Fighting poverty, profitably
Transforming the economics of payments to build sustainable, inclusive financial systems

Special Report
Summary of Findings and Recommendation
Financial Services for the Poor, September 2013
About the Gates Foundation’s Financial Services for the Poor program

Poor people do not live in a static state of poverty. Every year, many millions of people transition out of poverty by successfully adopting new farming technologies, investing in new business opportunities, or finding new jobs. At the same time, large numbers of people fall back into poverty due to health problems, financial setbacks, and other shocks. However, it is costly to serve poor people with financial services, in part because most of their transactions are conducted in cash. Storing, transporting, and processing cash is expensive for banks, insurance companies, utility companies, and other institutions, and they pass on those costs to customers.

The Bill & Melinda Gates Foundation’s Financial Services for the Poor program aims to play a catalytic role in broadening the reach of digital payment systems, particularly in poor and rural areas, and expanding the range of services available on these systems. Until the infrastructure and customer base are well established, this might involve a combination of mobile money services that are accessible via cell phones and brick-and-mortar stores, where subscribers can convert cash they earn into digital money (and vice-versa).

Our approach has three mutually reinforcing objectives:

• Reducing the amount of time and money that poor people must spend to conduct financial transactions

• Increasing poor people’s capacity to weather financial shocks and capture income-generating opportunities

• Generating economy-wide efficiencies by digitally connecting large numbers of poor people to one another, to other consumers, to financial services providers, to government services, and to businesses.

We are not focused on a particular product or distribution channel, but rather on innovative ways to expand access and encourage markets. At the same time, we are aware that interventions in this and other areas too often involve technologies that are made available to the intended users, but are not adopted. To address this demand-side challenge, we are supporting research and product design experiments to identify design features, price incentives, and marketing messages that will encourage poor people to adopt and actively use digital financial services. We are also supporting policymakers as they work to develop policies and regulations that facilitate these developments.

We believe that the combined effect of these interventions will accelerate the rate at which poor people transition out of poverty and decrease the rate at which they fall back into poverty. Our strategy also recognizes that countries are at different stages in developing an inclusive digital financial system, and that we must tailor our interventions accordingly.
The Gates Foundation’s Financial Services for the Poor program (FSP) believes that effective financial services are paramount in the fight against poverty. Nonetheless, today more than 2 billion people live outside the formal financial sector. Increasing their access to high quality, affordable financial services will accelerate the well-being of households, communities, and economies in the developing world. One of the most promising ways to deliver these financial services to the poor – profitably and at scale – is by using digital payment platforms.

These are the conclusions we have reached as the result of extensive research in pursuit of one of the Foundation’s primary missions: to give the world’s poorest people the chance to lift themselves out of hunger and extreme poverty.

FSP conducted this research because we believe that there is a gap in the fact base and understanding of how payment systems can extend digital services to low income consumers in developing markets. This is a complex topic, with fragmented information and a high degree of country-by-country variability. A complete view across the entire payment system has been missing, limiting how system providers, policy makers, and regulators (groups we refer to collectively as financial inclusion stakeholders) evaluate decisions and take actions. With a holistic view of the payment system, we believe that interventions can have higher impact, and stakeholders can better understand and address the ripple effects that changes to one part of the system can have. In this report, we focus on the economics of payment systems to understand how they can be transformed to serve poor people in a way that is profitable and sustainable in aggregate.

Data, Analysis & Estimates

The data available to evaluate payment systems is limited. Even in highly advanced economies, complete and comparable information is difficult to obtain. In the developing world, much of this data simply does not exist. Given that there are limited examples showing how providers make money from providing financial services to the poor at scale, we looked at payment systems in both the developed and developing worlds, and tried to learn how to apply lessons from both to reach the poor.

