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The Mobile Financial Services Development Report 2011




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Preface

KLAUS SCHWAB, Executive Chairman, World Economic Forum
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The use of mobile telephones to deliver basic financial services to the financially excluded poor represents an unprecedented opportunity. With mobile phones now in the hands of billions including those at even the lowest income levels, the world is poised to bring unprecedented numbers into the formal economy. The mobile phone's ability to serve as a universal banking platform can provide stability in the lives of those with very limited means while unlocking new efficiencies in underserved segments of developing economies.

Notable progress has been made in the pursuit of this opportunity as public and private stakeholders have collaborated to create innovative and commercially viable business models. Today, mobile phones are already used by many to make payments, send money to family members and store monetary value safely—often in regions of the world that are least served by financial services providers. However, for mobile financial services to achieve their true potential for financial inclusion, they must become available on a much larger scale and include a wider portfolio of services—most notably the facilitation of savings.

Ultimately it is the economic viability of business models that will drive a virtuous cycle of adoption and investment in mobile financial services. However, this does not preclude the need for governments and multilateral institutions to work in concert with the private sector to address those market frictions and institutional needs that stand in the way of the productive potential of market-based solutions. It is in this spirit that this *Report* offers a common frame of reference to establish priorities to promote the development of scale in mobile financial systems. Responding to a call by the G-20 to improve the collection and dissemination of financial inclusion information needed for informed decision-making, this *Report* intends to serve as a platform for leaders and other stakeholders to distill key insights and foster mutual learning.

This first edition of *The Mobile Financial Services Development Report 2011* introduces a structure for assessing the mobile banking ecosystem across twenty individual countries. It presents primary country-level data sets and serves as a comprehensive tool for identifying areas of strength within a country's mobile finance ecosystem as well as areas for development.

In line with the World Economic Forum's mission of applying a multi-stakeholder approach to address issues of global impact, the creation of this *Report* involved extensive outreach and dialogue with members of the private sector, academic community, governments, multilateral institutions, and donor organizations from around the world. This dialogue included numerous interviews and collaborative sessions to discuss the *Report's* methodology, findings and areas for collaborative action.

Sincere thanks and gratitude are extended to the industry experts who contributed their unique insights to this *Report*. We would also like to thank our industry partners and the academic experts who served on the project's Working Group, especially: Bharti-Airtel, Citi, ICICI, MasterCard, Standard Chartered, Telenor, VeriFone, Visa and Vodafone. We are also very grateful for the commitment of the Boston Consulting Group in their capacity as Project Advisor. We are highly appreciative for the generous support and contributions of time, resources and insights from the Alliance for Financial Inclusion and the GSM Association's Mobile Money for the Unbanked initiative. We would also like to thank our Strategic Partner, the Bill and Melinda Gates Foundation for their guidance throughout the development of this *Report*.

At the World Economic Forum, the energy and commitment of the *Report* editors—James Bilodeau and William Hoffman—is to be acknowledged as is the warm and collaborative support from team members Ibiye Harry and Jessica Lewis. Special thanks are also extended to Sjoerd Nikkelen of the Boston Consulting Group whose drive and expertise were invaluable to this work.

Executive Summary

The *Mobile Financial Services Development Report 2011* assesses the development of the mobile financial services (MFS) ecosystem in twenty countries. Its purpose is to provide a tool for decision makers to identify relative areas of strength and weakness and to prioritize opportunities for collaborative action to build scale in mobile financial services.

The *Report* defines mobile financial services development in terms of the key drivers across the institutional, market and end-user environments that lead to adoption and scale. Measures of mobile financial services development are captured across seven pillars:

1. *Regulatory proportionality*
2. *Consumer protection*
3. *Market competitiveness*
4. *Market catalysts*
5. *End-user empowerment and access*
6. *Distribution and agent network*
7. *Adoption and availability*

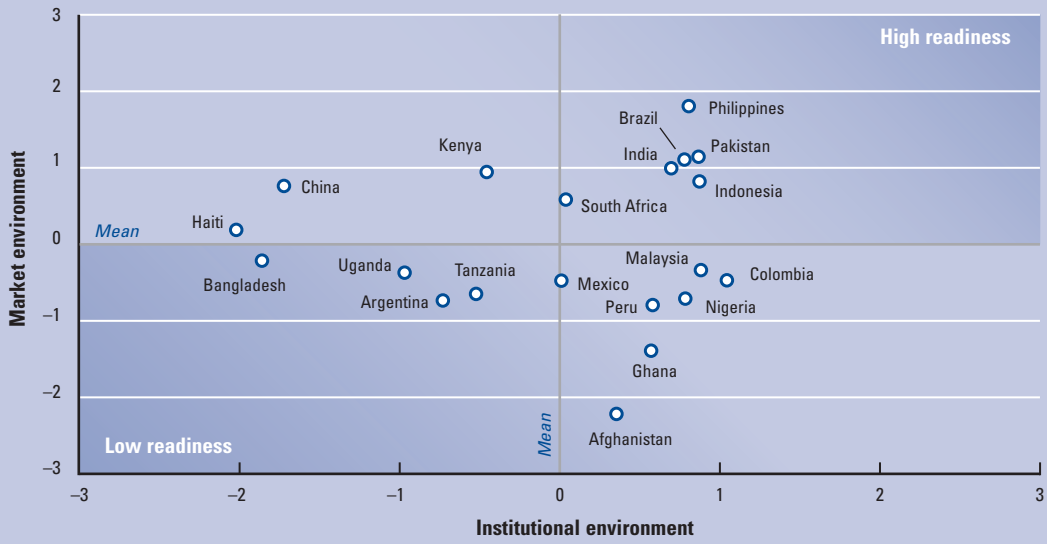
The *Report* thus takes a comprehensive view in assessing the factors that contribute to the long-term development of mobile financial services. It includes mobile payments and transfers within its scope but also the development of other vital financial services such as savings, credit, and insurance.

The use of the mobile platform to deliver financial services is a relatively new phenomenon, and consensus is still emerging on which drivers are the most important and how they should be measured. In the hope of building consensus, the *Report* therefore proposes a taxonomy and analytic structure for assessing the mobile finance landscape in addition to the provision of a comprehensive data set.

Readers of the *Report* are urged to look at the detailed information contained in the County Profiles in Part II in performing analysis and drawing conclusions. Comparison of the countries in the *Report* yields some interesting observations:

- **Despite heightened enthusiasm for mobile financial services, relatively few people today in developing markets use them.** Only a few smaller countries have seen adoption of mobile financial services reach more than 10% of the adult population. Services deployed at scale in these countries are focused primarily on payments.
- **A distinct lack of alternatives, more than supportive institutional or market environments, has been the primary driver of initial adoption.** Countries with currently high mobile finance adoption rates have relatively low levels of access to traditional financial services. While proportional regulatory frameworks and competitive markets are highly important for the long-term development of mobile financial services, they have not been as important as the sheer lack of alternatives in driving initial adoption.
- **Those countries with initially high adoption may not be the most "ready" for the development of a portfolio of services.** The institutional environment (which includes regulatory proportionality and consumer protection) and market environment (spanning market competitiveness and the presence of certain key catalysts) together can be considered an indicator of "readiness" for the long-term development of mobile financial services (see Figure 1). A number of countries identified as "most ready" have not yet achieved significant scale but may be poised to do so across a portfolio of services.
- **A well-developed agent network is a threshold requirement for achieving scale.** A dense and capable agent network is a necessary precondition for achieving scale. In addition to providing vital cash-in, cash-out services and enrolling new customers agents can also can be important for building trust for first-time users of formal financial services. The analysis confirms that countries that have achieved high adoption levels distinguish themselves from other countries by the density of their agent network.

Figure 1: Countries' relative strength of the institutional and market environment



Source: World Economic Forum.

Note: Country scores are based on the difference of the unweighted average country result on each of pillars included in a specific environment and the total sample mean for that environment. The difference is expressed as the number of standard deviations of a country score from the mean. "Institutional Environment" refers to the combination of the "Regulatory proportionality" and "Consumer protection" pillars (pillars 1 and 2). "Market environment" refers to the combination of the "Market competitiveness" and "Market catalysts" pillars (pillars 3 and 4).

- **Disciplined collection and dissemination of data contributes to the successful development of the mobile financial services ecosystem.** Those countries characterized by the lowest number of "advantages" across the pillars within the analysis showed the greatest lack of data availability. Comprehensive and robust data help stakeholders learn and adjust approaches with greater agility.

Looking across a high-level summary of country performance reveals that no single country demonstrates advantages across all the pillars of the analysis (see Table 1). Countries such as Kenya and the Philippines that have achieved high levels of adoption certainly have provided an inspiration in their demonstration of commercial viability and scale. However, the strengths of other countries may also provide important examples; the competitiveness of the Indian telecom sector, consumer protection in Brazil and proportional regulation in Indonesia may prove important advantages from which other countries can learn.

Table 1: Countries' relative performance across the seven pillars of the mobile financial services ecosystem

	Regulatory proportionality	Consumer protection	Market competitiveness	Market catalysts	End-user empowerment and access	Distribution and agent network	Adoption and availability
Afghanistan	☐	☐	n/a	■	☐	☐	☐
Argentina	■	☐	☐	■	■	■	■
Bangladesh	■	■	■	■	☐	☐	■
Brazil	☐	■	☐	☐	■	☐	■
China	☐	■	■	☐	☐	n/a	n/a
Colombia	■	■	■	☐	☐	☐	n/a
Ghana	☐	☐	■	☐	☐	☐	☐
Haiti	■	■	n/a	☐	■	☐	n/a
India	☐	☐	■	☐	☐	■	☐
Indonesia	■	☐	☐	☐	■	■	☐
Kenya	☐	☐	☐	■	☐	■	■
Malaysia	■	☐	■	■	■	☐	☐
Mexico	☐	☐	☐	☐	☐	■	n/a
Nigeria	☐	☐	■	☐	■	☐	☐
Pakistan	■	■	☐	■	■	■	☐
Peru	☐	■	☐	■	☐	☐	n/a
Philippines	☐	☐	☐	■	☐	☐	■
South Africa	☐	☐	☐	☐	☐	☐	☐
Tanzania	☐	■	☐	☐	■	☐	■
Uganda	■	☐	☐	☐	☐	■	☐

Source: World Economic Forum.
Note: ■ = competitive advantage, ☐ = neutral, ■ = competitive disadvantage.

Part 1

Findings from the Mobile Financial Services Development Report 2011

CHAPTER 1.1

The Seven Pillars of Mobile Financial Services Development

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Access to formal financial services has been limited for many, if not most, of the world's poorest: more than 2.5 billion people do not use formal financial services.[1] Research indicates that the poorer a household is, the stronger its need for financial services such as savings, remittances, credit, and insurance.[2] Yet this has the potential to change soon. In the last few years, new business models have emerged which leverage the increased global penetration of mobile phones to extend the reach and transform the economics of retail financial services. Arriving at a deeper understanding of how to realize the potential of mobile financial services lies at the heart of this *Report*.

The reasons for individuals having no, or limited, access to financial services are complex and span a wide array of cultural and economic issues. Consumers with no prior experience with formal financial services may not trust institutions with their cash. Access to financial services is hindered by a lack of infrastructure, information, and inadequate customer service. It is expensive for service providers to collect and disburse small amounts of cash using the proprietary physical infrastructure of traditional banking models, especially in remote places. They therefore struggle to offer products and services that suit the needs of the poor.

Mobile financial services enable people and businesses to deposit and withdraw funds and make electronic payments without the need for traditional bank branches. Along with a wireless communications platform that is fast approaching global ubiquity, a vital part of the infrastructure for mobile financial services is a network of retail agents. Agents function as the interface between consumers and providers performing functions such as opening accounts, accepting deposits, and dispensing withdrawals of cash.

The *Mobile Financial Services Development Report 2011* assesses the development of the mobile financial services ecosystem in twenty developing countries. It measures the key drivers across the institutional, market, and end-user environments that lead to adoption and scale. It aims to serve as a tool for decision makers to identify relative areas of strength and weakness and prioritize areas for collaborative action to accelerate global adoption.

While many deployments currently focus on payments and peer-to-peer transactions, the platform has broad potential to deliver an array of savings, credit, and insurance products. The *Report* takes a long-term view of the potential of mobile financial services and includes a broader portfolio of products within its scope.

The *Report* focuses on the development of services for those excluded due to lack of proximity, opportunity cost, and/or socio-cultural barriers. Accordingly, the features of the mobile financial service

Box 1: Countries included in the Mobile Financial Services Development Report

Population size was the main selection criterion for inclusion. Some adjustments to this list have been made based upon initial estimations of data availability and relevance of recent mobile financial services developments. Countries were selected from three regions:

Africa and the Middle East	Latin America	Asia and the Pacific
Afghanistan	Argentina	Bangladesh
Ghana	Brazil	China
Kenya	Colombia	India
Nigeria	Haiti	Indonesia
South Africa	Mexico	Malaysia
Tanzania	Peru	Pakistan
Uganda		Philippines

As there are major differences between the markets selected here and more developed markets around the globe, this *Report* is mostly relevant to markets characterized by low financial inclusion. However, many of the concepts and insights may also apply to more developed markets.

Some of the countries selected here have also seen the rise of mobile applications and services that are linked to traditional banking products, where the mobile phone basically provides a new access channel. Caution is urged when interpreting the data represented here in relation to these services, as these are not in scope of this *Report* but are also referred to as mobile financial services.

implementations covered by this analysis include the following: [3]

- Non-bank retail outlets are used to convert monetary value (cash) into electronic value.
- Mobile phones are used to identify customers, authorize transactions electronically and to enable customers to initiate transactions on their own.
- Transactions can be processed against stored electronic value.

In the *Report*, no distinction is made between the various entities who deliver these services; traditional banking institutions, mobile network operators, and third-party service providers.[4] Services which provide access to existing traditional bank accounts through mobile phones but do not reach new, previously unserved or underserved customers are not the primary focus of this *Report*.

It is important to recognize that mobile financial services are not merely a technological phenomenon.[5] In addition to the low-cost and widely distributed networks of local agents that are vital to the sustainable delivery of financial services, other intangibles such as the perceived trust in a service provider's brand, the personal relationship an individual holds with their local agent and the endorsement from relevant peers all play a role in adoption. As much as the mobile finance opportunity is enabled through ubiquitous technology, it is supported and sustained by end-users, trusted local agents and a consistent end-user experience.

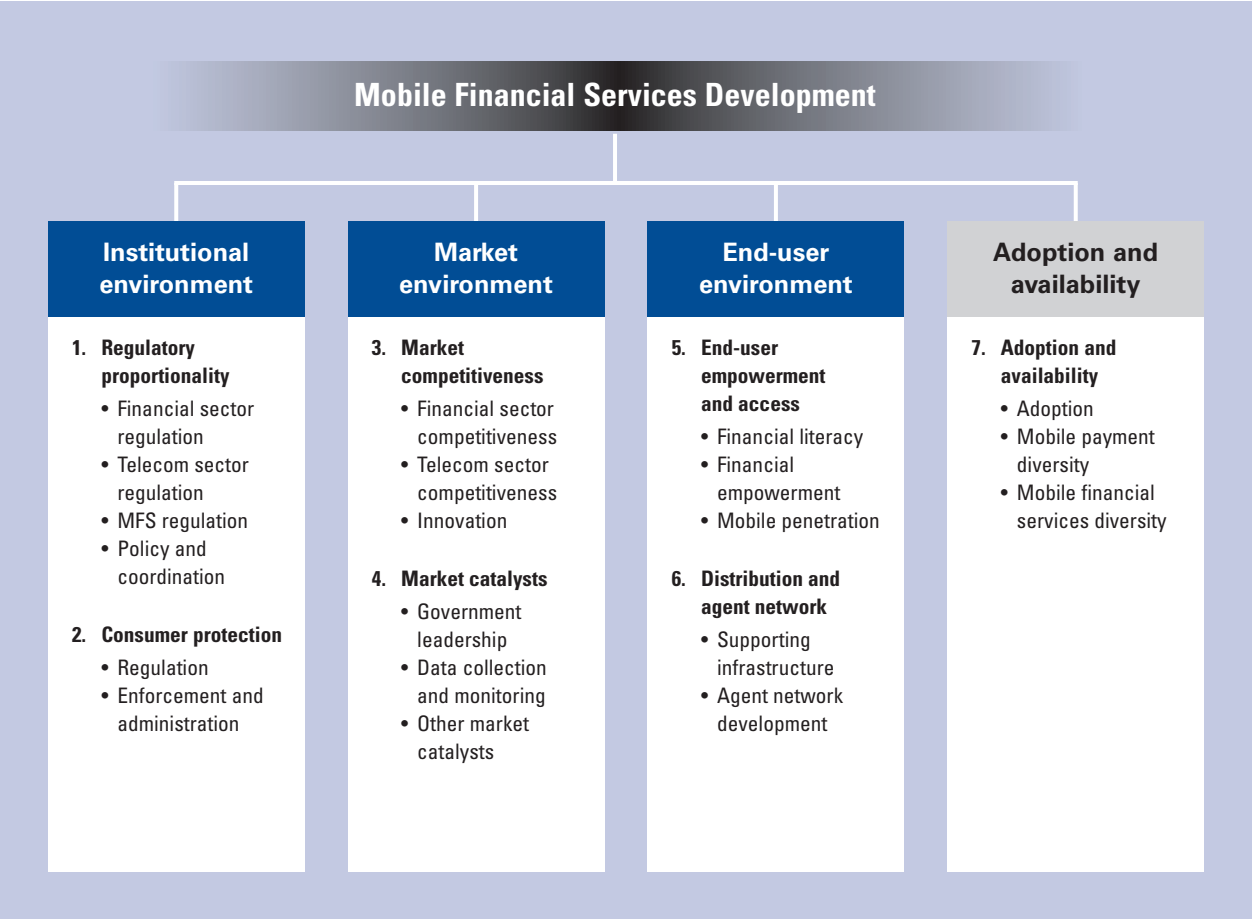
Countries included in the *Mobile Financial Services Development Report 2011* were selected based on the total population and the lack of financial alternatives. Data availability and quality were also considered in the selection of countries. See Box 1 for a list of the countries that were selected.

Even for the countries included, the availability of recent and high quality data was a constraint. The data used in this *Report* do not cover all relevant elements of the mobile financial services ecosystem for all countries. In many cases, trade-offs have been made between availability and relevance. Although research and available data related to mobile financial services are steadily growing, there are limited resources for cross-country comparison across the institutional, market, and end-user environments. Many governments and regulators do not collect information on key elements of the mobile financial services ecosystem, and in particular, there are gaps in data pertaining to the non-bank financial activities. In an effort to help close these gaps, this *Report* includes data generated from a primary survey of regulators and data collection related to mobile financial services adoption. This work was done in conjunction with the Alliance for Financial Inclusion and the GSM Association respectively. Appendix B highlights some of the most pressing shortcomings of available data and provides suggestions for future data collection efforts.

In this *Report*, the various aspects of mobile financial services development are expressed in seven "pillars" grouped into three broad categories or environments:

1. **The institutional environment:** the characteristics related to regulation and consumer protection that support the development of mobile financial services.
2. **The market environment:** the market competitiveness of the private sector players, degree of innovation, and presence of catalysts for development of mobile financial services.
3. **The end-user environment:** the robustness of distribution and empowerment of individuals to access and adopt mobile financial services.

Figure 1: Composition of the Mobile Financial Services Country Profiles



Source: World Economic Forum.

A summary of these environments and constituent pillars can be seen in Figure 1.

The adoption and availability of mobile financial services as captured in the seventh pillar can be considered the outcome of strong performance across the preceding pillars. In defining the pillars and the data they contain, an extensive survey of existing research was conducted. The following sections provide further detail on these pillars, constituent subpillars and the variables included within them.

First pillar: Regulatory proportionality

Regulatory proportionality encompasses laws and regulations that allow for the sustainable development of financial services through mobile phones and that balance the cost of regulation (both to the institutions and to the regulator) with its benefits. Policymakers and regulators share a common challenge worldwide: how to formulate regulatory frameworks that provide room for innovation and discovery while safeguarding against identified risks that can arise in decentralized, complex and rapidly changing technology-driven systems such as mobile banking. Banking models that go beyond traditional branches are relevant to financial regulators, given the potential risks to financial stability and consumer protection. However, given their historical background as communications utilities, mobile network operators typically do not fall under the purview of financial regulators.

When assessing the development of mobile financial services within a country, the proportionality of branchless banking regulation, as related to identified risks, needs to be considered. Additionally, broader regulatory policies for banking services are relevant, as are the regulatory flexibility and coordination that go with it (see also Box 2 on the interplay of formal and informal regulation). Regulators should strive for policies that foster, rather than inhibit, innovation. Policies that are flexible, technology-neutral, and provide for a variety of ways for any stakeholder to meet compliance requirements are essential for the sustainable development of the mobile financial services ecosystem.[6]

Box 2: The distinction between *de jure* and *de facto* regulation

When addressing a regulatory situation in a country, a complete picture of the effectiveness and impact of regulations cannot be fully captured by a set of discrete variables. In the research and validation stages of this analysis, instances have been found where *de facto* regulation, or the actual impact or implementation of regulation, differed from *de jure* regulation or the letter of the law that is "on the books". It is therefore important to interpret the Country Profiles and analysis in this report with this distinction in mind. Contributors to this Report noted that the approach of regulators is often the most important aspect to creating an enabling environment, rather than the adoption of specific MFS regulation. A "test and learn" approach enables services to launch with appropriate supervision by the regulator, who is then able to develop mobile financial services regulation best suited to its market conditions.

Financial sector regulation

In the financial sector regulation subpillar, a general measure of liberalization is included. Financial liberalization generally permits a more efficient flow of resources and promotes innovation.[7] The sophistication of licensing is measured because it provides easier market entry for non-traditional, and potentially innovative entities.

This subpillar also addresses whether there is a specific electronic money issuance license available. This is important as the delivery of financial services through mobile phones (where the mobile phone is more than a channel to existing traditional bank accounts) involves some form of electronic value issuance. As the entities that deploy mobile financial services are often not traditional banks, it is also relevant if non-banks can be licensed to provide electronic money. This assessment is included within the MFS (mobile financial services) regulation subpillar.

An overall measure of regulatory quality for financial services provides a high-level indicator of the environment in which mobile financial services systems can develop.

Telecommunications sector regulation

As mobile financial services often build upon the telecommunications service delivery infrastructure, the regulations governing this sector are generally more liberal and distinct from financial sector regulations. Platforms for processing prepaid mobile transactions are relatively simple compared with traditional core banking transaction systems and support a lower level of customer or regulatory reporting.[8] By definition however, mobile financial services involve elements that are under the purview of a telecommunications regulator—the existence of such a regulator is thus considered.

The number of consumers with mobile telephone service will determine the size of the mobile financial services market. Especially in poorer rural areas, the uptake of mobile communications is sometimes limited by lack of service coverage. A policy to provide universal service and coverage requirements as a part of licensing conditions is therefore assessed in this subpillar.

As trust and system integrity are essential for consumer adoption of mobile financial services, the quality of the underlying mobile technology is included as an index combining the existence and enforceability of quality of service requirements.[9] A lower quality of service score is associated with more downtime and dropped calls and messages.

The presence of an identification requirement for the registration for mobile phone services is considered as well. Some market participants have used an increase in know-your-customer (KYC) requirements for purchasing baseline voice and data services as a means for simultaneously registering clients for mobile financial services.[10] While this can create lower barriers to entry, it can increase the enrollment of subscribers who are not active users.

The regulator's appetite for risk and incorporation of financial inclusion in their mandate can influence how they foster an environment of innovation. As these are hard to quantify, the existence of mobile virtual network operators (MVNOs) in the marketplace is used to provide a very general indication of regulatory flexibility and the promotion of innovation in the telecommunications market.

The level of taxation of mobile communications services is included in this subpillar. Taxation can be levied in a variety of forms including value-added taxes. Higher taxes generally result in a lower penetration of mobile communication services.[11]

MFS regulation

Many existing financial services regulations were not developed with the convergence of telecommunications and finance in mind. Proportional regulations that balance the risks of mobile financial services with their benefits and provide a clear framework for private sector participants within which to operate, are often lacking or not specific. In some countries, the private sector did not wait to innovate while policymakers and regulators deliberated over an ideal course of action.[12]

Vast and efficient retail agent distribution networks (often based on those used for the provision of prepaid airtime) are an important component in the development of the mobile financial services ecosystem. They provide an interface to the consumer for registration and for the conversion of cash and electronic value. In its most basic form, a retail outlet serving as an agent

is a transactional channel permitting customers to deposit and withdraw money into or from their account and perform a range of electronic transactions, including inquiries on account balances and money transfers between accounts.

It is important to distinguish between the applicability of regulation to financial institutions that are licensed for deposit-taking and those that are not licensed, such as mobile network operators. This *Report* assesses whether both banks and mobile network operators without a traditional banking license can deploy agents for the provision of financial services. Another variable indicates the range of activities that banking agents are allowed to perform. This variable includes broader branchless banking activities within its scope, not just mobile financial services.

A variable that expresses if mobile network operators are allowed to deploy mobile financial systems as a principal operator is also included. This provides a general indication of openness to non-traditional players (see Box 3 for more discussion on the role of non-licensed financial institutions). It is important to recognize that this variable measures only if a mobile network operator can serve as a principal operator and not which services can be deployed or under which conditions. In some countries, the conditions under which mobile network operators can serve as a principal are constrained.

A core feature of regulation that governs the issuing of electronic value is the treatment of value stored on a mobile phone account. In an effort to distinguish mobile financial services from traditional accounts, regulators around the world have treated them as "payment" services, expressly prohibiting deposit insurance for, and the payment of interest on, e-money accounts. The cash-in function is not considered a deposit but simply the equivalent of handing funds to a money-transfer provider for subsequent transfer to another recipient.[13] The analysis addresses this by assessing if value stored in a mobile account, as created by the "cash-in" function of agents, is considered a deposit.

When mobile network operators or other non-bank entities are allowed to deploy an e-money system for financial services, different models are possible but they usually involve a licensed financial institution. Currently all live mobile financial services deployments require 100 percent of customers' electronic value to be backed by deposits in a regulated bank. A licensed financial institution is always responsible for investment of this so-called float.[14]

Regulation focusing on anti-money laundering (AML) and combating the financing of terrorism (CFT) should strike a delicate balance between ensuring safety while not restricting access. AML/CFT measures can negatively affect access to, and use of, financial services if they are not carefully designed.[15] The ability to perform customer due diligence beyond bank branches can create efficiencies in the ease and cost of opening accounts for clients and financial services providers alike. The existence of AML/CFT regulation and its compliance with FATF (The Financial Action Task Force) standards are considered. Transaction limits are also considered as they can provide a simple means of restricting liabilities in the case of fraud.

International money transfers can be an important catalyst for the adoption of mobile financial services. An indication of the presence of regulation facilitating international money transfers is also included.

Box 3: Role of non-licensed financial institutions

The role of mobile network operators in the provision of financial services differs across the markets included in this *Report*. In those markets where mobile network operators are allowed to deploy financial services, significant differences exist, with network operators often restricted in the services and business models they can pursue. Additionally, in the absence of clear regulatory guidelines for non-bank entities, market participants are forced to interpret regulation for themselves. This creates a conservative approach to innovation and risk as legal compliance is known only when regulatory audits are performed.

Policy and coordination

Informal policy as well as the regulatory attitude and the quality of public-private relationships constitute important drivers of the effectiveness of the regulatory environment. This subpillar provides a directional indicator of these relationships, although they are difficult to empirically capture.

Adoption of a financial-inclusion strategy by the financial regulator is viewed as an indicator of the will to provide private stakeholders with incentives and a stable framework to explore financial inclusion opportunities and innovation. When resources are committed to financial inclusion strategies, it is more likely that results will be achieved. Both the adoption and commitment of resources to a financial inclusion strategy are therefore considered here. Another indicator of the commitment to a financial inclusion strategy is the requirement that traditional banks provide basic, low frills accounts catering to the needs of low-income consumers through existing banking channels.

Activities that concern the stability and integrity of the financial system, including the development of mobile financial services, should be primarily under the purview of the relevant financial regulator. Alignment of the policies set by the financial and

Box 4: Putting the Banking in Branchless Banking: The Case for Interest-Bearing and Insured E-Money Savings Accounts*

* Please see Chapter 1.4 by Tilman Ehrbeck and Michael Tarazi for a full discussion of this topic.

Regulation is often the primary obstacle to using mobile financial services to provide full savings products. This is particularly the case when the mobile financial services are offered in the form of e-money by non-banks. Regulators around the world have regulated e-money services as "payments services", thereby denying two key benefits reserved for bank accounts: interest payments and deposit insurance. In some countries even e-money accounts offered by licensed financial institutions do not receive these benefits.

The payment of interest encourages savings and would therefore be beneficial to both consumers and regulators alike. Yet, despite the fact that pooled e-money accounts often accrue interest, such interest is not passed on to the end-user. Passing on such interest would not only benefit customers but bring more money into the traceable formal economy. In addition, deposit insurance often applies to pooled e-money accounts held in licensed financial institutions and insured amounts are typically much lower than the overall balance. Regulators should extend deposit insurance to each end-user whose money has been pooled. The United States permits such pass through deposit insurance, allowing each individual customer to benefit from the full insured amount.

Banking regulators are understandably uncomfortable with non-banks offering traditional banking services. Regulators, however, might miss out on an opportunity to make great progress in financial inclusion. The extension of benefits such as interest payment and deposit insurance can be done with relative ease and at minimal risk. E-money products from non-banks should not be seen as interlopers in the banking domain, but rather as a much needed stepping stone across which the benefits of high-quality savings instruments can be passed through to the millions who lack access to them.

telecommunications regulators, however, is considered an important element of a sustainable regulatory environment. The existence of structural alignment between the two entities is included in this subpillar.

Little research is available on the different forms of taxation of financial services through mobile phones. There are indications that a tax on financial transactions, including withdrawals from and deposits to bank accounts mires activity to the informal financial services sector.[16] Applying a tax to mobile financial services that is different than that applied to traditional banking transactions can be a potential roadblock for adoption and this is reflected in the analysis.

Second pillar: Consumer protection

Consumer protection can reduce information asymmetries and ensure that the interests of end-users of financial services are protected. It can contribute to improved efficiency, transparency, competition, and access to retail financial markets.[17] Consumer protection is of particular importance in developing economies where education levels are generally lower and information flows constrained.

When customers are better informed about financial services, they can shop around—which promotes competition. Informed clients can also choose products that best fit their needs and encourage competing entities to design better products. Knowing that their rights are protected may strengthen the confidence of individuals to try new services where historically there has not been a great deal of trust.

Regulation

Low-income consumers may be more vulnerable to the misconduct of providers and less able to protect themselves. The consequences of their financial missteps may be severe, resulting in lost income, assets, and consumption. Consumers have a responsibility to inform themselves, protect their interests, and choose products wisely. However, this can be difficult for low-income customers due to limited awareness, knowledge, and skills to assess products' appropriateness, costs and risks. This means that policymakers and regulators should ensure that consumer protection measures adequately meet the needs of poor or inexperienced customers.[18]

The relationship between the consumer and the agent is central to consumer protection issues. These issues include fraud, the exploitation of customer confusion, pricing transparency, loss or theft of authentication information, customer errors, switching barriers in mobile banking (including if the customer is dissatisfied with the mobile telephony service), inadequate/ineffective grievance procedures, and data privacy and security.[19]

Consumer protection regulation specific to mobile financial services is included in the analysis. This includes whether a consumer protection policy for mobile financial services is in place and the extent to which consumer protection laws cover areas such as consumer education, disclosure of fees and charges, the existence of a redress mechanism and the monitoring of suspicious transactions. General indicators of consumer protection in financial services are also included.

