



THE GREAT CONVERGENCE: TOWARD A GLOBAL STRATEGY FOR FINANCIAL INCLUSION

TIMOTHY OGDEN

Senior Fellow, Aspen Institute Financial Security Program

Tim Ogden is Managing Director of NYU-Wagner's Financial Access Initiative and an Aspen FSP Senior Fellow.

Imagine a man in his mid-20s, a secondary school graduate with income in the bottom 20%. He works a semi-skilled job but his hours are irregular, dependent on the boss's and the customers' whims. There's a shortage of affordable housing where he lives; he rents, but his status is tenuous and he's had to move suddenly several times. He doesn't have a bank account and he'd like to save some money, enough at least to improve his housing situation. But it seems whenever he does get a good chunk of money saved up and tucked away at home, something goes wrong or a family member needs a loan. Given the number of times his family members have loaned money to him, how could he say no? And he owes money on his motorcycle—the one he uses to get to work—so that's the first thing he needs to prioritize right now: paying off debt.

Is this a scene from Mexico City? From Johannesburg? From Kuala Lumpur? From Sao Paulo? Or is it from Chicago, Charlotte, or San Jose?

This young man's story would fit in any of these cities. Two similar trends have made it so.

Over the last 20 years there has been a dramatic decrease in global inequality; at the same time there has been a dramatic increase in inequality in the United States (US). As a result we are witnessing what might be thought of as a Great Convergence: the economic challenges faced by low-income communities in the US are quite similar to those faced by much of the population in what used to be simplistically categorized as “developing” countries like Mexico, Brazil, Thailand, Malaysia, India and South Africa.

A COMMON LANDSCAPE

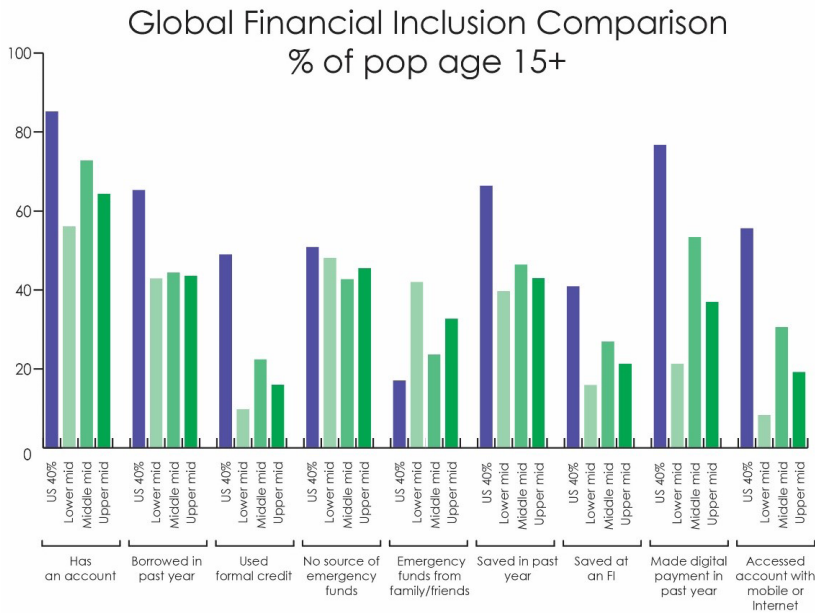
The problems of income volatility, lack of steady jobs, inefficient labor markets, large (and growing) income and wealth inequalities, lack of mobility, resource-starved education systems, and unaffordable tertiary education are common in all these environments. Consider the stories in the *US Financial Diaries* (USFD) study of low- and moderate-income families. More than half of the families in the study experienced the kind of income volatility we used to think of as exclusively a condition in countries where informal jobs were far more common than formal employment. The average USFD household had more than five months a year where income was *at least* 25% above or below their annual average.ⁱ That's not an isolated finding. A shocking level of income volatility—whether month-to-month or year-to-year—has been found by a variety of studies using different methods and data sets.ⁱⁱ It should no longer be surprising that, according to Pew Research Institute surveys, 92% of Americans would prefer greater financial stability over financial mobility.ⁱⁱⁱ

Income volatility charts from the US look similar to income volatility charts from other financial diaries studies in South Africa, Bangladesh, Uganda, Ghana, and many other countries.^{iv} It turns out that the lower half of the US labor market looks a lot like informal economies: uncertain hours, few benefits, limited tenure, and near zero mobility or wage gains.

