

# Financial Inclusion and Development: Recent Impact Evidence

**G**lobal and national-level policy makers have been embracing financial inclusion as an important development priority. The G20 made the topic one of its pillars at the 2009 Pittsburgh Summit (G20 2009). By fall 2013, more than 50 national-level policy-making and regulatory bodies had publicly committed to financial inclusion strategies for their countries (World Bank 2013a, AFI 2013). And the World Bank Group in October 2013 postulated the global goal of universal access to basic transaction services as an important milestone toward full financial inclusion—a world where everyone has access and can use the financial services he or she needs to capture opportunities and reduce vulnerability (World Bank 2013b).

Policy makers have articulated these objectives in the conviction that financial inclusion can help poor households improve their lives and spur economic activity. But what is the evidence for this type of positive impact? This Focus Note takes impact to mean those effects that can be traced to a specific intervention and that would not have occurred otherwise, thus analysis at the micro and local economic levels focuses primarily on the relatively new evidence from randomized control trials (RCTs) or quasi-randomized impact evaluations. At the macroeconomic level it highlights studies using country panel data comparisons.

This Focus Note is organized in three sections. The first section describes the extent to which poor households typically live and work in the informal economy and explores the implications of this for how access and use of financial services can benefit them. The second section summarizes recent empirical impact evidence at the microeconomic, local economy, and macroeconomic levels. The third section tees up two areas in which inclusive, low-cost financial systems can generate additional, indirect benefits for other public-sector and private-sector efforts.

In summary, the accumulating body of evidence supports policy makers' assessments that developing inclusive financial systems is an important component

for economic and social progress on the development agenda.

## 1. A Vast Majority of Poor Households Live and Work in the Informal Economy

Traditional economic theory distinguishes between the objectives and needs of individual households and firms. Individuals are selling their labor power in the market and strive to smooth life-cycle consumption. When people are young, they need to invest; at the prime of their earnings power, they save; and in old-age, they dis-save. In the aggregate, the household-sector saves. Firms, on the other hand, compete for investable funds to finance their operations and growth. In the aggregate, firms are net users of savings. Financial markets are supposed to make the match between savers and users and to allocate capital toward the highest productive usage (e.g., Mankiw and Ball 2011).

But the poor are typically excluded from the wage-earning employment opportunities that traditional economic theory presupposes. They live and work in the informal economy—not by choice, but by necessity. In economic terms, they are consuming households and self-employed firms at the same time; thus consumption and production decisions are intertwined. As a result, they need a broad range of financial services to create and sustain livelihoods, build assets, manage risks, and smooth consumption. The traditional distinction between consumer financial needs versus the financial needs of firms is often blurred.

Empirically, financial diaries literature has illustrated this point by showing how poor families in the informal economies of developing countries actively manage their financial lives to achieve these multiple objectives (Collins, Murdoch, Rutherford, and Ruthven 2009). They save and borrow constantly in informal ways. At any given time, the average poor household has a large number of ongoing financial relationships. Financial management is, for

the poor, a fundamental and well-understood part of everyday life.

Estimates of the share of the world population living and working in the informal economy vary between 50 percent and 60 percent (World Bank 2012). The Gallup World Survey 2012 reports that only about 40 percent of adults globally have fixed employment in excess of 30 hours per week. These are averages across all countries and income groups. The share of informality is considerably higher for poorer countries and poorer income segments and can reach well over 80 percent or even 90 percent in some developing countries (ILO 2013).

The share of informal employment is mirrored in the estimates for financial access. Globally, about half of all working-age adults are excluded from formal financial services. For the lowest income quintile, 77 percent are excluded (Demirgüç-Kunt and Klapper 2012). In countries such as Cambodia, the Central African Republic, and Niger only 2–4 percent of all adults have an account at a formal financial institution. Without access to formal financial services, poor families must rely on age-old informal mechanisms: family and friends, rotating savings schemes, the pawn-broker, the moneylender, money under the mattress. At times, these informal mechanisms represent important and viable value propositions. Often, however, they are insufficient and unreliable, and they can be very expensive. Financial exclusion tends to impose large opportunity costs on those who most need opportunity.

## 2. Increasingly Robust Evidence of Beneficial Economic Impact

Across a range of possible impact levels, recent evidence suggests that access to and use of formal financial services is beneficial.

### A. Microeconomic Level

To assess whether any intervention works, the most rigorous method is to ask the counter-factual: what would have happened without it. An increasingly influential group of development economists argues that the most adequate tool in empirical microeconomics is the use of randomized evaluations.