There is a fine line between constructive consumer protection rules that support the emergence of mobile financial services and onerous ones that deter it. While a variable that adequately captures this is not included, a proportional approach and constant dialogue with market participants can ensure a balance is achieved between the commercial viability of business models and the protection of end users.

Enforcement and administration

While basic consumer protection requirements are on the books in most countries, recent work by the Consultative Group to Assist the Poor (CGAP) suggests that the lack of enforcement and compliance mechanisms is a significant concern.[20] The existence of a dedicated consumer protection team as part of a country's primary regulatory body is considered in the enforcement and administration subpillar.

When consumer complaints are not addressed effectively, consumers may become distrustful and shy away from using financial services.[21] The existence of a regulatory requirement for providers of financial services to provide complaint statistics is included in the analysis.

A range of tools important for consumer protection is combined into an index labeled "consumer protection administration". It includes the availability of a financial services ombudsman for dispute resolution, a call center for consumer complaints, and other outlets for resolution. Efforts by the telecommunications regulatory authority to publicize dispute outcomes—as an indirect measure of consumer protection—are also assessed.

Third pillar: Market competitiveness

The degree of competition in both the traditional retail banking sector and the mobile communications market are important factors in the development of mobile financial services. Although there is no evidence of a direct relationship between competition in the banking and telecommunications sectors and the likelihood of a successful introduction of a mobile financial services system, it is assumed that increased competition can drive consumer value in terms of long term innovation and affordable pricing for all segments of the market.[22]

Financial sector competitiveness

Market concentration is an indirect measure of competition. Analysis of the market concentration of financial services firms incorporates an approach which looks at the difference in market share between the largest and second largest financial services firms. A lower difference (more equally sized players) infers a higher degree of competition.

A range of indirect variables relating to competitiveness is also included in this subpillar, including an aggregate profitability indicator for the banking sector. It is assumed that lower profitability indicates a higher degree of competition. Broader availability and affordability of financial services are also considered indicators of increased competition.

Other indirect measures of competition include service quality, breadth of payment channels, the quality and interoperability of the payment network, and the ease of opening a standard account. A higher score in these areas is assumed to indicate a stronger focus on adding value for the consumer and therefore increased competition.

Box 5: The Next Challenge: Channeling Savings Through Mobile Money Schemes*

* Please see Chapter 1.5 by Salah Goss, Ignacio Mas, Dan Radcliffe and Evelyn Stark for a full discussion of this topic.

The provision of savings to poor people has the potential to materially impact their lives. Rather than storing value in inefficient assets, people could manage their cash flow more easily and reliably with access to a safe, convenient savings account.

Access to a basic bank account, however, remains limited in the developing world, particularly Africa. Formal savings banks and financial cooperatives have been serving poor people for decades and so have informal community-based structures such as savings-led groups (SLGs), village savings and loan associations (VSLAs) or rotating savings and credit associations (ROSCAs). However, these groups lack the products and flexibility to adequately address individual's needs. The cost of putting small amounts of savings in far away bank accounts is too high to make sense for poor people. At the same time, formal savings banks have struggled to find cost effective models to expand their physical reach into poor and rural areas or handle large volumes of low-value cash transactions. More recently, a third savings model has been offered through mobile financial services. Mobile financial services have the potential to deliver the required level of proximity and cost efficiency. So far, however, they largely offer only transfer and payments services that, while useful, fall short of the broad range of financial services poor people want and need.

None of the available models perfectly addresses the three factors supporting the extension of savings services to the poor individual: convenience, trustworthiness and affordability, and the right balance of liquidity and discipline. By forming partnerships, however, there is an opportunity to leverage the strengths of each of the individual models to create an environment where formal savings products are within reach of most of the world's poor.

These partnerships would combine the security, product development and marketing capabilities of formal financial institutions (as well as their ability to intermediate funds) with the distribution network and ability to provide low-cost transactions through mobile phones of mobile financial services providers. Informal savings groups would support these partnerships by aggregating financial transactions for those in remote areas.

Telecommunications sector competitiveness

Competitiveness within the telecommunications sector is assumed to promote the development of mobile financial services. However, in the short run, competitiveness could lead to reduced incentives for interoperability and reduced margins for experimentation and investment.

In markets with limited competition, profit-maximizing firms typically offer a limited portfolio of services at higher prices. Studies by the GSM Association (GSMA) indicate "average international calling prices in countries which have liberalized regulatory environments decreased by 31 percent with partial liberalization and by as much as 90 percent with full liberalization".[23]

As with financial services firms, market concentration is used to provide an indirect measure of competitiveness. The Herfindahl-Hirschman Index is used which measures the size of firms in relation to the industry and is defined as the sum of the squares of the market shares of the firms. A lower score indicates a higher level of competition.

The effective price-per-minute of mobile phone usage and the level of churn in the mobile communications market are included as indirect indicators of telecom sector competition. Lower price-per-minute rates and higher levels of churn are interpreted as indicators of more competitive environments. Average revenue per user (ARPU) is also included as an indicator of demand for mobile communication services.

To achieve scale, mobile financial services deployments must be accompanied by heavy investment in consumer marketing to generate sufficient awareness levels.[24] As operators have learned, marketing financial services differs strongly from marketing airtime.[25] Due to limited data availability, an indicator that captures this distinction in marketing spend was not included in the analysis (see Appendix B).

Innovation

Innovation is considered an important second-order effect of competition that can support the development of mobile financial services. A broad measure of the overall degree of innovation within a country is included. Annual telecommunications infrastructure capital expenditure is also included as an approximation of innovation in the telecommunications market. No information on the degree of innovation specific to mobile financial services was available.

Fourth pillar: Market catalysts

Beyond regulation and market competitiveness, there are a number of "catalysts" that can promote uptake and penetration of mobile financial services. Government usage of mobile payment networks, robust data collection and monitoring, and international remittances are among these.

Government leadership

Governments and other large organizations can become active users of mobile financial services. When these large organizations use mobile financial services for the distribution of salaries or social benefits or the collection of taxes, they can stimulate enrollment and foster sustained usage over time. They provide certainty to the private-sector parties that invest in MFS deployments and serve as a means to gain the trust of the unbanked population.

There are increasingly strong arguments that government disbursement programs (G2P) can play a vital role for sustaining economic growth.[26] CGAP estimates that 170 million poor people receive regular payments from their governments, far more than the 99 million or so with an active micro-loan worldwide. G2P payments encompass not only conditional cash transfers, well-known for their poverty reduction effects, but other social benefits, payouts, pensions, and wages.[27]

For governments, NGOs, and other international organizations, distributing disbursements in cash is extremely costly. To address these problems, a number of payroll disbursement solutions have been introduced, but to date none have been able to effectively tackle both remote salary/commission disbursement and cash elimination.[28] The increased transparency achieved by distribution using the mobile platform could reduce fraud in government transactions. Such use in Argentina curtailed the bribes paid by recipients before adoption.[29] Tax payments through mobile can offer similar advantages.

The presence and size of government disbursement schemes are included in this subpillar. The ability of governments to receive tax payments through the mobile platform is also considered.

Governments can also have a catalytic role by introducing programs to promote the availability of identification documents. A well-known example is the Indian government's ambitious introduction of a unique identification number for each of its citizens.[30] This could reduce fraud related to the opening of accounts and financial transactions. The ability of other large institutions such as utilities and non-governmental organizations to offer bill payment and disbursements over mobile phones could also be a catalyst. Due to a lack of available data, these aspects are not included.

Data collection and monitoring

Increasingly, policymakers and regulators recognize the need to develop evidence-based approaches to identify and promote drivers for financial inclusion. Creating appropriate datasets that accurately measure the state of financial inclusion can serve to "focus the attention of policymakers and allow them to track and evaluate efforts to broaden access".[31]

There is also a strong need for regulators and the private sector to better understand the needs and behaviors of individuals. The current lack of available subscriber data is a concern. Due in part to the early stages of mobile financial services development, consensus on which metrics to monitor and manage has not yet been achieved. Metrics suggested by a variety of institutions and experts include the aggregate number of subscribers,

aggregate transaction volumes, average balances, and other indicators of agent and client engagement.[32]

As no data were found that capture the robustness of data collection and sharing in a country, or the existence of government or industry entities with these responsibilities, this subpillar provides indirect indicators of data availability. It uses the completeness of data for the variables capture in this *Report* as a proxy for general data availability and collection efforts. See Box 6 for more information on the role of the G20 in improving the collection and dissemination of data.

Other market catalysts

International remittances can also serve to drive the adoption of mobile financial services. In 2010, formal (non-mobile) remittance flows to developing countries were estimated at US$325 billion. In some countries these flows surpass overseas development aid and constitute a sizable portion of the economy.[33] Domestic remittances have been a driving force for the uptake of mobile financial services systems in various countries.[34] International remittances could potentially be an even bigger force.

This *Report* also assesses whether international remittances are primarily cash based or non-cash based. Non-cash based channels are assumed to allow for easier transition to mobile-based remittances. The transaction price of remittances for a country's most relevant corridors is also included.

Fifth pillar: End-user empowerment and access

For consumers to realize the full value of mobile financial services, they must have a basic understanding of financial issues and no cultural or structural impediments to financial access. Issues related to end user empowerment and access are captured across three subpillars: financial literacy, financial empowerment, and mobile penetration.

Financial literacy

There is little consistency in the literature on the relevance and exact definition of financial literacy and on the effectiveness of efforts to increase it.[35] Some research points to the concept of "proximate literacy" in which consumers receive help and education from more literate consumers.[36] For the purposes of this *Report*, financial literacy encompasses a broad awareness of financial issues, an understanding of how financial services can be used for real-life needs, and a technical understanding of how to use mobile financial services.

Research shows that introducing new mobile financial products can be complicated for both the banked and the unbanked. Consumers may initially limit their transactions to airtime purchase, bill payments, and money transfers, as other products are unfamiliar and often not understood.[37]

Box 6: The evidence gap

The G-20 has identified financial inclusion for households and enterprises as a key driver of economic growth, reduced economic vulnerability, poverty alleviation, and improved quality of life. With this commitment, the G-20 is uniquely positioned "to initiate and promote a more integrated global effort" in financial inclusion.

The G-20 recognizes data and measurement as essential foundations for improving financial inclusion. Good quality data are the backbone of good policymaking. As the importance of financial inclusion policies has taken hold, so has interest in better data at both the global and national level. A handful of countries have developed high-quality statistics at the national level. However, more progress can and must be made. Increasing the availability and quality of data, harmonizing definitions and approaches for data collection, expanding the scope of collection to include all dimensions of inclusion, resolving aggregation challenges, and ensuring better comparability of data should be priorities.

While setting global numeric targets has been identified as a key action item for the future work of the G-20 in financial inclusion, the G-20 agreed that under the current circumstances this is difficult given a lack of harmonization and comparability in existing data sources. Consistency in methodologies and definitions is required to calculate a sound and credible numeric target. At its meeting last year in Seoul, the G-20 agreed that its immediate next step is to focus on consolidating and harmonizing data collection activities, developing a common understanding on measurement frameworks and methodologies, determining the key top-line indicators to track at the country and global level, supporting the development of new indicators, and supporting countries' national data collection and target-setting activities.

To bridge the data gaps, the G-20 has created a Financial Inclusion Data and Measurement Sub-Group within its Global Partnership for Financial Inclusion structure. The overall goal of the Sub-Group is to lay the necessary foundations to establish and later monitor progress toward a realistic global target for financial inclusion, which will require more data coverage with even better quality (particularly country-led measurement), greater consistency in definitions and methodologies, and improved coordination of all relevant stakeholders.

There is a distinct lack of financial literacy data that is comparable across countries. Only a very general proxy, based on general literacy, the quality of science and mathematics education, and the regulatory requirement that providers of financial services provide all documentation in local languages is included here. This is an imperfect measure of financial literacy and should be interpreted prudently.

Technology can pose a barrier to adoption but also play an important role in overcoming literacy challenges (or augmenting them if not appropriately applied).

Box 7: Saving on the Mobile: Developing Innovative Financial Services to Suit Poor Users*

* Please see Chapter 1.6 by Olga Morawcynzski and Sean Krepp for a full discussion of this topic.

Although most of the mobile financial services deployments that are around today focus on payments services, many consumers use these services for addressing their savings needs. Research has pointed out that poor consumers integrate mobile financial services into their financial portfolios as a complement to, rather than a substitute for other mechanisms.

There are several ways in which individuals use mobile financial services to save. They save incremental amounts before making a larger payment or transfer. They withdraw money in small increments until a larger received transfer or incoming payment is depleted. Traders and micro-entrepreneurs make frequent small deposits and withdrawals, thus maintaining a balance as a form of saving. And lastly, individuals develop a schedule for regular deposits to save for a specific goal, such as such as land, cattle or school fees.

These scenarios provide important insights into the attributes that individuals value in mobile financial services and have clear implications for product design beyond payments. The design of current products generally does not perfectly align with the way individuals are used to saving.

Going forward, it will be important to not only focus on what users exactly want and need from mobile money services but also study their customs, financial activities and the underlying goals that drive their behavior. When the providers of mobile financial services manage to design products that better enable individuals to reach their financial goals, there is a unique opportunity to move billions of dollars from inefficient assets and hiding places into the formal economy.

Ideally, this subpillar would include an indicator that captures the compatibility of the available mobile phone interfaces in a country with its level of technological understanding. However, data are limited to studies of only a few pilot deployments.[38]

Trust is important to facilitate adoption of mobile financial services. This includes trust in the institutions involved, the technologies used, and intermediaries.[39] Financial literacy and the behavior of agents also play an important role in building trust.[40] Agents that facilitate mobile transactions are positioned to support customer activation. They can answer customers' questions and concerns about the service, customize a "sales pitch" for an individual customer, and demonstrate to customers the mechanics of transacting.[41] Agents can therefore play an important role in educating individuals. Greater financial literacy may also reduce the risk of abuse of consumers.[42] However, it is challenging to capture the broader concept of trust using available data.

Financial empowerment

Beyond literacy, there are other factors that help empower consumers to adopt mobile financial services. One of the main impediments to the provision of credit is a lack of information to judge creditworthiness, for instance. The depth of credit information available in a country is therefore included here (one of the potential transformational aspects of using a mobile phone for financial services is the ability to use historical transaction data for assessing creditworthiness).

Women play an important role in the financial lives of households around the world but especially in developing markets. Improved gender equality and female empowerment are often discussed as potential benefits of mobile financial services.[43] However, there are still 300 million fewer females than males subscribing to mobile phone services.[44] Women's access to financial services also still lags that of men. Providing greater financial access can strengthen women's role as producers and widen the economic opportunities available to them.[45] Accordingly, an estimate of women's access to bank accounts has been included as a variable. Corruption can be viewed as having a corrosive effect on the financial empowerment of end users. A measure of the public's perception of corruption is also included.

Mobile penetration

The double-digit growth of demand for mobile phones in developing countries has led to penetration of almost 100 percent in some countries and of over 50 percent on average for the developing world. Given shared usage of mobile phones, the number of people with access to mobile phones is even larger.[46] Ideally adoption of mobile phones would be expressed as the number of active users of mobile phone services. However, an estimate of active connections, split between prepaid and post-paid is only available for this analysis. To arrive at an estimate of active users, one would have to account for the effects of multiple SIM ownership, unused active connections, and shared usage.

An estimate of growth in mobile phone penetration is included too. This is based on the annualized net growth in the second quarter of 2010.

Sixth pillar: Distribution and agent network

The development of mobile financial services is as much enabled by efficient usage of vast distribution networks as it is by increased mobile phone adoption. This pillar addresses aspects of retail distribution and agent networks in more detail.

Supporting infrastructure

Financial services offered through mobile phones leverage both the technology and a low-cost, widespread distribution network. This non-traditional financial services infrastructure can consist of retail outlets, airtime

sellers, point of sale (POS) machines, and any other outlet that allows for a conversion of monetary value into electronic money.

Traditional bank branches often still play a fundamental role in providing liquidity to mobile financial services networks and helping agents manage their float and cash levels. End users cans use automated teller machines (ATMs) and POS terminals to deposit and withdraw cash. This subpillar addresses those supporting elements by assessing the penetration of traditional bank branches and the number of ATMs and POS terminals per capita.

Agent network development

An estimate of agent density expressed as the number of agents per 100,000 adults is included in this subpillar. This estimate is based on a survey of operators of mobile financial services systems and may be conservative for some countries. When interpreting this estimate, it is important to realize that the deployments covered include only mobile-enabled financial services. Agents for "non-mobile" branchless banking systems are not included (See also Box 8).

The ease of customer enrollment is also included as a measure of sophistication of the agent networks. Various other attributes of agent networks would also have been included, such as information on how agents are incentivized and how they are supported to perform their role in areas such as risk and liquidity management.[47] The prevalence of so-called aggregator agents that manage liquidity for large groups of retail agents would also be a useful measure. Adequate cross-country data were not available in these areas.

As there is evidence of market discipline between stores based on the quality of the service they offer.[48] Other useful metrics would have been the number of transactions per-agent-per-day, the number of active customers and the average float per customer.

Seventh pillar: Adoption and availability

The degree to which the underserved population has access to and actually uses mobile financial services within a country can be considered the most important outcome of the development of the mobile financial services ecosystem. Both of these aspects are captured within this pillar.

Adoption

Data regarding subscriptions and usage are not available on a consistent basis. Ideally, this pillar would include data on adoption and usage levels per product or service, as well as details on frequency and average size of transactions. To include an output variable that estimates adoption, estimates of the active number of mobile financial services users were made, based on an analysis of deployments done in collaboration with the GSMA. These high level estimates represent the number of opened mobile financial services accounts or "wallets" and do not express usage. A wallet is defined as a store of digital value that is uniquely tied to and accessible by an individual customer. The number of wallets is expressed as a range of the percentage of the total population.

Some mobile payments services (such as bill payment) do not require accounts and thus are not included. However, these are considered mobile financial services, and thus the adoption levels included here should be interpreted with this caveat in mind. Another element that might distort the reported adoption levels is the opening of accounts by operators at the time of SIM registration. As described previously, some mobile operators use the SIM registration process as an opportunity to automatically enroll an individual into a mobile financial service account.[49] These accounts are included in the total, but do not reflect actual usage.

Future data collection efforts by public and private stakeholders should focus on establishing a more robust fact base on the adoption of mobile financial services at both the service/product level and the transaction level. The GSMA offers useful guidance on how this could be achieved.[50]

Mobile payments diversity

The first generation of mobile financial services has focused primarily on providing payment functionality, but

Box 8: Types of agents included in this Report

There is a high degree of variation in the types of agents that can be found in within mobile financial services retail distribution networks These can span independently-owned airtime sellers working in very simple structures alongside streets to modern retail chains. Regardless of the form they take, they provide a key interface between consumers and financial services providers.

In this analysis, only agents actively selling mobile financial services are included. Existing agent networks that sell only other, non-mobile banking services or airtime are excluded. This can result in unexpected measurements for some countries. Most notably, Brazil is famous for its high penetration of banking correspondents but has a low penetration of mobile financial services agents. A recent report by CGAP[1] cited the existence of more than 163,000 correspondents, but the great majority of them are exclusive to banks and do not have the functional capabilities for the delivery of mobile-based financial services

Notes

1 See "Technology Program—Country Note Brazil" 2010.

it is widely held that substantial socio-economic benefits can be achieved through the delivery of a wider and more balanced portfolio of services.[51] This pillar, therefore, assesses the breadth of services offered including payment, savings, credit, and insurance.

The ability to buy airtime from a mobile account, make national and international transfers, pay bills (for example, to utility companies), pay merchants, and repay MFI loans are also included. Availability is assessed at the country level and does not imply that a given service is available to all people. A variable that indicates how many deployments are active in a country is also included.

The majority of mobile financial services deployments include an entity from both the telecommunications and banking sectors. Service interoperability across various institutional domains is an important aspect for both. Mobile operators have a tradition of interconnecting their voice and data services, as their customers are best served if they can send and receive messages to/from anyone, even if they are on different networks.[52] Banks, too, have historically interconnected their different payment networks. Interoperability can also include commercial aspects, such as having retail distribution outlets affiliated with multiple service providers.[53]

Providers of mobile financial services will need to balance the short-term incentives for a lack of cooperation with the long-term value creation of interoperability. A variable which assesses the technical interoperability of mobile financial services systems in different countries has been incorporated into the analysis.

Mobile financial services diversity

As most mobile financial services are structured around e-money licenses, limited opportunities exist for offering interest bearing and deposit insured savings accounts. However, solutions involving the coupling of mobile financial services systems with traditional savings products of regulated financial institutions have been developed. A variable that assesses the existence of these coupled accounts is included in this subpillar. The coupled accounts are not necessarily interest bearing and deposits are not necessarily insured.

The mobile provision of credit can potentially address a wide consumer need but is constrained by an inability to cost-effectively assess credit risk and establish collateral for loans. However, as mobile financial services may facilitate a better assessment of individuals' financial and transaction history, future opportunities for credit provision on a large scale might materialize. The availability of obtaining a simple and small form of credit—known as emergency credit—is included in this subpillar.

Mobile financial services have the potential to serve as an effective channel for the increased distribution of focused insurance products, such as crop or personal accident insurance. Many small-scale initiatives are being rolled out and tested. The availability of any form of insurance trough mobile financial services is included here.

The availability of savings tools is especially important for the unbanked, as noted by Salah Goss, Ignacio Mas, Dan Radcliffe and Evelyn Stark in Chapter 1.6. Mobile financial services can effectively address consumer requirements of affordability, safety, and easy access to promote savings by poor households. Evidence shows that people already use mobile financial services accounts to store value safely. However, deposit insurance and interest are generally not yet available for these accounts, often because of the chosen regulatory approach (see Ehrbeck and Tarazi in Chapter 1.4).

Notes

1 Financial Access Initiative 2009.

2 See, for example, Collins at al. 2009, Dercon 2007 and Conning and Udy 2005.

3 See Mas 2009 for a structural explanation of different branchless banking models.

4 For a structural overview of different business models, see United States Agency for International Development 2010.

5 Ivatury et al. 2006.

6 Porteous 2009.

7 CGAP. 2010. Financial Access: The State of Financial Inclusion Through the Crisis.

8 Mas and Rosenberg 2009.

9 Morawczynski, and Miscione 2008.

10 For example, Montez and Goldstein 2010, on Tanzania.

11 Deloitte and GSM Association 2006. Global Mobile Tax Review 2006–2007.

12 Lyman et al. 2008.

13 Ehrbeck and Tarazi 2010.

14 Ehrbeck and Tarazi 2011.

15 Isern and de Koker 2009.

16 CGAP 2010. Updated Notes On Regulating Branchless Banking in Colombia.

17 CGAP 2010. Financial Access: The State of Financial Inclusion Through the Crisis.

18 Brix and McKee 2010.

19 CGAP 2010. Consumer Protection Diagnostic Report India.

20 CGAP 2010. Financial Access: The State of Financial Inclusion Through the Crisis.

21 Rutledge 2010.

22 Mas and Radcliffe 2010. Mobile Payments go Viral: M-PESA in Kenya.

23 Alden 2005.

24 Mas and Radcliffe 2010. Scaling Mobile Money.

25 Davidson and McCarty 2011.

26 Barrientos and Scott 2008.

27 Pickens, Porteous and Rotman 2009.

28 Celent / Oliver Wyman 2010.

29 Pickens et al. 2009

30 CGAP 2010. Updated Notes On Regulating Branchless Banking in India.

31 Alliance for Financial Inclusion 2010. Financial inclusion measurement for regulators—Survey design and implementaion.

32 See a blog post on the GSMA's Mobile Money for the Unbanked blog by Leishman 2010.

33 Bold 2010.

34 See Camner, Pulver and Sjoblom 2009 and Jansen 2010.

35 Cohen 2010.

36 See Chipchase 2009.

37 Cohen et al. 2008.

38 MobileActive.org for many pilots cases: http://www.mobileactive.org/mobile-interactive-voice

39 Mass and Radcliffe 2010 on how building critical mass quickly is important to build trust.

40 Chipchase 2009.

41 Davidson and McCarty 2011.

42 Porteous 2010.

43 Jack and Suri 2010.

44 the GSM Association in cooperation with the Cherie Blair Foundation for Women 2010

45 Fletschner and Kenney, 2011.

46 Chipchase 2009.

47 Mas and Sledek 2008.

48 Eijkman et al. 2010.

49 For example, Montez and Goldstein 2010, on Tanzania.

50 Blog post on the GSMA's Mobile Money for the Unbanked blog by Leishman 2010.

51 Morawczynski and Pickens 2009, McKay and Pickens 2010, Pulver 2009 and The Bill and Melinda Gates Foundation 2010.

52 Blog post on CGAP's Technology blog by Mas 2011.

53 Blog post on the GSMA's Mobile Money for the Unbanked blog by Mas and Almazan 2011.

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Appendix A: Structure of the Country Profiles

This appendix presents the structure of the Country Profiles. The Country Profiles assess the development of the mobile financial services ecosystem by measuring the key drivers of its adoption and scale across the institutional, market and end-user environments. The profiles also include a pillar that assesses a country's level of adoption of mobile financial services and their availability. To allow for more country specific background information, some static country descriptors are included in the profiles.

The numbering of the variables corresponds to the numbering of the data tables. The number preceding the decimal point indicates to which pillar the variable belongs (e.g., variable 1.01 belongs to the 1st pillar).

More information on each of the individual variables and the underlying calculations can be found in the Technical Notes and Sources at the end of this *Report*.

Aggregation to subpillars and pillars

The main goal of the Country Profiles is to provide policymakers and industry stakeholders with the understanding of each country's mobile banking ecosystem necessary to facilitate its development. To that purpose, the information in the profiles is aggregated into subpillar and pillar scores, based on comparison to other countries covered. As the *Report*'s intention is not to rank countries, the pillar scores have not been aggregated into an overall MFS development score.

The subpillar scoring is based on the numeric average of normalized variable scores within a subpillar. This average score is then compared to other countries' scores and assigned a subpillar classification. A similar approach is applied to aggregating subpillar scores into pillar scores, using the average numeric subpillar scores.

Given the evolving nature of mobile financial services and the lack of comprehensive qualitative and quantitative cross-country data, there is a limit to the level of accuracy that can be achieved in assessing a country's performance on the subpillar and pillar levels. To accommodate this limitation, three discrete "score" classifications have been created: "advantage", "neutral" and "disadvantage". When a country ranks within the top quintile for a particular variable, its stage of development is considered an "advantage" to scale mobile financial services successfully and sustainably. Likewise, a score in the bottom quintile results in a "disadvantage" assessment. A score in the second, third or fourth quintile is classified as "neutral".

The numeric subpillar scores, and not the qualitative score groupings, are used to calculate the pillar score. Therefore, two pillars composed of the same subpillar score groupings (for example, two "neutral" subpillars and one "advantage" subpillar) can potentially have different pillar scores (for example, "neutral" for one pillar and "advantage" for the other), based on differences in the underlying numeric values of the subpillars.

Weighting and scaling of variables

The structure of the profiles is such that it can serve as a framework for analysis. Consequently, a very conservative approach has been taken to weighting different variables. The weighting of each variable and subpillar is shown starting on the next page.

A dynamic weighting regime removes individual variables from the subpillar calculations when no data are present. In instances of data unavailability for a particular variable, the weight normally allocated to that variable will be spread among variables for which data are present. Therefore, the actual weight for each variable by country may not be exactly as noted. When less than 50 percent of country data is available for variables within one subpillar, that country is not assigned a score for the subpillar.

As noted, subpillar and pillar scores are calculated using a numeric average of all variables within scope. These scores are translated into an index. For qualitative data points, this translation is done by converting the data to numeric values: "no" is converted to 0, while "yes" is converted to 1. In some instances, a third possible answer is converted to 0.5. For example, for variable 1.09 (the existence of an identification requirement for pre-paid services), the answer "considered" is converted to 0.5.

Source data are normalized to a 0-1 range based on the distribution of values for each variable. The exception to this rule is when the variable represents an index (ranging between 0 and 1); in this case, no normalization is applied. Normalization is done using the following formula:

$$\text{normalized score} = \frac{(\text{country score} - \text{sample minimum})}{(\text{sample maximum} - \text{sample minimum})}$$

Outliers within a data range are excluded from this calculation. A value is considered an outlier when it falls outside of the 5th to 95th percentile range of the total sample.

The percentage denoted next to each category in the list below represents the category's weight within its immediate parent category.

Appendix A: Structure of the Country Profiles

1st pillar: Regulatory proportionality 14.29%

A. Financial sector regulation 16.67%
- 1.01 Domestic financial sector liberalization (2-1 scale)
- 1.02 Proportional licensing scheme
- 1.03 E-money licensing
- 1.04 Regulatory quality for banking and investment (0-1 scale)

B. Telecom sector regulation 16.67%
- 1.05 Telecommunication regulatory authority
- 1.06 Existence of universal service policy
- 1.07 Coverage rate requirement
- 1.08 Quality of service regulation index (0-1 scale)
- 1.09 Identification requirement for pre-paid services
- 1.10 Existence of MVNO's
- 1.11 Taxation of mobile communication services (%)

C. MFS regulation 50.00%
- 1.12 Banking agent regulation
- 1.13 MNO role as banking agent
- 1.14 Non-bank agent deployment
- 1.15 Permitted agent activities (0-1 scale)
- 1.16 Non-bank MFS licensing
- 1.17 Value in mobile wallet considered deposit
- 1.18 Existence of AML/CFT regulation
- 1.19 Compliance with AML/CFT standards
- 1.20 Proportional transaction limits
- 1.21 Proportional KYC requirements
- 1.22 International mobile money transfer regulation

D. Policy and coordination 16.67%
- 1.23 Publicly-defined financial inclusion strategy
- 1.24 Designation of financial access authority
- 1.25 Basic account provision
- 1.26 Telecom and FS regulatory alignment
- 1.27 Institution-agnostic tax regime

2nd pillar: Consumer protection 14.29%

A. Regulation 75.00%
- 2.01 Existence of MFS consumer protection policy
- 2.02 Breadth of MFS consumer protection (0-1 scale)
- 2.03 Transparency and consumer protection index (0-1 scale)
- 2.04 Regulatory mandate for consumer protection (0-1 scale)

B. Enforcement and administration 25.00%
- 2.05 Consumer protection enforcement
- 2.06 Consumer complaint statistics reported
- 2.07 Consumer protection administration (0-1 scale)

3rd pillar: Market competitiveness 14.29%

A. Financial sector competitiveness..... 25.00%
- 3.01 Financial services market competition (%)
- 3.02 Aggregate profitability indicator (%)
- 3.03 Availability of financial services perception (1-7 scale)
- 3.04 Affordability of financial services perception (1-7 scale)
- 3.05 Breadth of retail payment channels (0-1 scale)
- 3.06 Payment network quality and interoperability (0-1 scale)
- 3.07 Ease of opening traditional account (0-1 scale)

B. Telecom sector competitiveness 50.00%
- 3.08 Mobile network operator market competition
- 3.09 Effective price for mobile phone services (US$ PPP cent/min)
- 3.10 Churn of mobile subscriptions (%)
- 3.11 Average revenue per user (US$ PPP)

C. Innovation..... 25.00%
- 3.12 Capacity for innovation (1-7 scale)
- 3.13 Investment in telecom (%)

4rd pillar: Market catalysts..... 14.29%

A. Government leadership 40.00%
- 4.01 Government disbursement scheme
- 4.02 Government disbursement reach (%)
- 4.03 Mobile G2P payments
- 4.04 Mobile tax payments

B. Data collection and monitoring..... 20.00%
- 4.05 Availability of decision-making data: regulatory
- 4.06 Availability of decision-making data: market
- 4.07 Availability of decision-making data: end-user
- 4.08 Availability of decision-making data: adoption

C. Other market catalysts..... 40.00%
- 4.09 Inbound international remittances to GDP (%)
- 4.10 Main method of international remittances
- 4.11 Cost of receiving international remittances (%)

5th pillar: End-user empowerment and access..... 14.29%

A. Financial literacy..... 25.00%
- 5.01 Financial literacy indicator (0-1 scale)

B. Financial empowerment 25.00%
- 5.02 Depth of credit information (0-6 scale)
- 5.03 Women's access to bank loans (0-1 scale)
- 5.04 Corruption Perceptions Index (0-10 scale)

C. Mobile penetration..... 50.00%
- 5.05 Population covered by mobile phone services (%)
- 5.06 Mobile phone services penetration (%)
- 5.07 Post-paid connections (%)
- 5.08 Mobile connection growth rate (%)

6th pillar: Distribution and agent network..... 14.29%

A. Supporting infrastructure 40.00%
- 6.01 Bank branch penetration (per 100,000 adults)
- 6.02 ATM penetration (per 100,000 adults)
- 6.03 POS penetration (per 100,000 adults)

B. Agent network development..... 60.00%
- 6.04 Agent density (per 100,000 adults)
- 6.05 Ease of enrollment for MFS agents (0-1 scale)

Appendix A: Structure of the Country Profiles

7th pillar: Adoption and availability 14.29%

A. Adoption 50.00%

7.01 Adoption of MFS services

B. Mobile payments diversity 25.00%

7.02 Number of active MFS deployments
7.03 Ability to buy airtime from account
7.04 Availability of domestic money transfer
7.05 Availability of international money transfer
7.06 Availability of bill payment
7.07 Availability of merchant payment
7.08 Availability of MFI loan repayment
7.09 Interoperability of MFS payment systems

C. Mobile financial services diversity 25.00%

7.10 Availability of coupled accounts
7.11 Availability of (emergency) credit
7.12 Availability of insurance

Appendix B: Data—missing elements and suggestions for future inclusion

There is a clear need to improve the quality and availability of financial access data, both by improving and extending cross-country indicators as well as employing country-specific diagnostics. To be useful, indicators must be collected on a continuous basis so that policymakers can set priorities, track progress and learn from one another (see Kendall et al. 2009 for more discussion on this topic). The G-20 has acknowledged that this lack of data might be a roadblock for future development and has established a "data and measurement" subgroup under its Global Partnership for Financial Inclusion (GPFI), which is tasked with filling the existing "evidence gap."