In this report, we present a complete set of analyses and estimates based on the strongest collection of data that we could assemble. Readers should understand this base of data as a “best efforts” attempt to provide a full picture of payment system costs and revenues, rather than a definitive source. We have focused on evaluating formal payment flows that have available data and benchmarks. We recognize that there are large payment flows over informal channels, such as unlicensed money transmitters, that are outside the scope of our analysis. We drew insights from three primary activities. First, we conducted a thorough assessment of the payment systems in six significant economies – Nigeria, Kenya, India, China, the U.S., and the Netherlands – to understand their elements, changes over time, and the economics for providers. Next, we assembled detailed and comparable benchmark information on a peer set of developed markets rang-
ing from Poland and the Czech Republic to the U.K. and Switzerland. We anchored this benchmarking in data from central banks, think tanks, and other sources. In particular, McKinsey & Company’s Global Payments Map – a structured and consistent dataset on payment systems – provided a critical pillar. This work provided us with a basis to make comparable analyses in major economies, and a platform to translate our findings into a developing market context. Finally, we interviewed more than 100 industry experts across more than a dozen countries. Together, this work provides an unparalleled foundation from which to draw conclusions.

We believe that this report offers a unique perspective on payment systems, and a powerful set of facts and tools for financial inclusion stakeholders seeking better answers to tough problems. In doing this work, our research team also uncovered as many new questions as they answered. Therefore, we will continue to improve our understanding of these issues, and acquire more insights into low-income consumer payments. We hope that you find this report thought-provoking, worthwhile, and useful.

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Next, we want to thank the many people we visited in China, India, Kenya, and Nigeria and those we interviewed from Holland. In these countries, we received invaluable insight and support from central bankers, banking executives, telecommunications leaders, start-up entrepreneurs, leading academics, and many more. Most importantly though, we want to thank the many poor individuals and families in these countries who shared their experiences, voiced their needs, and provided important perspectives on how digital payments can contribute to their local communities. We are grateful for all of their time and contributions.

Lastly, we want to acknowledge McKinsey & Company for providing a team of dedicated analysts and experts from their offices around the world. They partnered with the Gates Foundation to synthesize all of the information we gathered, to structure the findings, and to formulate our assessment.

Rodger Voorhies
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Summary of findings and recommendations

Introduction

It is expensive to be poor. For most of the 2.5 billion people living on under $2 per day, saving money is difficult, credit is available only at very high rates, if at all, and drought or illness can push people without savings or insurance deeper into poverty.

Access to financial services can be a key element in overcoming these stubborn realities. Not only does it help consumers accumulate, increase, and protect their money, it also allows them to weather financial shocks. A growing body of evidence indicates that people of limited income could see significant improvement in their lives if they had access to the kinds of financial services that many others take for granted, such as chequing and savings accounts, loans, and insurance.

Despite this potential, the marketplace still fails to serve the poor in this way. Only 16% of low income consumers globally have access to formal financial accounts. Access for women and rural consumers tends to be even lower.

Solutions to this marketplace failure are difficult, but possible. The Bill & Melinda Gates Foundation believes that the place to start in creating them is by transforming the economics of payment systems.

Poor people, even those without access to formal accounts, still need ways to send and receive money. Today, the payment systems available to them are generally inefficient, insecure, and expensive. If this could be changed, payments could serve as the connective tissue for bringing a broader array of financial services to poor users.

These realities prompted the Foundation’s Financial Services for the Poor program to conduct extensive research on payment systems around the world to determine characteristics necessary to create successful payment systems for the poor. As we looked across numerous countries, one common issue arose: the economics of serving low income consumers simply does not work for many providers. The reasons are simple. Poor people usually conduct financial transactions frequently, and in small amounts. Their limited household income often leaves them with limited account balances. However, in current market structures, most banks and other providers make money on larger transactions and on sizable account balances. In many scenarios, the more the poor use the financial system, the bigger the losses for the providers of that system.

Developed markets can teach us lessons about efficiency and market construction that will help lower-income households obtain formal financial services. Such markets highlight the promise of digital payment systems, which are much cheaper than paper-based and manually intensive alternatives. (Exhibit 1 profiles one poor family that could use digital payments.) Digital systems also hold potential to supply payments providers with additional, non-payment sources of revenue, particularly from the digital information collected. Having additional revenue sources may allow providers to offer payment services at a lower price.

However, even developed markets are not designed to serve large numbers of very poor people, so these lessons cannot merely be transplanted into developing markets. We need a new set of lessons to guide developing markets to greater financial inclusion. Our experience indicates that, for a payment system to serve the poor successfully, it needs to
meet three criteria:

- **Robust functionality.** Users need reliable access to the system and trusted providers. A broad assortment of users must accept the system, and it must offer them a suite of payment services.