This methodology uses an approach similar to clinical trials where access to a specific new drug is randomly assigned, and the impact of a change in access on a group is then compared to a second group that does not have the same access but is otherwise indistinguishable.<sup>1</sup> While other methodologies are equally important in understanding how financial inclusion affects the lives of the poor, this section of the Focus Note highlights experimental research using RCTs despite their own limitations.

Despite the still relatively small, albeit growing, number of this type of randomized evaluation (some 25 cited in this overview), the general thrust of this new body of evidence suggests that financial services do have a positive impact on a variety of microeconomic indicators, including self-employment business activities, household consumption, and well-being (Bauchet et al. 2011).<sup>2</sup> The impact varies across individual financial product categories. RCTs to date have largely been conducted at individual product levels, whereas some observers would argue that research ought to measure whether access to a broad range of services improves household ability to make appropriate choices.

**Credit.** According to the randomized impact evaluations of microcredit to date, two main patterns stand out: small businesses do benefit from access to credit while the linkage to broader welfare is less clear.

1 The application of this approach to economics is increasingly considered a highly reliable means of assessing micro-level impact. The main strength of this approach is that it corrects for selection bias, a prominent failure of many other approaches. Compared to other methodologies, which are starting from theoretical questions and assumptions, it also has the advantage of not specifically testing one, conceivably narrow underlying economic theory. It simply assesses whether a specific, controlled change has a discernible impact relative to the control group. However, RCTs have their own methodological weaknesses, which are described, e.g., by Ravallion (2009) and Barret and Carter (2010). One main concern is the lack of external validity, which means that inferences for other settings or even scaling up based on the results of an RCT can be difficult. Other caveats include the choice of the proxy variable to measure welfare impact, ethical dilemmas, and cost effectiveness.

2 The experimental literature for financial inclusion is rapidly evolving with new papers being published at a high rate. This part of the Focus Note updates and expands previous work by Bauchet, et al. (2011).

Most of the studies to date provide mixed evidence on the impact of microcredit on important measures of *household welfare* such as an increase in consumption or income in poor households over the typically relatively short time horizon studied (Banerjee, Duflo, Glennerster, and Kinnan 2010 and 2013; Crépon, Devoto, Duflo, and Parienté 2011; Karlan and Zinman 2011; Angelucci, Karlan, and Zinman 2013).

An update of the Spandana study in Hyderabad (Banerjee, Duflo, Glennerster, and Kinnan 2013), which provides one of the first, longer-term results by going back to borrowers after three years, also did not find later-stage improvements in welfare as a result of access to the initial microcredit. There was no evidence of improvements for longer-term welfare indicators, such as education, health, or women's empowerment.

However, some studies suggested nuances and found some welfare impacts. A study in Mongolia (Attanasio et al. 2011) found large impacts of group loans on food consumption (both more and healthier food). But this same finding did not hold for individual loans. The authors see better monitoring in the group setting and, therefore, larger long-term effects as the reason for these results. They hypothesize that "the joint-liability scheme better ensures discipline in terms of project selection and execution, so that larger long-run effects are achieved." A South Africa study that looked at expanding access to consumer credit found increased borrower well-being: income and food consumption went up, measures of decision making within the household improved, borrower's status in the community improved, as did overall health and outlook on prospects and position. However, borrowers were also more subject to stress (Karlan and Zinman 2010).

A study of Compartamos borrowers in Mexico (Angelucci, Karlan, and Zinman 2013) did not find

significant effects on household consumption and expenditures. However, it did find in summary that "... the results paint a generally positive picture of the average impacts of expanded credit access on well-being: depression falls, trust in others rises, and female household decision-making power increases." Studies also saw a reduction in the spending on temptation goods, such as tobacco (India, Morocco, and Mongolia). An important point to consider when interpreting results from the experiments described here is the heterogeneity of effects across subjects. For subjects that do not own businesses, microcredit can help their households manage cash-flow spikes and smooth consumption. Access to microcredit can also lead to a general increase in consumption levels as it lowers the need for precautionary savings.

