BRIEFING NOTE

LENDABLE:
Case Study of a Marketplace Lending Platform in East Africa

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Cover Photo: Lendable CEO, Daniel Goldfarb and Raj Ushanga House CEO, Raju Haria provide a paygo solar system to a customer

Briefing Note

Lendable: Case Study of a Marketplace Lending Platform in East Africa

Summary

In this case study, we examine an alternative lending platform that connects impact and institutional debt investors with alternative lenders in East Africa. Pioneered by the U.S. company, Lendable, Inc., the platform helps alternative lenders access structured financing to scale their operations. Lendable's technology-enabled deal services include origination, due diligence, standardized documentation, payments administration and post-deal reporting. The company also enables customized deal pricing for alternative lenders and investors around principal, yield, duration and currency. So far, Lendable has structured asset-back financing for solar panel and motorcycle leasing companies in East Africa.

According to Lendable estimates, the alternative lender market in East Africa is poised to reach $15 billion USD by 2020. This market serves underbanked consumers with affordable asset-backed financing that enables productive asset ownership, access to credit and a range of pay-as-you-go (PAYGo or PAYG) services, including energy.

According to Lendable estimates, the alternative lender market in East Africa is poised to reach $15 billion USD by 2020. This market serves underbanked consumers with affordable asset-backed financing that enables productive asset ownership, access to credit and a range of PAYGo services, including energy.

The Lendable data analytics approach builds predictive models on the probabilities of receivables repayment. If successful in raising funds from investors at scale, this digital approach could bring financing for low-income individuals full circle. A predictive, risk-based approach would allow for low-touch methods with customers that financial services providers could use to manage their portfolios. To scale, Lendable would need to ensure robust performance in its underlying receivables portfolios – and operate in countries where an enabling environment attracts investors.

Elizabeth Mukwimba, an M-Power solar customer in Tanzania. By Russell Watkins/Department for International Development Used under CC BY 2.0

Introduction

The premise of FIBR is to test the idea that digitized data from everyday transactions may help new providers link excluded clients to formal financial services. In East Africa, the widespread growth of mobile money has led to specialized startups in the alternative lender space that exclusively lend and receive through digital payment rails. This financing allows low-income customers to acquire fixed assets such as motorcycles and solar energy generating equipment that will, in turn, enable off-grid households to install electrical lighting or other appliances for the first time.

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"Alternative lenders, are non-banking, asset backed finance providers, who operate PAYGo platforms and in many cases also provide microfinance loans. They provide under-banked consumers with access to credit and enable them to own productive assets. These productive assets include solar systems, fridges, phone chargers, cooking stoves, televisions, irrigation equipment, motorcycles and water tanks. These platforms can also finance access to utility services like power and water.

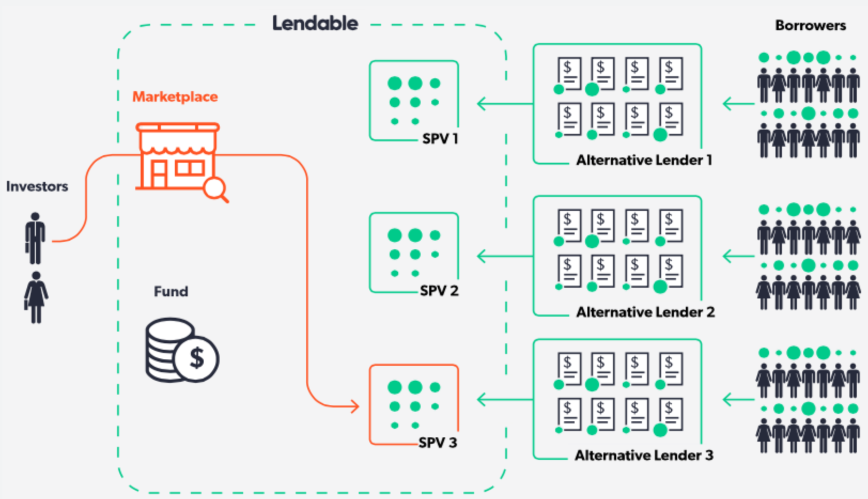
This Briefing Note addresses two questions:

- How far do we expect the approach to go in filling the credit gap, drawing on evidence to-date from the experience of the new African marketplace lender, Lendable?
- Specifically, with respect to PAYGo financing, can the receivables financed constitute a new asset class?

