grow. And to do that, people will need access to credit. The lack of credit remains an important barrier. Globally, 25 percent of firms cite access to finance as a major constraint to growth in the World Bank's Enterprise Survey, rising to over 39 percent in Sub-Saharan Africa, higher than any other region in the world. The figure rises to almost 42 percent for firms with fewer than 20 employees. We clearly still have work to do to develop healthy and productive credit markets in Sub-Saharan Africa.

I would like to look at this issue in Africa because that is where we first saw digital credit take off and because digital credit is having a measurable impact there, as we will see. I want to talk about credit both because of the risks it poses, but also for its unique potential to contribute to economic growth and livelihoods. I want to talk about how closely linked credit is to so many aspects of CGAP's work. In particular, I want to talk about the ways access to data can improve our ability to make credit markets work better for the poor.

So, let's start with what a healthy and productive credit market looks like. I would argue that it's a market that delivers credit to where it will be put to most efficient use, on fair terms, to borrowers who are able to use it for an appropriate purpose, without putting themselves at risk. Crucially, it's a market that does this for poor families and microbusinesses that can demonstrate creditworthiness. I find it useful to think of retail credit as a continuum – with short-term consumer credit on the left-hand side, all the way through to mortgages and other investment financing on the right-hand side.



Crudely put, on the left-hand side, credit is expensive, short term and generally unsecured. On the right-hand side, credit is longer term and less expensive but requires more in terms of borrower history and collateral. And

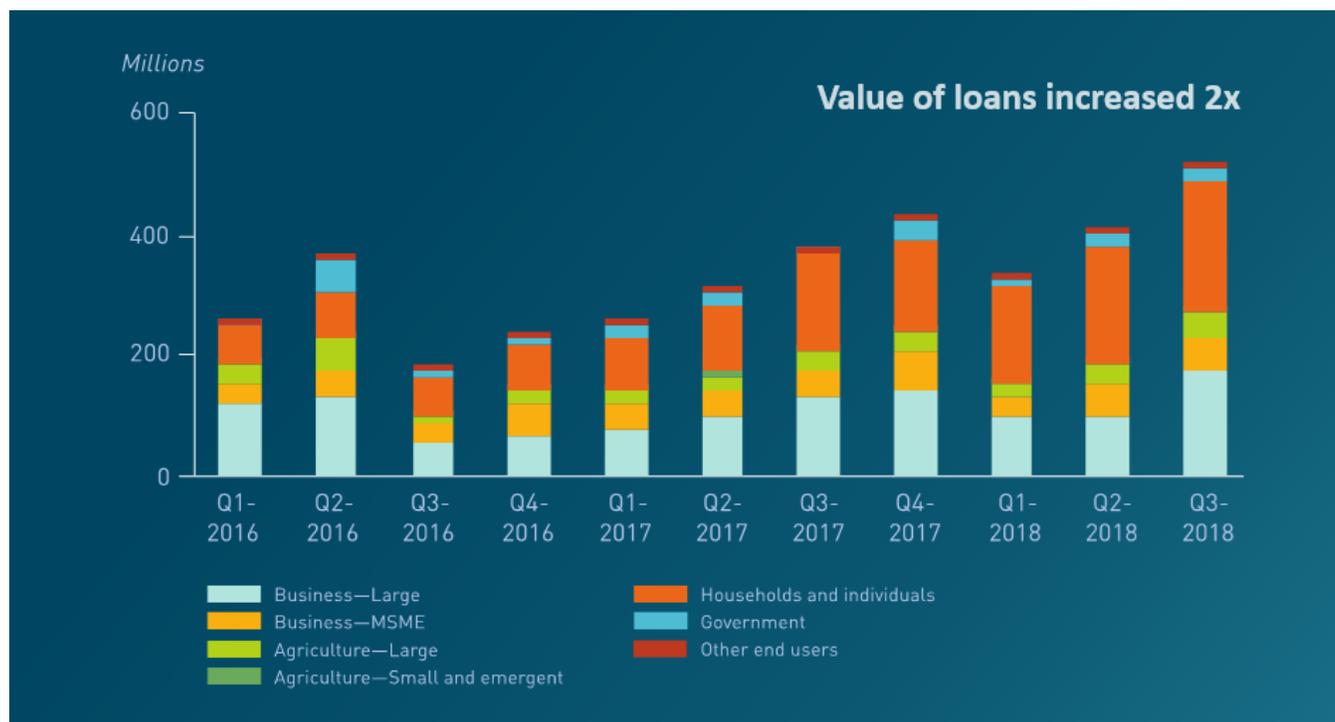
this is precisely the problem. Because of a lack of information and the relatively high cost to serve, low-income households and MSMEs are forced to the left-hand side of the continuum or may not be able to get credit at all. I would like to talk today about ways we can move people further to the right on that credit continuum.