By contrast, for business owners, microcredit can help investments in assets that enable them to start or grow their businesses. In some cases, short-term declines in household consumption coincide with investment during the set-up and growth phases for microbusinesses. Researchers are in fact confirming that access to credit does benefit businesses. There is evidence that microcredit both spurred new business creation and benefitted existing microbusinesses in Mongolia and Bosnia (Attanasio et al. 2011; Augsburg, de Haas, Harmgart, and Meghir 2012), although another study in the Philippines didn't find such effects. Studies found positive effects on a variety of indicators, including the income of existing businesses (India, the Philippines, and Mongolia), business size (Mexico), and the scale of agricultural activities and the diversification of livestock (Morocco). In addition, access to microcredit increased the ability of microentrepreneurs to cope with risk (the Philippines and Mexico). These findings are more remarkable when one considers that most of these studies investigate the effects of credit simply being offered to the treatment group, rather than the effects of actual credit uptake and usage.<sup>3</sup> In populations with

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<sup>3</sup> In the parlance of field experiments, they estimate the effects of the "intent-to-treat."

few business owners, credit take-up for investment is likely to be low thus reducing the potential to identify statistically significant effects.

There is also recent experimental evidence suggesting that greater flexibility in product design could result in improved impacts (Field, Pande, Papp, and Rigol forthcoming). When borrowers were given a two-month grace period before their first loan payment, they diversified their inventory, were more likely to purchase durable assets, and had higher profits three years later. Although default rates increased somewhat, the patterns indicate that the more flexible repayment structure encouraged productive risk taking.

In their assessment of the microcredit evidence, Banerjee and Duflo (2011, p. 171) concluded that “as economists, we were quite pleased with these results: The main objective of microfinance seemed to have been achieved. It was not miraculous, but it was working. In our minds, microcredit has earned its rightful place as *one* of the key instruments in the fight against poverty.”

**Savings.** The results of studies on the impact of savings are more consistently positive than those for credit, although there are fewer of these studies. Savings help households manage cash flow spikes and smooth consumption, as well as build working capital. According to researchers, for poor households without access to a savings mechanism it is more difficult to resist immediate spending temptations.

When mechanisms for high-frequency, low-balance deposit services are available, they seem to benefit the poor. A randomized evaluation in rural western Kenya found that access to a new commitment savings service enabled female market vendors to mitigate the effect of health shocks, increase food expenditure for the family (private expenditures were 13 percent higher), and increase investments in their businesses by 38–56 percent over female vendors without access to a savings account (Dupas

and Robinson 2013a). However, a parallel study with male rickshaw drivers in the same town did not show similar welfare impacts.

Another Kenya study that looked at the impact of simple informal health savings products found an increase in health savings by at least 66 percent accompanied by very high take-up rates. When using a commitment savings product, investments in preventative health went up by as much as 138 percent (Dupas and Robinson 2013b). The authors found that earmarking for health emergencies increased people’s ability to cope with shocks. The study underlines the importance of health savings and investments in preventative health in reducing poor people’s vulnerability to health shocks.

A study on commitment savings in Malawi showed positive effects on business investment, increased expenditures, and crop outputs (Brune, Giné, Goldberg, and Yang 2013). Access to a commitment savings account had positive impacts on female empowerment in the Philippines. Self-reported household decision-making increased, particularly for women with little decision-making power at the baseline, resulting in a shift toward female-oriented durable goods purchased in the household (Ahsraf, Karlan, and Yin 2010).

**Insurance.** Another instrument that can help poor households mitigate risk and manage shocks is insurance. Recent randomized evaluations in India and Ghana of weather-based index insurance showed strong positive impact on farmers because the assurance of better returns encouraged farmers to shift from subsistence to riskier cash crops (Cole, et al. 2013; Karlan, Osei-Akoto, Osei, and Udry 2014). In Ghana, insured farmers bought more fertilizers, planted more acreage, hired more labor, and had higher yields and income, which led to fewer missed meals and fewer missed school days for the children.

In Kenya, researchers found index insurance to be a powerful protection against the negative impacts

from natural disasters. In the face of a serious drought, farmers had to sell fewer assets (minus 64 percent), missed fewer meals (minus 43 percent), and were less dependent on food aid (minus 43–51 percent) or any other form of assistance (minus 3–30 percent) (Janzen and Carter 2013).

Vulnerability to risk and the lack of instruments to cope with external shocks adequately make it difficult for poor people to escape poverty. The still limited impact evidence to date is focused on relatively few insurance products, but suggests that microinsurance could be an important mechanism for mitigating risk. However, demand and uptake—even when offered for free in the context of these evaluations—is strikingly low (Matul, Dalal, De Bock, and Gelade 2013). Key barriers for uptake, including lack of trust and liquidity constraints, have to be addressed to realize the full potential of microinsurance to work for the poor.