Various private-sector initiatives are being started to create a shared taxonomy and capture and distribute data, but only a minority of banks and mobile network operators report data on such basics as the aggregate number of registered customers, retail agents, and transaction values. A useful overview of data and insights to date is given by Dermish et al. 2011, in their survey of existing materials.

The variables in this *Report* are based on three categories of data. First, relevant elements of existing public sources have been collected and combined. Second, proprietary data from partnering institutions have been included. Third, surveys and interviews were conducted to capture some of the missing elements.

Cooperation is desirable across markets and stakeholders to increase data richness over time and for aggregation in the future. In particular, more data for the following topics are needed:

- **First pillar (regulatory proportionality):** allowed agent entities, flexibility of regulation of non-licensed financial institutions, regulatory openness to innovation, and quality of public-private relationships.

- **Third pillar (market competitiveness):** insights into the operations of mobile financial services, including aggregated market information on total investments, gross margins, marketing expenditures, and customer acquisition costs.

- **Fifth pillar (end-user empowerment and access):** levels of financial literacy and consumer trust in financial services providers and mobile operators, access characteristics of the informal financial sector, and technological development of users and existing mobile services.

- **Sixth pillar (distribution and agent network development):** aggregate market views of the number of agents, functional capabilities of different types of agents, existence and importance of aggregator agents.

- **Seventh pillar (adoption and availability):** aggregate counts of active users per service type, average transaction size and frequency, and average balances.

CHAPTER 1.2

Findings from the Mobile Financial Services Development Report

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WILLIAM HOFFMAN, World Economic Forum USA
SJOERD NIKKELEN, World Economic Forum USA
(seconded from The Boston Consulting Group)

Continued innovation and collaboration are needed to realize all of the potential of mobile financial services to increase financial inclusion for the world's poorest. Countries must build on initial successes and more precisely target weaknesses to achieve scale and expand the portfolio of financial services offered through mobile phones. The Country Profiles in Part 2 of this *Report* are offered as a tool for stakeholders to accomplish these goals. Readers of this *Report* are encouraged to analyze the detailed data in these profiles as they draw conclusions and consider priorities for reform.

The data in the Country Profiles enable comparisons of various aspects of mobile financial services ecosystems both within and across countries. Trade-offs have been made as diverse data sets have been aggregated into standardized metrics (this methodology is described in Appendix A of the previous chapter). In some instances, country-specific variations in data sets may not be captured. In other instances, aspects of the mobile financial services ecosystem such as the regulatory environment may display significant differences between *de jure* and *de facto* policies. Such differences can be difficult to capture using available metrics.

Despite these limitations, the data assembled in this *Report* offer some important high-level findings about the development of mobile financial services. Some of these findings are outlined below.

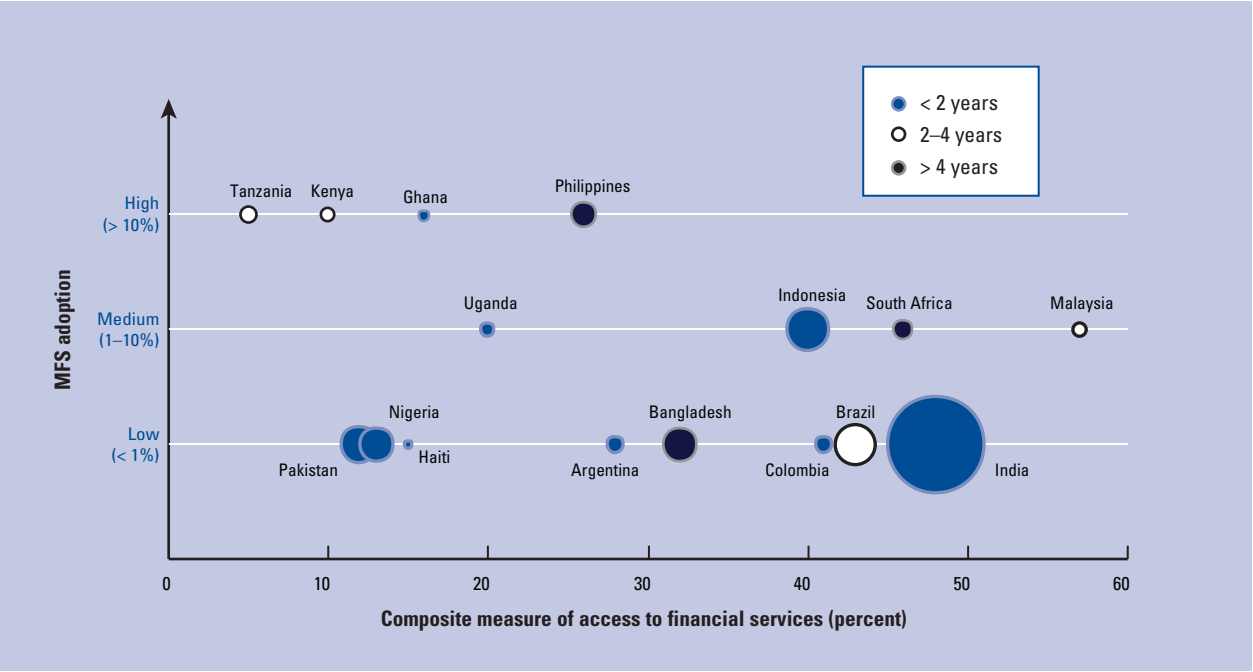
Access to formal financial services is constrained in the few countries with high adoption of mobile financial services

Deployments of mobile financial services are rapidly expanding throughout the developing world and financial services offered through mobile phones have become a part of everyday life for many individuals. However, the overall adoption of these services on a global basis is still limited, and few of these services have achieved profitability.[1] Figure 1 identifies only four countries with high adoption (> 10% of the adult population). Most countries have low adoption values, indicated by their position at the bottom of Figure 1. Although various sources indicate that growth levels for mobile financial services are high,[2] enthusiasm about this growth should perhaps be tempered.

Time represents one element to consider when assessing the overall adoption of mobile financial services. As indicated by the coloring in Figure 2, countries that have reached higher adoption levels have, on average, been active in mobile financial services for more than four years. The impact of time on the overall adoption levels of deployed mobile financial services is a baseline factor to consider when making cross-country comparisons. Service offerings in some of the larger countries such as India and Pakistan are just now being introduced.

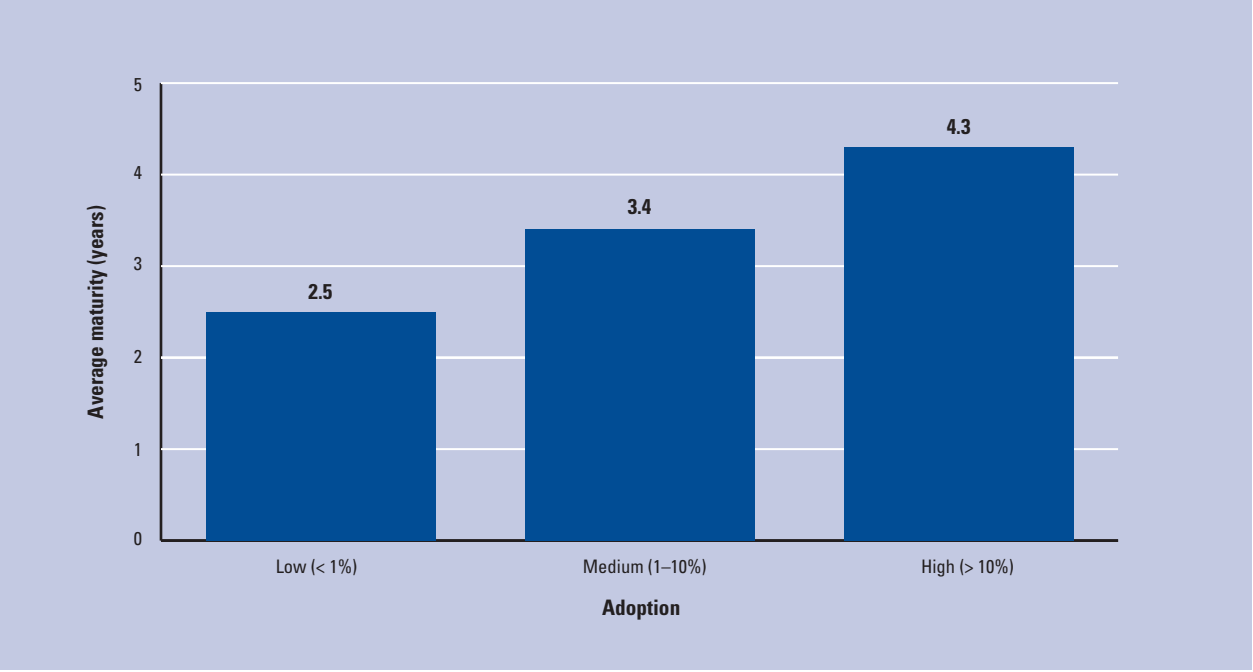
Figure 2 shows how countries score with respect to adoption of mobile financial services and a composite

Figure 1: Adoption of mobile financial services versus composite measure of access to financial services



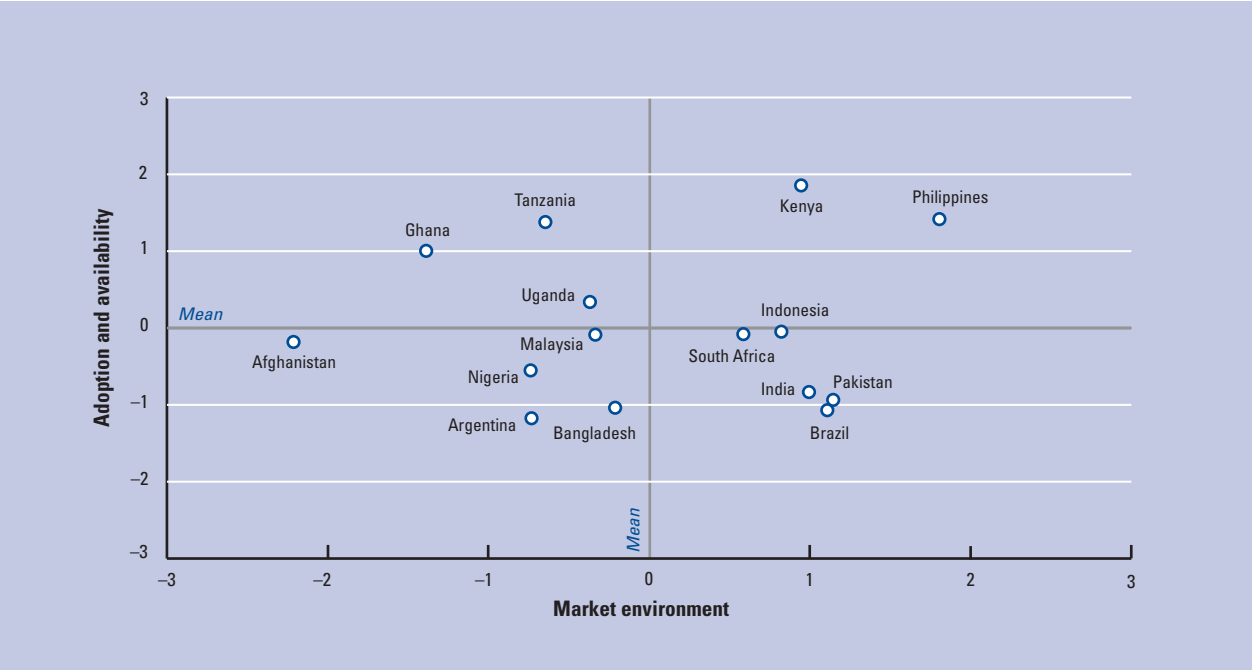
Source: Access to Financial Services data from Honohan (2007): "*Cross Country Variation in Household Access to Financial Services*". Adoption of Mobile Financial Services based on analysis of mobile network operator deployments by the World Economic Forum. Population size data from the World Bank *Indicators Database*, 2011.
Note: Diameter of bubbles indicates population size.

Figure 2: Average maturity versus level of adoption



World Economic Forum analysis, based on data from the GSM Association (GSMA) *Wireless Intelligence; Mobile Money for the Unbanked.*
Note: The average maturity for a country is calculated as the average number of years passed since the launch of first mobile financial services deployment in a country, expressed in full years. The numbers shown in this figure represent the unweighted averages of deployment maturity for all countries with the adoption level indicated.

Figure 3: Adoption and availability versus market environment



Source: Adoption of Mobile Financial Services based on stock-taking amongst mobile network operators by The World Economic Forum.
Note: Country scores are based on the difference in the unweighted average country results in each of the pillars included in a specific environment and the total sample mean for that environment. The difference is expressed as the number of standard deviations of a country score from the mean. "Adoption and availability" refers to the "Adoption and availability" pillar (pillar 7), which includes measures of adoption of MFS services, the diversity of mobile payments services and the diversity of other mobile financial services. "Market environment" refers to the combination of the "Market competitiveness" and "Market catalysts" pillars (pillars 3 and 4).

measure of access to traditional financial services. The larger countries (represented by larger bubble sizes) display low or medium adoption levels (i.e. <10%).

Adoption levels are based on the number of opened mobile financial services accounts in each country (see the Technical Notes section for more detail). This calculation has some limitations, as it does not fully reflect activity and usage, nor does it capture the breadth of services offered and used. The availability of savings, credit and insurance services offered through mobile phones is still quite limited relative to that of payments. Many believe that services such as savings, credit and insurance will be the basis for large gains in socio-economic impact.[3]

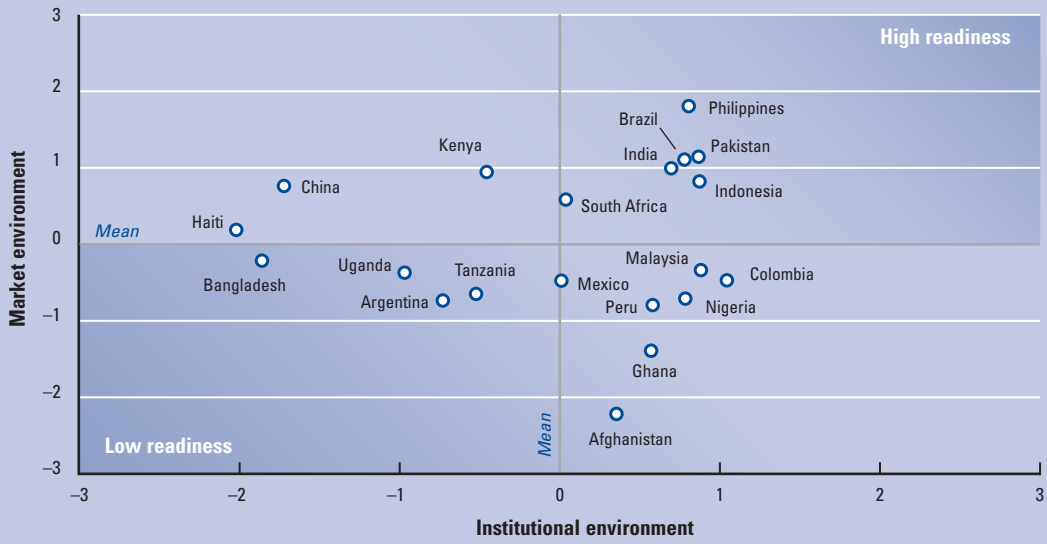
Initial adoption appears to be driven by constrained access to formal financial services, as opposed to well-developed institutions and competitive markets

As seen in Figure 1, mobile financial services seem to achieve scale faster in countries where individuals have few alternatives to fulfill their financial services needs: the countries that have achieved high adoption have lower levels of access to financial services (x-axis). Although a deeper understanding of informal financial services and consumer behavior is required to draw more precise conclusions on consumer needs, it would appear that a lack of convenient and safe alternatives is an important driver of mobile financial services adoption.

Some countries characterized by low access to formal financial services have not yet seen significant adoption of mobile financial services, even when market participants have deployed the latter services. Possible explanations include misalignment of existing services with the specific needs of the poor, a fragmented market that offers multiple alternatives for financial services, and limited trust in the brands of mobile network operators or financial institutions. In Chapter 1.6, Morawczynski and Krepp outline some of the means through which services can better address the needs and customs of individuals.

Competitiveness of the financial services and telecommunication markets does not necessarily assure high adoption rates. As can be seen in Figure 3, countries with high adoption levels (such as Kenya, Tanzania, and Ghana) are not characterized by highly competitive markets. The aggregate market environment scores of these countries (which combines scores in the third and fourth pillars) fall in the middle of the sample. The degree of competitiveness expressed here is an aggregate measure; it takes into account innovation and competition in the traditional financial services and telecommunication markets, while not addressing competition in the mobile financial services market specifically.

Figure 4: Countries' relative strength of the institutional and market environment



Source: World Economic Forum.

Note: Country scores are based on the difference of the unweighted average country result on each of pillars included in a specific environment and the total sample mean for that environment. The difference is expressed as the number of standard deviations of a country score from the mean. "Institutional Environment" refers to the combination of the "Regulatory proportionality" and "Consumer protection" pillars (pillars 1 and 2). "Market environment" refers to the combination of the "Market competitiveness" and "Market catalysts" pillars (pillars 3 and 4).

Given the above, policy makers may with to look beyond the promotion of competition to other measures that will prompt market participants to design and offer products that meet the unique and often complex needs of the financially excluded. Market competition, however, may become increasingly important as mobile financial services ecosystems mature.

Countries with significant adoption today may not be the best prepared for future leadership

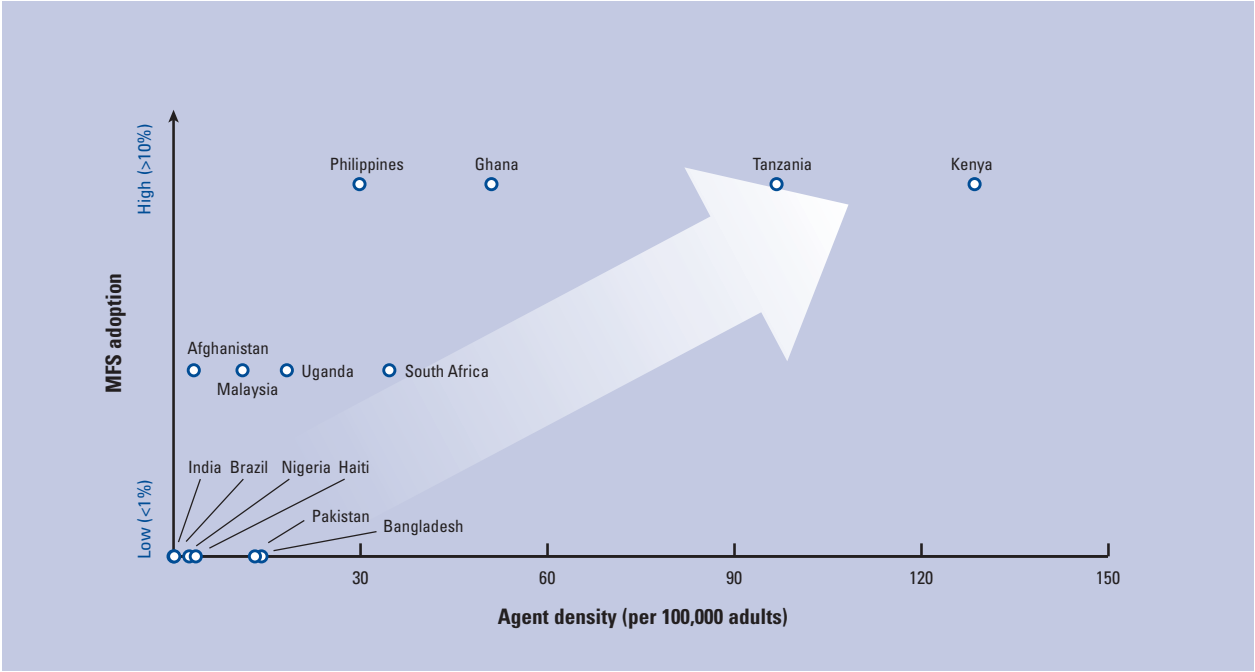
Figure 4 presents country performance in the areas of market environment (third and fourth pillars) and institutional environment (first and second pillars). A strong performance with respect to the institutional environment indicates that proportional regulation and sound consumer protection are in place. Market environment performance reflects market competitiveness as well as the presence of measures like robust data collection that reduce market frictions. Solid country performance in both of these environments indicates a high level of future "readiness" for mobile financial services; this may be the case even if widespread adoption of these services has not yet been achieved.

The Philippines scores relatively well in this measure of "readiness" and can be found in the top right quadrant of Figure 4. This score may be partly due to the fairly mature nature of the country's mobile financial services deployments. Brazil also scores well here, possibly in part because of its extensive retail agent network, which may have had virtuous effects in areas such as consumer protection and credit information, even though it is still limited to "wired" point-of-sale (POS) devices. Other countries, including those that have reached relatively high levels of adoption, are not as well-positioned. Well-developed institutional and market environments will likely be needed in all countries, regardless of initial adoption success, to enable the provision of a broader portfolio of services, including savings and credit products.

The development of savings as well as simple credit and insurance services will require cooperation and coordination between market participants and regulators. This may include the elimination of obstacles to the provision of services that better meet the needs of the poor and the removal of restrictions on the provision of mobile financial services by private sector players.

In addition to enhanced coordination between public and private stakeholders, the interoperability of mobile financial services deployments represents another area for improved cooperation. Data on interoperability (variable 7.09) indicate that service interoperability has not yet been broadly embraced. While "closed" systems, in which interoperability is limited, can be attractive to commercial entities that boast a large client base,

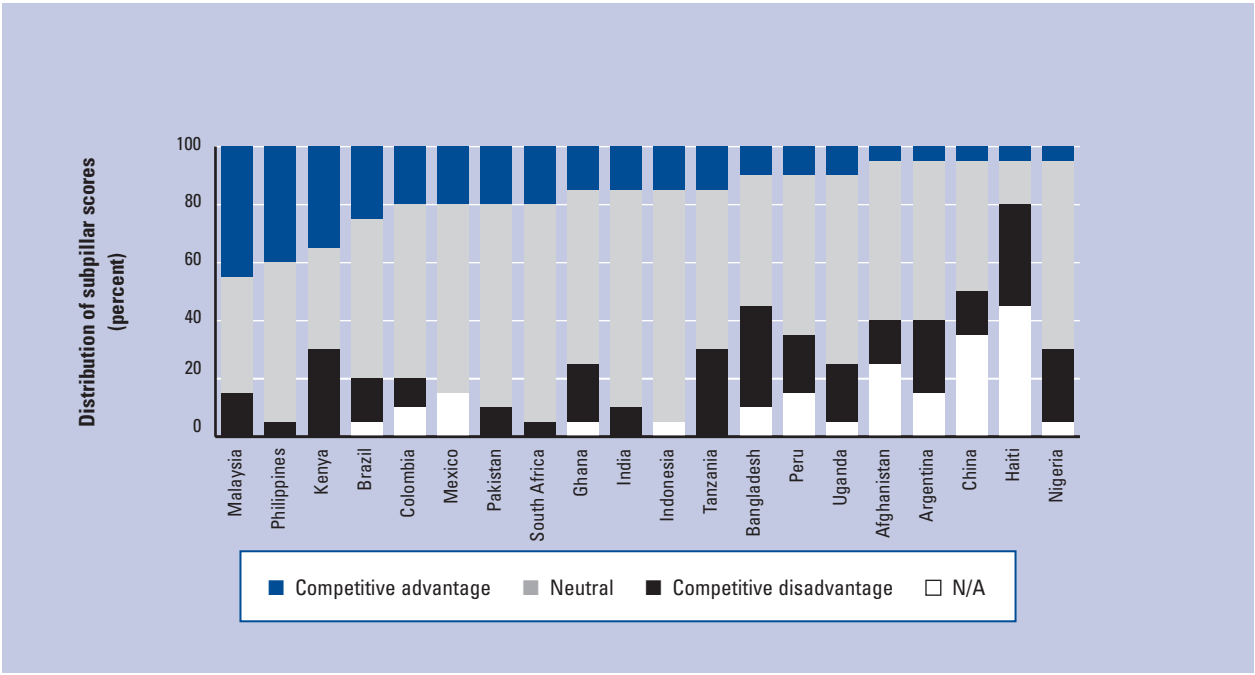
Figure 5: Adoption versus agent network development



Source: Household Access to Financial Services data from Honohan (2007): "*Cross country variation in household access to Financial Services*". Adoption of Mobile Financial Services based on assessment of mobile network deployments by the World Economic Forum done in conjunction with the GSMA. Population size data from the World Bank, *Indicators Database*, 2011.

Note: The percentages included on the "MFS adoption" axis refer to the total number of wallets that have been opened for any mobile financial services system in a country and are expressed as a percentage of the adult population. Agent density is calculated as the number of mobile financial services agents per 100,000 adults. Traditional banking agents that are not part of any mobile financial services deployment have not been included here. This explains the low number of agents for Brazil for example. For more information, see Box 8.

Figure 6: Distribution of subpillar scores per country



Source: World Economic Forum.

Notes: Scores refer to country results on each of the 20 subpillars included in the Country Profiles. Countries are sorted by the number of "advantage" scores. No ranking is implied.

individuals will trust and benefit more in the long-term from service providers that allow transactions to flow across providers at any time.[4]

A well-developed agent network is a threshold requirement for achieving scale

Although innovative technology is often viewed as the key asset underlying mobile financial services, retail distribution is in fact a vital factor for success. The widespread availability of retail agents serves to reduce difficulty and end-user risk associated with accessing financial services.

As seen in Figure 5, a well-developed agent network appears to be a threshold requirement for achieving scale (see Box 8 in Chapter 1.1 for more background on the types of agents considered in this *Report*). To date, those countries with higher adoption rates, such as Kenya and Tanzania, have generally had more developed agent networks. The importance of an agent network is not surprising, as overcoming physical constraints to financial services access and fostering trust in these services are critical.

To develop agent networks, regulators and market participants can consider leveraging existing (retail) infrastructure and promoting commercial interoperability—allowing a single agent to provide services for multiple service providers. As a wider portfolio of available services emerges over time, more sophisticated business models will require greater capacity building and oversight of agent networks. Business models that provide agents with appropriate incentives, training and operational flexibility will become a priority. Additionally, the ability of agents to self-organize and collectively express their needs to operators (and others in the value chain) could increasingly become a trend.

Disciplined collection and dissemination of data is imperative

Arriving at a fact-based understanding of the key enablers and macro-economic benefits of mobile financial services—as well as the second order benefits in health, education, and agriculture—will be an invaluable resource for decision makers. Exercising leadership in sharing insights globally may yield immense social and economic returns.

As recognized by the G-20, high-quality data are the backbone of sound policymaking and market development.[5] As the importance of financial inclusion policies has been embraced, interest in collecting and sharing data more effectively at the global and national level has increased. The absence of reliable and accurate data creates an "evidence gap" that hinders informed and actionable decision-making.

The need to collect and share higher quality data has been widely recognized as a challenge for all stakeholders. Countries, donors and private sector entities all need to recognize the collective value in creating a data commons for improved decision making. Information on the enforcement of regulations, the degree to which regulations are implemented, and the effectiveness of regulation is often lacking. Among private sector players, a lack of data standardization and sensitivity to disclosing proprietary information prevent the constructive sharing of data. The complete lack of insight into active subscribers of mobile services (distinct from reported subscription numbers) is a striking example of these shortcomings.

The findings within this *Report* confirm the importance of data collection and sharing. As shown in Figure 6, those countries that possessed the highest degree of unavailable data also appeared to have the lowest number of "advantages" within their mobile financial services ecosystem.

Regional analysis

While some high-level trends were highlighted in the previous section, it is at the country level where some of the most useful insights can be discovered. A regional summary of highlights drawn from the Country Profiles in Part 2 is presented below. Readers are encouraged to reference the Country Profiles to understand better the data underlying the regional analysis that follows.

AFRICA AND THE MIDDLE EAST

Despite a challenging business environment, **Afghanistan** has seen some initial adoption of mobile financial services. While the regulatory environment in Afghanistan appears mixed, the country demonstrates some selective strengths in areas such as consumer protection. While data on the market environment appears limited, the indicators that were available seem to show high competitiveness of the telecom sector contrasting low competitiveness of the financial services sector. Performance within the market catalysts pillar appears to be a disadvantage indicating an opportunity for the government to foster adoption of mobile financial services by embracing them as a user. Low penetration of traditional financial services distribution channels as well as the fact that a significant share of its population lives in its largest city could create a need for individuals to access an efficient alternative for local remittances and a safe place to save money. This parallels the early situation in Kenya. This lack of a supporting traditional infrastructure might also pose a challenge for future development, however, as it could limit options for liquidity management within the distribution network in remote areas.

Ghana has achieved high levels of adoption (greater than 10% of the population). Some elements of its regulatory environment related to mobile financial services appear either unclear (such as its banking agent

regulation) or not yet developed (such as proportional transaction limits). It scores a disadvantage for the market competitiveness pillar, which assesses elements of competitiveness and innovation. The relatively high number of active mobile financial services deployments (4) makes interoperability an important goal. End-users may find the overall value proposition of mobile finance services diminished and not immediately apparent in fragmented markets with competing services.

With one of the world's fastest growing and most observed mobile financial services markets, **Kenya** serves as a role model to other countries in many aspects. It has realized service adoption levels that are higher than that in any other country and has created a vast distribution network. Accordingly, its performance within the adoption and availability pillar and agent network development pillar indicate key advantages. It has created an enabling regulatory environment for the provision of mobile financial services and the relatively high availability of decision-making data further catalyzes its development. Increasing its "readiness" for future development to build on its current leadership may require further improvement of its institutional and market environments. As an example, by further developing consumer protection provisions, Kenya could build on its initial success in mobile payments to accelerate adoption of other emerging services such as mobile savings accounts.