In the last five years, we have seen a lot of change in retail credit markets in Africa, not least because of the rapid growth in digital credit associated with mobile financial services. But how much do we actually know about digital credit? Or for that matter, the structure of retail credit markets more generally in Africa? The answer, unfortunately, is “Not that much.” Outside of South Africa, there is very little comprehensive supply-side data on credit availability.

Zambia’s Credit Market

A recent exception to this is provided by the Bank of Zambia, which - with some help from our colleagues at FSD Africa - started producing supply-side data on a quarterly basis from January 2016. While not perfect, the data raises a number of interesting questions about how credit markets are evolving in Africa. Credit penetration is relatively low in Zambia: private credit as a proportion of GDP was only 11 percent in 2017, which is well below the 22 percent average for Sub-Saharan Africa. But things are changing fast, and it appears that digital credit is driving much of that change. In the 33 months leading up to September 2018, credit doubled in value terms. Growth in credit availability was seen across all categories but was driven in no small part by lending to households, which you can see represented here by the orange in the graph.

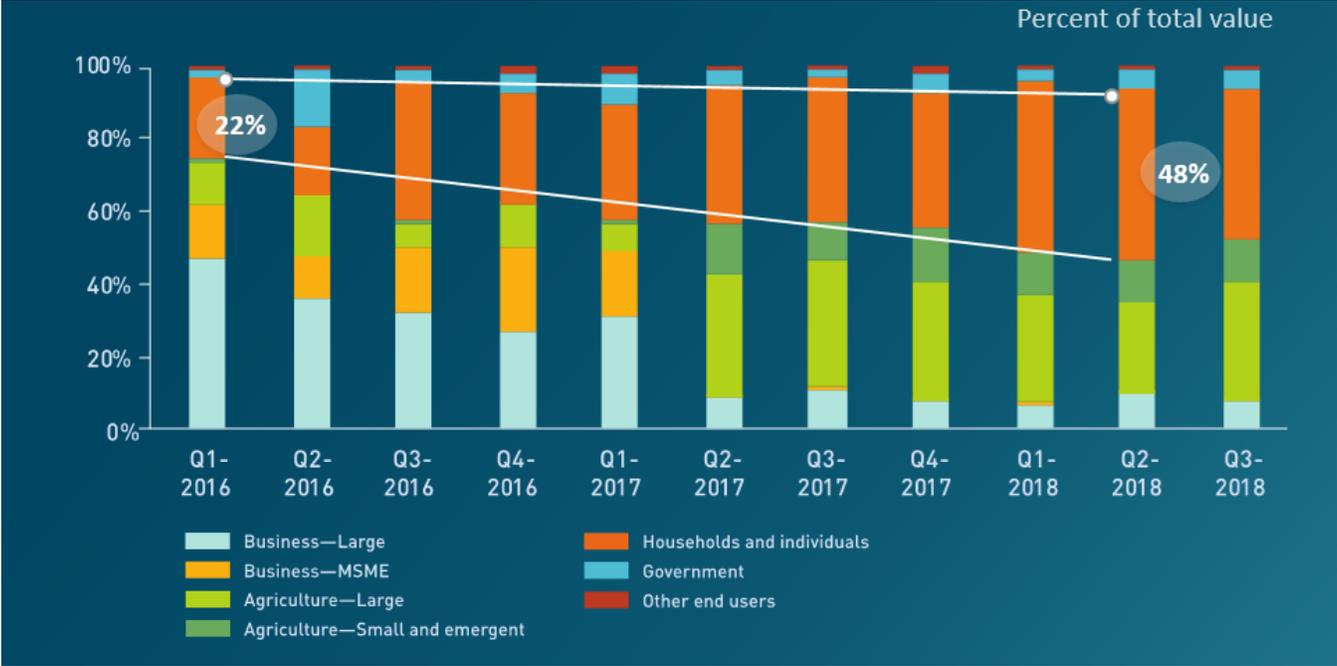
Loan Disbursements by Sector (USD), Jan 2016-Sept 2018