The good news is that progress on financial inclusion is being made. The bad news is that the progress is being made in other countries, not in the US. In the US, financial inclusion hasn't recovered from the Great Recession. The number of unbanked or underbanked consumers, access to small business finance for minority communities, use of predatory alternative financial services, and most other metrics have been stagnant since the trough, or worse.

The US has a lot to learn about improving access to quality financial services for excluded communities from countries that have been making progress including populations that not so long ago would have been considered “unbankable.” At the same time, the US has a lot to teach those countries about the challenges and pitfalls of financial services regulation, innovation, and consumer protection—and the challenge of finishing the “last mile” of financial inclusion.





To see how much the financial inclusion landscape has converged, take a quick look at some sample financial inclusion statistics for the lower 40% of the US income distribution compared to middle-income countries like Brazil, Kenya, and Malaysia. The differences are small. For instance, the percentage of people who could not come up with funds to cover an emergency is essentially identical. The seemingly large gap in use of formal credit is almost entirely a function of credit card and payday use in the US—very expensive ways of borrowing—and that gap is rapidly closing in many countries as credit offerings via mobile money systems see dramatic growth. Boosting savings and assets is clearly a shared need.

The World Bank Group. "The Global Findex Database, 2017." <https://globalfindex.worldbank.org/>

SHARED CHALLENGES

Just as the current financial inclusion landscape is similar in these countries, so are the challenges:

- Service Quality and Account Use:** While almost every middle-income country has made substantial progress in the number of people who have accounts at formal financial institutions, they now confront the same problems that the US has had for decades (again while making little progress): a) how to make sure accounts offer features that are useful to—and are good value for—lower-income households, and b) how to increase usage of those accounts.^{vi} Obviously these problems go hand-in-hand. They are tough problems to crack because they are so circular—and therefore the benefit of cross-country collaboration on innovative approaches is all the more valuable.
- Consumer Protection:** No one believes that the role of financial services policy is simply to achieve universal account ownership. Consumer protection is as important as access, and the groups that need it most are the ones who are historically excluded from the financial system—through a combination of inexperience, desperation, and discrimination they are the most likely to be taken advantage of by bad actors. Balancing the need for innovation to reach excluded people with useful products and protecting those people from unscrupulous operators is another tough challenge where all sides could benefit from collaboration and mutual learning.
- The Last Mile:** The percentage of the US population that is officially unbanked (around 7%) or underbanked (around 20%) has held steady for the last 10 years.^{vii} Middle-income countries have made huge strides in inclusion—often going from 30% of the population with accounts to 60 or 70% of the population with accounts^{viii}—but progress will inevitably slow as they near developed world levels of account ownership. The minority of the population that is the last to be included is last because they are hard to include. There are numerous structural barriers to inclusion, from poverty to geography to discrimination to something as prosaic as identity documents, that stand in the way. Finding ways to address those structural barriers would benefit all of those countries just as much as it would benefit the US.

SHARED LEARNING

These shared challenges are the fertile ground for mutual learning between the US and other countries. But what specifically can the US learn from global efforts? And what can other countries learn from the US?

What the US Can Learn from Global Efforts

The Value of Payments: Because of the way payments evolved in the US—from checks to credit cards to debit cards—person-to-person payments have gotten short shrift. The focus has always been on consumer-to-business or business-to-business payments, and aimed at the higher-end of each of those markets. The systems have been designed around the needs and interests of those parties.

But making small dollar and person-to-person transactions easier and cheaper can be a boon to lower-income households who have to transact in small amounts frequently and depend on family and friends as a core part of their financial life. The availability of easy and fast payment systems has had measurable effects on household poverty in countries where mobile money has become pervasive.^{ix}

Meanwhile, the US still struggles to allow account-to-account transfers between banks, much less non-bank financial services providers. It still takes at least three days for most bank transfers to clear.^x Here, the US has a lot to learn.

The Perils of Digital: The current wave of excitement for fintech can be in large part attributed to the success of mobile money in bringing useful and affordable mainstream financial products to millions of previously excluded people. However, it's worth understanding that much of the excitement over mobile money systems was not originally tied to an understanding of the value of payments, but to the idea that mobile money would provide the “rails” to lower the costs of serving poor customers.^{xi}

Many of the leaders of the microfinance movement—a precursor to today's global financial inclusion community—recognized that there was a limit to the customers that microfinance institutions (MFIs) could reasonably serve because of the constraints of physicality. Getting loan officers to villages or poor neighborhoods, handling cash, tracking accounts, being responsive to customers, offering products beyond basic credit and savings were all very expensive. Without digitization, costs would overwhelm the possible profits from serving the hardest-to-reach customers. Mobile money seemed to offer the solution to the physical constraints. By moving to digital services the cost of reaching poorer customers would decline dramatically, more customers could be served, and prices could fall. That was the theory, at least.