The Rise of an Alternative Lending Platform

History of Lendable

Lendable, Inc. was founded in 2014. The company's management team is experienced in delivering debt and equity deals with leading venture capital funds and investment banks including BlackRock, Citi and Standard Chartered[1]. Fenway Summers Ventures led the Lendable equity seed round, which included Josh Green, General Partner at Mohr Davidow, two president-level individuals at BlackRock and Ceniarth, a large family office. The Shell Foundation also supports the Lendable goal of providing consumers in frontier markets with more affordable credit.



Since its inception, Lendable has analyzed over 300,000 loans, signed up six alternative lenders and claims to be on track to move over $10-15 million USD in capital in 2017. The company has offices in Nairobi and New York.

The company helps lenders access multiple financings each year, valued from $500,000 to $2.5 million USD and with terms of six to 36 months. Lendable is connecting with international investors experienced in asset-backed securities – as opposed to the conventional bank debt locally on offer.

Lending To Date, as of July 2017

	Deal 1: *Vehicle Finance*	Deal 2: *PAYGo Solar*	Deal 3: *Vehicle Finance*	Deal 4: *Microfinance*
Status	closed	closed	in market	completing due diligence
Value of Notes Issued (USD)	$600,000	$550,000	$1,500,000	$500,000
Number of Investors	3	5	?	N/A

Source: Lendable (2017) Distinguishing Features of the Lendable Offering

Distinguishing Features of the Lendable Offering

The Lendable offering includes some novel features for both alternative lenders and investors:

- **Forex (FX) buffer.** Since Lendable investors finance in USD while underlying loan portfolios are in local currency, the company offers lenders the chance to set a foreign currency depreciation buffer to absorb FX risk on each deal – before that risk affects the repayment of foreign debt financing.
- **Flexible terms for lenders:** Three pricing options are designed to optimize the interest rate offered as a function of the advance rate, i.e., how much funding is advanced on the receivables being financed.
- **Real-time loan-level MIS for investors:** Real-time management information system (MIS) reports provide loan-level granularity.
- **Risk engine for analysis and pricing:** Lendable has developed strong predictive capabilities on the likelihood of repayment of individual receivables. Through a sophisticated risk engine, receivables are able to be priced commensurate with the amount of risk they exhibit, and assigned to their investment vehicle as collateral for debt financing repayment.

Application of these features will be explored in the last section.

The Rise of a New Asset Class? PAYGo Receivables

What Makes Up a New Asset Class?

Lendable's current focus is on asset-backed finance in East Africa, where a range of productive assets, including solar panels, motorbikes, welding equipment, water tanks and smartphones, are being financed under PAYGo structures. The greater part of the effort so far has been on PAYGo solar energy, with one direct-financing client leasing solar panels and providing electricity to rural customers. The remaining effort has focused on financing motorcycle leasing companies in the region. While the latter is not new - microfinance institutions and small and medium-sized enterprise (SME) lenders have provided this type of financing for years - the former is.

According to recent estimates, some 1.2 billion people, or about one-sixth of the world's population, live outside their country's electrical grids. Just as mobile phones helped people leapfrog inadequate landline systems in the 1990s and 2000s, today's off-grid solar power panels can provide these same populations with reliable sources of electricity. So far, approximately 1 million people (less than 0.1 percent of those not connected to the grid) have benefitted from off-grid solar power. It is in this scenario that vast, untapped market potential remains.

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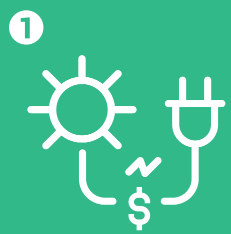
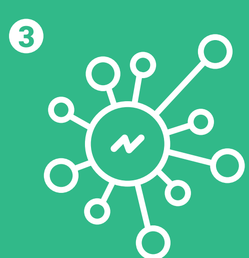
A handful of debt transactions, largely financed or credit-enhanced by impact investors, have been closed. These transactions finance electricity provision and solar panel leasing (the lender retains title to the panels and assigns lease receivables to the investors as security for repayment of the asset-backed financing). Customers have the option to either access a predetermined amount of electricity or use as much as they like. In the case of the leasing model, customers normally own the solar panel at the end of their lease term. Quality of life is enhanced when households move from candlelight to electric lighting and from polluting wood- or coal-burning stoves to electric stovetops. They may also acquire refrigerators, radios or televisions run by off-grid solar power. The potential of these improvements and the concomitant reductions in climate-affecting pollutants could provide significant benefits to individuals, communities and countries.