Source: Bank of Zambia and FSD Africa

Household debt almost quadrupled in value terms over that period. In numerical terms, this is even more revealing. Overall lending increased 17 times, with loans disbursed to households increasing by a factor of 21, growing from just 77,000 loans disbursed in the first quarter of 2016 to 1.6 million in the third quarter of 2018. To put this in perspective, in overall value terms household debt grew from 22 percent of total disbursements in early 2016 to 48 percent in the first half of 2018.

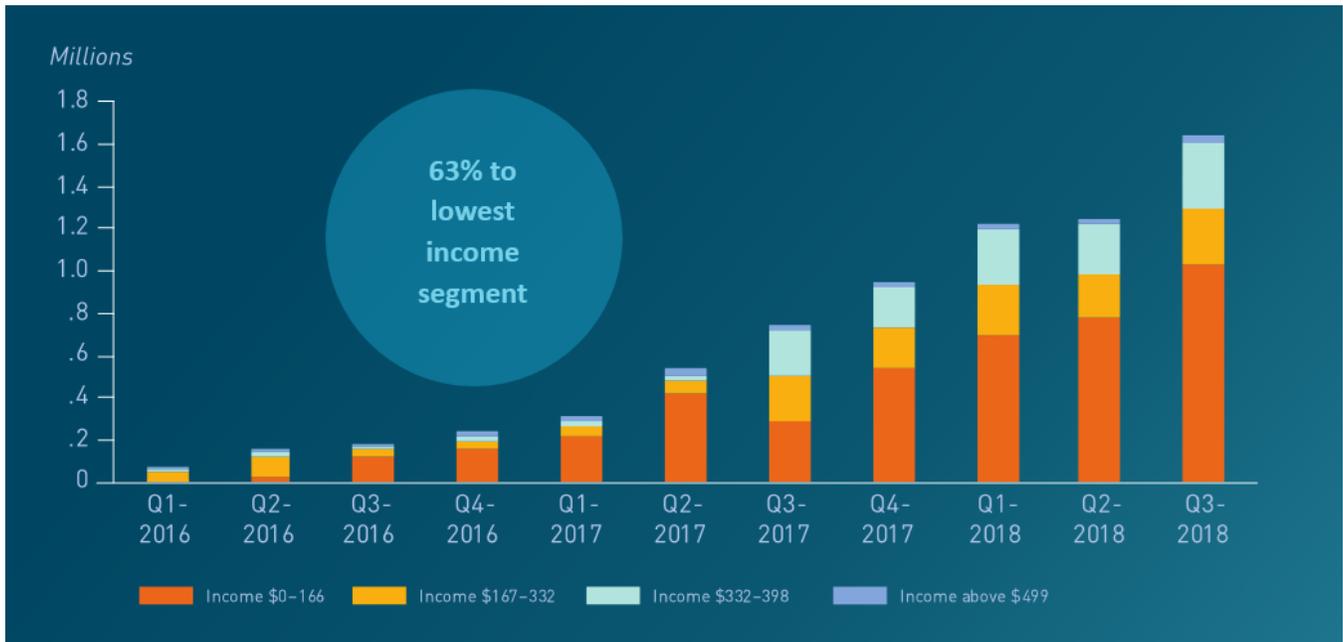
Disbursements by Sector: % of Total Value, Jan 2016-Sept 2018



Source: Bank of Zambia and FSD Africa

A big growth area for household credit was in the lowest income quartile, again represented here in orange. Although debt to this segment made up just 12.7 percent of the total value of household loans disbursed, it by far represented the largest number of loans disbursed. Loans to households earning less than \$166 a month accounted for 63 percent of the total number of loans disbursed, and the average size of these loans was \$25. This explosive growth in consumer credit, including to lower income segments, exactly coincided with the introduction of mobile-enabled digital credit in December of 2015.