In practice, after payments the first use of the rails of mobile money has not been to extend services to poor customers or to cut prices. In fact, the institutions that grew up to provide quality financial services to lower-income households have been relatively slow to adopt the technology.^{xii} Instead, the mobile operators have, on their own or in partnership with traditional banks not inclined to serve lower-income households, specialized in delivering high-cost digital credit primarily to higher-income customers who are already part of the formal financial system.^{xiii} Where reach has been extended to the excluded, there have been concerning consequences. In Kenya, for instance, in less than two years, approximately 10% of the population has defaulted on a small-dollar digital loan.^{xiv}

Given the rapid growth of fintech in the US, there seems to be a rich opportunity for learning from the experience of other countries that already have some experience in this area.

The Value of Short-Term, Small-Value Savings: When it comes to savings, the US has been largely focused on the goal of households' accumulating—and holding—large sums for long periods of time. For example, building up a stock of savings sufficient to buy homes or other assets, or to save more for retirement. Even emergency savings goals are relatively large in dollar value compared to the existing savings stock of many lower-income households, and are expected to be held for *rare* emergencies. Recent research in the US has emphasized how many households don't have the funds even for small emergencies and the role of frequent volatility in undermining households' stability.^{xv}

Consistent with US-based research, work in other countries has consistently shown that a) households benefit significantly from short-term, small value savings, and b) it is possible to help households'—most much poorer than even low-income US households—save enough to enjoy these benefits. Programs and policies ranging from savings groups, commitment savings products, “undersavers anonymous” groups, mental accounting nudges, prize-linked savings, and more have all been found to help households' save and to improve those households' well-being even when total savings value is not nearly as high as US savings targets typically are set.^{xvi}

The availability of easy and fast payment systems has had measurable effects on household poverty in countries where mobile money has become pervasive.

Business Models Matter when Serving Low-Income Households: The microfinance movement, which was responsible for the first big gains in inclusion, began with non-profit institutions. These institutions were unable to reach the kind of scale necessary to put a meaningful dent in the numbers of excluded, and so the microfinance industry pivoted to for-profit models. While growth accelerated, and many many more people gained access to formal finance, the people being served changed. For-profit MFIs did scale better than non-profit MFIs, but they served more urban customers, fewer women, and fewer of the poorest.^{xvii}

While mobile money has reversed some of this trend, it's important to recognize that most mobile money systems are driven by institutions that have never had a “pro-poor” mandate. The telecoms that dominate this space have business models that have always been based on maximizing the number of transactions, first via pay-as-you-go airtime, and then fee-based mobile money transactions. The emergent pathologies in mobile money systems are a direct result of the business models that have been inherited.^{xviii}

That being said, the developing world has seen much more innovation in business models that may be more useful to lower-income customers. Learning business model lessons from developing countries would be a huge boon to regulators and financial services providers in the US.

The Persistence of High-Cost Credit: Simplistic comparisons between microcredit and payday lending have long been in the quiver of financial services critics. Those critiques are usually misguided, but there is certainly something to learn from MFIs and high-cost credit. One of the ways that microcredit was marketed was its supposed ability to displace “loansharks” and money-lenders. That made intuitive sense. Who wouldn't replace a loan at 100% APR with one at 30% APR? But later research has shown that MFIs didn't displace loansharks. And many fewer people took up microcredit loans than originally expected.^{xix} It's quite similar to the challenge that financial services institutions have faced displacing payday lenders and other high-cost providers in the US.



The Value of Managing Liquidity and Risk: Work from the US Financial Diaries, JP Morgan Chase Institute, Urban Institute, and Pew Research Centers has shown that lower-income households in the US face a great deal more volatility in income and expenses than previously understood.^{xx} This volatility creates a huge burden on low-income households as they try to match the ups and downs of their incomes with the ups and downs of spending needs. Because the current financial service landscape was designed for households with much more stable incomes, the majority of products available to manage this mismatch—to help households manage liquidity in the face of income and spending volatility—are at the fringes and very costly (for example, payday, rent-to-own, and pawn). The incomplete ability to manage liquidity leaves lower-income households exposed to more risk. It is much harder to cope with surprises when all your effort goes in to managing day-to-day and week-to-week income and spending ups and downs. The great irony of financial inclusion in the US is the households who have the most need for financial services to help them manage liquidity and risk have the least access to them.