Nigeria has taken recent steps to create more enabling regulations including the award of licenses to non-bank entities for the provision of mobile financial services. A relative advantage for Nigeria thus appears to be its institutional environment. Competitiveness and innovation within its market environment appear to be areas for improvement. Additionally, aspects of Nigeria's end-user environment seem to be disadvantages particularly in areas such as mobile phone penetration, depth of credit information, and corruption. New market participants will need to design their services to accommodate the customs and low financial literacy levels of the population.

With a relatively high degree of access to traditional financial services and a sophisticated financial services industry, **South Africa** shows consistency over the pillars in the Country Profiles. This consistent performance extends across regulation and consumer protection. South Africa differentiates itself in terms of the competitiveness of its telecom sector and the robustness of its data collection and monitoring—an important enabler as mobile financial services develop. Financial empowerment of individuals (as captured in measures such as depth of credit information and women's access to bank loans) and the penetration of mobile phones are also particular strengths relative to other countries within this study. The relative maturity of mobile financial services deployments within the country has not yet led to high adoption. This may be related to the high levels of access to alternatives to mobile financial services.

A very low level of access to traditional financial services can be seen in **Tanzania** which has recently seen increased adoption of mobile financial services. Commercial interest from the private sector has helped it score among the top quintile on the adoption subpillar. While there are high levels of adoption in terms of initial account activation, sustained usage over time is a concern given exceptionally high rates of inactivity.[6] Particular disadvantages for Tanzania include undeveloped consumer protection and low levels of empowerment of end users as seen in the lack of credit information and relatively high corruption. The government could strengthen its role as a catalyst by using mobile financial services for some of its payment disbursements.

Uganda has seen some promising uptake of mobile financial services and scores "neutral" on most of the pillars of the *Report*. Regulatory proportionality is an area that may require greater focus when compared to other countries in this study. To accelerate adoption, the government could increase its role as a potential market catalyst by using mobile financial services for distribution of social benefit payments. Uganda's relatively high volumes of incoming international remittances could be another potential driver to achieve further scale.

ASIA AND THE PACIFIC

The development of mobile financial services in **Bangladesh** appears to be characterized by some challenges. The country performed in the bottom quintile on those regulatory dimensions where data are available. Its market environment is characterized by disadvantages in the competitiveness of its financial services sector and overall measures of innovation. Despite these challenges, it has seen private sector activity in the roll out of mobile financial services. Its relatively low levels of reported adoption may mask the actual usage of mobile financial services, as some of the most popular services do not require the opening of an account and are thus not included in this analysis. The government acts as an important driver for adoption by distributing payments through mobile financial services, which contributes to Bangladesh's advantageous performance in the market catalyst pillar. When a more enabling regulatory environment can be created, the high number of microfinance institutions (MFIs) might provide a way to rapidly build the distribution networks that are fundamental to achieving scale.

The results for **China** offered in this Report should be interpreted against a backdrop of significant limitations in available data. The country has a wide variety of mobile financial services positioned as extensions of existing retail banking services which are outside the

scope of this analysis. Current adoption levels of mobile financial services for the financially excluded that are within scope are unclear. China's general performance in the market competitiveness pillar appears as an advantage although its specific performance in financial sector competitiveness is disadvantageous. Although Chinese individuals seem relatively sophisticated regarding financial services, consumer protection appears to be a development area as the country builds out a broad portfolio of mobile financial services.

India has made significant adjustments to its regulatory environment which appears to be reflected in consistent performance across the regulation and consumer protection pillars. Policies and coordination related to financial inclusion appear as particular strengths as seen in the country's publicly defined financial inclusion strategy, a designated financial access authority, and requirements for financial institutions to offer basic low-cost accounts. However, as mentioned in the discussion of the regulatory proportionality pillar in the previous section, there can be a difference between *de facto* and *de jure* regulation; it remains unclear to what extent recent regulatory changes will allow all industry sectors to fully leverage their unique skills, cost structures and brand awareness to drive adoption of a broader portfolio of financial services. If high growth rates in its telecommunications markets continue, this will make mobile phones available to many more Indians in the near future. Given the importance of robust agent (alternatively called business correspondent) networks, India may need to address what appears to be a current disadvantage in the development and coordination of these networks. Leveraging the relatively developed networks of MNOs, banks and micro-finance institutions may prove critical in this respect.

A key advantage within **Indonesia's** mobile financial services ecosystem is the development and proportionality of its regulations. Its banking agent regulation and licensing of non-banks seem to be particularly positive attributes. The country delivers consistent results along most of the other pillars. This may indicate a high degree of readiness to accelerate the building of scale in mobile financial services even though it currently only has moderate levels of adoption. Growth in its number of mobile subscriptions is among the highest of the countries included in the *Report*, which makes it possible to expand mobile financial services to ever more people; this combined with a high degree of financial empowerment of end-users bodes well for future adoption. As the government places great importance on increasing financial inclusion, it could catalyze adoption of mobile financial services by becoming an active user itself.

Malaysia shows distinct development advantages in the regulatory and end-user empowerment pillars. Most of the regulatory elements specific to mobile financial services appear to be in place, as well as a comprehensive financial inclusion policy. End-users are financially literate, have ready access to mobile phones, and benefit from a depth of credit information. These factors combined with a highly competitive market environment have contributed to a degree of initial success in the adoption of mobile financial services. The development of its traditional financial services sector is reflected in the highest access to financial services of the countries in this sample. The role and development of mobile financial services in Malaysia might therefore deviate from other countries, as good alternatives seem to be available and there might be a less clear consumer need. The country shows some room for improvement in the market catalyst pillar, as the government's use of mobile financial services is limited. Efforts could be made to increase the capture and dissemination of decision-making data.

Although **Pakistan** lacks some regulatory elements within the MFS regulation subpillar, its institutional environment (which includes elements of regulatory proportionality and consumer protection) scores within the top quintile of the country sample included in this study. This, combined with the presence of market catalysts such as government disbursements through mobile and robust data collection and monitoring bode well for the increased adoption of mobile financial services in the country. Access to traditional banking services is relatively low, which could further strengthen the need for a trusted and efficient alternative. To bring mobile financial services within reach of more people, further development of its end-user environment seems vital; individuals appear less literate and empowered to adopt these new services. Agent networks have room to develop as they are characterized by low density and difficulty in the enrollment of new agents.

The **Philippines** has explored the implementation of mobile financial services for a relatively long time and has realized high levels of adoption and a wide array of available services. An important role is played by the government, which has shown leadership by using mobile financial services to distribute social payments and collect taxes. Its robust performance in the other pillars within the institutional and market environment seem to indicate a high level of "readiness" to continue this leadership. The Philippines has managed to build a dense agent network which may be a key asset for the provision of an even broader range of services in the future. The relatively large volume of incoming remittances that are sent home by Philippinos abroad can potentially be a driver to achieve further scale.

LATIN AMERICA

The lack of a proportional and enabling regulatory environment in **Argentina** appears to be a major constraint in its development of mobile financial services

according to the data that are available. Regulations concerning the licensing of non-bank entities to provide mobile financial services, the ability of both banks and MNOs to use agents for mobile financial services, and international mobile money transfer do not appear to be fully in place. Consumer protection regulation also appears to be a development area. AML/CFT (anti money laundering and counter financing of terror) and KYC (know your customer) provisions are in place. The country scores a disadvantage in the market catalysts pillar due to low levels of data collection and sharing - a critical activity for the development of new mobile financial services. In light of the above disadvantages, it appears consistent that there is not yet significant adoption of mobile financial services. Argentina does, however, score well in terms of its end-user environment on the basis of high mobile phone penetration, depth of credit information, and women's access to bank loans.

Brazil has an impressive history of using branchless banking models to bring financial services to its population. However no significant scale in deployments that leverage the country's high penetration of mobile phones can be observed. A lack of clarity regarding some key regulatory elements for mobile financial services seems to have reduced innovation to date. However, once measures are in place to leverage the existing agent networks, it could achieve scale in mobile financial services rapidly.[7] This existing (non-mobile) branchless banking network may have also led to second order benefits such as a depth of credit data and developed consumer protection that could be important facilitators of the development of mobile financial services. The country scores well in other areas of end user empowerment including financial literacy and mobile penetration.

Colombia's institutional environment scores among the highest of the sample, as both regulatory proportionality and consumer protection appear to be relative advantages. Its government also shows leadership by driving a G2P program of disbursements through mobile to increase adoption of mobile financial services. Mobile financial services deployments in Columbia are relatively new which may account for the fact that significant scale has not yet been achieved. However, some key elements that could contribute to accelerated adoption are in place. The presence of a number of non-mobile alternatives to access financial services will raise the bar for private sector participants as they design mobile financial services that are closely aligned with unmet client needs and that deliver a consistent, and convenient consumer experience. Commercial interoperability will be a key element of this. The country may have to improve the competitiveness of its market environment (which appears to be a disadvantage) if it is to achieve the levels of innovation needed to accomplish this.

Despite **Haiti's** challenging institutional environment, mobile financial services have become available on a small scale. Given the country's lack of alternative access to financial services—its score is among the lowest of the sample—it seems that building agent networks that allow for achieving scale in mobile financial services should be a priority. In trying to realize higher adoption levels, Haiti will have to make sure its relatively financially illiterate population is protected by efffective consumer protection regulation that is currently lacking. Low levels of financial literacy and mobile penetration are also development areas. A potential driver for adoption could be the country's relatively high inflow of foreign remittances that require efficient and cost effective ways to reach recipients. There is the potential for the government, perhaps working in concert with multilateral institutions, to promote uptake of mobile financial services both through the provision of payments through mobile and the promotion of better data collection and monitoring.

Mexico, with the highest penetration of traditional bank branches of the countries in this sample, has not yet seen adoption of mobile financial services. It shows a consistent "neutral" scoring across most pillars, which might be explained by the focus on, and experience with, branchless banking models that do not use a mobile platform. Its high penetration of bank branches and ATM's that can provide support for agents and cash-in cash-out capabilities results in an "advantage" score on the supporting infrastructure subpillar. Its government shows leadership by using innovative methods for the distribution of social payments through mobile. To catalyze the adoption of mobile financial services, Mexico could potentially leverage the significant volume of incoming international remittances.

While it has achieved success with other branchless banking models, **Peru** has not yet seen mobile financial services adoption. Its experience with non-mobile branchless banking may contribute to the advantages it demonstrates in areas such as consumer protection and the depth of credit information. A high penetration of mobile phones also appears to be a key strength. While significant unavailability of data appears to be a key constraint to effective decision-making, most of the critical elements needed for the scaled deployment of mobile financial services appear to be in place.

Notes

1 Leishman 2010.

2 See, for example, Berg Insight 2010. Mobile Banking and Payments—2nd Edition.

3 See, for example, Collins at al. 2009, Dercon 2007 and Conning and Udy 2005.

4 See Ivatury and Mas 2008.

5 See the G-20's Financial inclusion Expert Group Draft Financial Inclusion Action Plan, September 4, 2010.

6 See Montez and Goldstein 2010. These findings were confirmed by Working Group members.

7 See CGAP's 2010 Country Note. These findings were confirmed by Working Group members.

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CHAPTER 1.3

Financial Inclusion: A Role for Each of Us

HER ROYAL HIGHNESS PRINCESS MÁXIMA OF THE NETHERLANDS,
United Nations Secretary-General's Special Advocate for Inclusive Finance for Development

A well-developed, inclusive financial sector is like a good transport system. It is basic infrastructure that everyone in a country—from individuals to governments to businesses of all sizes—depends upon. Attention to the need for inclusive financial sectors has increased in the past several years, as the benefits have become better understood, and because innovative solutions are overcoming long-standing barriers. New technologies such as mobile phones, smart cards, ATMs and bank agents, coupled with strong banking institutions hold promise of dramatically expanding access by reducing costs for providers and clients alike. Financial inclusion is a win-win proposition.

However, more than 2.7 billion people around the world still lack access to financial services. Financial exclusion disproportionately affects poor people and small- and medium-sized enterprises (SMEs) in Africa, Asia, Latin America and the Middle East. After clients and markets, the biggest need faced by SMEs is finance, according to the International Finance Corporation's *Enterprise Survey*. Fewer than 20 percent of small firms in low-income countries, however, have credit from a bank. Several years after the success of M-PESA in Kenya, mobile-phone banking has not taken off elsewhere at real scale, or in a way that provides much-needed services in addition to payments. What needs to be done to maximize the potential offered by financial inclusion in a sustainable, scalable and responsible manner?

Financial inclusion matters

Financial inclusion is universal access at a reasonable cost to a wide range of financial services for everyone needing them, provided by a diversity of sound and sustainable institutions. Savings accounts, loans, insurance, payments and more help people generate income, manage cash flow, take advantage of opportunities and strengthen resilience to setbacks. The link to social economic welfare, especially poverty reduction, education, health and women's empowerment, is self-evident and supported by recent academic studies. Financial tools help entrepreneurs start and expand small businesses, which are a source of local job creation, growth and poverty reduction. In Europe, about two-thirds of all private employment comes from SMEs. In the Netherlands, 92 percent of the SMEs have eight or fewer employees. The trends in developing countries are similar. This shows the importance of paying attention to the "S" of SMEs, and providing them with financial tools.

Financial inclusion leads to greater efficiencies. Shifting payment of salaries, welfare support and bills from cash to electronic means reduces costs and leakage. The real cost savings in time and transport expense is even greater when, in addition to bank branches, people can make payments through their mobile phones

or withdraw cash at local retail agents or mobile phone agents.

Financial inclusion has gained prominence on the global policy agenda. Leaders of the G-20 recognized the importance of financial inclusion to strong, stable and vibrant economies in their summit in Pittsburgh in September 2009. They reaffirmed this view in Seoul in November 2010, mandating a Global Partnership for Financial Inclusion (GPFI). The Financial Action Task Force (FATF) has put financial inclusion on its agenda in 2010, as part of its mandate to develop sound global financial markets. Similar conversations are ongoing within the Bank for International Settlements and other standard setting bodies, and among national policymakers in dozens of countries.

The private sector's attention and investments have been drawn to innovations and new business solutions—from Safaricom's M-PESA to street-corner kiosks in Brazil to micro-insurance health schemes. Recognizing the importance of financial inclusion, Secretary of State Hillary Rodham Clinton explained, "When people cannot participate in the formal economy, they often are taken advantage of, they are often left without recourse, and the effects of that undermine their own ambitions and hopes for families, communities, and even countries."[1]

How do we get there?

Increasing access

The needs and opportunities are clear. What must be done?

First, financial service providers should increase access to all types of financial services. People need savings, insurance, health insurance, payments and credit. This means breaking down silos between micro- and enterprise finance and creating a continuum of access. In reality, the borders between micro-, small- and medium-sized enterprises are blurry. Most entrepreneurs begin as micro-businesses and grow from there. The success of any enterprise depends on those larger and smaller around it.

We need to think about what is available to individuals and SMEs to help them better along the whole value chain. Some may be served by banks reaching down; others by micro-finance institutions beginning to grow with their best clients; and still others by diverse private sector providers.

Some examples include health insurance companies partnering with micro-finance institutions to increase availability of health insurance for poor individuals, and with local clinics to expand the availability of treatment facilities. In several countries in Africa, national beer producers provide essential finance to small and medium farmers for seeds, fertilizer and other crop inputs—sometimes because no other appropriate financial services are available. Mobile phone companies are partnering with banks and government agencies to provide convenient payments and increasingly other financial services. All of these elements must be part of the financial sector framework.

The right products must be delivered at the right prices in the right places. A credit facility for a rural farmer will be different from one for an urban merchant. Sometimes a savings product will be more suitable than a credit product. Sometimes a commitment savings scheme will have more impact than a regular saving product. There is great opportunity for the private sector to sharpen its focus on needed and affordable products.

Better regulation

Second, regulatory frameworks must allow the right partnerships to flourish and encourage innovation to expand financial inclusion, while protecting consumers. Brazil's regulatory structure, for example, enables financial institutions to partner with retail chains through branchless banking rules. This greatly reduces costs of delivering services and expands access throughout the country. In Peru and Malaysia, policies have promoted the sustainable growth of the financial system, while protecting consumers. There is no one-size-fits-all solution. However, one common element is a flexible approach that bases regulation on the experience from pilot projects. Another is a focus on critical infrastructure, such as a national e-payment systems and credit bureaus. Dialogue and coordination are other common elements of success. It is important to bring together disparate parts of the public sector and to create platforms for public-private sector collaboration.

Bolstering capacity

The third step is bolstering consumers' understanding of choices, products and rights—in other words, consumer capability. This includes, but goes beyond, financial literacy. Consumers need to grasp the principles of financial products such as interest rates, principal, terms and fees. They also need to develop healthy financial behavior, such as budgeting, saving, and comparing offers. Consumer capability and financial literacy are best achieved when service providers and governments facilitate them, and when clients and consumer advocacy groups actively pursue them.

Improving data

Finally, we need more and better data for policymaking, public and private investments, and business management. In 2009, Dutch Minister for Development Bert Koenders, Dominique Strauss-Kahn and I launched the International Monetary Fund's annual Financial Access Survey with data from central banks around the world. The World Bank Group produces analysis on access for households (through the Consultative Group to Assist

the Poor), and enterprises (through the International Finance Corporation). The Organisation for Economic Co-operation and Development, among others, publish relevant data as well. The G-20 created an SME Finance Data Sub-Working Group, of which I was Honorary Chair in 2010, to establish a scalable framework and mechanism to measure progress. The G-20 Global Partnership for Financial Inclusion has mandated a Data and Measurement Group to further this work, integrating both household and SME finance. Initiatives such as this report also contribute to a more data-rich environment.

Attention to data and measurement has also grown at the national level. For example, the Mexican banking and securities regulator (Comisiion Nacional Bancaria y de Valores) published two major reports in 2010 on financial supply, demand and gaps. These reports helped to clarify the strategies of state-owned banks, inform the distribution decisions of some private sector groups and identify what more is needed for accurate measurement.[2]

These developments are promising; but often data remains limited and uneven, especially the disaggregated, sub-national type that is useful to decision makers. For all that we have learned about micro-financial services for the poor, we still know little about how enterprises finance themselves and what is available to them. As importantly, we need to increase our understanding about enterprise demand for services and the impact of specific products on individuals and enterprises. While respecting consumer privacy and commercial confidentiality, we must take advantage of the large volume of diverse data, often electronic, gathered by private firms.

Nearly a third of the world does not have access to the basic kinds of banking and financial services that so many of us enjoy every day. It does not have to be this way. As with a good system of roads and public transport, financial inclusion enables people, businesses and communities to thrive. Financial inclusion helps people achieve what is most important to them, and builds dignity and empowerment. We already know many of the solutions to this challenge. Some of those solutions, including mobile phone banking, are new and not fully realized. Others, such as appropriate policies for providing small-scale savings products or ensuring consumer protection and adequate resource, are known, but need to be more widely adopted.

All these goals are within our grasp. The time is ripe. There is a role for each of us to play.

Notes

1 Speech by Hillary Rodham Clinton, US Secretary of State, at the "Inclusive Finance: A Path to the MDGs" seminar, New York City, September 22, 2010 http://www.state.gov/secretary/rm/2010/09/147595.htm.

2 AFI. 2010. "Measuring Financial Inclusion in Mexico: CNBV's Approach to Obtaining Better Data for Decision Makers." Bangkok, Thailand: The Alliance for Financial Inclusion (AFI).

CHAPTER 1.4

Putting the Banking in Branchless Banking: Regulation and the Case for Interest-Bearing and Insured E-money Savings Accounts

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Buoyed by a growing belief that poor people need a full array of financial services, financial inclusion advocates are now focusing on how to responsibly provide low-income individuals with financial services beyond microcredit—services such as savings, payments and insurance. A primary obstacle to the provision of such services, particularly low-value payments and savings, has historically been high transaction costs. It has been too expensive to develop the infrastructure required to profitably reach underserved population segments.

Branchless banking, however, is changing the economics of providing financial services by leveraging existing and widespread retail outlets and technology, particularly mobile telephones, to provide more services to more people at lower cost.

When using branchless banking to provide savings services, regulation is often the key obstacle, particularly in the case of e-money issued by non-banks such as mobile network operators.[1] In an effort to distinguish such products from savings accounts, regulators around the world have regulated them as "payments" services, denying e-money accounts the benefit of interest payments and deposit insurance. In some cases, these prohibitions extend to e-money issued by banks, particularly in countries such as the Philippines and Malaysia where e-money is regulated as a product regardless of whether the issuer is a bank or non-bank.

In regulating e-money as a payments product, regulators may be missing an opportunity to make great progress in financial inclusion. E-money can safely and efficiently be used as a savings vehicle. Regulators should allow e-money to offer the full benefit of savings accounts—interest and deposit insurance—to the millions of low-income e-money users.

E-money as payments

E-money is commonly understood as:

- monetary value as represented by a claim on an issuer,
- stored on an electronic device,
- prepaid,
- accepted by third parties other than the issuer, and
- redeemable in cash.

Both banks and non-banks can issue e-money. In the case of non-bank issuers, however, regulators typically safeguard the cash collected in exchange for electronic value (the "e-float") by requiring 100 percent to be placed in an account held at a fully prudentially regulated bank.[2] This account is typically a pooled account held in trust (or the equivalent) for the benefit of e-money customers so as to isolate the funds from claims by issuer creditors (in the case of issuer bankruptcy, for example), although other approaches also exist.[3]

Regulators have struggled with the business model. Collecting cash from the general public sounded like the equivalent of collecting deposits. However, in the banking laws of many countries, deposit taking is considered the exclusive domain of fully prudentially regulated banks. Consequently, regulators were in a bind. How could they permit non-banks to collect deposits without requiring them to obtain banking licenses that would subject them to complicated and costly prudential requirements—requirements likely to prevent non-banks from issuing e-money at all?

The solution was to regulate non-bank issued e-money as a "payments" product—focusing on the funds transfer function of e-money and effectively lumping e-money issuers together with money transfer companies such as Western Union. The cash-in function was not considered a deposit, but simply the equivalent of handing money over to Western Union before its eventual transfer (within a prescribed time period) to another recipient. This "e-money as payments" approach was convenient not only for bankers struggling to avoid the question of deposit taking but also for non-bank e-money issuers that had no desire to be licensed as fully prudentially regulated institutions and preferred to avoid unwanted attention from the banking sector as a result of appearing to compete on basic services.

While regulators should be commended for creatively enabling inclusive financial services, regulating e-money as a payment product may close the door to using e-money to provide the savings services that e-money more closely resembles. When an e-money customer gives cash in exchange for electronic value, there is typically no requirement that such electronic value ever be transferred.[4] In fact, many e-money customers use their electronic accounts as a means of safe storage. A 2007–2008 study of 350 M-PESA users revealed that for reasons of safety and convenient access, M-PESA is used as a storage mechanism by both the banked and unbanked (Morawczynski and Pickens 2009).[5] Another study found that M-PESA was used for both long- and short-term savings (Pulver 2008). It is this storage function that distinguishes e-money from a payments product and makes it more akin to a savings account than to a Western Union transfer.[6]

There is one significant difference however between e-money and a bank savings account. As long as the cash backing e-money is 100 percent held in a fully prudentially regulated institution, the e-money issuer does not intermediate the funds in a way that puts them at risk.[7] As a result, the e-float is not at any greater risk than cash held at a bank.[8]

E-money as savings

Once the intermediation risk of non-bank e-money issuance is removed, it is difficult to see why e-money should not provide low-income users the full benefits of a savings account. In fact, e-money accounts already provide one key benefit: safe storage. A secure mechanism for storing value is highly valued by users, particularly poor users with few safe options.

However, advocates of financial inclusion can do more than simply promote savings as safe storage. They can promote savings as interest-bearing and insured accounts—the type of savings enjoyed by most banking customers. In so doing, they can put the "banking" in branchless banking.

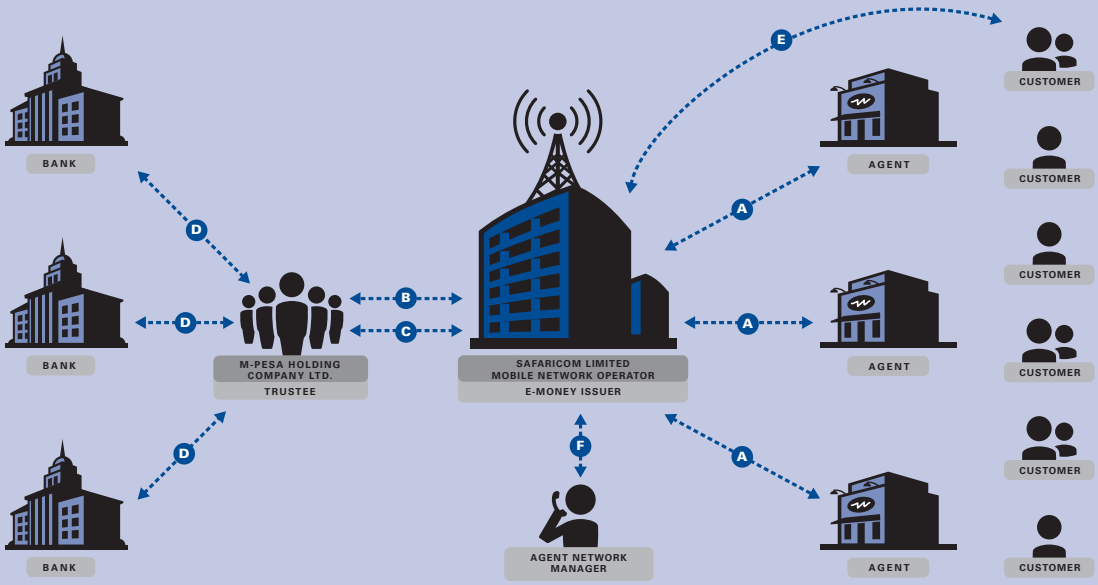
Paying interest

The payment of interest on e-money accounts provides several benefits to customers and regulators alike. For customers, interest encourages savings and teaches low-income users the time value of money. It affords many low-income users a rare opportunity to earn a return on their capital. When asked what additional service they would like to receive through M-PESA, users cited earning interest most often (Pulver 2008, p. 5)[9]. For regulators, providing an added incentive to save encourages more citizens and more money to enter the formal and traceable economy, not only providing benefits to the financial system as a whole but also providing a means to monitor transactions in the fight against money laundering and terrorist financing.

Despite the benefits, no country currently permitting non-banks to issue e-money allows issuers to pay interest on e-float. Such prohibition often extends to "interest equivalents"—any benefit, such as free mobile airtime, linked to a customer's account balance. When pressed for a reason, regulators often simply state that paying interest is a banking activity. However, definitions of banking activity typically focus on taking deposits and, in most regulations, intermediating deposits through lending. Intermediating deposits places them at risk, thereby raising systemic concerns prudential regulation is intended to mitigate. While non-bank e-money issuers are arguably taking deposits, these deposits, if totally held in a bank, are not intermediated by the issuer. Even when regulation expressly defines the payment of interest as a banking activity, it is hard to identify what risk lies in allowing non-bank issuers to pay interest.

There are several operational arguments against paying interest. The interest accruing on small accounts is often viewed as negligible. However, e-money structures present a unique opportunity for low-income individuals to earn higher interest rates. Because e-money accounts typically pool client funds for an extended period, the total balance often qualifies for higher interest rates than might otherwise be earned by low-value individual bank accounts. For example, a time deposit in Kenya currently earns 3.43 percent annual interest whereas, even if poor customers could open a bank savings account and meet minimum balance requirements, a savings account earns only 1.25 percent.[10]

Figure 1: M-PESA legal structure



A Agent Agreement

- Executed after agent meets Safaricom's minimum eligibility requirements
- Requires KES100,000 per agent outlet cash advance as float against which agent conducts transactions
- Sets forth anti-money laundering requirements
- Sets forth branding requirements
- Sets forth Safaricom business practices requirements

Agreement

- Executed after agent meets Safaricom's minimum eligibility requirements
- Requires KES100,000 per agent outlet cash advance as float against which agent conducts transactions
- Sets forth anti-money laundering requirements
- Sets forth branding requirements
- Sets forth Safaricom business practices requirements

B Declaration of trust in favour of all M-PESA account holders of safaricom limited

- Declaration of Trust between M-PESA Holding Co. Limited (as trustee) and Safaricom Ltd (on behalf of M-PESA customers as beneficiaries).
- Requires customer and agent funds backing e-money to be paid to Trustee to be held (together with any interest accruing thereon) in commercial bank accounts and/or Govt. of Kenya securities.
- Prohibits the accrual of interest to any M-PESA Account Holder. Any interest "shall generally be applied first to defray the Trustee's own costs. . .but may be applied for such other purposes (whether charitable or not) as the Trustee, may in its sole discretion determine."
- Requires parties to enter into a Management Agreement (see C below) by which Safaricom is appointed as Trustee's agent for purposes of (i) managing commercial bank accounts where trust fund is held as well as (ii) directing the Trustee in placement of trust funds in commercial bank accounts and Govt. of Kenya securities.

C Management Agreement

- Agreement required by Declaration of Trust the terms of which are referenced therein.

D Commercial Bank Agreement

- Sets forth the terms by which M-PESA Holding Co. (trustee) deposits trust funds into commercial bank accounts

E Customer Terms and Conditions

- Form agreement between Safaricom and customer, signed by customer at agent outlets
- Sets forth basic terms and operating procedures of M-PESA, including privacy policy and dispute resolution
- Sets forth that funds are held in trust for customer
- Sets forth that M-PESA is neither a bank nor a deposit-taking institution
- Sets forth that no interest will be paid on the funds

F Agent Network Manager Agreement

- Contract between Safaricom and a third party setting forth the terms by which such third party manages agents on behalf of Safaricom

Source: Analysis by the Consultative Group to Assist the Poor

Another argument against permitting non-bank issuers to pay interest is that it might cause them to recklessly invest working capital to provide higher interest rates to their customers. While this would not endanger the e-float kept in a custodial bank account secure from the issuer's creditors, it could result in the bankruptcy of e-money issuers, ultimately putting the reputation of the entire e-money sector at risk. This argument presupposes that e-money issuers would compete on interest to the point of jeopardizing their entire businesses. Even if this possibility was not remote, one solution is to permit non-bank e-money issuers to simply "pass through" the interest accruing on the e-float, rather than pay interest directly. This would benefit e-money users by encouraging issuers to negotiate with custodial banks for the highest interest rate—a benefit ultimately passed on to the customer.

An argument against an interest pass through is that e-money issuers need to keep the interest on the e-float for their own profit because they are not able to recoup costs through transaction fees alone. But this is an argument against mandating the payment of interest on e-money, not an argument against permitting it. Whether an issuer pays interest will ultimately be a business question based on whether the issuer can afford to pass through the interest, and assume the related administrative and technology costs. The success of M-PESA, in terms of number of customers and amounts transacted, suggests that the interest can be irrelevant to viability. Safaricom, the mobile network behind M-PESA, does not benefit from the interest accruing on deposited e-float.[11] (See Figure 1, M-PESA Legal Structure.) Instead, Safaricom and the Central Bank of Kenya agreed to donate the interest to charity rather than distribute it to customers on whose funds the interest accrued.

Extending deposit insurance

Deposit insurance is meant to protect bank customers from a bank's inability to pay its debts. Bank failures and the recent financial crisis have resulted in a rapid increase in the number of countries, currently 104 and rising, that have a government or private mechanism for insuring bank deposits.[12] These include a large number of poor and developing countries. Deposit insurance is not just for the benefit of bank customers. By encouraging trust in the formal banking system, governments promote savings, increase cash reserves, and stimulate the entire economy.