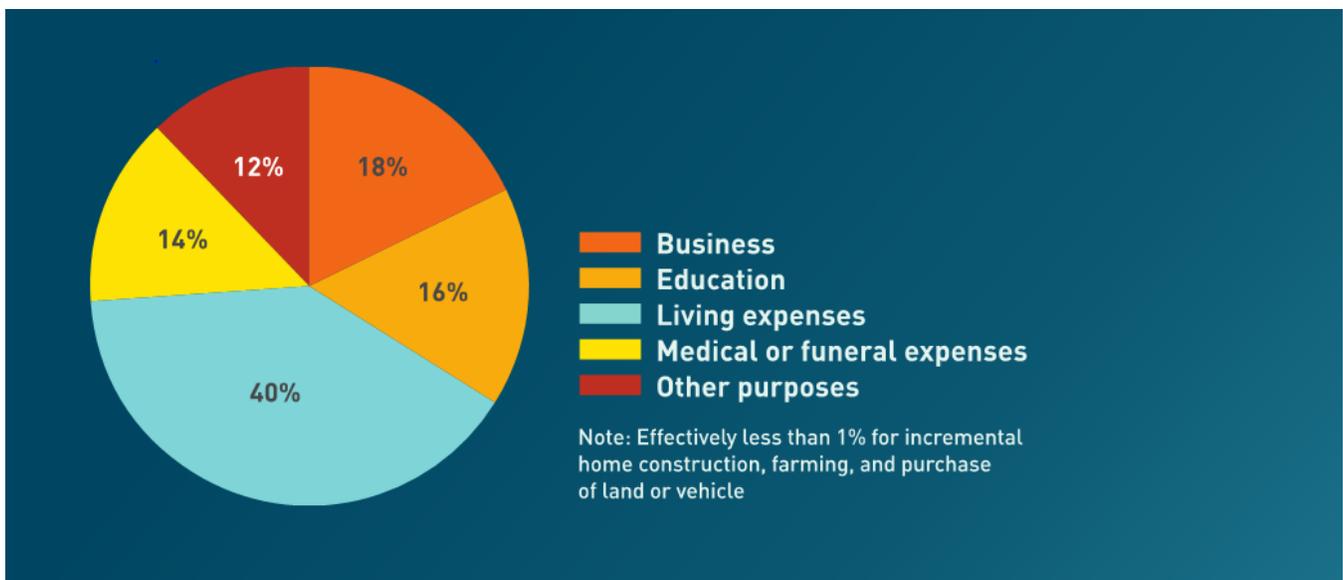
Household Credit by Income Segment (Number of Loans), Jan 2016-Sept 2018



Source: Bank of Zambia and FSD Africa

The data also speaks to how Zambian households are using these short-term, unsecured loans. Business, education fees and medical or funeral expenses are all significant, together making up around half of the total number of loans. But the single largest use — 40 percent by number — was for living expenses.

Usage of Unsecured Loans - Q3 2018



Source: Bank of Zambia and FSD Africa

Essentially, digital consumer credit is mimicking the way credit cards work in developed countries, helping people manage cash flow and unexpected expenses on a short-term basis. Just like in the developed world, this comes at a high cost. This is not the kind of credit that helps people invest and grow. It is the kind of credit that helps them manage day to day and get by. This is not in and of itself a bad thing. Consumer credit plays an important role in the economy, and there is some evidence that digital credit can have positive development impacts. But if there is too much, it is the kind of credit that can get people into trouble, especially people with limited income.

What does the picture look like for productive lending to enterprises and particularly to MSMEs? This is the kind of credit that supports people's livelihoods longer term and helps businesses to create jobs. The conclusion I took away from the data was that this is still largely a subsistence market. If you take the more than 41,000 loans made to MSMEs in the third quarter of 2018 and subtract group loans and loans to sole proprietorships, the total number of MSME loans drops to 3,249. If we then take away companies employing less than 10 people, we end up with only 234 loans worth just under \$30 million going to the kinds of enterprises most likely to create economic growth and jobs, which is a fraction of the \$202 million in lending that went to households that quarter.

Signs of Debt Stress?