- **Low cost and low price.** Providers need sufficiently low costs and a higher probability of attractive returns. Lower costs allow them to offer lower priced services. Higher returns will attract them to begin serving the poor, and to grow the system.

- **Effective coordination.** Market structures need effective coordination to ensure that providers achieve better outcomes, and the system evolves successfully over time. Effective coordination will include both cooperation and competition among providers.

In addition to these criteria, consumer demand must also be sufficiently high. Impediments to demand can include limited financial awareness, and challenges in satisfying documentation requirements for opening a financial account. Even with higher demand, however, the economics as they are currently will not work.

Today, we believe that an opportunity exists to create significantly more sustainable payment systems that will have greater incentives to meet these criteria and serve lower income groups. Our examination of payment system economics showed us three major indicators that this opportunity is real and achievable across countries.

- **Even in developed markets, providers have significant potential to reduce costs in existing structure by 20%-50%, using multiple methods from**
different payment systems. Research shows that the drivers of cost vary widely across systems, and there are numerous approaches for reducing operating costs throughout the systems. Lower costs will expand consumer reach.

- No system has reached its full potential; all can improve economic performance. As a result, the potential to lower costs and broaden access are available to all markets from Austria to Zimbabwe.

- Innovations offer increasing potential for payment system improvements. Payment system innovations across markets are continuously developing, expanding the potential for improvements as new technology and business models emerge. Mobile money in East Africa and mobile phone-based card readers (both digital payment solutions) are two examples that have promising applications to further reduce provider cost barriers as well as extend reach to lower income consumers.

Together, these indicators show us that payment system providers have the ability to lower costs, expand margins, and broaden services. If they can do these things and generate more value for themselves, they will coordinate more with each other, increase their investments, and focus on growth. Together, these improved economics can give much larger portions of the population a first step to financial inclusion and the financial service support they can use to better their lives. The results would be a dual win for providers and consumers.

To find ways for systems to capitalize on these opportunities, we first focused on understanding the economic models of payment systems. Our work examined more than 30 countries. We incorporated extensive country and provider benchmarking data, and conducted more than 100 interviews with regulators and payments providers, including banks and telecommunications companies.

In this summary of our report, we offer a high-level view of our findings and recommendations for improving system economics. While we acknowledge that a successful system also requires perspectives on the user experience, this is not the focus of our research and analysis. Such user assessments are available in other bodies of work (e.g., Portfolios of the Poor).

We start this summary by describing a new framework for understanding payment systems, then use the framework as a foundation for laying out four major findings and four recommendations.

Describing a new framework for understanding payment systems

Too often, analysts look at specific elements of a payment system without accounting for the behavior of the entire system and how it responds to change. To avoid this, we believe a new framework describing payment systems is needed. The framework must simplify the systems and their underlying market dynamics. It must keep a user-centered perspective in examining the major payment activities. Finally, it must be flexible enough to
allow us to evaluate the system as a whole, as well as specific payment instruments and players. To accomplish these goals we created a four-part framework we call ACTA, for Account, Cash-in-cash-out, Transactions, and Adjacencies.

- **Account** – Account activities cover the primary relationship that a user has with a provider, including opening new accounts and maintaining existing ones. Accounts must provide a secure, accessible store of value. Examples include current accounts (also known as chequing accounts) and mobile money accounts.

- **Cash-in-cash-out (CICO)** – To use the payment system, consumers must be able to deposit and withdraw cash to their payment accounts. CICO networks provide these services. Components include bank branches, ATMs, and individual money agents.

- **Transactions** – These are direct transfers of funds between accounts. They include debit and credit card payments, credit transfers, direct debits, and mobile money transfers.

- **Adjacencies** – These are activities, both financial and non-financial, that generate non-payments revenue for payment system providers. Financial adjacencies include interest earned on balances held, and the spread between the interest that the institution pays on savings accounts vs. what it charges for loans. Non-financial adjacencies include strategies to help companies acquire new customers, reduce customer attrition, cross-sell services, improve collections, or power other businesses with consumer insights. These revenue streams are vital for overall payment systems economics.

In different payment systems, different portions of the ACTA framework are profitable, break-even, or loss making. As a result, there are a large number of potential options for primary sources of profit to sustain the system. Our survey of country systems reveals that successful systems most commonly follow one of three economic models (Exhibit 2 illustrates the models).