**Payments and mobile money.** To date there have been few randomized evaluations on the impact of payments and mobile money. Two main patterns stand out so far: Mobile money reduces households' transaction costs and seems to improve their ability to share risk.

Jack and Suri (2014) examine the impact of reduced transaction costs of mobile money on risk sharing in Kenya. Using nonexperimental panel data, they found that M-PESA users were able to fully absorb large negative income shocks (such as severe illness, job loss, livestock death, and harvest or business failure) without any reduction in household consumption. By contrast, consumption for households without access to M-PESA fell on average 7 percent in response to a major shock.

As the underlying mechanism, researchers identify an increase in remittances received both in number and size and a greater diversity of senders. M-PESA also facilitates increased risk-sharing among networks of friends and family. Two other studies (Blumenstock, Eagle, and Fafchamps 2012; Batista and Vicente 2012)

also find an increased willingness to send remittances as a result of access to mobile money; however, they did not examine welfare implications.

One randomized evaluation of the impact of a cash transfer program delivered via mobile phone (Aker, Boumnijel, McClelland, and Tierney 2011) showed reductions in both the cost of distribution for the implementing agency and the cost of obtaining the cash transfer for the program recipient. The recipients' cost savings resulted in diversification of expenditures (including food), fewer depleted assets, and a greater variety of crops grown, especially cash crops grown by women.

Due to the relative newness of mobile money and product-specific issues in conducting welfare impact studies such as disentangling channel and product, it will take time until we have a robust evidence base of how payments and mobile money impact the lives of poor people.

## B. Local Economic Activity

Financial access improves local economic activity. Several settings over the past decades have offered an opportunity to assess the impact of financial access compared to a baseline in quasi-experimental settings at the local economy level. For example, a study using state-level panel data in India provides evidence that local differences in opening bank branches in rural unbanked locations (driven by requirements of the Indian regulator between 1977 and 1990) were associated with a significant reduction in rural poverty (Burgess and Pande 2005). However, the push ultimately proved unsustainable. High bank loan default rates during the 1980s led to the demise of the rural branch expansion program after 1990.

In Mexico, research (Bruhn and Love 2013) showed that the rapid opening of Banco Azteca branches in more than a thousand Grupo Elektra retail stores had a significant impact on the region's economy, leading to a 7 percent increase in overall income levels relative to similar communities where no Banco

Azteca branches had been opened. Households were better able to smooth consumption and accumulated more durable goods in communities with Banco Azteca branches (Ruiz 2013). At the same time, the proportion of households that saved declined by 6.6 percent in those communities, suggesting that households were able to rely less on savings as a buffer against income fluctuation when formal credit became available.

### C. Macroeconomic Level

At the macroeconomic level, the evidence has to rely on cross-country comparisons. The well-established literature (summarized, for example, in Levine 2005 and Pasali 2013) suggests that under normal circumstances, the degree of financial intermediation is not only positively correlated with growth and employment, but it is generally believed to causally impact growth. The main mechanisms for doing so are generally lower transaction costs and better distribution of capital and risk across the economy. Broader access to bank deposits can also have a positive effect on financial stability.

However, there are some caveats. Some research indicates that the positive growth impact from financial intermediation does not hold in economies with weak institutional frameworks (Demetriades and Law 2006), such as poor or nonexistent financial regulation, or in extremely high-inflation environments (Rousseau and Wachtel 2002). Evidence also indicates that the positive long-run relationship between financial intermediation and output growth co-exists with a mostly negative short-run relationship (Loayza and Ranciere 2006). More recent work following the global financial crisis also suggests that the relationship between financial depth and growth might not be linear, but shaped like an inverted “U”—i.e., at very low levels of financial intermediation and at very high levels, the positive relationship disappears (Cecchetti and Kharroubi 2012).

Bivariate relationships indicate that inequality as measured by the Gini coefficient increases as countries progress through early stages of financial