Even though e-float is typically held in a bank,[13] few, if any, regulators in the developing world extend deposit insurance to customers of e-money accounts issued by non-banks. The custodial accounts holding the e-float do benefit from deposit insurance. But because the funds are pooled, insured amounts are typically well below the e-float total. For example, the US$ 1,300 insurance limit in Kenya would do little to cover M-PESA's e-float amount.[14] In addition, deposit insurance benefits the named holder of the account, which in cases where e-float is not held in trust, is often the e-money issuer.

Extending the benefit of deposit insurance to e-money is, in principle, a relatively simple endeavor. The United States already provides such deposit protection. In the United States, as long as e-float is placed in an insured depository institution, it is considered an insured deposit. For pooled custodial accounts, the United States also affords pass-through protection to each customer up to the insurance limit. To qualify for pass-through protection, (i) the bank's records must disclose the custodial nature of the pooled account, (ii) the records of the bank or the issuer must disclose the names of the individual owners and the amount owed to each owner, and (iii) the agreement between the issuer and the customers must indicate that ownership of the funds remains with the customer (Federal Deposit Insurance Corporation 2008).[15] These requirements are not difficult to meet and most e-money schemes already comply as part of their standard business practice.

Provided the pooled account is insured, pass-through deposit insurance need not increase insurance premiums. Premiums are typically based on the total of domestic deposits, or in the case of the United States recently, the bank's total asset base. Neither of these calculations would be affected by extending insurance protection to individual e-money holders since neither the total deposit nor asset base would change.

Conclusion

Banking regulators are understandably uncomfortable with non-banks offering traditional banking services. The temptation is always there to insist on the centrality of banks. Models like Kenya's M-KESHO take the pressure off of regulators to think about e-money's potential role in promoting savings. A joint product of Safaricom and Equity Bank, M-KESHO provides M-PESA users with an interest bearing and insured Equity Bank account accessible through mobile phones. However, its value proposition for low-income customers has yet to be proven. For example, to withdraw funds from M-KESHO, a customer must first pay a fee to transfer funds from the M-KESHO account held at Equity Bank to the M-PESA account and then pay a second fee to withdraw cash from M-PESA. These two transaction fees largely undercut any interest benefit. M-KESHO is nevertheless promising as it lays the rails for the cost-effective provision of other financial services such as credit and insurance. However, the potential of models like M-KESHO does not obviate the need to explore how M-PESA and other e-money products may provide interest-bearing and insured savings more effectively on their own.

E-money represents a promising opportunity to provide low-income individuals with more than just payment and safe storage services: it can offer savings vehicles with the full benefit of interest and deposit insurance. The extension of such benefits can be done with relative ease and at minimal risk. E-money products from non-banks should not be seen as interlopers in the banking domain, but rather as a much needed stepping stone across which the benefits of high-quality savings instruments can be passed through to the millions who lack access to them.

Notes

1 Non-banks are permitted to issue e-money in an increasing number of developed and developing nations, including the West African Union, Kenya, Rwanda, the Philippines, Malaysia, Indonesia, Fiji, and Cambodia. Such arrangements are also under consideration in countries such as Democratic Republic of the Congo and Burundi, and in the South Pacific.

2 This is a more stringent requirement than imposed on deposit-taking financial institutions, which are typically subject to reserve requirements mandating only some small portion of overall deposits to be kept in liquid form—typically cash—to satisfy potential depositor claims. This difference in treatment reflects a fundamental difference between banks and non-bank service providers and their respective business models. A bank's business is predicated on the ability to intermediate capital, i.e., take money from those who have it and provide it in loans or other products to those who need it. Non-banks, on the other hand, are typically expressly prevented from intermediating deposits and thus must make money in other ways, such as transaction charges, lowered airtime distribution costs, and reduced customer churn.

3 For a discussion on regulation of non-bank e-money issuers, see Tarazi and Breloff (2010). Some regulatory systems do not impose the requirement that the e-money float be held in trust, and some permit its investment in other safe and liquid investments, such as government obligations, rather than requiring it to be held in a bank. Still, others are silent or ambiguous on the subject.

4 Based on a review of applicable regulation and/or practice in Kenya, the Philippines, West Africa, Fiji, Afghanistan, and Malaysia. The authors did not conduct a global survey of applicable regulation.

5 Nearly a third of banked customers and a fifth of unbanked customers use M-PESA to store value.

6 In an effort to more firmly characterize e-money as a payments product, some regulators considered putting a limit on the amount of time funds can be stored electronically. Perhaps realizing that time limits could discourage use and savings, they are not widely imposed, if at all. As e-money is used increasingly as savings, regulators may eventually feel compelled to impose time limits.

7 E-money issuers are often permitted to invest the float in government-issued securities—a form of intermediation considered lower risk. However, perhaps due to the lack of liquidity associated with such securities, most non-bank e-money issuers opt for the other legally prescribed option—holding the e-float in a fully prudentially regulated financial institution.

8 The risk is further minimized in cases where the e-money issuer maintains the e-float in several banks, mitigating the risk of any one bank failing.

9 The study showed that 38 percent of respondents cited earning interest and 24 percent cited the ability to use M-PESA for ATM withdrawals,which has since been enabled.

10 Interest rates as of January 2011. See www.centralbank.go.ke.

11 Nevertheless, the terms of the trust do not expressly prevent Safaricom from benefitting from the interest. Section 6.2 of the Amended Trust Deed of 2008 states any interest "shall generally be applied first to defray the Trustee's own costs…but may be applied for such other purposes (whether charitable or not) as the Trustee, may in its sole discretion determine".

12 International Association of Deposit Insurers at http://www.iadi.org/aboutiadi.aspx?id=79.

13 Another safeguarding measure is private insurance. The European Union (EU), for example, permits safeguarding of funds backing e-money through insurance. EU Directive 2007/64/EC permits non-bank e-money issuers in lieu of liquidity provisions, to insure or comparably guarantee the funds backing e-float in an amount payable in the event that the non-bank issuer is unable to meet its financial obligations. EU Directive 2007/64/EC, Article 9.1(c) incorporated by reference from Article 7.1 of EU Directive 2009/110/EC (2009). It is not clear if any e-money issuer has availed itself of this private insurance option.

14 The trust responsible for the M-PESA e-float is charged 0.01% of deposited e-float as an insurance premium, though such expenses may be reimbursed from interest accruing on the e-float.

15 The second requirement that bank or issuer records disclose the names of the individual owners and amounts owed may require regulators to impose data storage and back-up protocols similar to those imposed on regulated financial institutions.

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CHAPTER 1.5

The Next Challenge: Channeling Savings Through Mobile Money Schemes

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Poor people need safer, more affordable and convenient ways of managing what little money they have. While many financial institutions have discovered that poor people make good borrowers, fewer have figured out how to provide savings to poor clients. Savings is a harder product to deliver. Unlike credit, poor people are not willing to pay a lot of money or travel long distances to put small amounts into an account. Banks have struggled to find cost effective models to expand their physical reach into poor and rural areas and to handle large volumes of low-value cash transactions. Mobile money networks have potential to deliver the required level of proximity and low transaction costs, but they are not equipped to offer the broad range of financial services poor people want and need. In this paper, we examine how banks and informal savings groups can leverage mobile money schemes to deliver structured financial services to large numbers of unbanked households.

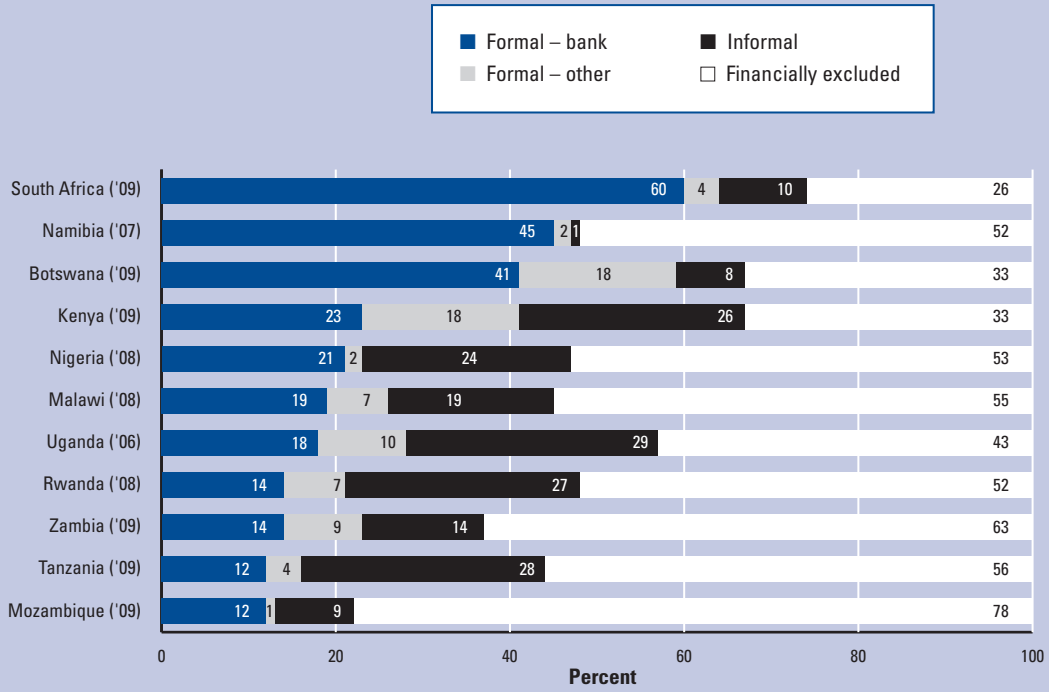
Some notable successes in a sea of needs

Providing savings services for poor people could have a big impact on their lives.[1] Rather than trying to store earnings in the home or in the form of livestock or jewelry, they could manage their cash flows more easily and reliably with access to a safe, convenient savings account. For example, a daily wage earner could set aside funds after each payday to ensure her family maintains stable food consumption even on days when she doesn't find sufficient work. A farmer could use the account to conserve cash between the harvest season when he is cash flush, and the planting season when he is cash scarce to ensure he can buy seeds and fertilizer for the new crop. A poor family could use the account to build a fiscal buffer against a health emergency, crop failure, or loss of a job—shocks that so often set poor families back. They could use the account to save for school fees, buy a motorbike to reduce commute time, or even self-fund their microenterprise one deposit at a time, rather than paying interest one loan repayment at a time.

Access to a basic bank account, however, remains limited in the developing world, particularly Africa. The FinMark Trust has led the access measurement effort in Africa by conducting a number of nationally representative surveys exploring individuals' usage of and attitudes towards financial services in many African countries. Their summary data is shown in Figure 1. In many African countries, less than one in five people have access to a formal bank account (blue bar), and more than half do not participate in any kind of organized form of savings (white bar). In the developing world as a whole, approximately 30% of people have access to a formal bank account.[2]

While the need for financial access seems stark, there have been some success stories of delivering financial

Figure 1: Access to finance in Africa



Source: FinMark Trust, www.finscope.co.za

services at scale. We can map these experiences to the colors in Figure 1. In the blue camp, savings banks, credit unions, and financial cooperatives have been serving poor people successfully for decades. Table 1 shows some of the larger savings-oriented institutions in developing countries. In addition, organizations such as Sparkassen, Raiffeisen, Desjardins and the World Council of Credit Unions (WOCCU) have been supporting large numbers of smaller institutions that are present where banks are not.

In the black camp (again, according to the colors in Figure 1), informal community-based structures have emerged to provide financial support among neighbors. Variously called savings-led groups (SLGs), village savings and loan associations (VSLAs) or rotating savings and credit associations (ROSCAs), these groups have formed spontaneously in most developing countries. Group members contribute savings to a pooled account, lend a portion of those funds to individual members, share proceeds (savings plus interest earned on loans) on an annual basis, limit access to funds between meetings, and elect officers responsible for money handling, record keeping and enforcement of rules. Members may also access a social fund that provides interest free loans that can be used to deal with shocks, smooth consumption or, in rare cases, address business needs when loans are not accessible. Today, organizations such as CARE, Oxfam and Catholic Relief Services (CRS) are working to propagate these models by providing organizers and trainers.

Something new is happening on the black—formal other—front. It's hard to spot it in Figure 1 because it is very recent and only happening in a few countries. It is the emergence of mobile money schemes, led by mobile operators. Here's the compelling logic: if mobile operators today are capable of taking people's cash in amounts as low as 20 US cents at tens of thousands of retail outlets and converting it into airtime value that is both storable and transferable, why couldn't that capability be applied to value denominated in local currency that customers could store and use for any purpose?

In this paper we look at three financial service delivery models that have achieved some success in expanding access to poor customers: formal financial institutions (commercial banks and financial cooperatives), informal SLGs, and mobile money schemes developed by mobile operators. Each model has remarkable strengths. However, in their more traditional forms, each has notable shortcomings that limit its ability to become a mass-market vehicle for delivery of financial services.

Table 1: Data on selected inclusion-oriented banks and financial coops

Institution	Savers (millions)	Savings USD (thousands)	Savers/Borrowers ratio	Branches	Multiple Savings Products	Loans or Other Products	Savings/Loans ratio
Grameen Bank[a]	8.3	1,371,000	1.25X	2,564	Yes	Yes	1.50X
BRI[b]	30.9	4,869,680	6.90X		Yes	Yes	1.60X
Caja Popular Mexicana[c]	3.5	1,562,000	4.50X	411	Yes	Yes	1.03X
Equity Bank[d]	4.3	864,000	5.50X	155	Yes	Yes	1.10X
Bradesco[e]	37.0	26,000,000	0.47X	3,4540	Yes	Yes	1.40X
South Africa PostBank[f]	11.7	470,000	n/a	>2,000	Yes	Yes	n/a

Note: In the interest of comparison, agencies, POS sites and ATM sites are not included.
a Grameen Bank figures are from its financial report dated September 2010 found on its website. The report does not disclose the number of nonmember depositors. The saver-borrower ratio is from the Microfinance Information Exchange (MIX; the retrieved Grameen Bank data is from December 2009.
b All Bank Rakyat Indonesia data is based on its latest Microfinance Information Exchange (MiX) reporting data in each category. The data is from 2006 and 2007.
c Data is from the Microfinance Information Exchange (MIX) December 2009 and from June 30. 2010 data is retrieved from the World Council of Credit Unions
d Data is from the Equity Bank 2009 Annual Report
e Data is from the Supplemental Information to the Economic and Financial Analysis Report, Bradesco Department of Market Relations, December 2009.
f Data provided by the World Bank Savings Institute (WSBI).

Our premise is that bringing safe and convenient savings and other financial services to the billions of poor people currently un- or under-served will require bringing these models together and leveraging their respective strengths. It is not so much about creating a single synthetic model that incorporates the best of each as it is about creating a diversity of models that collectively serve the needs of the majority. It is about the linkages represented by the arrows in Figure 2. The goal is to find more complex value chains that allow more scope for individual players to specialize in what they do best.

To better understand how these models might come together to mutually reinforce each other's strengths, we first look at what each player brings to the table in terms of customer needs. We then describe some early partnership efforts to expand access to low income communities.

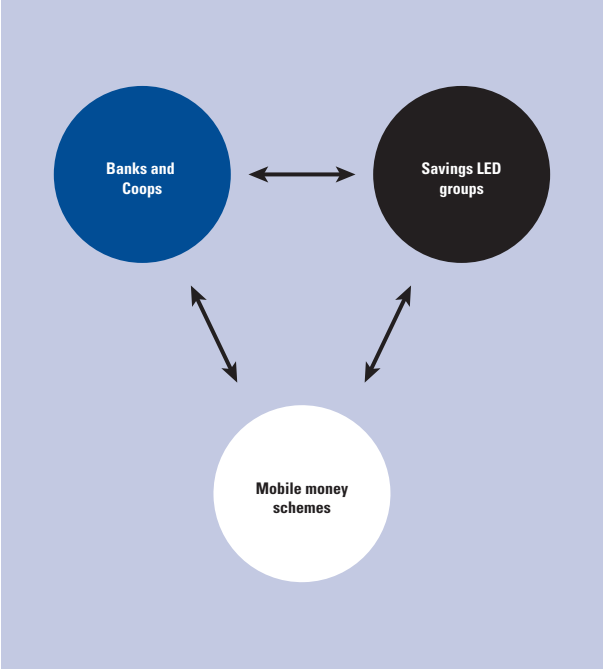
Needs gap analysis: an evaluation of current financial service delivery models

Customers across different environments tend to be consistent in what they value from financial services providers. They use financial services that they find convenient, trustworthy and affordable, and that offer the right balance of liquidity and discipline. This is not an a la carte menu: those wishing to serve poor clients with savings services must deliver on all these factors.[3] In analyzing our three models, we find that none of them successfully provide all these factors at significant scale. Below we consider each of the four factors in turn.

Convenience: proximity and flexibility

For most poor people, savings in physical assets, such as cash, gold, livestock, construction materials and real estate, are the alternatives to beat. People are not likely

Figure 2: Financial inclusion model linkages



to invest significant time and resources—including the cost of travel and lost earnings from leaving a business untended—just to save a small amount of money in an account. Proximity is vital to successfully promote savings, as savings need to be captured at source, where and when the money is earned, and before it is spent or put away in less-than-ideal conditions. Proximity is also crucial to provide ready access to funds and allow the frequency of use, affordability, and safety demanded by poor households.

Commercial banks are out of reach for most poor people in the world due to the high costs of building and maintaining physical banking infrastructure in poor and rural areas. Branch penetration, for example, averages only two branches per 100,000 people in the poorest country quintile, compared with 33 in the richest.

ATMs are even scarcer in poor countries, averaging only 1.3 per 100,000 people in the poorest country quintile, compared with 67 in the richest.[4] The inconvenience of formal institutions is not restricted to their location; long queues, short hours and bureaucratic requirements add to the difficulties. Commercial banks also pose a cultural, not just a distance, barrier for poor people who do not feel welcome at bank branches.

Cooperatives have a better track record of being located in the communities where poor people live, particularly in rural areas. Post Banks and government banks also have extensive coverage in some countries. Bank Rakyat Indonesia, for example, has achieved massive rural coverage and has been rewarded with 32 million savings accounts.[5]

Mobile operators contribute several assets to help address the proximity challenge. They manage large, structured networks of airtime resellers that penetrate almost every neighborhood and village. These outlets can be connected to a real-time communications system through the mobile network, which permits them to perform basic cash-in/cash-out transactions in a secure fashion. A saver need only walk to a neighboring shop to make a deposit. By leveraging these core assets, mobile operators can convert a subset of their airtime reseller outlets into cash-in/cash-out points and thereby dramatically expand the number of transactional outlets in a given country. In Kenya, for example, the number of M-PESA outlets (23,400) is now more than five times the total number of postal outlets, Post Bank branches, commercial bank branches, and ATMs in the country combined.[6]

SLGs are often found in rural and remote areas where financial institutions are not. Their model is based on proximity, as a way of harnessing the social capital that already exists in rural communities. Many organizations that promote SLGs use a geographic saturation model that facilitates groups being replicated in surrounding areas. Group members are free to establish new groups in areas not currently being served.

Although far-reaching, SLGs are not as permanent as mobile money deployments or formal financial institutions. They meet periodically, often once a week, and do not offer the consistent access to services that mobile money outlets or bank branches provided. SLGs are not connected to each other, so a member can access services only through her particular group when she attends a group meeting. In short, the inability to transact across groups and outside of meeting hours makes SLGs a less convenient solution for the daily management of funds, despite their proximity.

Trust: security, anonymity and service

Increasing the physical proximity of savings is only the first step. For people to shift their wealth from physical assets to organized savings, they must feel certain that their money will be safe, that information about their deposits will be kept private from their neighbors and family, and that the provider will be around in the future. Building trust also requires good service: people need to be able to get their questions answered and concerns assuaged by knowledgeable, friendly staff.

Formal institutions benefit from a regulatory code and external supervision designed to enhance public trust. They are often covered by a deposit insurance scheme that transfers the trust from the specific financial institution to the state.

In many countries there have been histories of financial institution failures that long linger in people's minds. However, research in Uganda that followed the collapse of several formal banks (including Cooperative Bank which was used by a significant number of poor customers) found that poor people considered the relative risk of saving in banks to be significantly better than their informal options.[7] Beyond regulation, formal financial institutions build trust through branding, their bricks and mortar branches, and by providing passbooks or receipts that provide physical evidence of customers' savings.

While mobile money accounts may not be directly issued by banks, saved balances are fully invested in one or more pooled accounts in prudentially regulated banks, and hence have a similar risk exposure to bank deposits. Since mobile money schemes merely channel savings into the pooled accounts and do not intermediate the funds, they only need to be supervised for operational and technology risk. Also, because mobile transfers are conducted in real time, customers can verify the reliability and soundness of the system instantaneously by looking at the SMS confirmation on their phones or by calling the recipient to confirm receipt of funds. By starting with payments, mobile money customers can gain trust by completing several basic transfers. This trust can be extended gradually to storage of value and other financial services.

While marketing and media efforts can introduce the concept of mobile money to a market, shopkeepers at retail outlets often lead mobile money customers through their first transaction, explain how to use the application, and assist with any problems.[8] Such support early in the process is particularly important in rural areas, where a significant percentage of the potential user base is illiterate or unfamiliar with the functioning of their mobile phones or with financial transactions.

SLGs rely on the trust members have in each other to form groups and store their money in group lock boxes. Groups are formed among friends and neighbors and are often offshoots of other types of solidarity groups. Groups establish their own constitution and democratic processes with the goal of tailoring their services and policies to their members' needs. Group procedures are simple and transparent, and encourage active participation by all group members. Responsibility is placed with elected officers who are group members.

Trainers usually work with groups for the first year to make sure they can effectively carry out the financial and administrative procedures.

Groups use different methods, such as separating locks from keys or dividing funds to fortify their security. The total amount of pooled savings and loans disbursed are announced and verified during meetings. Group members can routinely verify their individual contribution by consulting their passbook in which their contributions are tallied and total outstanding loans recorded. However, because they are announced at group meetings, individuals' savings are entirely public.

All saved balances are returned to group members on a regular (typically annual) basis, which allows members to "touch" their money regularly. The routine winding down, share-out and re-formation of groups allows trust to be built over time as a repeated ritual. Because of the high level of trust among group members, it is common practice to leave large sums of money in the group box. Group funds are commonly considered relatively safer than cash at home, though there are reported cases of fraud.

Affordability: low entry barriers, fairness and transparency

Interest and charges on savings services need to incentivize savings behavior, be understandable, and correlate with clients' perceptions of value. Above all, poor people demand clarity and simplicity, including straightforward terms and conditions presented in the local language.

Bank fees are infrequently posted and often difficult to explain, particularly when they are not based on a per transaction basis. Clients often complain about "losing" their money in banks due to monthly fees not tied to transactions. Moreover, banks' float-based revenue models tend to screen out low-balance savers by erecting barriers for poor customers, including account opening fees, high minimum balance requirements, and account maintenance fees.

In contrast to banks, most mobile money schemes make it as easy as possible for customers to try the service. For example, most schemes permit free registration and free deposits, require no minimum balance, and charge no monthly fees, but charging for transfers and cash-out. Hence, customers are charged only for "doing something" with their money. The tariffs charged for mobile money are usually simple and clear, and on a per transaction basis. Tariffs are generally posted on the wall at the mobile money agent, and can be easily explained by the retail agent.

SLGs are one of the few mechanisms through which transactions of US$ 1 or less can be made for an affordable fee. Indeed, members are encouraged to deposit and take out loans and are not charged a maintenance or membership fee to do so. Deposits are free and the group collectively decides the interest rate for loans. By offering a simple service in a supportive and familiar setting, SLGs provide low- income communities another tool to manage their money. Returns to savers can be quite high: many groups earn returns of 40% or more at the time of share-out.

Services: liquidity and discipline

Poor people need access to products with differing liquidity options to help them store funds for future needs while allowing easy access to funds needed more frequently or for emergencies. Having access to different liquidity options can encourage savings.[9] For example, commitment savings, which require regular contributions and restrict access to funds, encourages many customers to save more. An experiment in the Philippines found that customers offered a restricted savings product saved 81% more than those who were not.[10]

Formal institutions generally offer the broadest range of financial services, spanning savings, credit and insurance. On the savings side, they tend to create separate savings products to cater to their clients' need for liquidity (transactional accounts) versus discipline (time-bound accounts). Some formal financial institutions have adopted practices found in informal settings. For instance, informal financial services tend to blur the distinction between savings, credit and insurance. Equity Bank offers a savings account that allows customers to borrow against saved balances, thereby maintaining the saving dynamic while still offering liquidity in exceptional circumstances. Life Insurance Corporation (LIC) of India bundles commitment savings with life insurance: insurance premiums are accumulated over 10 years and returned to customers in full if the insured event does not occur. Thus, the insurance is funded from foregone interest on saved balances.

SLGs offer a structure that helps people establish a regular pattern of savings, but this structure is rather rigid as it is based on cycles of fixed length, typically one year. Deposits are mandatory for membership in an SLG. Each member is expected to contribute funds each meeting within the maximum and minimum limits set by the group. Monetary fines and peer pressure encourage members to make their regular contributions. SLG members typically have access to their savings only at the end of a one-year cycle. Some groups forbid access to pooled funds prior to a yearly share out, while others impose a penalty for early withdrawals. While group-based savings may not be so liquid, SLG members can benefit from periodic infusions of liquidity by taking loans that can typically be up to three times the value of their savings.

Some formal institutions also use the peer or solidarity group model to encourage savings. Each group member is required to publicly contribute a minimum periodic amount that is verified by the group. This routine contribution gives members access to long term products, the most famous perhaps being Grameen's

Pension Scheme that allows clients to save as little as US$ 1 per month, but restricts access for either a five- or ten-year term.

Currently, mobile money services do not offer product features such as liquidity options and reminders, mainly because regulations typically prevent them from marketing their products as savings accounts.

Best of all worlds: putting savings services on mobile money rails

Each of the models considered above has powerful strengths: the breadth of services and explicit regulation of formal institutions; the simplicity, low-cost and scale of mobile money services; and the granularity and social dynamics inherent in SLGs. Yet each has significant limitations: formal financial services tend to be rigidly structured and inconvenient to access; mobile money services cover a relatively narrow range of needs and lack mechanisms to encourage savings; and savings in SLGs are relatively inflexible, short-lived and not very private.

Could we combine the salient advantages of each into a broader menu of products and channels available to people everywhere? If mobile money operators provide economies of scale, and banks provide economies of scope with their product breadth, and SLGs exploited their local presence, we could expect both the opportunities for customers and the economics for each provider to be improved. Indeed, today, we find these players increasingly recognize their core strengths and comparative weaknesses. Financial institutions, SLGs, and mobile money providers are starting to experiment with different partnership models to provide better services to their existing client base and to expand access to previously untapped markets. We describe some opportunities and several early experiments below.

Formal institutions linking up with mobile money schemes

For formal financial institutions, mobile money platforms offer two distinct opportunities. First, they can serve as an extensive transaction acquisition platform, allowing current customers to access accounts at a far wider number of retail outlets than the bank itself could offer. This creates the potential to attract new customers, as potential clients are made aware of the benefits. Second, gaining visibility of customers' electronic payments can be a useful source of information about customers who would otherwise lack a recorded financial history.

In turn, formal financial institutions can bring two key benefits to mobile money players. First, they can generate an additional volume of transactions by promoting the use of the transactional platform for purposes other than making payments. Second, by more effectively promoting savings, financial institutions can induce more of the value that goes through the mobile money platform to remain in electronic form, hence reducing the need for costly cash in and cash out.

Banks and mobile operators increasingly see the need to work together. To date, they have attempted several partnership models:

- The most basic bank-mobile operator partnership model is where the bank issues the mobile-money account, as is the case with Smart Money in the Philippines, and Orange Money and MTN Mobile Money in Africa. However, these accounts are generally managed by the mobile operator on behalf of the bank, and hence are generally not linked to the banks' broader range of services.

- Where the accounts are held externally to the mobile money operator, the most prevalent model is for banks and microfinance institutions to use mobile money to receive funds from the public, whether as loan repayments or deposits, using a standard bill payment model. An example is the Pesa Pap service announced by Family Bank in Kenya in June 2010, which runs on M-PESA.

- A fuller level of integration between M-PESA and a bank was unveiled in May 2010, when Equity Bank and Safaricom announced the M-KESHO joint venture. This permits M-PESA users to move money seamlessly between their M-PESA mobile wallet and a new type of interest-bearing Equity Bank account. Account holders can also tap into loan and insurance facilities. Three months after the launch of M-KESHO, 455,000 customers had opened accounts, though activity on these accounts remains low.[11]

- Banks and mobile network operators are partnering to set up retail based e-payment platforms as bank-owned sales channels. In Haiti, with the launch of mobile money services, customers can open a separate class of accounts through retail merchants. These bank grade accounts allow customers to send, receive and store money electronically using the mobile phone interface. These accounts, with no opening fee or minimum balance requirement, bring some essential banking services out of Haiti's over-crowded bank infrastructure allowing a safe alternative to carrying cash. This is significant in a country that has only 164 bank branches and only 15% of the population has access to formal financial services.

- Banks and mobile operators are working closely together in Pakistan. Telenor Pakistan, the country's second largest mobile operator, purchased a 51% stake in Tameer Microfinance Bank. The two then launched a mobile money deployment

called easypaisa. The partnership harnesses the core assets of the bank and mobile operator. Tameer Bank is responsible for financial product design, deposit intermediation, regulatory compliance, and back-end know-your customer (KYC) verification. Telenor oversees easypaisa's marketing campaign and cash-in/out network. Easypaisa's December 2009 launch has successfully jumpstarted a vibrant branchless banking market in Pakistan. However, due to the State Bank of Pakistan's stringent KYC requirements on entry-level accounts, the transaction activity over these mobile money platforms has been heavily skewed towards over-the-counter (i.e., agent assisted; non-account based) transactions. The challenge now in Pakistan is to convert these over-the-counter customers into account holders.

The success of these partnership models will depend on the value they bring to the customer. Banks need to offer a range of services that have a utility beyond that of basic mobile money account. Mobile operators need to price electronic transactions on their platforms in a way that does not discourage customers. The success of these partnerships will also depend on developing co-marketing and branding arrangements that relate to each player's relative core strengths and contributions.

SLGs linking up with financial institutions and mobile money schemes

Whether financial institutions can leverage mobile money platforms to profitably process savings transactions as low as one or two dollars, i.e., conducive for daily savings by the poor, remains to be seen. SLGs may present an opportunity to serve as a channel for both banks and mobile money players to reach the very poor in transaction sizes that work for them. In so doing, banks and mobile money players can add more value to the group, adding to the raison d''tre of the group and potentially providing a stable funding source for village agents or group leaders.

At the most basic level, linking a SLG to a formal financial institution creates the opportunity to maintain excess liquidity of the group in a bank account rather than in a lock box. This offers more security and additional return to the group. Bank-linked SLGs can also channel credit, which can be distributed among and repaid by group members at their regular meetings. Both of these elements are features of many Self-Help Groups (SHGs) in India.[12]

The SLG structure could be used to market and channel more advanced financial services to group members on an individual basis. This could be the case, for example, for the accumulation of longer-term savings for which the group dynamic—which is inherently short-lived—is not appropriate or not desired by customers who want a higher level of privacy. In this case, the group can become an efficient cash collection point for these individually-based services.

Mobile money can bridge the physical distance between the group in a rural village and the distant branch of the financial intermediary. Group leaders and village agents could take advantage of nearby mobile money outlets to transact on the group account, or themselves become sub-agents of the mobile money scheme, and conduct transactions for group members on their own account. A village agent is one step closer to the saver than either a bank branch or retailer, and is the central contact point for the many groups he supports and their multiple pots of funds. Using the village agent as an agent for banks or a cash merchant for mobile money can substantially lower the cost of cash-in or cash-out for small value amounts, allowing access to increasingly remote areas.