1. **Account balance-driven profitability.** In this model, adjacencies account for all profits, while other payment elements – account, CICO, and transactions – lose money or break even. Profits from adjacencies are sufficient to cover the losses from other activities.

2. **Transaction and account balance-driven profitability.** In this model, the system reaches profitability through a combination of profit-generating and loss-making elements. Most commonly, adjacencies and transactions earn a profit, while accounts and CICO lose money.

3. **Usage-driven profitability.** In this model, CICO, transactions, and adjacencies all generate a profit, offering providers incentive to promote more frequent system use. Accounts often lose money or break even.

**Applying the ACTA framework leads to four major findings**

The four findings stemming from our work can significantly shape payment system performance, and the potential for more inclusive payment systems for the poor.
1. **Usage-driven models create the strongest case for providers to serve the poor.** Because low income consumers have low balances, account-balance-driven adjacencies are less feasible. Models that thrive on profitable usage of the system have the strongest incentive to lower costs and drive volumes. That benefits the poor.

2. **Three methods consistently offer opportunities for reducing operating costs across each element of the ACTA framework.** Many of these opportunities involve applying existing practices from developed markets to the developing world to improve existing systems. Combined, they could reduce the cost to serve across the system by up to 70%-to-80% in developing markets. On an individual basis, this could reduce the annual cost to serve a regular user of the system down to a low $10-to-$20 annually. Note, we believe that this is possible for regular users — those who use CICO services monthly and that transact once a week — and for the payment instruments with the best potential for low income consumers. When a system reaches these levels of average use, the share of transactions conducted digitally tends to accelerate, and this benefits the larger system as well as individual users. (Exhibit 3 illustrates the three methods)

- **System design.** Payment systems can change their design to create an efficient foundation for payment activities and costs. This “rational design” approach to systems focuses on what is needed in the market, rather than what exists today. The good news is that developing countries often have the greatest freedom in system design as they have less entrenched infrastructure. For example, optimizing the locations of a network of CICO outlets (cash withdrawal points) can lower costs for participants in the system.
• Minimum scale. Scale efficiencies in the payment sector are significant particularly for transactions. With high fixed investment requirements, sub-scale systems struggle with high average costs. The benefit of driving volume is clear as marginal costs diminish quickly, and keep going down. Credit transfers, for example, keep providing scale efficiencies until a system reaches about 250 million to 500 million of these transactions annually. After that, we observe that scale benefits tail off.

• Operational efficiency. Major opportunities for cost savings are anchored in day-to-day operational improvements. Streamlining cumbersome procedures, automating manual processes, reducing unnecessary activities and other measures can make existing systems perform more efficiently with existing resources. Examples include digitizing account applications, eliminating paper statements, and streamlining customer support – all of which can reduce total cost to serve and allow providers to reach lower income consumers. In fact, this is the largest source of potential near-term improvement across many markets.

3. Adjacency revenue beyond just interest on account balances will be vital for financial inclusion over the long run. Because the economics of serving the poor often rest on thin margins for providers, any additional profitability from related services (adjacencies) can make a substantial difference. We believe that, even with all of the cost-cutting benefits described above, providers will still need to generate additional revenue and profit to give payment systems long-term sustainability. For serving the poor to be profitable, adjacencies will need to generate roughly $5-to-$10 in revenue per year, per user to cover account costs, of which we believe half will need to come from revenue sources beyond interest on account balances. If adjacency revenues cannot
reach this level, providers may need to charge account fees to users (which could discourage use).

4. **Market structures have a major impact on how providers reach the poor, but the most appropriate choice of structure depends on country-level payments economics.** Looking across dozens of countries, it is clear that the degree of government-led coordination and market consolidation matter in shaping payment system development (See sidebar in Chapter 1). Across the world, market structure is particularly important for transactions. For example, some markets have strong pricing programs or create collectively owned infrastructure at the center of the system where economies of scale are highest (e.g., clearing & settlement, processing). The balance of these drivers in a market will have a strong influence on near-term choices and long-term development. However, the most appropriate approach in a given country depends upon the full economics of its payments value chain.

**Applying the analysis and findings leads to four recommendations**

Based on our payment system economics assessment and the major findings from this effort, the Gates Foundation has developed four main recommendations for private sector players, payment system providers, policy makers, and regulators. While each system presents a unique market landscape, dynamics, and priorities, we believe that these recommendations apply across markets, and will lead to better outcomes for poor consumers around the world.