What Are the Attributes of a New Asset Class?

First and foremost is the commonality of the **underlying asset.** In the case of off-grid solar power, assets are the receivables that arise out of lease payments owed on solar panels or the electricity obtained through them. It is not yet clear in these very early stages of off-grid solar financing what the ultimate proportions of these two types of receivables will be as the market develops. From an investor perspective, lease receivables have the merit of forming part of a larger, well-established equipment leasing world where lenders retain the right to repossess equipment should customers default on payments.

A second attribute is the **size of the asset class**. With 1.2 billion potential customers, the possibilities are considerable. Even if end-user households spend as little as $50 to $100 USD annually on off-grid solar power, the market could potentially reach tens of billions of dollars over time – comparable in size to today's global microfinance markets.

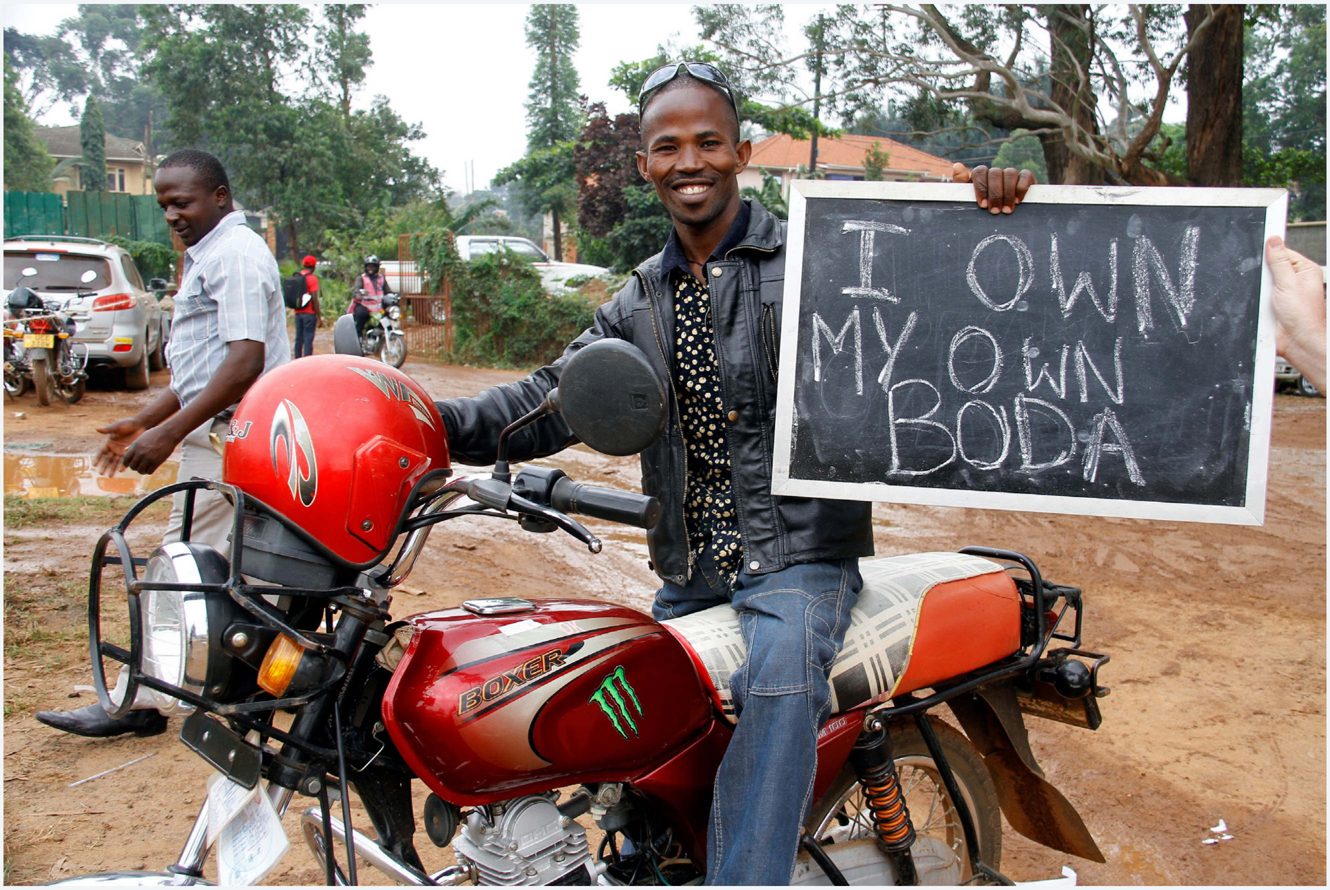
Third, **asset diversification** is crucial for off-grid power financing to achieve its potential. In addition to providing sufficient granularity, diversification may mean broad geographical coverage in an international context to mitigate country and currency risks attendant to investing in emerging markets. It is implicit that there needs to be a well-developed enabling environment in countries where this type of financing is offered.