In Tanzania, CARE's Village Savings and Loans Associations (VSLAs) have worked with the mobile operator Vodacom to create tailored M-PESA group accounts that allow groups to store excess group funds and pay agricultural suppliers. Some SLG members use the mobile platform to intermediate their funds remotely, paying their savings contributions and receiving loans, without being restricted to the physical location and time of group meetings.

Connecting all the pieces

We can connect all the pieces:

- Formal financial institutions will do the heavy lifting, intermediating funds, and developing and marketing a range of relevant products that meet the needs of the poor;
- Mobile money platforms will bring high volume/low value electronic transaction capability to people's mobile phones and a dense retail network of cash-to-electronic value conversion points in every village and neighborhood; and
- SLGs will aggregate the financial needs and transaction amounts of poor people in remote areas, thus making financial services available by both mobile money and formal financial institutions.

The exact partnership models that would make this a reality are today uncertain, as they involve finding a delicate balance between competition and cooperation between diverse types of players. Whether these players can supercharge their collective strengths will depend on how comfortably they are able to articulate their individual contribution to—and benefit from meeting the financial needs of a vast market that is currently un- or under-served.

Notes

1 Field experiments have found linkages between access to a savings account and household and business outcomes. See for example Dupas and Robinson 2010, Duflo, Kremer, and Robinson (2009) and Brune et al. 2010

2 See the Financial Access Initiative 2009

3 See Robinson 2006

4 Beck, Demirguc Kunt, and Soledad Martinez Peria 2007

5 Bank Rakyat Indonesia 2009

6 See websites from the Central Bank of Kenya, the Kenya Post Office Savings Bank and Safaricom

7 See Wright and Mutesasira 2001

8 See Davidson and McCarty 2011

9 See Wright (year unknown)

10 See Nava, Karlan and Yin 2006

11 M-KESHO data is as of July 31, 2010

12 Launched in 1991, India's SHG-bank linkage scheme is now the world's largest microfinance programme, reaching 54 million members. Despite these impressive numbers, the programme remains heavily subsidized and focused mainly on credit delivery (US$ 4.6 billion in bank loans to SHGs versus US$ 1.0 billion in bank-held group savings). See also the ACCESS report on the state of the Microfinance Sector 2009.

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CHAPTER 1.6

Saving On The Mobile: Developing Innovative Financial Services to Suit Poor Users

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Savings on mobile money

A recent survey of over 2,000 Kenyan households found that 89% of respondents used M-PESA, a Kenyan mobile money (MM) application, "to save".[1] Morawczynski[2] confirmed this finding after spending over 18 months studying the financial habits of resource poor M-PESA users in two locations: an urban slum called Kibera and village in Western Kenya called Bukura. The study found that M-PESA was integrated into the financial portfolios and acted as a complement, rather than a substitute, to other mechanisms.

This paper expands on these findings by disaggregating the term "savings" and focusing on behavior. Four scenarios have been developed to explain how and why resource poor individuals use MM as a savings mechanism. These scenarios describe the frequency of transactions and the costs associated with each form of savings. A case study accompanies each scenario to explain the circumstances leading to the savings behavior. Two MM applications are central to this analysis—M-PESA in Kenya and MobileMoney in Uganda.

Product ideas are derived from analysis of practices. To "go beyond payments" and be relevant to poor users, mobile applications must be designed to fit into existing practices rather than trying to change or displace them.

Savings scenarios

Most survey respondents adopted MM to send or receive money. MM provided one of the fastest, and cheapest, methods of money transfer. Before MM was introduced, many respondents had to leave their villages to collect cash transferred by bus or via the post office. These trips were expensive, costing up to 30% of the amount received. However, after users became accustomed to MM services, many started using MM for savings. As one Kenyan farmer explained:

> *I signed up at first because my brother was sending me cash from Kisumu. I would also use M-PESA to send to my mother. Then the agent told me that M-PESA is also like a bank. I can save my money there and withdraw it when I need it.*

There are several ways individuals "saved" on their MM accounts, also known as wallets. The following four savings scenarios are derived from interviews with respondents as well as financial diaries, which tracked respondents' inflows and outflows for a month:

Scenario 1: saving to transfer

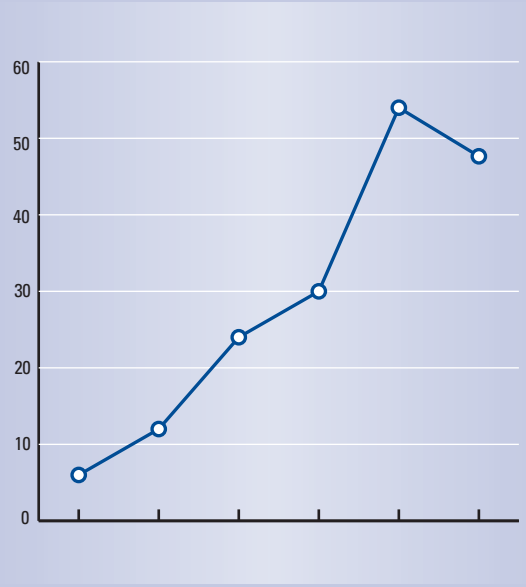
Some savers use MM to accumulate cash before transferring the value to a recipient. In most cases, the senders predetermined the amount they wanted to send and saved through small deposits until the target was met. This form of savings is often inexpensive for the

Scenario 1: Paul, mechanic and shop owner in Kibera, Kenya

Paul is a mechanic in Kibera, a slum near Nairobi. Paul also owns a small retail shop, at which he works during the evenings. He stays alone in Kibera, but supports his mother and three children who live in Bukura, a small village in Western Kenya. His wife died five years ago and his mother takes care of the children while he works in the city.

Paul sends the equivalent of US$ 46 (4,000 KES) per month. This money is mainly used by his mother to purchase items such as milk, sugar, and porridge. Paul explains that the rising costs of city life make it difficult to meet the target. To organize his savings, he made a savings plan and started to deposit US$ 6 (500 KES) every week. This allows him to save half (2,000 KES) of what he needs to transfer each month. The other half is "topped up" by clients who purchase goods on credit from his shop and pay him the balance at the end of the month. After meeting the US$ 46 target, Paul makes the transfer to his mother and starts saving once again.

Figure 1: MM balance (US$)



Transaction type	+	–	MM wallet balance	Cost of transaction (to saver)
Deposit	6.00		6.00	0.00
Deposit	6.00		12.00	0.00
Receive	12.00		24.00	0.00
Deposit	6.00		30.00	0.00
Receive	24.00		54.00	0.00
Transfer		6.00	47.65	0.35 (30 KES)

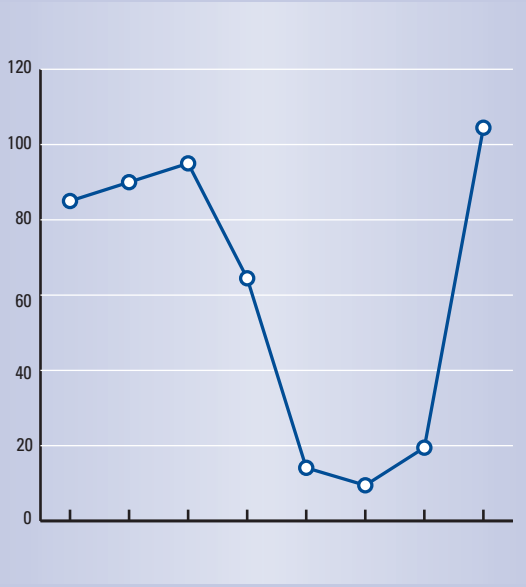
Note: All values in US dollars, unless otherwise speficied.

Scenario 2: Moses, motorcycle taxi driver in Kyenjojo, Uganda

Moses lives in a small village in Western Uganda. He works mainly as a motorcycle taxi driver and also has a small plot of land that he farms. He has a sister living in Kampala, Uganda's largest city, who sends him cash at least twice a year to help boost his business. He uses that cash to purchase petrol or spare parts for his bike.

Moses does not withdraw the cash after receiving the transfers because his sister usually sends a sizeable amount of cash (US$ 100 USD or 200,000 UGX). The agent usually does not have the cash float to handle a total withdrawal at one time. Instead, Moses takes out cash when he needs it and maintains a balance on his MobileMoney account. When his business earnings are good he makes deposits to increase his balance. Having available cash helps Moses deal with emergencies.

Figure 1: MM balance (US$)



Transaction type	+	–	MM wallet balance	Cost of transaction (to saver)
Receive cash	85.00		85.00	0.00
Deposit	5.00		90.00	0.00
Deposit	5.00		95.00	0.00
Withdraw		30.00	64.47	0.53 (45 KES)
Withdraw		50.00	14.12	0.88 (75 KES)
Withdraw		5.00	9.47	0.53 (45 KES)
Deposit	10.00		19.47	0.00
Receive cash	85.00		104.47	0.00

Note: All values in US dollars, unless otherwise speficied.

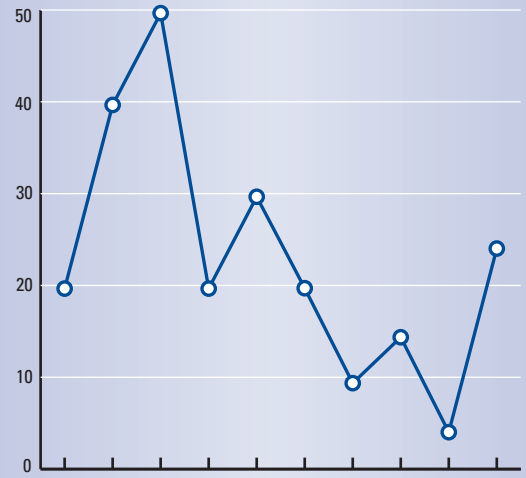
Scenario 3: Grace, clothes trader in Kiyindi, Uganda

Grace owns a small clothes trading business. She travels weekly to the nearest town center to purchase clothes, and bring the items back to resell in her village on market day.

Grace opened up a mobile money account last year for safety reasons. She often travels with large amounts of cash and does not want to be robbed. She deposits cash before making her trip to town, and withdraws it when she arrives. Grace see great value in using MM for business purposes. For example, she sends cash to the clothing dealers in town in early morning to secure the best items of clothing. She accepts payments from customers who purchase clothing in bulk.

Before signing up for MM, Grace kept most of her cash in a small box hidden in some pots at home. She used this form of savings because the cash was easy to access. Recently, her husband found the money and spent it on alcohol. Grace had to stop trading for over two weeks because she lacked cash to purchase clothing. After the incident, Grace moved the cash at home to her MM wallet, which she uses as her business account. She also opened a bank account in town to accumulate her profits. If she maintains a balance, she hopes to secure a loan to grow her business.

Figure 1: MM balance (US$)



Transaction type	+	–	MM wallet balance	Cost of transaction (to saver)
Send		30.00	19.66	0.34 (800 UGX)
Receive	20.00		39.66	0.00
Deposit	10.00		49.66	0.00
Send		30.00	19.66	0.34 (800 UGX)
Receive	10.00		29.66	0.00
Withdraw		10.00	19.70	0.30 (700 UGX)
Send		10.00	9.36	0.00
Receive	5.00		14.36	0.00
Send		10.00	4.02	0.34 (800 UGX)
Deposit	20.00		24.02	0.00

Note: All values in US dollars, unless otherwise speficied.

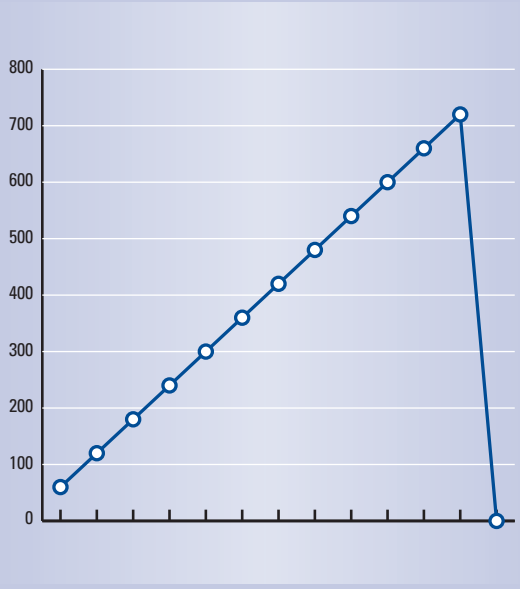
Scenario 4: Oscar, sugar cane farmer in Bukura, Kenya

A few years ago, Oscar's son suffered an accident and spent nearly five months in the hospital before passing away. Oscar had to sell his land to pay for medical and funeral bills. He eventually secured work at a nearby sugar plantation, which provided him with housing. Oscar wants to repurchase his land because he plans to retire in a few years and needs a place to live.

Recently, Oscar started his savings plan. He needs about US$ 700 to buy back his small plot of land. He earns about US$ 100 per month in his current job and put US$ 60 per month into his mobile money wallet. The sugar plantation has some savings groups, but Oscar prefers to use MM because he wants to put away larger amounts of savings "in secret". If the other workers found out that he had money, he would be asked for loans.

Oscar can track his progress using his phone to check his balance. This has helped him to stay on track with his savings goal.

Figure 1: MM balance (US$)



Transaction type	+	–	MM wallet balance	Cost of transaction (to saver)
Deposit	60.00		60.00	0.00
Deposit	60.00		120.00	0.00
Deposit	60.00		180.00	0.00
Deposit	60.00		240.00	0.00
Deposit	60.00		300.00	0.00
Deposit	60.00		360.00	0.00
Deposit	60.00		420.00	0.00
Deposit	60.00		480.00	0.00
Deposit	60.00		540.00	0.00
Deposit	60.00		600.00	0.00
Deposit	60.00		660.00	0.00
Deposit	60.00		720.00	0.00
Withdraw		720.00	0.00	4.00 (340 KES)

Note: All values in US dollars, unless otherwise speficied.

users because deposits are free. In this scenario, MM is a dedicated account for remittances and facilitates the separation and organization of savings, allowing users to control their spending. As one security guard explained, "If the cash is not on hand then I can't waste it". It also allows the users to use the check balance function to track their progress, and know how much more they need before sending off the cash. Some also explained that this form allows them to "top-up" their balance. Topping up allows savers to meet their targets more quickly.

Customers engaging in this form of savings usually deposited on a weekly, or bi-weekly, basis and held the balance for one to two months. They would deplete their balance when sending money and thereafter start to build up their balance from zero. As shown below, this form of savings did not incur too many transaction costs. Paul was only charged when he transferred his savings balance to his mother.

Scenario 2: Saving down after receiving cash

In many of the rural villages, recipients engage in another form of savings behavior—"saving down". They receive cash from relatives and withdraw the money in small increments until the balance is depleted. Many individuals who engage in this form of savings do not have a formal bank or microfinance institution account. They want to keep cash outside of the home for emergencies and to curb their temptation to spend the savings.

This form of savings is more expensive than the first scenario. The customer is charged a fee for each withdrawal transaction; the fee depends on the amount withdrawn as the pricing structure is tiered. This form of savings is cheaper than travelling to the nearest urban area to access banking service as the trips cost from US$ 2.00-$15.00 according to the research sites.

In this scenario, the recipients often make withdrawals on a bi-weekly basis. They usually keep at least a small balance on the MM wallet until they receive the next transfer. This form of savings is especially appropriate for those who receive cash from several urban contacts. Their savings are often "topped up" without having to make a deposit.

Scenario 3: transactions account

Some respondents make frequent small deposits and withdrawals, using the MM wallet like a transactions account. In this scenario, transactions are more frequent and it is common for the wallets to reach a zero-balance. In some cases, those engaging in this form of savings are traders and micro-entrepreneurs.

These users often send and receive money from business contacts. They make withdrawals to pay expenses or to invest in their businesses. Some use cash in MM for daily consumption. They make deposits when they have cash and withdrawals when needed.

Although such withdrawals were costly, many engage in this form of savings because they do not want to keep cash at home. As the case study shows, money stored at home is prone to theft by a thirsty spouse. Some respondents use MM in this manner because banks are too costly for frequent and small transactions. Cash can be accessed from a network of agents, which allows users to travel without having to carry cash.

Scenario 4: targeted savings

Some respondents use the MM wallet to save for a particular goal, such as land, cattle or school fees. Often, these savers develop a schedule for the frequency and amount of their deposits. Many only withdraw the cash when they meet their targets, unless they have a pressing need. With this form of savings, users keep cash in the wallet for weeks or months.

Many using this form of savings have no access to formal savings mechanisms or find such mechanisms too expensive. One tailor in Kyenjojo, a farming community in Western Uganda, prefers to save in MM for larger purchases even though there is a Savings and Credit Cooperative (SACCO) in his village. The check balance function allows him to keep better track of his savings and "monitor" whether his cash has been stolen. Such monitoring was more difficult with the SACCO because he had to physically go there and wait for a receipt.

Individuals who accumulate savings through frequent deposits have several complaints. First, no interest is offered on MM wallets because they are not designed to be savings accounts. Second, it is often difficult to make large cash withdrawals in rural areas because the agents often run out of cash. Because most transactions in these areas are withdrawals, the agents have to travel to banks to replenish their cash floats. Such trips can be expensive and time-consuming. Some agents limit their trips and spend days without a float.

Targeted savings provide one of the cheapest forms of money storage. Individuals are only charged when they make a withdrawal. There is no charge for storing cash in the account

Product design

These savings scenarios should inform the design of innovative mobile savings products that serve poor people's needs. They provide important insights into the what, how and why people use MM as storage and savings tools. These insights have poignant implications for product innovation beyond payments.

Product Scenario 1: saving to transfer

Cash accumulation into an e-wallet or "saving up" is more challenging than receiving cash and "saving down" as in Scenario 2. It took Paul one month of careful deposits and collecting his lines of credit to meet

his monthly remittance targets. As he lives in an urban setting there is greater temptation to spend on non-essential goods and services.

Paul and other savers like him could be incentivized to put their savings into micro-time deposits, which earn interest while savers are depositing towards their targets. If savers build up their deposits and do not withdraw over a given period they could be offered more attractive tiered interest rates, similar to the MM practice of tiered transaction fees. Savers could also be given the option of compartmentalizing the MM wallet to have a dedicated remittance account. This would allow someone like Paul to use MM as both a short-term storage and a transaction account.

Other creative approaches could increase savings balances. For example, a portion of airtime value could be funneled into the account when a top-up is made. Such strategies could help customers like Paul increase the remittance account balance without too much effort. For this to occur, the MM wallet and bank account would have to be linked.

These types of savers could be followed over time to build up credit risk ratings and thus become eligible for credit facilities such as an overdraft, similar to the M-Kesho offering in Kenya.

Product Scenario 2: saving down after receiving cash

It takes much less effort for customers to deplete their savings balances, or save down, than it does for them to accumulate cash. As in Scenario 2 (saving after receiving), users like Moses only withdraw cash when they need it. This results in far fewer transactions than those in Scenario 1 (saving to transfer) or 4 (targeted savings).

A product that funnels a pre-determined portion of cash into a separate account, every time that cash hits the wallet, could support this savings behavior. For example, Moses could opt into a programme that sends 20% of the money received into an interest bearing savings sub-account. This would allow him to maintain a balance for emergencies or business investments and use the money in the wallet for his business.

Bulk salary payments could be linked to these types of sub-accounts, as could government poverty payments, providence fund offerings and international remittance payments. This could centralize the cash streams of users, and provide opportunities for the savings sub-account balance to be topped up.

Product Scenario 3: transactions account

In Grace's micro-business she needs liquidity to pay suppliers and transact with customers. She wants to securely store and save larger sums. She also wants to build a credit history so that she can eventually access a line of credit.

Providers could consider offering savers like Grace a transaction sub-account that charges both deposit and withdrawal transactions, but keeps the cost of the transactions low compared to banks.. This would facilitate high volume and low-value transactions while allowing mobile operators to increase the amount of cash that goes through the system.

Transaction histories could be monitored to measure credit worthiness. Overdraft facilities or other forms of credit could be offered to low risk customers. These could be modeled after the "pay-later" airtime schemes that are already offered in countries such as Uganda. These allow customers to purchase small amounts of airtime on credit, and pay the interest when they top-up their balances. In this case, interest could be paid when customers receive cash on their wallets. Customers could be allowed to extract their account history, for a small fee, to secure loans from other financial service providers.

Product Scenario 4: targeted savings

Oscar and others like him are deliberate in their savings targets. In Oscar's case, the repurchase of his land was his motivation for systematic savings. Not unlike Paul in Scenario 1, Oscar saved in small increments toward his personal goal, whilst Paul saves to support his mother and children. The key value propositions are flexibility, transparency and personal control over targets.

Savers could be empowered to set their savings targets through the mobile interface. This would allow them to decide how much they need to achieve their goals. Savers could be given full transparency over the amounts saved toward their goals and could be sent reminders to stay on track. Different target levels could be linked to different interest rates and increases in minimum balances could open up new facilities once risk profiles are ascertained.

Targeted savings account products could be marketed to serve common individual or collective savings needs such as group contributions for weddings or funerals. The goal would be marketed rather than the mechanism for getting there.

Conclusion

The industry has given much attention to scaling MM, either through growth of the distribution network or inclusion of a wide partnership base. These discussions have overshadowed those on products. We have forgotten that M-PESA grew quickly because it was appropriate for poor Kenyans, suited their needs and compatible with their financial habits. The expanding agent network and enrollment of many partners facilitated that growth.

If we aim to go beyond payments, attention must be focused not only on what people want, but also on what they do. Numerous empirical studies, including this one, show that poor people store money in a variety of savings devices—from locked boxes to holes in the ground. These studies show that the poor want

something different, and are willing to pay for it. This provides a unique opportunity for banks and mobile operators to generate revenues by pulling billions of dollars from these hiding places.

In addition to understanding what people do, we must also focus on why it is important to them. This can cultivate value propositions that resonate with this segment. Nearly every Kenyan understood the three words that guided the launch of M-PESA—"send money home". Finding propositions that work as well for savings—such as for school fees or business investments—is equally important. This will facilitate the shift of particular markets, as well as the entire MM industry, beyond payments.

Notes

1 See Suri and Jack 2010.

2 See Morawczynski 2010.

References

Morawczynski, O. (2010). Saving Through the Mobile: A Study of M-PESA in Kenya. In A. Ashta (Eds.),*Advanced Technologies for Microfinance: Solutions and Challenges*. Hershey, PA: IGI Global.

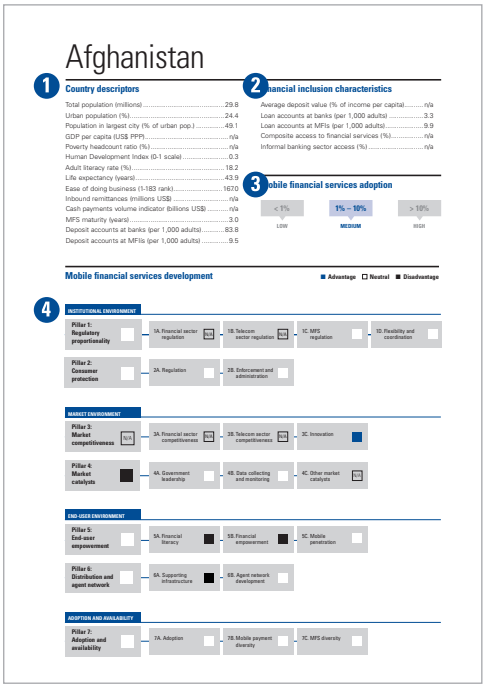
Jack, W. & Suri, T. (2010). The Economics of M-PESA: An Update. Unpublished research paper, Georgetown University.

Part 2

Country Profiles

How to Read the Country Profiles

The Country Profiles section presents a four-page profile for each of the 20 countries covered by *The Mobile Financial Services Development Report 2011*.



Page 1

1 Country descriptors

- The first section of each profile presents a selection of key indicators, including the maturity of the country's MFS ecosystem.

2 Financial inclusion characteristics

- CGAP's Financial Access 2010 serves as the source of data for figures on the number of commercial bank accounts and the average deposit value. The number of accounts at microfinance institutions is derived from MIX Market's *Microfinance Information eXchange (www.mixmarket.org)*, as accessed in March 2011.

- The composite measure of access to financial services is taken from Honohan 2007: *Cross-country Variation in Household Access to Financial Services*. Although these data are less current, they are included here as they are widely accepted as a sound indicator of access to traditional financial services for the countries in this *Report*.

- When available, a measure of access to the informal economy is included, based on demand-side data from *FinMark Trust*.

3 Mobile financial services adoption indicator

- This indicator represents the level of adoption of mobile financial services in each country, as represented by variable 7.01 and is based on proprietary research in coordination with the GSM Association.

4 Mobile financial services development

- This section details a country's relative performance in the various components of the mobile financial services ecosystem. It presents the seven pillars, encompassing a total of 20 subpillars, and indicates whether a country's score ranks within the top quintile of the sample of this Report ("Advantage"), or within the bottom quintile ("Disadvantage"). All other scores are categorized as "Neutral".

- As described in "Appendix A: Structure of the Country Profiles", countries are compared to each other on both the subpillar and pillar levels. The limited classifications of the final label (Advantage/Neutral/Disadvantage) can result in equal sub pillar scores yielding different pillar results.

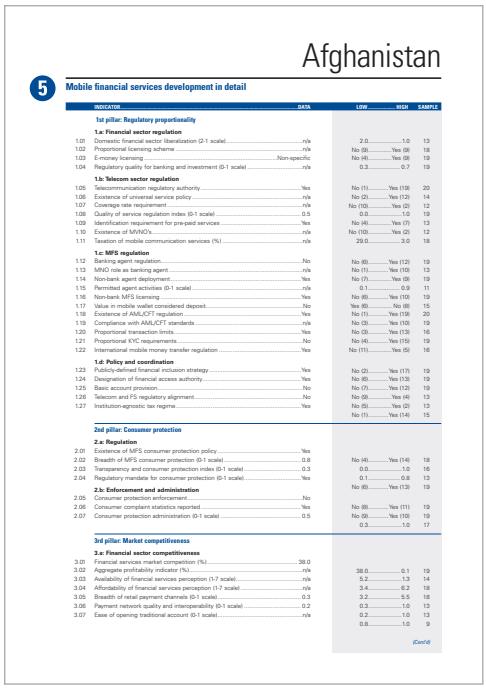
Pages 2–4

5 Mobile financial services development in detail

These pages present the variable data for each country and provide insight on the range of scores within the sample. Please refer to Appendix A for a detailed structure of the mobile financial services profile.

- The lowest and highest scores within the total country sample are noted next to the country's score and unit. The number of countries from the sample for which data were available is also noted.

- In the case of qualitative scores, the qualitative values that convert to the lowest and the highest scores are stated here. Additionally, the distribution of qualitative scores is included here in parentheses after each. For some variables there are three discrete answers possible. The thrid answer is not listed here, but can be considered to be between the answers of the lowest and highest scores. This value is awarded half the score of a "high" score. For example, the range of possible results for variable 1.09 consists of "Yes", "No" and "Considered". See the Data Tables section for more information on these variables.



Afghanistan

5 Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0	1.0	13
1.02	Proportional licensing scheme	n/a	No (3)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (9)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	n/a	0.3	0.7	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	n/a	No (2)	Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	0.5	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	n/a	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	No	No (6)	Yes (12)	19
1.13	MNO role as banking agent	n/a	No (1)	Yes (10)	13
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	11
1.16	Non-bank MFS licensing	Yes	No (6)	Yes (10)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	n/a	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	No	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	Yes	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (2)	Yes (17)	19
1.24	Designation of financial access authority	Yes	No (6)	Yes (13)	19
1.25	Basic account provision	No	No (7)	Yes (12)	19
1.26	Telecom and FS regulatory alignment	No	No (9)	Yes (4)	13
1.27	Institution-agnostic tax regime	Yes	No (5)	Yes (2)	13
			No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes			
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	No (4)	Yes (14)	18
2.03	Transparency and consumer protection index (0-1 scale)	0.3	0.0	1.0	16
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	0.1	0.8	13
	2.b: Enforcement and administration		No (6)	Yes (13)	19
2.05	Consumer protection enforcement	No			
2.06	Consumer complaint statistics reported	Yes	No (6)	Yes (11)	19
2.07	Consumer protection administration (0-1 scale)	0.5	No (9)	Yes (10)	19
			0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	38.0			
3.02	Aggregate profitability indicator (%)	n/a	38.0	0.1	19
3.03	Availability of financial services perception (1-7 scale)	n/a	5.2	1.3	14
3.04	Affordability of financial services perception (1-7 scale)	n/a	3.4	6.2	16
3.05	Breadth of retail payment channels (0-1 scale)	0.3	3.2	5.5	18
3.06	Payment network quality and interoperability (0-1 scale)	0.2	0.3	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.2	1.0	13
			0.8	1.0	9

(Cont'd)

List of Countries

Afghanistan

Country descriptors

Total population (millions)	29.8
Urban population (%)	24.4
Population in largest city (% of urban pop.)	49.1
GDP per capita (US$ PPP)	n/a
Poverty headcount ratio (%)	n/a
Human Development Index (0-1 scale)	0.3
Adult literacy rate (%)	18.2
Life expectancy (years)	43.9
Ease of doing business (1-183 rank)	167.0
Inbound remittances (millions US$)	n/a
Cash payments volume indicator (billions US$)	n/a
MFS maturity (years)	3.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	83.8
Deposit accounts at MFI's (per 1,000 adults)	9.5
Average deposit value (% of income per capita)	n/a
Loan accounts at banks (per 1,000 adults)	3.3
Loan accounts at MFIs (per 1,000 adults)	9.9
Composite access to financial services (%)	n/a
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality	1A. Financial sector regulation: N/A	1B. Telecom sector regulation: N/A	1C. MFS regulation	1D. Policy and coordination
Pillar 2: Consumer protection	2A. Regulation	2B. Enforcement and administration		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness: N/A	3A. Financial sector competitiveness: N/A	3B. Telecom sector competitiveness: N/A	3C. Innovation
Pillar 4: Market catalysts	4A. Government leadership	4B. Data collecting and monitoring	4C. Other market catalysts: N/A

END-USER ENVIRONMENT

Pillar 5: End-user empowerment	5A. Financial literacy	5B. Financial empowerment	5C. Mobile penetration
Pillar 6: Distribution and agent network	6A. Supporting infrastructure	6B. Agent network development	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability	7A. Adoption	7B. Mobile payment diversity	7C. MFS diversity

Afghanistan

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0	1.0	13
1.02	Proportional licensing scheme	n/a	No (9)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	n/a	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	n/a	No (2)	Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	0.5	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	n/a	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	No	No (5)	Yes (13)	19
1.13	MNO role as banking agent	n/a	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	n/a	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	No	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	Yes	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	No	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	No	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.3	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	No	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.5	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	38.0	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	n/a	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	n/a	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	n/a	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.3	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	0.2	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Afghanistan

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.1	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	n/a	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	n/a	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	n/a	2.2	4.2	18
3.13	Investment in telecom (%)	7.8	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	n/a	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	n/a	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	70.6	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	40.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	100.0	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	n/a	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	n/a	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.1	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	0.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	1.4	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	5.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	49.2	37.8	128.5	20
5.07	Post-paid connections (%)	18.0	0.4	25.5	20
5.08	Mobile connection growth rate (%)	2.4	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	2.0	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	0.4	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	2.7	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	3.2	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.8	0.0	1.0	13

(Cont'd)

Afghanistan

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Medium	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	1.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	No	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	No	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	Yes	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