1. **Establish a solid economic baseline for the system, to improve oversight, and to better guide system development.** Given the complex dynamics, interdependencies, and incentives embedded in payment system behavior, financial inclusion stakeholders need to establish a robust baseline of their particular system’s economics – revenues, costs, profits – to enable high-impact changes. Without this baseline, these stakeholders risk under-achieving on their goals, and creating unintended ripple effects elsewhere in the system. The mandate, therefore, is to create this baseline to improve the impact of our work and others.

2. **Incorporate “best of breed” providers into the system, to lower costs.** Financial inclusion stakeholders should give superior providers of services across the value chain broad access to participate in the payment system. We believe that these providers create a basis for change across the system because they bring high efficiencies, offer superior services, and spur competition. So, who are “best of breed” providers? They can include a diverse mix of domestic and international companies from inside or outside the financial services sector. They have skills, experience, and capabilities best suited for specific activities in the payment system. Allowing these providers to join the system in meaningful roles can raise the system’s overall performance. New operating models, used in the developed world, provide an indication of the opportunity of coordination. For example, allowing mobile operators to manage cash-in agent networks for financial services often creates value because they have expertise in building and managing agent-based distribution networks at scale. Similarly, banks can benefit from shared service providers that streamline compliance activities by consolidating resources.

3. **Actively apply innovations from other markets, to improve performance.** Payment systems are constantly evolving, and they always need innovations that expand capabilities. Happily, major innovations are continuously emerging in markets around the world. Payment service providers and regulators should actively monitor, evaluate, and
apply innovations across the system as a means to ensure that it is continuously improving performance for the poor. For example, mobile point-of-sale solutions (e.g., Square, iZettle) hold tremendous promise for expanding acceptance and lowering costs for many markets. System leaders need to make purposeful assessments of these types of innovations and apply them when relevant.

4. **Focus on the system as a whole instead of individual institutions, to improve regulation.** Regulators and policy makers should shift focus away from institutions, and toward the activities that occur within the system, a trend already in place in some countries. Regulating mobile money, for example, requires regulators to take a comprehensive view across mobile operators, financial services providers, retailers, and others, instead of simply confining their view to bank-only solutions. Policy makers and regulators in multiple areas (e.g., banking, telecoms, competition) will also need to work together to catalyze change, and foster collaboration. To manage all of this effectively, regulators need new tools to monitor, evaluate, and intervene in complex systems effectively. For example, mobile money regulations typically require significant coordination across regulatory bodies covering telecommunications and banking, and yet regulators often lack effective mechanisms for making coordinated decisions on important topics. The good news is that, as we looked at more progressive economies, a system-wide view is starting to take hold. Nigeria, for example, is expanding the role of banks and non-banks in developing a mobile money solution for the market, and focusing on key activities needed to drive adoption and usage.

**Conclusion**

These findings and recommendations – and the additional insights from our economic assessment of payment systems components – point to an important path forward to lower system costs so that they can reach lower income segments. We are encouraged. Everywhere we look, we see opportunities to make payment systems more efficient and more accessible to low income consumers. Nonetheless, it is difficult to offer specific prescriptions for specific systems. Financial inclusion stakeholders need to acknowledge and understand the unique characteristics of their system if they are to attack the root causes of its inefficiencies. And yet, we do not believe these differences should be a rationale for limiting change. The real work comes when the specifics of local market dynamics, regulations, and related providers are paired with user needs on a country-by-country basis to develop or improve an effective system.

Following this summary, the main body of our report describes our analysis, findings and recommendations in greater depth. To begin, we re-introduce the 4-part ACTA framework, and discuss how its components combine to define the broad contours of a payment system. Next, we take a detailed look at each element of the framework. For accounts, CICO, and transactions, we describe their activities, cost centers, methods for reducing those costs, their revenue and pricing models, and implications of all these findings for poor people in developing countries. Finally, we describe the wide diversity of adjacencies, their sources of revenue, and implications of these findings for the poor.

Our goal in this report is to provide financial inclusion stakeholders an objective foundation and a fact-base on which they can build, allowing them to develop actions to increase access to financial services for the poor, and help their systems continue evolving to serve more users with high quality services.
Authors

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