Fourth, consistently high **portfolio quality** is essential if the sector is to move beyond its incipient phase and ultimately tap the nearly unlimited potential of capital markets. An entire market cycle would need to be experienced before reliable data could demonstrate the staying power of the potential asset class.

Finally, investors will require **risk-correlated returns** to consider financing off-grid solar energy transactions on an appreciable scale.

How Long Before (PAYGo) Asset Finance is an Asset Class?

Off-grid solar energy financing should benefit from the decades of development finance work that preceded it. A well-established ecosystem exists for providing financing to the base of the pyramid in developing countries. Foundations, non-profit organizations, national



governments and international financial institutions all serve as catalysts to local inclusive finance institutions by providing grants, seed capital and patient equity to these companies and credit enhancements to their debt financiers. Impact investing firms and domestic and international banks provide direct debt and equity financing to these inclusive finance institutions. Increasingly, these institutions can tap local and international capital markets for syndicated loans, bond issuances and transactions secured by underlying receivables.

This last type of financing and its variants point the way to financing off-grid solar energy receivables. With proven methods already in place, the question arises whether impact investors and pure commercial investors will ultimately gain confidence in the investment value of receivables generated by operating companies rather than financial institutions. If consistently high portfolio quality is demonstrated, the market for financing these receivables could rapidly develop and become well established within a decade. If this proves to be the case, financing of off-grid solar energy receivables will have benefitted greatly from all the development finance efforts that have come before it.

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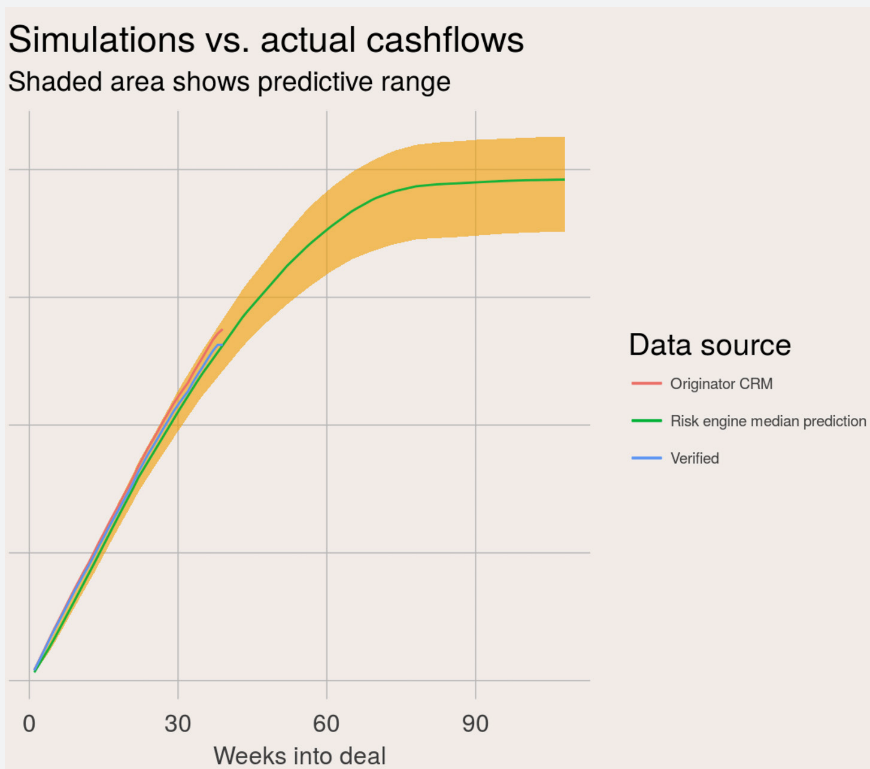
The Lendable Approach