Work in other countries has made it clear that there are large potential pay-offs to helping lower-income households manage liquidity and risk. Microcredit is primarily a liquidity management tool. Meanwhile, innovative insurance programs have allowed households to make choices with an eye to the future, even helping them move temporarily to find higher-paying short-term jobs.^{xxi} While the specific contexts and programs may not be applicable to many households in the US, the concept is very relevant: the volatility and risks that lower-income households face diminish their ability to make investments.

There is more but that is a reasonable high-priority learning agenda to tackle.

What Developing Countries Can Learn from the US

What can developing countries—in particular middle-income economies—learn from the US? The simple answer to the question is that the US offers a look into the future financial services landscape as the basic access gap is closed. The US shows that getting accounts to more than 90% of the population doesn't begin to solve the challenges of financial inclusion for lower-income households. The US shows that high-quality services for such households will not evolve on their own. The US shows that a vigilant and consumer-welfare-focused regulatory apparatus is an absolute must. Beyond those general lessons, there are several specific areas where financial services providers, non-profits, policymakers, and regulators from middle-income countries can benefit from the US experience.

The Pros and Cons of Expansion of Consumer Credit: Long before the global microcredit revolution, small dollar credit came to the US. Small, uncollateralized loans to households were so common in the 1920s that the Russell Sage Foundation launched a major program to study them.^{xxii} With the Great Depression, these loans largely disappeared until the advent of credit cards in the 1970s. The history of these small loans in the US should have been instructive in the early years of the global microcredit movement: this kind of credit was mainly useful for smoothing consumption, and was only used for business investment by households who couldn't get access to more business-friendly credit products. And while these small, revolving^{xxiii} credit lines are a very useful tool for households managing liquidity, they are not good tools for investing in a business or for raising incomes. The expansion of consumer credit in the US since the 1970s is more often cited as a trap limiting upward mobility and undermining stability than the opposite.



SHARED LEARNING

That shouldn't overshadow the benefits of the deep penetration of credit cards in the US market. The often overlooked reason that "mobile money" has not made a dent in the US market is that the US created mobile money via plastic rather than silicon several decades ago. Credit cards created a payment system that is more reliable and more secure than older transaction methods (and still offers far more consumer protections than mobile money alternatives). Credit cards created the system that enabled ATMs and debit cards, a vital convenience for many lower-income customers who no longer have to plan their work schedules around bank branch opening hours. And as noted above, facilitating transactions does have meaningful benefits to lower-income customers, benefits that weren't appreciated until we were able to study them through mobile money deployments in other countries.

The rhetoric of microcredit as "investment loans" masked the reality of small-dollar, short-term loans as consumer credit for many years. The rapid growth of digital credit built on mobile money platforms has finally done away with that illusion, while simultaneously making traditional microcredit seem far more "pro-poor" in comparison. The experience of the US in consumer finance via credit card lending should be very instructive for providers and regulators in middle-income countries as they consider the pitfalls of easily accessible credit. Learning from this experience is increasingly urgent as we are already seeing some of the pathologies of US credit card markets emerge in places like Kenya: damage to credit scores, reduced access to lower-cost credit, biases toward the already well-off, deceptive marketing, suspect collection practices, and more.^{xxiv}

The Challenge of Consumer Protection: It's unlikely anyone would make an argument that the US financial services consumer protection system is ideal. But the decentralized and somewhat fragmented approach to regulation of consumer financial services has some benefits when it comes to learning and sharing lessons. First, the wide variety of agencies at the local, state, and federal level who touch on financial services consumer protection means there are a lot of people with some experience dealing with the exceptional challenges of regulating consumer financial services. Second, the fragmented nature of consumer protection means there are many "experiments" in consumer protection regimes to learn from, as both good and bad actors find niches (or gaps) in regulation in which to flourish.