In Zambia, we clearly have a retail credit market that is skewing increasingly towards short-term digital credit, and while the market might not yet be exhibiting signs of stress, it is possible that this is on the horizon. Aggressive growth in credit to low-income segments is associated with credit bubbles and mirrors some of the trends we are starting to see play out in other parts of East Africa, with signs of debt distress emerging in Kenya and Tanzania. [CGAP research published last year](#) showed that, of the sample interviewed, 47 percent of borrowers in Kenya and 56 percent of borrowers in Tanzania had been late in paying a digital loan; 12 percent and 31 percent respectively had defaulted on a digital loan. Worrying numbers cut back on key expenses, like buying food and paying education fees. We can intuit that there is a potential problem with the rapid growth of digital credit in low-income segments, but we need more information to be sure. But even if there is no problem with digital loans, we also have to acknowledge that short-term digital credit is not going to drive economic growth any more than credit card debt supports sustained growth in the United States. It is too expensive and short term to play anything other than a cash management role. In other words, it may help poor families with resilience, but it is not an appropriate instrument for growth.

So where does this information take us? How can we begin to understand what a healthy credit market looks like in Africa? And what sorts of lessons can we draw from the last 10 years of digital finance that might help us formulate 21st century credit for low-income households and MSMEs? I'd like to look at this question from the perspective of policy makers and providers, but also the increasingly connected space that sits between them, and to explore the ways technology and data are opening up new opportunities for credit provision. I'll build on learning CGAP has already generated, but also speak to some of the opportunities and gaps we see emerging from our current work.

Important Role for Government

Policy is an important starting point for any discussion of healthy credit market development. Not only do central banks and other financial authorities control the rules of engagement in the financial sector, they are also responsible for ensuring financial stability and integrity. CGAP has worked with regulators and supervisors for many years on the ways that digital finance can open up new opportunities for inclusion: we documented [regulatory enablers](#) that allow digital financial services to thrive; we provided an initial set of guidelines for the

[supervision of e-money issuers](#); and we have highlighted some potential risks to consumers arising [from digital credit](#).

Based on what we are learning about how credit markets are evolving in Africa, I see a couple of issues that seem worthy of further exploration.

First, it strikes me that there is a pretty urgent need to understand what is happening with digital credit. There are worrying signs that a consumer credit bubble is emerging in a few markets and the fact of the matter is that regulators have incomplete information. This is deeply rooted in the ways that central banks engage in prudential supervision, where the focus is on protecting depositors and ensuring system stability and integrity. This leads supervisors to focus on large, systemically important risks, which from a credit perspective means large exposures. In a traditional financial system, this is probably enough, but the explosion in digital financial services has created a dilemma for supervisors, not least because of their sheer scale and their use of new technologies. Supervisors, to their credit, have started to build supervision frameworks that focus on the systemically important aspects of DFS, like AML/CFT, custodianship of funds, settlement and operational risks. But e-money issuers are not just providing payment services. They are a channel, which means they also provide pass-through financial services for third parties, like digital credit providers. When the credit is provided by a bank, supervisors probably do have data, but they probably don't pay much attention to it. When it is not a bank, they have a blind spot. But what happens if collectively, these lenders add up to 20 or 30 percent of all credit in a market?

Let me be clear: I am not arguing for supervisory authorities to oversee every single lender in the system. It's not a good use of limited resources for a problem that doesn't pose a systemic risk. But when a lender gets to a certain size, they are surely significant enough to warrant attention. No depositors' funds are on the line when Jumo makes a digital loan in a market like Zambia, but there are important market conduct considerations. Intense competition among credit providers in overheated markets has a track record of doing harm to borrowers as well as institutions trying to serve the poorest, from Bolivia's experience with consumer lenders in the 1980s through to the Andhra Pradesh crisis earlier this decade. At a minimum, I would argue that supervisors need to reconsider the regulatory perimeter in light of the rapid expansion of DFS. To do this, more granular data is required: it is not enough to simply review the largest exposures. Given the limited resources at the disposal of most supervisors, there is a need to redefine the kinds of data that should be gathered, to invest in technology that helps acquire it efficiently, and to build the skills needed to analyze it. The gap between innovators and regulators is growing, and much more needs to be done to bridge it.