development (measured by private credit and bank branch growth), but it declines sharply for countries at intermediate and advanced stages of financial development (Jahan and McDonald 2011). One interpretation is that higher income segments initially benefit more from deeper financial intermediation, but as it progresses, poorer segments benefit, too. Regressions that account for country characteristics and address potential reverse causality show a robust negative relationship between financial depth and the Gini coefficient (Clarke, Xu, and Zhou 2006). Moreover, financial depth was associated with increases in the income share of the lowest income quintile across countries from 1960 to 2005, and countries with higher levels of financial development also experienced larger reductions in the share of the population living on less than \$1 per day in the 1980s and 1990s. Controlling for other relevant variables, almost 30 percent of the variation across countries in rates of poverty reduction can be attributed to cross-country variation in financial development (Beck, Demirgüç-Kunt, and Levine 2007). Financial inclusion seems to reduce inequality by disproportionately relaxing the credit constraints on poor people, who lack collateral, credit history, and connections. Research by the World Bank (Han and Melecky 2013) also suggests that broader financial inclusion can coincide with greater financial stability, though sorting out the lines of causation between those two sets of variables remains a challenge. It seems plausible, however, that greater access to bank deposits can make the funding base of banks more resilient in times of financial stress. The authors stress that policy efforts to enhance financial stability should thus not only focus on macroprudential regulation, but also recognize the positive effect of broader access to bank deposits.

## 3. Additional Indirect Benefits of Financial Inclusion

In addition to the direct economic benefits, two recent developments suggest benefits for other government and private-sector efforts that might arise from inclusive low-cost financial systems that reach larger numbers of citizens.

First, policy makers increasingly recognize that a financial market that reaches all citizens allows for more effective and efficient execution of other social policies. For example, financial inclusion improves the payment of conditional transfers such as when parents are rewarded for ensuring their children get recommended vaccinations or for sending their daughters to school. Because of the potential cost savings, a number of countries are switching their government payments to electronic means to improve targeting of beneficiaries and reduce transactions costs. In Brazil, the *bolsa familia* program (a conditional cash transfer program that serves 12 million families) reduced its transaction costs from 14.7 percent of total payments to 2.6 percent when it bundled several benefits onto one electronic payment card (Lindert, Linder, Hobbs, and de la Brière 2007). A low-cost financial system helps governments better execute other social policies. Whether those payments can in turn lead to a virtuous cycle of including more citizens in the financial system, and keeping them there, is not yet clear.

Second, financial innovation that dramatically lowers transaction costs and increases reach is enabling new private-sector business models that help address other development priorities. In Kenya, where mobile money services such as M-PESA reach more than 80 percent of the population, a wave of second-generation innovative businesses and uses is emerging on the M-PESA infrastructure. The presence of a ubiquitous, low-cost electronic retail payment platform increases the viability of new business models that need to collect large numbers of small amounts. This may also help address other development priorities. For instance, M-Kopa in Kenya or Mobisol in Tanzania have created microleasing for off-grid, community-based solar power—an example of innovation in the context of climate-change adaptation. Similar advances are being made with respect to water services to low-income households and communities. So far, this type of leverage has by definition occurred only in geographies such as Kenya or Tanzania where low-

cost electronic retail payment systems have reached critical scale and no studies have been conducted as to the possible household welfare impact due to access to these types of novel services.

## 4. Conclusion

Global and national policy makers are committing to advance financial inclusion. Financial services are a means to an end, and financial development must take into account vulnerabilities and ward off possible unintended negative consequences. However, recent evidence using rigorous research methodologies appears to generally confirm the policy makers' convictions that inclusive and efficient financial markets have the potential to improve the lives of citizens, reduce transaction costs, spur economic activity, and improve delivery of other social benefits and innovative private-sector solutions.

This Focus Note summarizes recent evidence on three different economic levels. At the microeconomic level, it synthesizes the evidence of how the use of different financial products affects the lives of the poor. Studies show that small businesses benefit from access to credit, while the impact on the borrower's household's broader welfare might be more limited. Savings help households manage cash flow spikes, smooth consumption, as well as build working capital. Access to formal savings options can boost household welfare. Insurance can help poor households mitigate risk and manage shocks. New types of payment services can reduce transaction costs and seem to improve households' ability to manage shocks by sharing risks. Research also suggests that financial access improves local economic activity.

At the macroeconomic level, the empirical evidence shows that financial inclusion is positively correlated with growth and employment. The researchers generally believe in underlying causal impact. The main mechanisms they cite for doing so are generally lower transaction costs and better distribution of capital and risk across the economy. Evidence of a

more preliminary nature suggests that broader access to bank deposits can also have a positive effect on financial stability that benefits the poor indirectly.

In addition to the direct economic benefits, two recent developments suggest benefits for other government and private-sector efforts that might arise from inclusive low-cost, financial systems that reach a larger number of citizens. First, financial inclusion can improve the effectiveness and efficient execution of government payment of social safety net transfers (government-to-person payments), which play an important role in the welfare of many poor people. Second, financial innovation can significantly lower transaction costs and increase reach, which is enabling new private-sector business models that help address other development priorities.

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