Consumer protection in the context of boosting inclusion is a particularly thorny problem. Innovation is clearly necessary to create products that meet the needs of excluded customers and business models that will support those products. But excluded customers are likely to be the most vulnerable, either because of low income and low savings or lack of experience with financial services. Protecting those customers from unscrupulous actors who will take advantage of that vulnerability is an important policy goal. But inevitably, consumer protections—the admonition to "prove that your innovative service will do no harm"—imposes significant additional costs to the already higher costs of serving the excluded. That's not a recipe for a financial inclusion innovation boom.

Regulators and policymakers in the US have been dealing with this Catch-22 for decades. While there is no magic solution to the challenge, US regulations have a lot of accrued wisdom in this domain to share with their counterparts in countries that are just starting to deal with these issues. At the same time, some developing countries are experimenting with "regulatory sandboxes" that provide temporary exemptions from some regulation in order to enable more room for innovation. It's too early to tell how well such regulatory sandboxes will work, but there is certainly room for US regulators to provide input—and monitor progress and gather ideas to implement in the US.

Fighting Discrimination: The US has a relatively long history—compared to many middle-income countries at least—of fighting discrimination in financial services. Landmark legislation like the Community Reinvestment Act and the Fair Credit Reporting Act—among others—are far from perfect, but they do represent important steps in reducing racial and gender discrimination in the financial services industry. The insidious ways that discrimination persists despite legislation and regulation provides a rich context for other countries to learn from as they confront discrimination.

And indeed discrimination, particularly gender discrimination, is a problem in many middle-income countries. Despite financial inclusion efforts of the last decade often focusing on women, there remains a large gap between men's and women's access to and ownership of accounts in most every middle-income country.^{xxv} While gender gaps are narrower in the US, they still exist—in part because changes that allowed women full independence in financial matters didn't happen until the 1970s. More than 150 million Americans alive today were born before regulatory gender parity was achieved.^{xxvi} The point is that not only is the US not so far removed from a deeply discriminatory regulatory regime, but that rapid progress is possible once barriers are removed.

One specific area where gender and other forms of harmful discrimination persist is in credit scores. The lessons the US has learned about the uses and abuses of credit scoring are particularly important for middle-income countries. Credit bureaus are an important tool for financial inclusion when they operate well—they reduce costs for lenders by reducing moral hazard and adverse selection, two key factors in the malfunctioning of credit markets in many countries.^{xxvii} But as the US has learned, credit scores can equally be a tool for reifying discrimination and exclusion. And in the modern era, the information contained in credit scores can be used by criminal actors in many ways and therefore safety and security (and consumer protection from abuse of pilfered credit scoring data) is an important area for learning. Again, there is much for other countries to learn from the US experience.

The Role of Employers: During the early years of industrialization in the US, employers played a large role in the spread of formal financial services. Employers drove bank account use by issuing checks (out of a desire to cut payroll costs by avoiding cash), by sponsoring credit unions or savings and loan banks, and passively by providing an environment for workers to learn the value of formal services from co-workers. Employers introduced a large segment of the population to insurance, and to long-term savings in the form of pensions. Today, some large employers are again an important source of financial services innovation as they recognize the challenges faced by many of their employees, and the need for better financial services to meet those challenges.^{xxviii}

Most middle-income countries face a shortage of formal employer firms.^{xxix} But in many countries that is beginning to change—and thus presents an opportunity for firms and policymakers in those countries to learn from the US experience on the positive role that employers can play in driving inclusion.

A GLOBAL FINANCIAL INCLUSION STRATEGY

The shared landscape and common challenges should make it clear that a global, shared strategy to advance financial inclusion could achieve much more than individual countries could. But there is another reason that a global approach to financial inclusion is necessary. Policy decisions in high-income countries, especially the US given its centrality to the global financial system, have major impact in developing countries.

Consider the case of remittances. \$138 billion of remittances were sent from migrants in the US to their countries of origin in 2016, according to the Pew Research Center; \$581 billion, worldwide.^{xxx} These flows should be a powerful tool for bringing lower-income households in wealthy countries and in developing countries into the formal financial system and expanding financial inclusion. But they are not. Most remittances are essentially cash-to-cash transactions, sent through money transfer operators by and for people who remain largely outside the formal financial system. A migrant typically hands cash over to an agent who, through a series of networked relationships, delivers the money to an agent in a foreign country who delivers cash to the intended recipient.