Argentina

Country descriptors

Total population (millions)	40.3
Urban population (%)	92.2
Population in largest city (% of urban pop.)	35.0
GDP per capita (US$ PPP)	14,559.2
Poverty headcount ratio (%)	7.3
Human Development Index (0-1 scale)	0.8
Adult literacy rate (%)	97.7
Life expectancy (years)	75.3
Ease of doing business (1-183 rank)	115.0
Inbound remittances (millions US$)	682.2
Cash payments volume indicator (billions US$)	260.4
MFS maturity (years)	2.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	906.4
Deposit accounts at MFI's (per 1,000 adults)	0.0
Average deposit value (% of income per capita)	32.0
Loan accounts at banks (per 1,000 adults)	532.5
Loan accounts at MFIs (per 1,000 adults)	0.7
Composite access to financial services (%)	28.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ■	1A. Financial sector regulation ☐	1B. Telecom sector regulation ■	1C. MFS regulation ■	1D. Policy and coordination N/A
Pillar 2: Consumer protection ☐	2A. Regulation ■	2B. Enforcement and administration ☐		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ☐	3C. Innovation ☐
Pillar 4: Market catalysts ■	4A. Government leadership ☐	4B. Data collecting and monitoring ■	4C. Other market catalysts N/A

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ■	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ■
Pillar 6: Distribution and agent network ■	6A. Supporting infrastructure ☐	6B. Agent network development N/A	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ■	7A. Adoption ☐	7B. Mobile payment diversity ■	7C. MFS diversity ☐

Argentina

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.4	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	No	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	4.5	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	No	No (5)	Yes (13)	19
1.13	MNO role as banking agent	n/a	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	No	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	12
1.16	Non-bank MFS licensing	No	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	n/a	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	n/a	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	n/a	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	n/a	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	n/a	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	No	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	n/a	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	n/a	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	n/a	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	1.4	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	2.4	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	3.4	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.2	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	n/a	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	n/a	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Argentina

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.1	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	2.6	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	3.5	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	3.0	2.2	4.2	18
3.13	Investment in telecom (%)	n/a	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	7.7	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	70.6	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	60.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	78.6	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	91.7	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	0.2	0.1	15.4	19
4.10	Main method of international remittances	n/a	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	n/a	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.8	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	6.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	1.0	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.9	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	4.1	60.9	100.0	19
5.06	Mobile phone services penetration (%)	128.5	37.8	128.5	20
5.07	Post-paid connections (%)	5.5	0.4	25.5	20
5.08	Mobile connection growth rate (%)	8.9	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	3.2	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	6.9	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	n/a	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	n/a	0.0	1.0	13

(Cont'd)

Argentina

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Low	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	1.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	No	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	No	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	No	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	n/a	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

Bangladesh

Country descriptors

Total population (millions)	162.2
Urban population (%)	27.6
Population in largest city (% of urban pop.)	31.8
GDP per capita (US$ PPP)	1,420.3
Poverty headcount ratio (%)	81.3
Human Development Index (0-1 scale)	0.5
Adult literacy rate (%)	55.0
Life expectancy (years)	66.1
Ease of doing business (1-183 rank)	107.0
Inbound remittances (millions US$)	11,050.2
Cash payments volume indicator (billions US$)	61.3
MFS maturity (years)	5.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	316.7
Deposit accounts at MFI's (per 1,000 adults)	171.1
Average deposit value (% of income per capita)	232.5
Loan accounts at banks (per 1,000 adults)	41.4
Loan accounts at MFIs (per 1,000 adults)	126.8
Composite access to financial services (%)	32.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ■	1A. Financial sector regulation ■	1B. Telecom sector regulation N/A	1C. MFS regulation ■	1D. Policy and coordination ■
Pillar 2: Consumer protection ■	2A. Regulation ■	2B. Enforcement and administration ■		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ■	3A. Financial sector competitiveness ■	3B. Telecom sector competitiveness ☐	3C. Innovation ■
Pillar 4: Market catalysts ■	4A. Government leadership ■	4B. Data collecting and monitoring ☐	4C. Other market catalysts ☐

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure N/A	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ■	7A. Adoption ☐	7B. Mobile payment diversity ■	7C. MFS diversity ☐

Bangladesh

Mobile financial services development in detail

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	1st pillar: Regulatory proportionality			
	1.a: Financial sector regulation			
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0 ..... 1.0	13
1.02	Proportional licensing scheme	Yes	No (9) ..... Yes (9)	18
1.03	E-money licensing	Yes	No (4) ..... Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.3	0.3 ..... 0.65	19
	1.b: Telecom sector regulation			
1.05	Telecommunication regulatory authority	Yes	No (1) ..... Yes (19)	20
1.06	Existence of universal service policy	n/a	No (2) ..... Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10) ..... Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	0.5	0.0 ..... 1.0	19
1.09	Identification requirement for pre-paid services	n/a	No (4) ..... Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10) ..... Yes (2)	12
1.11	Taxation of mobile communication services (%)	15.0	29.0 ..... 3.0	18
	1.c: MFS regulation			
1.12	Banking agent regulation	No	No (5) ..... Yes (13)	19
1.13	MNO role as banking agent	n/a	No (0) ..... Yes (12)	14
1.14	Non-bank agent deployment	No	No (7) ..... Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1 ..... 0.9	12
1.16	Non-bank MFS licensing	No	No (5) ..... Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6) ..... No (8)	15
1.18	Existence of AML/CFT regulation	No	No (1) ..... Yes (19)	20
1.19	Compliance with AML/CFT standards	Deficiencies	No (3) ..... Yes (10)	19
1.20	Proportional transaction limits	No	No (3) ..... Yes (13)	16
1.21	Proportional KYC requirements	No	No (4) ..... Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11) ..... Yes (5)	16
	1.d: Policy and coordination			
1.23	Publicly-defined financial inclusion strategy	No	No (1) ..... Yes (18)	19
1.24	Designation of financial access authority	No	No (7) ..... Yes (12)	19
1.25	Basic account provision	No	No (8) ..... Yes (5)	13
1.26	Telecom and FS regulatory alignment	No	No (5) ..... Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1) ..... Yes (14)	15
	2nd pillar: Consumer protection			
	2.a: Regulation			
2.01	Existence of MFS consumer protection policy	No	No (4) ..... Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.3	0.0 ..... 1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.6	0.08 ..... 0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	No	No (6) ..... Yes (13)	19
	2.b: Enforcement and administration			
2.05	Consumer protection enforcement	No	No (8) ..... Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9) ..... Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.5	0.3 ..... 1.0	17
	3rd pillar: Market competitiveness			
	3.a: Financial sector competitiveness			
3.01	Financial services market competition (%)	12.4	38.0 ..... 0.1	19
3.02	Aggregate profitability indicator (%)	5.2	5.2 ..... 1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.1	3.4 ..... 6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.9	3.2 ..... 5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.3	0.3 ..... 0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	0.6	0.2 ..... 1.0	13
3.07	Ease of opening traditional account (0-1 scale)	1.0	0.8 ..... 1.0	9

(Cont'd)

Bangladesh

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	3.5	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.1	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	7.7	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.4	2.2	4.2	18
3.13	Investment in telecom (%)	n/a	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	8.1	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	79.4	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	90.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	85.7	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	11.8	0.1	15.4	19
4.10	Main method of international remittances	n/a	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	4.4	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.3	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	2.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.4	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	90.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	37.8	37.8	128.5	20
5.07	Post-paid connections (%)	2.5	0.4	25.5	20
5.08	Mobile connection growth rate (%)	42.8	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	8.8	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	n/a	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	14.1	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.6	0.0	1.0	13

(Cont'd)

Bangladesh

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Low	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	3.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	No	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	Yes	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	No	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

Brazil

Country descriptors

Total population (millions)	193.7
Urban population (%)	86.0
Population in largest city (% of urban pop.)	12.0
GDP per capita (US$ PPP)	10,427.1
Poverty headcount ratio (%)	12.7
Human Development Index (0-1 scale)	0.7
Adult literacy rate (%)	90.0
Life expectancy (years)	72.4
Ease of doing business (1-183 rank)	127.0
Inbound remittances (millions US$)	4,277.1
Cash payments volume indicator (billions US$)	525.6
MFS maturity (years)	4.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	1,069.1
Deposit accounts at MFI's (per 1,000 adults)	0.9
Average deposit value (% of income per capita)	46.0
Loan accounts at banks (per 1,000 adults)	552.1
Loan accounts at MFIs (per 1,000 adults)	4.2
Composite access to financial services (%)	43.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ☐	1B. Telecom sector regulation ■	1C. MFS regulation ☐	1D. Policy and coordination N/A
Pillar 2: Consumer protection ■	2A. Regulation ■	2B. Enforcement and administration ■		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ☐	3C. Innovation ☐
Pillar 4: Market catalysts ☐	4A. Government leadership ☐	4B. Data collecting and monitoring ☐	4C. Other market catalysts ☐

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ■	5A. Financial literacy ☐	5B. Financial empowerment ■	5C. Mobile penetration ■
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure ■	6B. Agent network development ■	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ■	7A. Adoption ☐	7B. Mobile payment diversity ■	7C. MFS diversity ☐

Brazil

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.5	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	No	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	28.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Unclear	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.8	0.1	0.9	12
1.16	Non-bank MFS licensing	Limited	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	n/a	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	No	No (7)	Yes (12)	19
1.25	Basic account provision	n/a	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	n/a	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	n/a	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	n/a	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.8	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	2.7	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	3.9	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	5.6	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.5	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	n/a	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	n/a	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Brazil

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.1	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	18.1	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	18.1	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	3.8	2.2	4.2	18
3.13	Investment in telecom (%)	2.6	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	9.5	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	85.3	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	75.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	0.3	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	10.1	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.7	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	5.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	1.0	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	3.7	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	90.6	60.9	100.0	19
5.06	Mobile phone services penetration (%)	79	37.8	128.5	20
5.07	Post-paid connections (%)	18.9	0.4	25.5	20
5.08	Mobile connection growth rate (%)	3.9	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	7.3	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	2.1	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	7.4	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	0.0	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	n/a	0.0	1.0	13

(Cont'd)

Brazil

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Low	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	2.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	No	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	No	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

China

Country descriptors

Total population (millions)	1,331.5
Urban population (%)	44.0
Population in largest city (% of urban pop.)	2.8
GDP per capita (US$ PPP)	6,837.7
Poverty headcount ratio (%)	36.3
Human Development Index (0-1 scale)	0.7
Adult literacy rate (%)	93.7
Life expectancy (years)	73.1
Ease of doing business (1-183 rank)	79.0
Inbound remittances (millions US$)	51,000.0
Cash payments volume indicator (billions US$)	1,501.0
MFS maturity (years)	3.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	n/a
Deposit accounts at MFI's (per 1,000 adults)	n/a
Average deposit value (% of income per capita)	n/a
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	n/a
Composite access to financial services (%)	42.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality	1A. Financial sector regulation	1B. Telecom sector regulation	1C. MFS regulation	1D. Policy and coordination
Pillar 2: Consumer protection	2A. Regulation	2B. Enforcement and administration		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness	3A. Financial sector competitiveness	3B. Telecom sector competitiveness	3C. Innovation
Pillar 4: Market catalysts	4A. Government leadership	4B. Data collecting and monitoring	4C. Other market catalysts

END-USER ENVIRONMENT

Pillar 5: End-user empowerment	5A. Financial literacy	5B. Financial empowerment	5C. Mobile penetration
Pillar 6: Distribution and agent network	6A. Supporting infrastructure	6B. Agent network development	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability	7A. Adoption	7B. Mobile payment diversity	7C. MFS diversity

China

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	2.0	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.3	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	No	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	n/a	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	3.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	No	No (5)	Yes (13)	19
1.13	MNO role as banking agent	n/a	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	No	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	n/a	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	n/a	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	n/a	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	n/a	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	No	No (7)	Yes (12)	19
1.25	Basic account provision	n/a	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	n/a	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	n/a	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	n/a	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	n/a	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	No	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	No	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	n/a	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	4.1	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	4.5	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.6	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.7	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	n/a	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	n/a	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

China

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.3	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	4.5	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.4	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	18.0	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	4.2	2.2	4.2	18
3.13	Investment in telecom (%)	2.0	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	2.3	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	61.8	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	80.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	64.3	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	83.3	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	1.0	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	1.1	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.8	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	4.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	1.0	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	3.5	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	7.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	58.5	37.8	128.5	20
5.07	Post-paid connections (%)	18.6	0.4	25.5	20
5.08	Mobile connection growth rate (%)	5.7	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	n/a	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	n/a	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	n/a	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	n/a	0.0	1.0	13

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Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	n/a	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	1.0	1.0	5.0	17
7.03	Ability to buy airtime from account	n/a	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	n/a	No (3)	Yes (12)	15
7.05	Availability of international money transfer	n/a	No (8)	Yes (7)	15
7.06	Availability of bill payment	n/a	No (1)	Yes (14)	15
7.07	Availability of merchant payment	n/a	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	n/a	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	n/a	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	n/a	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	n/a	No (14)	Yes (1)	15
7.12	Availability of insurance	n/a	No (11)	Yes (4)	15

Colombia

Country descriptors

Total population (millions)	45.7
Urban population (%)	74.8
Population in largest city (% of urban pop.)	24.2
GDP per capita (US$ PPP)	8,869.9
Poverty headcount ratio (%)	27.9
Human Development Index (0-1 scale)	0.7
Adult literacy rate (%)	93.4
Life expectancy (years)	73.0
Ease of doing business (1-183 rank)	39.0
Inbound remittances (millions US$)	3,942.4
Cash payments volume indicator (billions US$)	117.7
MFS maturity (years)	2.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	1,294.8
Deposit accounts at MFI's (per 1,000 adults)	115.6
Average deposit value (% of income per capita)	28.8
Loan accounts at banks (per 1,000 adults)	494.0
Loan accounts at MFIs (per 1,000 adults)	48.8
Composite access to financial services (%)	41.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ■	1A. Financial sector regulation ☐	1B. Telecom sector regulation ☐	1C. MFS regulation ☐	1D. Policy and coordination ☐
Pillar 2: Consumer protection ■	2A. Regulation ■	2B. Enforcement and administration ■		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ■	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ■	3C. Innovation ☐
Pillar 4: Market catalysts ☐	4A. Government leadership ■	4B. Data collecting and monitoring ☐	4C. Other market catalysts ■

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ■	5B. Financial empowerment ☐	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure ☐	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability N/A	7A. Adoption ☐	7B. Mobile payment diversity N/A	7C. MFS diversity N/A

Colombia

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.6	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	No	No (4)	Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	20.5	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.5	0.1	0.9	12
1.16	Non-bank MFS licensing	Limited	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	No	No (7)	Yes (12)	19
1.25	Basic account provision	n/a	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	Yes	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	n/a	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	1.0	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	3.5	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	3.6	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.9	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.3	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	n/a	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	n/a	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Colombia

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.4	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	1.6	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.2	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	6.3	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.9	2.2	4.2	18
3.13	Investment in telecom (%)	n/a	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	19.4	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	88.2	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	80.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	1.8	0.1	15.4	19
4.10	Main method of international remittances	Cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	5.6	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.8	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	5.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	1.0	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	3.5	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	3.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	6.2	37.8	128.5	20
5.07	Post-paid connections (%)	6.6	0.4	25.5	20
5.08	Mobile connection growth rate (%)	6.0	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	5.1	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	29.6	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	1.1	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	n/a	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.4	0.0	1.0	13

(Cont'd)

Colombia

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	Low	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	1.0	1.0	5.0	17
7.03	Ability to buy airtime from account	n/a	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	n/a	No (3)	Yes (12)	15
7.05	Availability of international money transfer	n/a	No (8)	Yes (7)	15
7.06	Availability of bill payment	n/a	No (1)	Yes (14)	15
7.07	Availability of merchant payment	n/a	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	n/a	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	n/a	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	n/a	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	n/a	No (14)	Yes (1)	15
7.12	Availability of insurance	n/a	No (11)	Yes (4)	15

Ghana

Country descriptors

Total population (millions)	23.8
Urban population (%)	50.8
Population in largest city (% of urban pop.)	18.7
GDP per capita (US$ PPP)	1,510.5
Poverty headcount ratio (%)	53.6
Human Development Index (0-1 scale)	0.5
Adult literacy rate (%)	65.8
Life expectancy (years)	56.6
Ease of doing business (1-183 rank)	67.0
Inbound remittances (millions US$)	119.1
Cash payments volume indicator (billions US$)	6.2
MFS maturity (years)	2.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	332.6
Deposit accounts at MFI's (per 1,000 adults)	53.6
Average deposit value (% of income per capita)	193.7
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	15.0
Composite access to financial services (%)	16.0
Informal banking sector access (%)	15.0

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ☐	1B. Telecom sector regulation ■	1C. MFS regulation ■	1D. Policy and coordination ☐
Pillar 2: Consumer protection ☐	2A. Regulation ■	2B. Enforcement and administration ☐		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ■	3A. Financial sector competitiveness N/A	3B. Telecom sector competitiveness ☐	3C. Innovation ■
Pillar 4: Market catalysts ☐	4A. Government leadership ☐	4B. Data collecting and monitoring ☐	4C. Other market catalysts ■

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ■
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure ☐	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ☐	7A. Adoption ■	7B. Mobile payment diversity ☐	7C. MFS diversity ☐

Ghana

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	No	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.6	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	5.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Unclear	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Unclear	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	No	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	12
1.16	Non-bank MFS licensing	No	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Deficiencies	No (3)	Yes (10)	19
1.20	Proportional transaction limits	No	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	Yes	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	n/a	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	No	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	1.0	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	n/a	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.3	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	4.7	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	n/a	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.3	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.9	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	n/a	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	n/a	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Ghana

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	9.7	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	9.0	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.5	2.2	4.2	18
3.13	Investment in telecom (%)	n/a	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	n/a	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	n/a	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	82.4	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	60.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	0.7	0.1	15.4	19
4.10	Main method of international remittances	Cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	7.2	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.4	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	3.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	4.1	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	3.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	5.5	37.8	128.5	20
5.07	Post-paid connections (%)	0.5	0.4	25.5	20
5.08	Mobile connection growth rate (%)	4.0	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	8.3	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	4.8	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	1.0	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.0	0.0	1.0	13

(Cont'd)

Ghana

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	High	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	4.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	No	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	Yes	No (11) ..... Yes (4)	15

Haiti

Country descriptors

Total population (millions)	10.0
Urban population (%)	48.2
Population in largest city (% of urban pop.)	54.6
GDP per capita (US$ PPP)	1,152.7
Poverty headcount ratio (%)	72.2
Human Development Index (0-1 scale)	0.4
Adult literacy rate (%)	34.7
Life expectancy (years)	61.2
Ease of doing business (1-183 rank)	162.0
Inbound remittances (millions US$)	1,499.0
Cash payments volume indicator (billions US$)	3.4
MFS maturity (years)	1.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	n/a
Deposit accounts at MFI's (per 1,000 adults)	21.0
Average deposit value (% of income per capita)	n/a
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	10.9
Composite access to financial services (%)	15.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ■	1A. Financial sector regulation ☐	1B. Telecom sector regulation N/A	1C. MFS regulation ■	1D. Policy and coordination N/A
Pillar 2: Consumer protection ■	2A. Regulation ■	2B. Enforcement and administration N/A		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness N/A	3A. Financial sector competitiveness N/A	3B. Telecom sector competitiveness N/A	3C. Innovation N/A
Pillar 4: Market catalysts ☐	4A. Government leadership ■	4B. Data collecting and monitoring ■	4C. Other market catalysts ■

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ■	5A. Financial literacy ■	5B. Financial empowerment ■	5C. Mobile penetration ■
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure N/A	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability N/A	7A. Adoption ☐	7B. Mobile payment diversity N/A	7C. MFS diversity N/A

Haiti

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0	1.0	13
1.02	Proportional licensing scheme	n/a	No (9)	Yes (9)	18
1.03	E-money licensing	Yes	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.3	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	No	No (2)	Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	n/a	No (4)	Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	n/a	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	No	No (5)	Yes (13)	19
1.13	MNO role as banking agent	n/a	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	No	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	12
1.16	Non-bank MFS licensing	No	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	Yes	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Non-compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	n/a	No (1)	Yes (18)	19
1.24	Designation of financial access authority	n/a	No (7)	Yes (12)	19
1.25	Basic account provision	n/a	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	Ad hoc	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	n/a	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	No	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.0	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	n/a	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	n/a	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	n/a	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	n/a	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	n/a	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	n/a	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	n/a	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	n/a	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	n/a	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	n/a	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	n/a	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Haiti

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.1	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	n/a	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	n/a	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	n/a	2.2	4.2	18
3.13	Investment in telecom (%)	n/a	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	0.0	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	50.0	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	30.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	71.4	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	5.4	0.1	15.4	19
4.10	Main method of international remittances	n/a	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	1.0	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.0	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	2.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.2	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	n/a	60.9	100.0	19
5.06	Mobile phone services penetration (%)	7.8	37.8	128.5	20
5.07	Post-paid connections (%)	4.3	0.4	25.5	20
5.08	Mobile connection growth rate (%)	5.6	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	n/a	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	n/a	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	2.5	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.6	0.0	1.0	13

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Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	Low	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	2.0	1.0	5.0	17
7.03	Ability to buy airtime from account	n/a	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	n/a	No (3)	Yes (12)	15
7.05	Availability of international money transfer	n/a	No (8)	Yes (7)	15
7.06	Availability of bill payment	n/a	No (1)	Yes (14)	15
7.07	Availability of merchant payment	n/a	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	n/a	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	n/a	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	n/a	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	n/a	No (14)	Yes (1)	15
7.12	Availability of insurance	n/a	No (11)	Yes (4)	15

India

Country descriptors

Total population (millions)	1,155.3
Urban population (%)	29.8
Population in largest city (% of urban pop.)	6.3
GDP per capita (US$ PPP)	3,274.8
Poverty headcount ratio (%)	75.6
Human Development Index (0-1 scale)	0.5
Adult literacy rate (%)	62.8
Life expectancy (years)	63.7
Ease of doing business (1-183 rank)	134.0
Inbound remittances (millions US$)	55,000.0
Cash payments volume indicator (billions US$)	924.6
MFS maturity (years)	2.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	816.2
Deposit accounts at MFI's (per 1,000 adults)	1.8
Average deposit value (% of income per capita)	109.7
Loan accounts at banks (per 1,000 adults)	147.6
Loan accounts at MFIs (per 1,000 adults)	23.0
Composite access to financial services (%)	48.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality	1A. Financial sector regulation	1B. Telecom sector regulation	1C. MFS regulation	1D. Policy and coordination ■
Pillar 2: Consumer protection	2A. Regulation	2B. Enforcement and administration		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ■	3A. Financial sector competitiveness ■	3B. Telecom sector competitiveness ■	3C. Innovation
Pillar 4: Market catalysts	4A. Government leadership	4B. Data collecting and monitoring	4C. Other market catalysts

END-USER ENVIRONMENT

Pillar 5: End-user empowerment	5A. Financial literacy ■	5B. Financial empowerment	5C. Mobile penetration
Pillar 6: Distribution and agent network ■	6A. Supporting infrastructure N/A	6B. Agent network development ■	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability	7A. Adoption	7B. Mobile payment diversity	7C. MFS diversity

India

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	2.0	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	Yes	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.4	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	n/a	0.0	1.0	19
1.09	Identification requirement for pre-paid services	n/a	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	2.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	No	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.8	0.1	0.9	12
1.16	Non-bank MFS licensing	Limited	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	Yes	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	n/a	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	n/a	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	n/a	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	n/a	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.8	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	No	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.5	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	20.3	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	4.5	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	5.1	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.8	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.6	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.8	0.8	1.0	9

(Cont'd)

India

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.1	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	2.7	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.8	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	10.8	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	3.6	2.2	4.2	18
3.13	Investment in telecom (%)	n/a	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	6.1	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	82.4	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	90.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	3.9	0.1	15.4	19
4.10	Main method of international remittances	Cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	8.0	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.8	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	4.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	3.3	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	60.9	60.9	100.0	19
5.06	Mobile phone services penetration (%)	4.5	37.8	128.5	20
5.07	Post-paid connections (%)	4.6	0.4	25.5	20
5.08	Mobile connection growth rate (%)	6.3	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	2.9	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	7.3	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	7.1	2.7	2,247.4	11
	6.b: Agent network wdevelopment				
6.04	Agent density (per 100,000 adults)	0.1	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	n/a	0.0	1.0	13

(Cont'd)

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	Low	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	3.0	1.0	5.0	17
7.03	Ability to buy airtime from account	Yes	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3)	Yes (12)	15
7.05	Availability of international money transfer	No	No (8)	Yes (7)	15
7.06	Availability of bill payment	Yes	No (1)	Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	Yes	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	No	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14)	Yes (1)	15
7.12	Availability of insurance	No	No (11)	Yes (4)	15

Indonesia

Country descriptors

Total population (millions)	230.0
Urban population (%)	52.6
Population in largest city (% of urban pop.)	7.5
GDP per capita (US$ PPP)	4,204.8
Poverty headcount ratio (%)	60.0
Human Development Index (0-1 scale)	0.6
Adult literacy rate (%)	92.0
Life expectancy (years)	70.8
Ease of doing business (1-183 rank)	121.0
Inbound remittances (millions US$)	7,138.6
Cash payments volume indicator (billions US$)	318.1
MFS maturity (years)	1.0

Financial inclusion characteristics

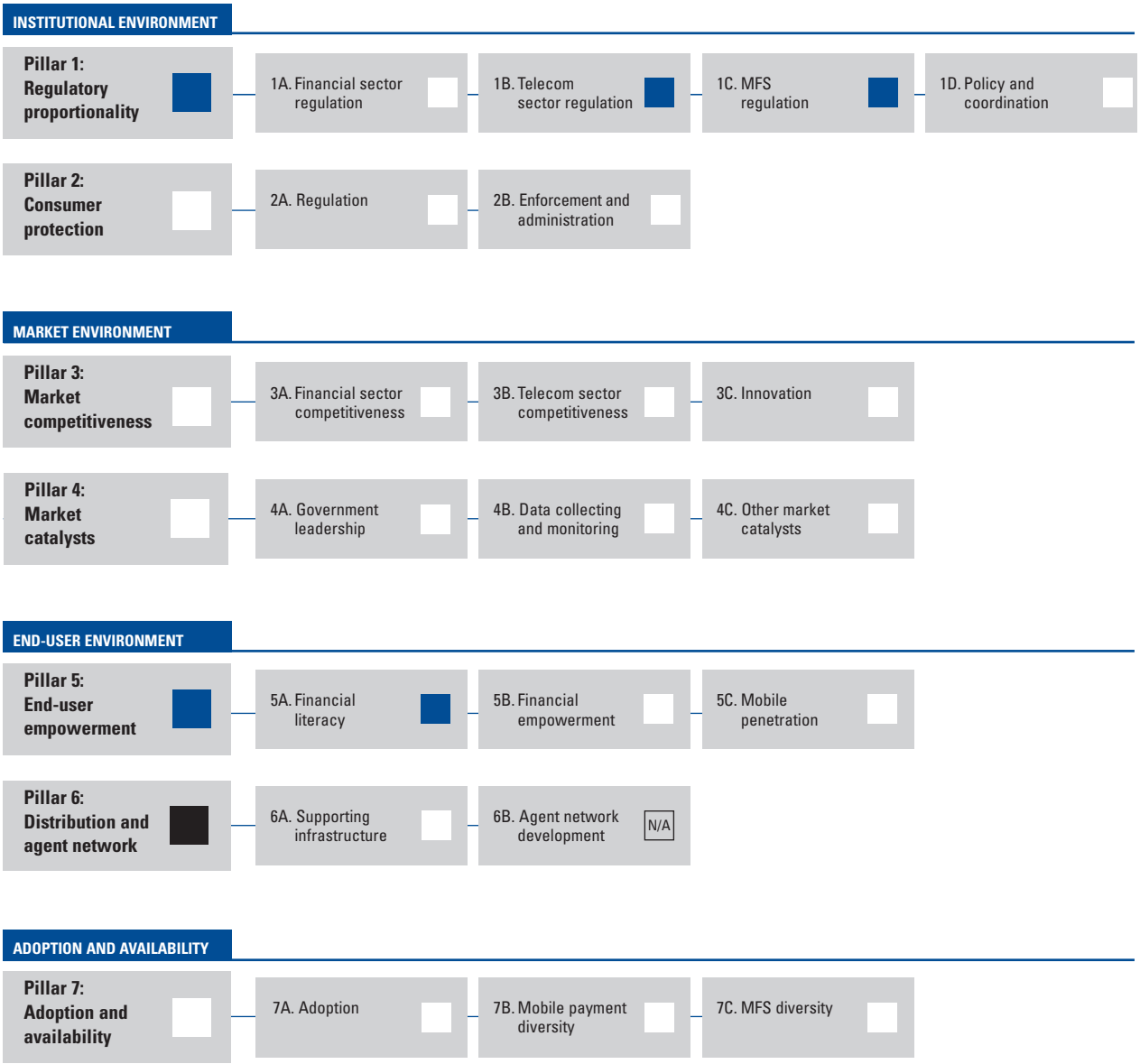
Deposit accounts at banks (per 1,000 adults)	504.7
Deposit accounts at MFI's (per 1,000 adults)	1.6
Average deposit value (% of income per capita)	100.8
Loan accounts at banks (per 1,000 adults)	196.9
Loan accounts at MFIs (per 1,000 adults)	1.2
Composite access to financial services (%)	40.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage



Indonesia

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	2.0	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	Yes	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.4	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	n/a	No (2)	Yes (12)	14
1.07	Coverage rate requirement	Yes	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	0.5	0.0	1.0	19
1.09	Identification requirement for pre-paid services	n/a	No (4)	Yes (7)	13
1.10	Existence of MVNO's	Yes	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	10.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Deficiencies	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	No	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	n/a	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	No	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	n/a	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.7	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.3	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	4.7	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	3.8	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.8	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.4	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.6	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.8	0.8	1.0	9

(Cont'd)

Indonesia

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	3.1	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	7.7	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	3.7	2.2	4.2	18
3.13	Investment in telecom (%)	28.3	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	0.5	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	85.3	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	90.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	85.7	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	1.3	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	7.4	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	1.0	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	4.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	1.0	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.8	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	90.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	78.7	37.8	128.5	20
5.07	Post-paid connections (%)	2.5	0.4	25.5	20
5.08	Mobile connection growth rate (%)	3.0	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	8.3	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	4.4	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	7.9	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	n/a	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	n/a	0.0	1.0	13

(Cont'd)

Indonesia

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Medium	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	2.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	No	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	Yes	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

Kenya

Country descriptors

Total population (millions)	39.8
Urban population (%)	21.9
Population in largest city (% of urban pop.)	38.7
GDP per capita (US$ PPP)	1,572.3
Poverty headcount ratio (%)	39.9
Human Development Index (0-1 scale)	0.5
Adult literacy rate (%)	86.5
Life expectancy (years)	54.2
Ease of doing business (1-183 rank)	98.0
Inbound remittances (millions US$)	1,757.9
Cash payments volume indicator (billions US$)	11.0
MFS maturity (years)	4.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	381.6
Deposit accounts at MFI's (per 1,000 adults)	163.2
Average deposit value (% of income per capita)	178.5
Loan accounts at banks (per 1,000 adults)	75.5
Loan accounts at MFIs (per 1,000 adults)	36.7
Composite access to financial services (%)	10.0
Informal banking sector access (%)	27.0

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ■	1B. Telecom sector regulation ■	1C. MFS regulation ■	1D. Policy and coordination ☐
Pillar 2: Consumer protection ☐	2A. Regulation ☐	2B. Enforcement and administration ■		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ■	3B. Telecom sector competitiveness ■	3C. Innovation ☐
Pillar 4: Market catalysts ■	4A. Government leadership ☐	4B. Data collecting and monitoring ■	4C. Other market catalysts ☐

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ■
Pillar 6: Distribution and agent network ■	6A. Supporting infrastructure ■	6B. Agent network development ■	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ■	7A. Adoption ■	7B. Mobile payment diversity ■	7C. MFS diversity ■