Secondly, I think it may be worth examining more closely the role of regulators in more proactively shaping credit markets. In 2005 for example, South Africa established a dedicated National Credit Regulator, which has oversight of all retail lenders, including banks, MFIs, retailers and any businesses providing credit to consumers. The mandate incorporates ensuring a fair and accessible credit marketplace, as well as collecting data, regulating credit bureaus and supporting consumer protection. A Financial Markets Conduct Bill is pending in Kenya that would establish a similar statutory authority. Other markets have taken a different approach: Peru for example has long had a dedicated unit in its banking supervisor focused on microfinance, explicitly incorporating a data collection and policy development mandate. They have proactively engaged in dialogue with providers about the rules of the road, which have constantly evolved in ways that promote inclusion. As a result, microfinance is a mainstream product in Peru, SME lending is robust, and the credit reporting

environment is strong. Given the centrality of credit to economic growth, I think it's worth exploring whether an approach that integrates market conduct with an explicit growth and access mandate could have an impact.

Connected Market Solutions

Entwined with the role of government is an area that we are calling Connected Market Solutions. This is an emerging area of thinking at CGAP and springs from work we have done on the [India Stack](#), [interoperability](#), [open APIs](#) and the applications [for leveraging digital ID](#). Connected Market Solutions sit between government and the private sector. They add value through connection and collaboration, breaking data silos and connecting across providers so that markets can operate more efficiently. The India Stack is perhaps the best-known example of a Connected Market Solution, but other examples include e-KYC utilities, credit bureaus, factoring marketplaces, and payments infrastructure. Sometimes these utilities are set up by public sector entities. At other times, private providers aggregate information for sharing across competing organizations who agree or are mandated to participate. The value derived from these solutions is often defined by how well they work together to form holistic, market-level solutions. There are challenges to building these connections, but when addressed effectively, a system can emerge that is greater than the sum of its parts – improving transparency, promoting competition, lowering provider costs, and making financial services more affordable and accessible for the poor.

There are two forces shaping Connected Market Solutions in the credit space. The first relates to technology. An important technology for connectivity is the Application Programming Interface, or API. An API is essentially a technical connection that lets one software program talk to another. The importance of APIs in the credit space is that they enable a more efficient, permissioned flow of both data and consent.

APIs fall along a spectrum from internal to open:

- **Internal APIs** are used to increase efficiency within an organization, making providers more **agile**.
- **Partner APIs** allow data to flow between organizations according to an agreed set of parameters. In other words, they enable **collaboration**.
- **Open APIs** make selected organizational assets available more broadly to external parties. Open APIs are used to promote **innovation**.

To make this more concrete, let's look at two businesses in Myanmar, both of which are investing heavily in API-based interfaces. Wave Money is a mobile money service partially owned by the Norwegian telco operator Telenor. Yoma Bank is a commercial bank that has aspirations to serve the mass market. Importantly, there is shared ownership between the two businesses, providing an incentive to share complementary assets. Yoma Bank recently procured middleware that enables it to use internal APIs to move data seamlessly between its different internal systems: for example, extracting customer data from the core banking system and feeding it into its data analytics engine to support better customer profiling. They're also integrating via partner APIs with Experian, who scores clients for loan eligibility. They eventually want to connect to Wave Money in the same way to make working capital loans available to Wave Money agents.

Wave Money has a different business model. Wave wants to operate as a platform for many different businesses. To do this, Wave is deploying Open APIs. When these are fully deployed, Wave will be able to create a marketplace so that app developers can bring new services to Wave's platform, encouraging greater use of Wave's payments capabilities. Using APIs, Wave has on-boarded a bus ticket aggregator to its platform, making it possible to reserve a seat and purchase bus tickets through the Wave app. It is currently looking for ways to integrate with ride hailing services, restaurants delivering food and vendors selling on Facebook, all delivered through apps that connect to Wave Money's platform via APIs. Eventually, you can imagine a scenario

where Wave becomes a marketplace for buyers and sellers to come together and Yoma uses the data generated by sales through the platform to provide credit to micro and small businesses.

This doesn't yet meet our definition of a Connected Market Solution, because APIs are simply facilitating collaboration between two private entities with a common shareholder. But the connection between Yoma Bank and Experian hints at where this technology can lead. For example, when credit bureaus begin to come on line in Myanmar, Yoma will be incentivized to share data on its borrowers using data APIs. They would similarly use them to integrate into an interoperable payment system.