A variety of regulations, agreements, and treaties that aim to prevent money laundering put in place by regulators in high-income countries prevent remittances from being a tool for financial inclusion. None of the agencies overseeing anti-money laundering efforts have any remit to protect consumers, much less to pursue financial inclusion. As a consequence, the regulations impose large costs and risks on financial services innovators who do have an inclusion goal.^{xxxi}

Specifically, since banks bear a large potential liability if they are participants in transactions related to money laundering or terrorism financing, they generally avoid offering remittance services. Meanwhile they impose high costs, or outright refuse to do business with money transfer operators who do provide such services, because the money transfer operators deal largely in cash and are transferring money between large numbers of people and to countries that may have fewer regulatory controls. The money transfer operators themselves have to comply with anti-money laundering regulations for each transfer, and that drives up their costs as well.

These difficulties not only result in a lost opportunity to advance inclusion, but they impose large costs on poor households. In total, remittance senders in the US paid \$30 billion in fees in 2017; the 2017 US foreign aid budget was \$40 billion. Despite the best efforts of innovators to try to work around the regulations that impose high costs on remittance senders, the average cost of sending remittances has fallen only from 7% of a transaction to 6% of a transaction in the last 10 years.^{xxxii}

This isn't the only example of US financial system policies working against financial inclusion in developing countries. There are several dimensions on which collaboration and joint strategy could yield major gains.

Financial inclusion stakeholders in the US and middle-income countries have a lot to learn from each other, but relatively little opportunity to do so. There are many forums where regulators from high-income countries talk about shared challenges—the G7 for instance. There are also global forums that include all countries, but these often don't put a focus on shared financial inclusion challenges. In fact, they focus much more on how to exclude rogue actors than how to include poor households. The regulators and policymakers from the US who care about inclusion or consumer protection rarely have the opportunity to interact with their counterparts from developing countries.

It's not just a question of regulators. Researchers that focus on financial services and poverty in the US and in other countries are usually in different "sub-departments" and attend different conferences (or different tracks at those conferences). Non-profits focused on financial inclusion or consumer rights tend to be either exclusively domestic or exclusively international. Philanthropic funders rarely organize their grant programs in ways that cross borders between the US and middle-income countries. But all this could change with a platform for linking participants in the global financial inclusion world together.