Historical Analysis and Predicted Performance of Receivables

The brains behind the Lendable software platform is the company's sophisticated Maestro Risk Engine. Maestro analyzes the historical performance of portfolio companies to accurately predict performance of the receivables portfolios for which the company structures debt transactions. The tool complements robust, on-the-ground due diligence (which lasts a week on average for new clients) and traditional desktop due diligence on financial statements and corporate governance activities. Taken together, these efforts monitor and analyze portfolio company performance and inform reporting, which investors can follow in real time.

Anonymized real deal performance



Maestro generates a wide variety of portfolio analytics. Lendable examines historical performance of its portfolio companies through traditional quality measures such as on-time repayment, portfolio-at-risk, write-offs and recoveries. The information is used to develop cash flow projections and is analyzed in conjunction with debt repayment schedules. Profitability is also determined through analysis of operating costs and margins. The information plots portfolio performance trends and financial performance of portfolio companies, and Lendable offers this analysis to investors in its Historical Performance Report.

Of particular note is the company's efforts to predict the performance of new portfolios assigned by lenders as collateral. Lendable links its risk engine to client management information systems (MIS). Some, like Salesforce, are quite sophisticated and allow Lendable to capture vast amounts of company and client data for analysis. Through a trusted third-party local service provider (telecom, payment aggregator or payment gateway) and without relying exclusively on reporting by its portfolio companies, Lendable can track real-time payments of assigned receivables by end customers. The Lendable investor portal is an evolving mosaic where investors can follow up-to-the-minute performance of their investments.

As a risk engine, Maestro combines all the best features of traditional credit analysis. The tool allows Lendable to predict the performance of a receivable at the time it is assigned to its lending vehicle – rather than at the time of inception. All assigned receivables are "seasoned," – that is, they exist and have been performing in accordance with their payment terms for an agreed-upon minimum period.

Lendable uses credit scoring, aggregate portfolio scoring and scoring by cohort (groups of receivables created around the same time) to model individual repayment trajectories. This combined approach helps predict the probability of repayment or default (much as a credit scoring model would), the effect of aggregate (external) portfolio shocks and the evolution of customer behavior over time (cohort analysis). With this information, Lendable assigns an individual credit score to each receivable. It also informs financial and other performance covenants required of portfolio companies.

As of March 2017, Lendable has run its risk engine on some 300,000 loans created by seven lenders. Results have all fallen within the model's confidence band and the average error at nine months of transaction performance was just 1 percent.

Results of the approach have been highly encouraging so far. As of March 2017, Lendable has run its risk engine on some 300,000 loans created by seven lenders. Results have all fallen within the model's confidence band and the average error at nine months of transaction performance was just 1 percent. For a transaction that originated in the fall of 2016, for example, repayments were found to be running 1.4 percent ahead of predictions. Currently, the company has recently rolled out a new module in the risk engine that incorporates seasonality in aggregate portfolio shocks into the risk engine. In the case of portfolio shocks, it should be noted that the accuracy of Lendable's predictions can only be determined once an aggregate shock such as an economic downturn, a weather event or civil unrest occurs.

Experimentation with Pricing and FX Options

Lendable is experimenting with various pricing approaches that would provide its portfolio companies with more flexibility. The amount of financing offered to lenders is known as the advance rate – a percentage of the amount of collateral that secures repayment of the financing. Currently, over-collateralization is required. The greater the over-collateralization the lower the advance rate, and, therefore, the lower the interest rate Lendable can offer lenders. Achieving the right balance between advance rate and interest rate in a way that works for both portfolio companies and investors is one of the company's key goals.