The second trend in Connected Market Solutions is being driven by regulators and governments. The push for open data has the potential to create seismic change in the way financial services are delivered, and the epicenter of this change emanates from two places: Europe and India. In Europe, this is being driven by a pair of regulations that you will all be familiar with: the updated Payment Services Directive (or PSD2) and the General Data Protection Regulation (also known as GDPR). These regulations have the potential to change the payments and banking landscape in Europe. The United Kingdom has concurrently developed its own Open Banking initiative. Open Banking is designed to promote greater competition and choice for consumers in the UK banking sector. Traditionally, banks have a lot of power in their relationships with customers, because they keep tight control over the customer's data, and it can be very difficult to switch providers. So, banks end up being the customer's gateway to other financial services. The UK's Open Banking Initiative mandates the development and implementation of an Open API standard, which would permit third parties to access product and transactional data as well as initiate payments based on consumer consent. Freeing that data from banks means that consumers can shop around for the price and service that best suits their needs, taking their data with them. Similar open banking initiatives are being explored in Japan, Australia and Mexico. At the same time, GDPR is opening up a discussion on data privacy, access and portability. At a time when large platforms gain both profit and power through accumulating, packaging and selling customer data, this has the potential to completely change the equation on who is in control.

The other place where this dynamic is playing out is of course India, where the government is investing heavily in Connected Market Solutions that empower citizens through integrated digital services. Although the Aadhaar ID and Unified Payments Interface are better known parts of India's digital stack, the digital locker is a concept that is perhaps less well known. Rolled out in July of 2015, the DigiLocker provides a gigabyte of secure storage space to Indian citizens in possession of an Aadhaar ID. This space can be used to store key documents like identification cards, educational certificates and medical records. While the DigiLocker is not explicitly designed for financial services, in 2017 Kotak Mahindra Bank started offering e-signature services through the DigiLocker within its banking app. In the not-so distant future, you can imagine that this - or a private data aggregation service - could begin to handle validated personal credit information.

In response to these advances in technology and public sector innovation, data aggregation services are beginning to emerge. It is too soon to see which will take root and grow, but the one thing they have in common is that they help to bridge the cost and information gap that keeps low-income households and MSMEs stranded at the left-hand side of the credit continuum. Data aggregation and portability is an incredibly dynamic and exciting space, but it is also very much a blue skies space. We think it has the potential to have a big impact, but we are not yet sure how and by how much. We hope to have much more to tell you about this exciting space in future years.

Private Solutions

Moving on to the private sector, CGAP has been involved with providers for many years. In CGAP V, we partnered with 18 fintechs to understand the potential of payments and data-driven business models. We just

[published the results of this work](#), which Alfonso mentioned in his opening remarks yesterday. We also looked at [merchants](#), to understand the ways that credit and value-added services might bring micro businesses into the digital economy. And we have dug deep on asset-backed finance as a way to get impactful products like solar [home systems, water and irrigation](#) pumps into the hands of the poor on commercially sustainable and affordable terms. There is a lot of encouraging innovation by private companies in Africa, but still a lot to do to help these solutions to thrive and reach scale.

An area of particular interest is the way that data and connectivity are opening up new avenues for lending to low income people and MSMEs. Payments infrastructure and the rails that underpin it are allowing for the emergence of a new class of digital cash-flow based lending models, which take the data trails created by payments and turn them into bankable propositions. These data trails allow credit decisions to be taken on the basis of real sales information, matching a merchant's needs and moving them firmly into the working capital space in our credit continuum. We are seeing examples of this emerge across the continent, leveraging e-commerce marketplaces, supply chains and large off-takers of agricultural products. Even MFIs are getting into the game, implementing digital credit products and improving processes through digitization. On a recent trip to South Africa, I met with a start-up called Yoco, which acquires small retail merchants providing them with tablets that allow them to take card payments and record all of their sales, regardless of the payment method used. Using this data, Yoco provides a range of value-added services through its app, like inventory and customer relationship management. It passes data on to a lending partner, which scores it to offer working capital loans, based on real-time data about the merchants' sales. This model essentially uses payments to automate what microfinance institutions used to do by visiting a client's premises, accounting for inventory, cash flows, and a demonstrated capacity to repay. It changes both the risk and the cost sides of the equation completely.