ENDNOTES

- i Morduch, Jonathan and Rachel Schneider. *U.S. Financial Diaries: How American Families Cope in a World of Uncertainty*. Princeton University Press, 2017.
- ii Farrell, Diana and Fiona Grieg. "Weathering Volatility: Big Data on the Financial Ups and Downs of U.S. Individuals." JP Morgan Chase Institute, May 2015. <https://www.jpmorganchase.com/content/dam/jpmorganchase/en/legacy/corporate/institute/document/54918-jpmc-institute-report-2015-aw5.pdf>; Maag, Elaine, H. Elizabeth Peters, Anthony Hannagan and Cary Lou. "Income Volatility: New Research Results with Implications for Income Tax Filing and Liabilities." Urban Institute, May 2017. <https://www.taxpolicycenter.org/publications/income-volatility-new-research-results-implications-income-tax-filing-and-liabilities/full>
- iii The Pew Charitable Trusts. 2014 data, "Americans Financial Security: Perception and Reality." May 2015. https://www.pewtrusts.org/-/media/assets/2015/02/fsm-poll-results-issue-brief_artfinal_v3.pdf
- iv For examples from the US, see the US Financial Diaries Project Household Profiles: www.usfinancialdiaries.org/households and Morduch, Jonathan and Rachel Schneider. *U.S. Financial Diaries: How Families Cope in a World of Volatility*. Princeton University Press, 2017. For examples from other countries see: Collins, D., et al. *Portfolios of the Poor How the World's Poor Live on \$2 a Day*. Princeton University Press, 2009.; Noggle, Eric, Conor Gallagher, and Guy Stuart. "The Cambodia Garment Worker Diaries." *Microfinance Opportunities*, 2018. http://workerdiaries.org/wp-content/uploads/2018/02/Cambodia_Data_Portal_English.pdf; Gubbins, Paul and Zollman, Julie. "It's a Small World, After All?" *FSDKenya Blog*, August 10, 2015. <https://fsdkenya.org/blog/its-a-small-world-after-all/> and data available at <https://fsdkenya.org/financial-diaries/>; Anderson, Jamie and Wajihah Ahmed. "Smallholder Diaries: Building the Evidence Base with Farming Families in Mozambique, Tanzania and Pakistan." *CGAP Perspectives No. 2*, February 2016. https://www.cgap.org/sites/default/files/research_documents/perspectives_2_executivesummary.pdf
- v The World Bank Group. "The Global Findex Database, 2017." <https://globalfindex.worldbank.org/>
- vi For more details on the global usage gap, see Rhyne, Elisabeth and Sonja Kelly. "Financial Inclusion Hype vs. Reality: Deconstructing the 2017 Findex Results." *Center for Financial Inclusion*, May 2018. https://content.centerforfinancialinclusion.org/wp-content/uploads/sites/2/2018/09/FI_Hype_vs_Reality_Deconstructing_2017_Findex_Results-08032018-1.pdf
- vii FDIC. "2017 FDIC National Survey of Unbanked and Underbanked Households." October 2018. <https://www.fdic.gov/householdsurvey/2017/2017report.pdf>
- viii The World Bank Group. "The Global Findex Database, 2017." <https://globalfindex.worldbank.org/>
- ix Jack and Suri estimate that the widespread adoption of mobile money lifted 2% of Kenyan households above the absolute poverty line. Jack, William and Tavneet Suri. "The long-run poverty and gender impacts of mobile money." *Science* 354:6317, December 2016. <https://science.sciencemag.org/content/354/6317/1288>
- x Klein, Aaron. "How the Fed Can Help Families Living Paycheck-to-Paycheck." *Brookings Institution*, November 22, 2017. <https://www.brookings.edu/research/how-the-fed-can-help-families-living-paycheck-to-paycheck>
- xi For example, see this Gates Foundation financial inclusion strategy paper from 2012: <https://docs.gatesfoundation.org/Documents/fsp-strategy-overview.pdf>
- xii Sometimes with good reason, as it's not fully understood how digital interfaces will change consumer behavior. For instance, in the Philippines, moving savings groups to mobile money led to drastically decreased levels of saving. Harigaya, Tomoko. "Effects of Digitization on Financial Behaviors: Experimental Evidence from the Philippines." *Working Paper*, 2016. http://scholar.harvard.edu/files/tharigaya/files/harigaya_jmp_11.23.16.pdf
- xiii In Tanzania, for example, digital credit borrowers are more likely to be male urban dwellers, with more education and are three times more likely to have a formal bank account and 11 times more likely to have a bank loan. Kaffenberger, Michelle. "Helping or Hurting? 10 Facts About Digital Credit in Tanzania." *CGAP*, February 1, 2018. <http://www.cgap.org/blog/helping-or-hurting-10-facts-about-digital-credit-tanzani>
- xiv Wright, Graham. "Are We Really Financially Excluding 2.7 Million With Digital Credit in Kenya?" *Microsave/LinkedIn*, January 17, 2017. <https://www.linkedin.com/pulse/we-really-financially-excluding-27-million-digital-credit-wright> Singh, Anup. "An Open Letter to Central Bank of Kenya Governor Patrick Njoroge." *StartUp Magazine*, July 5, 2018. <https://startupmagazine.co.ke/2018/07/05/an-open-letter-to-central-bank-of-kenya-governor-patrick-njoroge/>
- xv Morduch, Jonathan and Rachel Schneider. *The Financial Diaries: How US Households Cope in a World of Volatility*. Princeton University Press, 2017, Chapter 5: Savings.
- xvi Brindisi, Alicia and Julie Siwicki. "The Wisdom of the Group: How Lessons from Savings Groups Can Guide Financial Product Innovation." *Financial Access Initiative*, November 2014. <https://www.financialaccess.org/publications-index/2014/wisdomgroup>