Farmer with solar panel on the roof on his hut, Angola

The Lendable model also builds in assumptions about movement between the local currency and the USD (the currency used on all offerings to date) throughout the financing term. If a lender wishes to cap potential FX losses, it can do so in exchange for paying a higher financing interest rate. In all cases, the options lenders choose are intended to produce a USD return to investors that meets or exceeds their minimum return requirements. Lendable currently offers interest rate concessions that allow the company to cherry-pick assigned receivables based on Maestro-produced credit scoring.

One-Off Transactions vs. Pooled Investments

For each deal currently in place, Lendable has executed a series of one-off transactions that are custom tailored to the lenders and a unique group of investors. Later this year, the company aims to offer a pooled investment vehicle, or fund, which would provide a diversified portfolio of debt transactions. The fund would also move toward more streamlined fundraising efforts and securing an independent investment approval authority. It remains to be seen whether the commonality of financing techniques and predicted portfolio performance will be enough to convince investors to finance off-grid energy deals and other asset-backed lending deals in a single pooled investment vehicle. If not, Lendable could consider creating two funds or focus fund efforts on off-grid energy deals, which would provide impact investors with greater "additionality" to the current stable of inclusive finance offerings.

Conclusions

Inclusive finance continues to develop at an ever-increasing pace. The social objectives that first created financing for underbanked consumers in developing countries increasingly join forces with mainstream finance deal-structuring techniques. Earlier models for the financially excluded required borrowers to join solidarity lending groups and lenders to have frequent contact with borrowers before and throughout the life of their loans.

More recently, the development of credit scoring models for low-income borrowers and the establishment of credit bureaus in their countries have allowed inclusive finance institutions to adopt credit policies more akin to those of mainstream financial institutions. Now, with the advent of powerful risk analysis models like Lendable's Maestro, capital market structures are being used to offer financing to non-financial operating companies, which in turn can lay off the risk of their underlying receivables on investors in structured debt transactions. As a result, financing for low-income people in developing countries is coming full circle. Predictive, risk-based processes can translate into "light touch" interaction with customers, as financial services providers originate and manage their portfolios.

As financial inclusion continues to move into the mainstream, well-developed enabling environments take on even greater importance. Investors are increasingly mindful of wide differences in country and currency risk between one emerging market and another. And for the financing of off-grid solar energy to ramp up significantly and achieve global scale, it will need to find supportive environments in the countries where it intends to operate.

Acknowledgements

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Notes

1. Daniel Goldfarb, Lendable CEO, was a partner at Greenstart, a Cleantech VC fund in San Francisco. Dylan Fried, CTO, was one of the first five employees at Lyft. Arjun Barta, CIO, came from BlackRock where he focused on fintech strategies and products for the firm.

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Other FIBR Publications

FIBR Enabling Environment

http://bfa.works/fibrBN1

FIBR Lean Product waltz

http://bfa.works/fibrBN2

FIBR Alternative Lending

http://bfa.works/fibrBN3

About FIBR

FIBR (Financial Inclusion on Business Runways) is an initiative of BFA in partnership with Mastercard Foundation. FIBR seeks to learn how to transform emerging data on mobile phones about low-income individuals into inclusive financial services. FIBR supports technology, business and financial partners in Ghana who, with technical assistance and funding, could design and develop new ways to link savings, credit and insurance products to reach underserved people. With the rapid uptake of smartphones in emerging markets, financial and non-financial service providers can reach customers over apps, resulting in new data about an individual's transactions as an employee, a customer or a supplier in the trusted context of their communities and its businesses. FIBR launched in 2016 and will be active over four years to help partners roll out new or existing services and grow their customer base. FIBR also seeks to cultivate the lessons learned through this work and share them with the wider financial inclusion industry to build the knowledge base about new ways to approach digital financial services. For more information, please visit www.fibrproject.org.

About Mastercard Foundation

The Mastercard Foundation works with visionary organizations to provide greater access to education, skills training and financial services for people living in poverty, primarily in Africa. As one of the largest private foundations, its work is guided by its mission to advance learning and promote financial inclusion to create an inclusive and equitable world. Based in Toronto, Canada, its independence was established by Mastercard International when the Foundation was created in 2006. For more information and to sign up for the Foundation's newsletter, please visit www.mastercardfdn.org. Follow the Foundation at @MastercardFdn on Twitter.

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