The good news is that these developments are evolving organically, in response to a market need. But let's not fool ourselves that these private initiatives are automatically going to reach scale. The number of providers in Africa is still limited and their margin for error is slim. A company like Yoco can make its business model work in South Africa, but they doubt they can make it work anytime soon in other parts of Africa. MNOs simply have too much market power in the payment space, so they are looking to other regions instead. Microfinance institutions continue to slowly make progress on digitization, but the investments required in both technology and skills have made this a challenge for institutions that often face difficult economics. The work on value chains with large suppliers is promising, but is still in exploratory stages, and the challenge will be managing supply chains that extend into the rural areas that are prevalent in sub-Saharan Africa. Making last-mile connectivity work will require aggregating across multiple value chains, both private and public, to make a real business case stack up.

Role of Funders

There are a number of ways that funders can help improve these companies' chances of success. In the policy space, there is a need for regulators to ensure that the rules of the game for smaller players are fair and competitive. Reconsidering who has access to and controls data could change the equation for small players. There is still a significant challenge of extending credit infrastructure beyond the largest banks to include microfinance institutions, digital lenders, retailers and utilities. Proofs of concept for tough problems like last-mile distribution and supply chain finance can also help crowd in other big suppliers and off-takers. Beyond this, there is a need for investment. But in making investments, development-minded funders should recognize the challenges involved in serving the micro and SME segments and take a long view on profitability. Blended

finance facilities, if creatively constructed, can help by mitigating foreign exchange risk, providing patient capital, and bundling investment with smart subsidies to help with digitization and upgrading the credit underwriting skills of specialized lenders like MFIs and off-grid providers.

In Closing

Digital credit came into the world in its present form in late 2012, when M-Pesa and Commercial Bank of Africa successfully launched the M-Shwari product. Since then, it has spread rapidly across the continent, moving into every market where mobile money has taken hold. Digital credit has demonstrated that it is possible to bridge the cost and risk gap that separates poor people from access to formal credit, and to do it profitably and at scale. This is no small achievement. Like credit cards, digital credit gives people a tool to make ends meet when income is uneven, and to pay for unexpected expenses. Despite some reservations, I think it is generally a positive development.

But there are a couple of things that digital credit providers have not yet demonstrated, and these are important too. I don't believe they have adequately established that they can provide their product responsibly, particularly as new providers enter and markets grow more competitive. The evidence on over-indebtedness in Kenya and Tanzania suggests that this is a subject that requires much greater attention from both regulators and providers. Beyond this, I don't think that digital credit providers have demonstrated that they are providing a pathway to move thin-file customers any further to the right on our credit continuum. The promise of digital credit when it first came to the market was that high rates had to be charged because the risk to lenders was high in the absence of information. But as more data on repayment rates becomes available, lenders should be able to assess more accurately credit risk and differentiate among borrowers, providing longer term loans at better pricing to good credit risks. I have not yet seen the evidence that this transition is taking place. And in this, the availability of data plays a crucial role. If a borrower's data lives within the walled garden of any one digital credit provider, it not only increases the risk to providers with cross exposures, but it also means that borrowers are not able to use their positive credit histories to improve access to credit beyond a short-term nano loan. And that is a problem, because there are surely borrowers out there who would benefit from access to the types of credit that can help a micro or small business survive, thrive and grow. Freeing up data through a credit bureau that integrates digital credit providers and gathers positive and negative information on borrowers would help immensely in opening up credit markets for further growth. Beyond this, eventually putting credit data into the hands of consumer would increase competition and expand access for those borrowers who do have strong repayment histories, ultimately shifting them further to the right on the credit continuum.

Digital credit has shown us what is possible, but it has also shown us how much more we need to do. Regulators, providers and connected market solutions all have a role to play, as do funders. There is important work going on in the credit space that should be acknowledged and built on, including by pretty much everyone in this room. Credit provision is an incredibly complex undertaking and as I hope you will see from my remarks today, it connects with work that may not seem directly related - like merchant payments, interoperability and Open APIs. This is not an equation CGAP can even begin to address on its own. But it is time that we as a collective turned our attention back to productive credit as an objective and thought together about how we can bring new solutions to this old problem. In doing so, we must recognize that policy, private business and financial infrastructure are closely interlinked, and that our investments should be similarly connected, attuned to the larger macro environment, and sensitive to the difficulties of reaching this segment.

If we want economic growth and jobs to keep pace with population growth in Sub-Saharan Africa, and to provide pathways to livelihoods for poor people, it is crucial that we get the credit puzzle right.

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