- xvii Cull, Robert, Asli Demircug-Kunt and Jonathan Morduch. "The Microfinance Business Model: Enduring Subsidy and Modest Profit." World Bank Policy Research Working Paper No. 7786, 2017. <https://openknowledge.worldbank.org/handle/10986/24867>
- xviii See, for instance, Vota, Wayan. "Are You Guilty of Helping Safaricom Prey on Rural Women?" ICTworks, November 17, 2016. <https://www.ictworks.org/are-you-guilty-of-helping-safaricom-prey-on-rural-women/>; Simmons, Hayden. "Setting Digital Credit Right – Is it Time for a Major Re-think?" Microsave, August 2017. <http://blog.microsave.net/setting-digital-credit-right-is-it-time-for-a-major-re-think/>
- xix Banerjee, Abhijit. "Microcredit Under the Microscope." Annual Review of Economics, Vol. 5: 487-519, 2013. <https://doi.org/10.1146/annurev-economics-082912-110220>
- xx Morduch, Jonathan and Rachel Schneider. *The Financial Daires: How US Households Cope in a World of Volatility*. Princeton University Press, 2017.; Farrell, Diana and Fiona Grieg. "Weathering Volatility: Big Data on the Financial Ups and Downs of U.S. Individuals." JP Morgan Chase Institute, May 2015. <https://www.jporganchase.com/content/dam/jpmorganchase/en/legacy/corporate/institute/document/54918-jpmc-institute-report-2015-aw5.pdf>; Maag, Elaine, H. Elizabeth Peters, Anthony Hannagan and Cary Lou. "Income Volatility: New Research Results with Implications for Income Tax Filing and Liabilities." Urban Institute, May 2017. <https://www.taxpolicycenter.org/publications/income-volatility-new-research-results-implications-income-tax-filing-and-liabilities/full>
- xxi Karlan, Dean et. al. "Agricultural Decisions after Relaxing Credit and Risk Constraints." *The Quarterly Journal of Economics*, 129:2, May 2014. <https://doi.org/10.1093/qje/qju002>; Janzen, Sarah and Michael Carter. "After the Drought: The Impact of Microinsurance on Consumption Smoothing and Asset Protection." *American Journal of Agricultural Economics*, August 2018. <https://doi.org/10.1093/ajae/aay061>; Bryan, Gharad et. al. "Underinvestment in a Profitable Technology: The Case of Seasonal Migration in Bangladesh." *Econometrica*, 82:5, September 2014. <https://doi.org/10.3982/ECTA10489>
- xxii Robinson, Louis and Maude Stearns. *Ten Thousand Small Loans*. Russell Sage Foundation, 1930.
- xxiii While not part of the popular mythology of microcredit, one of the early innovations of some of the largest microcredit lenders was to have borrowers automatically re-enroll for another loan cycle as soon as the prior one ended, and offering the ability to "top-up" a loan mid-cycle by reborrowing up to the original amount of the loan. In practice, many microcredit loans function much like revolving credit cards with slightly different rules.
- xxiv Wright et al. "Where Credit is Due—The Consumer Experience of Digital Credit in Kenya." Microsave, March 2017. http://www.microsave.net/wp-content/uploads/2018/10/Where_Credit_Is_Due_Customer_Experience_of_Digital_Credit_In_Kenya.pdf; Blumenstock et al. "Digital Credit in Emerging Markets." Digital Credit Observatory, 2017. http://www.digitalcreditobservatory.org/uploads/8/2/2/7/82274768/dco_landscape_analysis.pdf
- xxv The World Bank Group. "*The Global Findex Database*, 2017." <https://globalfindex.worldbank.org/>
- xxvi Women were not able to get a credit card without a co-signer until 1974 with the passage of the Equal Credit Opportunity Act. According to census data, the current number of Americans born in 1974 or earlier is more than 150 million.
- xxvii McIntosh, Craig and Bruce Wydick. "What Do Credit Bureaus Do? Understanding Screening, Incentive, and Credit Expansion Effects." *Economics*, 2009. <http://repository.usfca.edu/econ/3>
- xxviii See, for instance, Walmart's decision to offer employees access to financial services tools designed to help manage volatile incomes and expenses like Even and PayActiv, <https://news.walmart.com/2017/12/13/walmart-offers-new-financial-wellness-services-for-associates-nationwide>.
- xxix See Hsieh, Chang-Tai and Benjamin Olken. "The Missing 'Missing Middle.'" *Journal of Economic Perspectives*, 28:3, Summer 2014. <https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.28.3.89>; Bento, Pedro and Diego Restuccia. "On Average Establishment Size across Sectors and Countries." NBER Working Paper No. 24968, 2018. <https://www.nber.org/papers/w24968>
- xxx Pew Research Center. "Remittance Flows Worldwide in 2016." <http://www.pewglobal.org/interactives/remittance-map/>
- xxxi For details on the negative impact of anti-terrorist financing and anti-money laundering regulation and enforcement on low-income populations and countries, see the work of the Center for Global Development's Working Group on the Unintended Consequences of Anti-Money Laundering Policies: <https://www.cgdev.org/working-group/unintended-consequences-anti-money-laundering-combating-financing-terrorism>
- xxxii Cecchetti, Stephen and Kim Schoenholtz. "The Stubbornly High Cost of Remittances." VoxEU, March 27 2018. <https://voxeu.org/article/stubbornly-high-cost-remittances>