Kenya

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	No	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.5	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	No	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	6.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.6	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	Sometimes	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Non-compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	Yes	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	No	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	Ad hoc	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	1.0	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.3	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	No	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	No	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.3	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	2.4	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	n/a	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	5.0	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.3	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.6	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	0.9	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.9	0.8	1.0	9

(Cont'd)

Kenya

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.6	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	6.0	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.3	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	2.2	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	3.2	2.2	4.2	18
3.13	Investment in telecom (%)	38.8	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	0.3	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	97.1	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	95.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	5.4	0.1	15.4	19
4.10	Main method of international remittances	Cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	5.7	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.6	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	4.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.1	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	3.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	7.6	37.8	128.5	20
5.07	Post-paid connections (%)	1.0	0.4	25.5	20
5.08	Mobile connection growth rate (%)	8.9	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	4.4	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	8.3	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	128.6	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.8	0.0	1.0	13

(Cont'd)

Kenya

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	High	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	4.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	Yes	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	Yes	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	Yes	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	Yes	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	Yes	No (14) ..... Yes (1)	15
7.12	Availability of insurance	Yes	No (11) ..... Yes (4)	15

Malaysia

Country descriptors

Total population (millions)	27.5
Urban population (%)	71.3
Population in largest city (% of urban pop.)	7.6
GDP per capita (US$ PPP)	13,981.5
Poverty headcount ratio (%)	7.8
Human Development Index (0-1 scale)	0.7
Adult literacy rate (%)	92.1
Life expectancy (years)	74.4
Ease of doing business (1-183 rank)	21.0
Inbound remittances (millions US$)	1,576.3
Cash payments volume indicator (billions US$)	77.8
MFS maturity (years)	4.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	2,066.1
Deposit accounts at MFI's (per 1,000 adults)	0.0
Average deposit value (% of income per capita)	72.9
Loan accounts at banks (per 1,000 adults)	1,050.9
Loan accounts at MFIs (per 1,000 adults)	7.5
Composite access to financial services (%)	57.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ■	1A. Financial sector regulation ■	1B. Telecom sector regulation ☐	1C. MFS regulation ■	1D. Policy and coordination ■
Pillar 2: Consumer protection ☐	2A. Regulation ☐	2B. Enforcement and administration ☐		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ■	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ■	3C. Innovation ■
Pillar 4: Market catalysts ■	4A. Government leadership ■	4B. Data collecting and monitoring ☐	4C. Other market catalysts ■

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ■	5A. Financial literacy ■	5B. Financial empowerment ■	5C. Mobile penetration ■
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure ■	6B. Agent network development ■	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ☐	7A. Adoption ☐	7B. Mobile payment diversity ☐	7C. MFS diversity ☐

Malaysia

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	Yes	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.4	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	n/a	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	5.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.8	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	n/a	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	n/a	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	No	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	n/a	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	Yes	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	n/a	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.6	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.8	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	4.5	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	4.6	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	5.6	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	5.5	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.8	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Malaysia

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	6.6	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	4.0	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	4.1	2.2	4.2	18
3.13	Investment in telecom (%)	2.5	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	No	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	n/a	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	85.3	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	80.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	91.7	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	0.5	0.1	15.4	19
4.10	Main method of international remittances	Cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	5.9	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	1.0	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	6.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	1.0	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	4.4	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	6.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	3.6	37.8	128.5	20
5.07	Post-paid connections (%)	2.2	0.4	25.5	20
5.08	Mobile connection growth rate (%)	9.3	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	7.3	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	4.0	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	1,063.1	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	1.1	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	n/a	0.0	1.0	13

(Cont'd)

Malaysia

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Medium	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	2.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	Yes	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	No	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	n/a	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

Mexico

Country descriptors

Total population (millions)	107.4
Urban population (%)	77.5
Population in largest city (% of urban pop.)	23.2
GDP per capita (US$ PPP)	14,336.7
Poverty headcount ratio (%)	8.2
Human Development Index (0-1 scale)	0.8
Adult literacy rate (%)	92.9
Life expectancy (years)	75.1
Ease of doing business (1-183 rank)	35.0
Inbound remittances (millions US$)	22,571.8
Cash payments volume indicator (billions US$)	393.9
MFS maturity (years)	n/a

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	1,104.0
Deposit accounts at MFI's (per 1,000 adults)	39.1
Average deposit value (% of income per capita)	19.7
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	42.0
Composite access to financial services (%)	25.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ☐	1B. Telecom sector regulation ☐	1C. MFS regulation ☐	1D. Policy and coordination ☐
Pillar 2: Consumer protection ☐	2A. Regulation ☐	2B. Enforcement and administration ☐		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ■	3B. Telecom sector competitiveness ☐	3C. Innovation ☐
Pillar 4: Market catalysts ☐	4A. Government leadership ■	4B. Data collecting and monitoring ☐	4C. Other market catalysts ☐

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ■	6A. Supporting infrastructure ■	6B. Agent network development ■	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability N/A	7A. Adoption N/A	7B. Mobile payment diversity N/A	7C. MFS diversity N/A

Mexico

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.6	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	5.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Unclear	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.8	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	Yes	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	No	No (7)	Yes (12)	19
1.25	Basic account provision	Yes	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	No	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.5	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.7	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	No	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	No	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	1.0	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	0.1	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	1.3	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.3	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.6	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.6	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.8	0.8	1.0	9

(Cont'd)

Mexico

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.4	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	3.3	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	5.0	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.7	2.2	4.2	18
3.13	Investment in telecom (%)	3.4	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	7.6	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	100.0	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	95.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	85.7	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	8.3	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	2.5	0.1	15.4	19
4.10	Main method of international remittances	Cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	7.1	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.7	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	6.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	n/a	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	3.1	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	99.9	60.9	100.0	19
5.06	Mobile phone services penetration (%)	6.7	37.8	128.5	20
5.07	Post-paid connections (%)	3.2	0.4	25.5	20
5.08	Mobile connection growth rate (%)	7.7	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	18.0	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	4.8	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	2.1	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	n/a	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.6	0.0	1.0	13

(Cont'd)

Mexico

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	n/a	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	n/a	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	n/a	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	n/a	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	n/a	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	n/a	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	n/a	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	n/a	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	Yes	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	n/a	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	n/a	No (14) ..... Yes (1)	15
7.12	Availability of insurance	n/a	No (11) ..... Yes (4)	15

Nigeria

Country descriptors

Total population (millions)	154.7
Urban population (%)	49.1
Population in largest city (% of urban pop.)	13.4
GDP per capita (US$ PPP)	2,150.1
Poverty headcount ratio (%)	83.9
Human Development Index (0-1 scale)	0.4
Adult literacy rate (%)	60.1
Life expectancy (years)	47.9
Ease of doing business (1-183 rank)	137.0
Inbound remittances (millions US$)	9,974.7
Cash payments volume indicator (billions US$)	37.0
MFS maturity (years)	2.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	461.2
Deposit accounts at MFI's (per 1,000 adults)	2.6
Average deposit value (% of income per capita)	119.9
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	2.8
Composite access to financial services (%)	13.0
Informal banking sector access (%)	17.0

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ☐	1B. Telecom sector regulation ☐	1C. MFS regulation ☐	1D. Policy and coordination ☐
Pillar 2: Consumer protection ☐	2A. Regulation ☐	2B. Enforcement and administration ■		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ■	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ■	3C. Innovation ■
Pillar 4: Market catalysts ☐	4A. Government leadership ☐	4B. Data collecting and monitoring ☐	4C. Other market catalysts ☐

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ■	5A. Financial literacy ■	5B. Financial empowerment ■	5C. Mobile penetration ■
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure N/A	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ☐	7A. Adoption ☐	7B. Mobile payment diversity ☐	7C. MFS diversity ☐

Nigeria

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	Non-specific	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.4	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	5.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	n/a	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	n/a	0.1	0.9	12
1.16	Non-bank MFS licensing	Limited	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	Yes	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Non-compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	Yes	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	No	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	Ad hoc	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.6	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.8	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	2.7	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	4.7	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.2	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.9	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.7	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.9	0.8	1.0	9

(Cont'd)

Nigeria

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	4.5	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	20.5	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.9	2.2	4.2	18
3.13	Investment in telecom (%)	7.8	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	0.0	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	94.1	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	85.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	85.7	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	91.7	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	5.6	0.1	15.4	19
4.10	Main method of international remittances	n/a	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	8.9	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.3	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	0.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.4	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	3.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	4.5	37.8	128.5	20
5.07	Post-paid connections (%)	2.4	0.4	25.5	20
5.08	Mobile connection growth rate (%)	1.6	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	9.5	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	n/a	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	3.6	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	1.0	0.0	1.0	13

(Cont'd)

Nigeria

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Low	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	n/a	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	No	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	Yes	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	Yes	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

Pakistan

Country descriptors

Total population (millions)	169.7
Urban population (%)	36.6
Population in largest city (% of urban pop.)	20.6
GDP per capita (US$ PPP)	2,625.4
Poverty headcount ratio (%)	60.3
Human Development Index (0-1 scale)	0.5
Adult literacy rate (%)	53.7
Life expectancy (years)	66.5
Ease of doing business (1-183 rank)	83.0
Inbound remittances (millions US$)	9,407.3
Cash payments volume indicator (billions US$)	52.0
MFS maturity (years)	2.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	229.5
Deposit accounts at MFI's (per 1,000 adults)	2.7
Average deposit value (% of income per capita)	206.5
Loan accounts at banks (per 1,000 adults)	34.7
Loan accounts at MFIs (per 1,000 adults)	8.5
Composite access to financial services (%)	12.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ■	1A. Financial sector regulation ☐	1B. Telecom sector regulation ■	1C. MFS regulation ☐	1D. Policy and coordination ■
Pillar 2: Consumer protection ■	2A. Regulation ■	2B. Enforcement and administration ☐		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ☐	3C. Innovation ■
Pillar 4: Market catalysts ■	4A. Government leadership ☐	4B. Data collecting and monitoring ■	4C. Other market catalysts ☐

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ■	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ■	6A. Supporting infrastructure ☐	6B. Agent network development ■	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ☐	7A. Adoption ☐	7B. Mobile payment diversity ☐	7C. MFS diversity ☐

Pakistan

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	2.0	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	Yes	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.4	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	n/a	No (4)	Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	5.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	No	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.8	0.1	0.9	12
1.16	Non-bank MFS licensing	No	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Deficiencies	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	Yes	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	Yes	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	1.0	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.7	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	1.0	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	1.7	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	3.0	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.0	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.9	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.5	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.8	0.8	1.0	9

(Cont'd)

Pakistan

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.1	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	3.9	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.3	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	8.0	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	3.1	2.2	4.2	18
3.13	Investment in telecom (%)	1.7	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	2.7	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	91.2	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	100.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	100.0	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	6.0	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	7.0	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.3	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	4.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.3	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	90.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	5.4	37.8	128.5	20
5.07	Post-paid connections (%)	1.6	0.4	25.5	20
5.08	Mobile connection growth rate (%)	9.8	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	10.6	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	4.1	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	49.0	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	3.1	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.2	0.0	1.0	13

(Cont'd)

Pakistan

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	Low	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	3.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	Yes	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	No	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	No	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	No	No (11) ..... Yes (4)	15

Peru

Country descriptors

Total population (millions)	29.2
Urban population (%)	71.5
Population in largest city (% of urban pop.)	42.1
GDP per capita (US$ PPP)	8,646.8
Poverty headcount ratio (%)	17.8
Human Development Index (0-1 scale)	0.7
Adult literacy rate (%)	89.6
Life expectancy (years)	73.3
Ease of doing business (1-183 rank)	36.0
Inbound remittances (millions US$)	2,494.0
Cash payments volume indicator (billions US$)	44.7
MFS maturity (years)	n/a

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	783.4
Deposit accounts at MFI's (per 1,000 adults)	79.4
Average deposit value (% of income per capita)	49.4
Loan accounts at banks (per 1,000 adults)	342.7
Loan accounts at MFIs (per 1,000 adults)	104.5
Composite access to financial services (%)	26.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ■	1B. Telecom sector regulation ☐	1C. MFS regulation ☐	1D. Policy and coordination ☐
Pillar 2: Consumer protection ■	2A. Regulation ☐	2B. Enforcement and administration ■		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ■	3B. Telecom sector competitiveness ☐	3C. Innovation ☐
Pillar 4: Market catalysts ■	4A. Government leadership ☐	4B. Data collecting and monitoring ■	4C. Other market catalysts ■

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ☐	5B. Financial empowerment ■	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure ☐	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability N/A	7A. Adoption N/A	7B. Mobile payment diversity N/A	7C. MFS diversity N/A

Peru

Mobile financial services development in detail

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	1st pillar: Regulatory proportionality			
	1.a: Financial sector regulation			
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0 ..... 1.0	13
1.02	Proportional licensing scheme	No	No (9) ..... Yes (9)	18
1.03	E-money licensing	No	No (4) ..... Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.7	0.3 ..... 0.65	19
	1.b: Telecom sector regulation			
1.05	Telecommunication regulatory authority	Yes	No (1) ..... Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2) ..... Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10) ..... Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0 ..... 1.0	19
1.09	Identification requirement for pre-paid services	No	No (4) ..... Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10) ..... Yes (2)	12
1.11	Taxation of mobile communication services (%)	19.0	29.0 ..... 3.0	18
	1.c: MFS regulation			
1.12	Banking agent regulation	Yes	No (5) ..... Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0) ..... Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7) ..... Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.5	0.1 ..... 0.9	12
1.16	Non-bank MFS licensing	Limited	No (5) ..... Yes (8)	19
1.17	Value in mobile wallet considered deposit	Yes	Yes (6) ..... No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1) ..... Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3) ..... Yes (10)	19
1.20	Proportional transaction limits	No	No (3) ..... Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4) ..... Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11) ..... Yes (5)	16
	1.d: Policy and coordination			
1.23	Publicly-defined financial inclusion strategy	Yes	No (1) ..... Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7) ..... Yes (12)	19
1.25	Basic account provision	n/a	No (8) ..... Yes (5)	13
1.26	Telecom and FS regulatory alignment	Ad hoc	No (5) ..... Yes (2)	13
1.27	Institution-agnostic tax regime	No	No (1) ..... Yes (14)	15
	2nd pillar: Consumer protection			
	2.a: Regulation			
2.01	Existence of MFS consumer protection policy	Yes	No (4) ..... Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.5	0.0 ..... 1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	n/a	0.08 ..... 0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6) ..... Yes (13)	19
	2.b: Enforcement and administration			
2.05	Consumer protection enforcement	Yes	No (8) ..... Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9) ..... Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	1.0	0.3 ..... 1.0	17
	3rd pillar: Market competitiveness			
	3.a: Financial sector competitiveness			
3.01	Financial services market competition (%)	28.8	38.0 ..... 0.1	19
3.02	Aggregate profitability indicator (%)	2.7	5.2 ..... 1.3	14
3.03	Availability of financial services perception (1-7 scale)	5.5	3.4 ..... 6.2	18
3.04	Affordability of financial services perception (1-7 scale)	5.0	3.2 ..... 5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	n/a	0.3 ..... 0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	n/a	0.2 ..... 1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8 ..... 1.0	9

(Cont'd)

Peru

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	5.8	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.4	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	7.1	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.6	2.2	4.2	18
3.13	Investment in telecom (%)	2.0	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	2.7	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	88.2	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	80.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	8.3	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	1.8	0.1	15.4	19
4.10	Main method of international remittances	n/a	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	4.6	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.6	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	6.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	1.0	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	3.5	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	4.8	60.9	100.0	19
5.06	Mobile phone services penetration (%)	3.4	37.8	128.5	20
5.07	Post-paid connections (%)	7.8	0.4	25.5	20
5.08	Mobile connection growth rate (%)	9.9	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	4.8	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	2.3	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	4.0	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	n/a	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.4	0.0	1.0	13

(Cont'd)

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	n/a	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	n/a	1.0	5.0	17
7.03	Ability to buy airtime from account	n/a	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	n/a	No (3)	Yes (12)	15
7.05	Availability of international money transfer	n/a	No (8)	Yes (7)	15
7.06	Availability of bill payment	n/a	No (1)	Yes (14)	15
7.07	Availability of merchant payment	n/a	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	n/a	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	Yes	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	n/a	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	n/a	No (14)	Yes (1)	15
7.12	Availability of insurance	n/a	No (11)	Yes (4)	15

Philippines

Country descriptors

Total population (millions)	92.0
Urban population (%)	65.7
Population in largest city (% of urban pop.)	19.0
GDP per capita (US$ PPP)	3,546.4
Poverty headcount ratio (%)	45.0
Human Development Index (0-1 scale)	0.6
Adult literacy rate (%)	93.6
Life expectancy (years)	71.8
Ease of doing business (1-183 rank)	148.0
Inbound remittances (millions US$)	21,310.7
Cash payments volume indicator (billions US$)	78.6
MFS maturity (years)	8.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	505.3
Deposit accounts at MFI's (per 1,000 adults)	37.1
Average deposit value (% of income per capita)	146.7
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	29.1
Composite access to financial services (%)	26.0
Informal banking sector access (%)	n/a

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ■	1B. Telecom sector regulation ☐	1C. MFS regulation ☐	1D. Policy and coordination ☐
Pillar 2: Consumer protection ☐	2A. Regulation ☐	2B. Enforcement and administration ☐		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ■	3B. Telecom sector competitiveness ■	3C. Innovation ☐
Pillar 4: Market catalysts ■	4A. Government leadership ■	4B. Data collecting and monitoring ■	4C. Other market catalysts ■

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure ☐	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ■	7A. Adoption ■	7B. Mobile payment diversity ■	7C. MFS diversity ■

Philippines

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	Yes	No (9)	Yes (9)	18
1.03	E-money licensing	Yes	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.5	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	n/a	No (2)	Yes (12)	14
1.07	Coverage rate requirement	Yes	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	0.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Considered	No (4)	Yes (7)	13
1.10	Existence of MVNO's	Yes	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	2.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.4	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	Yes	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Deficiencies	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	No	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	No	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	1.0	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.4	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.7	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	0.2	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	3.0	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	5.1	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.8	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.8	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.8	0.8	1.0	9

(Cont'd)

Philippines

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.3	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	4.3	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	8.9	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.8	2.2	4.2	18
3.13	Investment in telecom (%)	4.4	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	1.2	0.0	39.2	15
4.03	Mobile G2P payments	Yes	No (2)	Yes (9)	11
4.04	Mobile tax payments	Yes	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	97.1	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	95.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	1.7	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	6.5	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.5	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	3.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.4	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	99.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	2.1	37.8	128.5	20
5.07	Post-paid connections (%)	2.8	0.4	25.5	20
5.08	Mobile connection growth rate (%)	2.1	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	3.2	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	4.2	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	29.8	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.4	0.0	1.0	13

(Cont'd)

Philippines

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW ..... HIGH	SAMPLE
	7th pillar: Adoption and availability			
	7.a: Adoption			
7.01	Adoption of MFS services	High	Low (8) ..... High (4)	17
	7.b: Mobile payments diversity			
7.02	Number of active MFS deployments	2.0	1.0 ..... 5.0	17
7.03	Ability to buy airtime from account	Yes	No (1) ..... Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3) ..... Yes (12)	15
7.05	Availability of international money transfer	Yes	No (8) ..... Yes (7)	15
7.06	Availability of bill payment	Yes	No (1) ..... Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3) ..... Yes (12)	15
7.08	Availability of MFI loan repayment	Yes	No (11) ..... Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9) ..... Yes (5)	14
	7.c: Mobile financial services diversity			
7.10	Availability of coupled accounts	Yes	No (10) ..... Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14) ..... Yes (1)	15
7.12	Availability of insurance	Yes	No (11) ..... Yes (4)	15

South Africa

Country descriptors

Total population (millions)	49.3
Urban population (%)	61.2
Population in largest city (% of urban pop.)	11.9
GDP per capita (US$ PPP)	10,291.3
Poverty headcount ratio (%)	42.9
Human Development Index (0-1 scale)	0.6
Adult literacy rate (%)	89.0
Life expectancy (years)	51.5
Ease of doing business (1-183 rank)	34.0
Inbound remittances (millions US$)	1,008.4
Cash payments volume indicator (billions US$)	46.3
MFS maturity (years)	7.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	839.1
Deposit accounts at MFI's (per 1,000 adults)	26.3
Average deposit value (% of income per capita)	159.9
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	16.3
Composite access to financial services (%)	46.0
Informal banking sector access (%)	8.0

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality	1A. Financial sector regulation	1B. Telecom sector regulation	1C. MFS regulation	1D. Policy and coordination
Pillar 2: Consumer protection	2A. Regulation	2B. Enforcement and administration		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness	3A. Financial sector competitiveness	3B. Telecom sector competitiveness	3C. Innovation
Pillar 4: Market catalysts	4A. Government leadership	4B. Data collecting and monitoring	4C. Other market catalysts

END-USER ENVIRONMENT

Pillar 5: End-user empowerment	5A. Financial literacy	5B. Financial empowerment	5C. Mobile penetration
Pillar 6: Distribution and agent network	6A. Supporting infrastructure	6B. Agent network development	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability	7A. Adoption	7B. Mobile payment diversity	7C. MFS diversity

South Africa

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	1.0	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	Yes	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.5	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	n/a	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	0.5	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	4.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Yes	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Unclear	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.9	0.1	0.9	12
1.16	Non-bank MFS licensing	Limited	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	Yes	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	Yes	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	No	No (7)	Yes (12)	19
1.25	Basic account provision	Yes	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	Ad hoc	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	0.8	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.4	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	No	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	No	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	Yes	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.8	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	8.3	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	4.7	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	6.2	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	4.7	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	1.0	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	1.0	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

South Africa

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.1	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	39.6	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	38.1	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	3.4	2.2	4.2	18
3.13	Investment in telecom (%)	9.8	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	Yes	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	39.2	0.0	39.2	15
4.03	Mobile G2P payments	No	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	97.1	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	90.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	0.3	0.1	15.4	19
4.10	Main method of international remittances	Cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	8.6	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.3	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	6.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	4.5	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	99.8	60.9	100.0	19
5.06	Mobile phone services penetration (%)	1.0	37.8	128.5	20
5.07	Post-paid connections (%)	19.6	0.4	25.5	20
5.08	Mobile connection growth rate (%)	-18.4	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	8.0	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	2.4	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	n/a	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	18.2	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.8	0.0	1.0	13

(Cont'd)

South Africa

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	Medium	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	5.0	1.0	5.0	17
7.03	Ability to buy airtime from account	Yes	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3)	Yes (12)	15
7.05	Availability of international money transfer	No	No (8)	Yes (7)	15
7.06	Availability of bill payment	Yes	No (1)	Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	No	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14)	Yes (1)	15
7.12	Availability of insurance	No	No (11)	Yes (4)	15

Tanzania

Country descriptors

Total population (millions)	43.7
Urban population (%)	26.0
Population in largest city (% of urban pop.)	28.2
GDP per capita (US$ PPP)	1,357.7
Poverty headcount ratio (%)	96.6
Human Development Index (0-1 scale)	0.4
Adult literacy rate (%)	72.6
Life expectancy (years)	55.6
Ease of doing business (1-183 rank)	128.0
Inbound remittances (millions US$)	17.5
Cash payments volume indicator (billions US$)	12.2
MFS maturity (years)	3.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	n/a
Deposit accounts at MFI's (per 1,000 adults)	8.2
Average deposit value (% of income per capita)	n/a
Loan accounts at banks (per 1,000 adults)	n/a
Loan accounts at MFIs (per 1,000 adults)	5.3
Composite access to financial services (%)	5.0
Informal banking sector access (%)	27.0

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ☐	1A. Financial sector regulation ■	1B. Telecom sector regulation ☐	1C. MFS regulation ☐	1D. Policy and coordination ☐
Pillar 2: Consumer protection ■	2A. Regulation ■	2B. Enforcement and administration ■		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ☐	3C. Innovation ☐
Pillar 4: Market catalysts ☐	4A. Government leadership ■	4B. Data collecting and monitoring ☐	4C. Other market catalysts ☐

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ■	5A. Financial literacy ☐	5B. Financial empowerment ■	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ☐	6A. Supporting infrastructure ■	6B. Agent network development ■	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ■	7A. Adoption ■	7B. Mobile payment diversity ☐	7C. MFS diversity ■

Tanzania

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	No	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.6	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	n/a	No (2)	Yes (12)	14
1.07	Coverage rate requirement	n/a	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	0.5	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Yes	No (4)	Yes (7)	13
1.10	Existence of MVNO's	n/a	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	7.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	Unclear	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	Yes	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.4	0.1	0.9	12
1.16	Non-bank MFS licensing	Yes	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	No	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Deficiencies	No (3)	Yes (10)	19
1.20	Proportional transaction limits	Yes	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	No	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	Yes	No (7)	Yes (12)	19
1.25	Basic account provision	No	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	Ad hoc	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	Yes	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	Yes	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	1.0	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.1	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	No	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	No	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.3	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	2.0	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	n/a	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	3.6	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.4	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.6	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	0.7	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	n/a	0.8	1.0	9

(Cont'd)

Tanzania

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	10.0	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	0.5	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	9.2	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.8	2.2	4.2	18
3.13	Investment in telecom (%)	n/a	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	No	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	n/a	0.0	39.2	15
4.03	Mobile G2P payments	No	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	88.2	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	75.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	100.0	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	100.0	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	0.1	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	n/a	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.3	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	0.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.7	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	5.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	6.5	37.8	128.5	20
5.07	Post-paid connections (%)	0.4	0.4	25.5	20
5.08	Mobile connection growth rate (%)	1.0	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	1.8	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	3.4	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	6.1	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	6.8	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	0.6	0.0	1.0	13

(Cont'd)

Tanzania

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	High	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	4.0	1.0	5.0	17
7.03	Ability to buy airtime from account	Yes	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3)	Yes (12)	15
7.05	Availability of international money transfer	Yes	No (8)	Yes (7)	15
7.06	Availability of bill payment	Yes	No (1)	Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	No	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	Yes	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14)	Yes (1)	15
7.12	Availability of insurance	Yes	No (11)	Yes (4)	15

Uganda

Country descriptors

Total population (millions)	32.7
Urban population (%)	13.1
Population in largest city (% of urban pop.)	35.7
GDP per capita (US$ PPP)	1,218.9
Poverty headcount ratio (%)	75.6
Human Development Index (0-1 scale)	0.4
Adult literacy rate (%)	74.6
Life expectancy (years)	52.7
Ease of doing business (1-183 rank)	122.0
Inbound remittances (millions US$)	772.6
Cash payments volume indicator (billions US$)	9.7
MFS maturity (years)	2.0

Financial inclusion characteristics

Deposit accounts at banks (per 1,000 adults)	173.2
Deposit accounts at MFI's (per 1,000 adults)	52.8
Average deposit value (% of income per capita)	215.2
Loan accounts at banks (per 1,000 adults)	25.2
Loan accounts at MFIs (per 1,000 adults)	13.2
Composite access to financial services (%)	20.0
Informal banking sector access (%)	42.0

Mobile financial services adoption

< 1%	1% – 10%	> 10%
LOW	MEDIUM	HIGH

Percentages indicate adoption by the adult population.

Mobile financial services development

■ Advantage ☐ Neutral ■ Disadvantage

INSTITUTIONAL ENVIRONMENT

Pillar 1: Regulatory proportionality ■	1A. Financial sector regulation ■	1B. Telecom sector regulation ☐	1C. MFS regulation N/A	1D. Policy and coordination ■
Pillar 2: Consumer protection ☐	2A. Regulation ☐	2B. Enforcement and administration ☐		

MARKET ENVIRONMENT

Pillar 3: Market competitiveness ☐	3A. Financial sector competitiveness ☐	3B. Telecom sector competitiveness ☐	3C. Innovation ☐
Pillar 4: Market catalysts ☐	4A. Government leadership ■	4B. Data collecting and monitoring ☐	4C. Other market catalysts ■

END-USER ENVIRONMENT

Pillar 5: End-user empowerment ☐	5A. Financial literacy ☐	5B. Financial empowerment ☐	5C. Mobile penetration ☐
Pillar 6: Distribution and agent network ■	6A. Supporting infrastructure ■	6B. Agent network development ☐	

ADOPTION AND AVAILABILITY

Pillar 7: Adoption and availability ☐	7A. Adoption ☐	7B. Mobile payment diversity ■	7C. MFS diversity ☐

Uganda

Mobile financial services development in detail

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	1st pillar: Regulatory proportionality				
	1.a: Financial sector regulation				
1.01	Domestic financial sector liberalization (2-1 scale)	n/a	2.0	1.0	13
1.02	Proportional licensing scheme	No	No (9)	Yes (9)	18
1.03	E-money licensing	n/a	No (4)	Yes (8)	19
1.04	Regulatory quality for banking and investment (0-1 scale)	0.5	0.3	0.65	19
	1.b: Telecom sector regulation				
1.05	Telecommunication regulatory authority	Yes	No (1)	Yes (19)	20
1.06	Existence of universal service policy	Yes	No (2)	Yes (12)	14
1.07	Coverage rate requirement	No	No (10)	Yes (2)	12
1.08	Quality of service regulation index (0-1 scale)	1.0	0.0	1.0	19
1.09	Identification requirement for pre-paid services	Considered	No (4)	Yes (7)	13
1.10	Existence of MVNO's	No	No (10)	Yes (2)	12
1.11	Taxation of mobile communication services (%)	29.0	29.0	3.0	18
	1.c: MFS regulation				
1.12	Banking agent regulation	Yes	No (5)	Yes (13)	19
1.13	MNO role as banking agent	n/a	No (0)	Yes (12)	14
1.14	Non-bank agent deployment	n/a	No (7)	Yes (9)	19
1.15	Permitted agent activities (0-1 scale)	0.1	0.1	0.9	12
1.16	Non-bank MFS licensing	n/a	No (5)	Yes (8)	19
1.17	Value in mobile wallet considered deposit	n/a	Yes (6)	No (8)	15
1.18	Existence of AML/CFT regulation	Yes	No (1)	Yes (19)	20
1.19	Compliance with AML/CFT standards	Compliant	No (3)	Yes (10)	19
1.20	Proportional transaction limits	n/a	No (3)	Yes (13)	16
1.21	Proportional KYC requirements	Yes	No (4)	Yes (15)	19
1.22	International mobile money transfer regulation	n/a	No (11)	Yes (5)	16
	1.d: Policy and coordination				
1.23	Publicly-defined financial inclusion strategy	Yes	No (1)	Yes (18)	19
1.24	Designation of financial access authority	No	No (7)	Yes (12)	19
1.25	Basic account provision	No	No (8)	Yes (5)	13
1.26	Telecom and FS regulatory alignment	n/a	No (5)	Yes (2)	13
1.27	Institution-agnostic tax regime	n/a	No (1)	Yes (14)	15
	2nd pillar: Consumer protection				
	2.a: Regulation				
2.01	Existence of MFS consumer protection policy	No	No (4)	Yes (14)	18
2.02	Breadth of MFS consumer protection (0-1 scale)	n/a	0.0	1.0	16
2.03	Transparency and consumer protection index (0-1 scale)	0.6	0.08	0.83	13
2.04	Regulatory mandate for consumer protection (0-1 scale)	Yes	No (6)	Yes (13)	19
	2.b: Enforcement and administration				
2.05	Consumer protection enforcement	Yes	No (8)	Yes (11)	19
2.06	Consumer complaint statistics reported	No	No (9)	Yes (10)	19
2.07	Consumer protection administration (0-1 scale)	0.3	0.3	1.0	17
	3rd pillar: Market competitiveness				
	3.a: Financial sector competitiveness				
3.01	Financial services market competition (%)	9.8	38.0	0.1	19
3.02	Aggregate profitability indicator (%)	n/a	5.2	1.3	14
3.03	Availability of financial services perception (1-7 scale)	4.3	3.4	6.2	18
3.04	Affordability of financial services perception (1-7 scale)	3.8	3.2	5.5	18
3.05	Breadth of retail payment channels (0-1 scale)	0.4	0.3	0.9	13
3.06	Payment network quality and interoperability (0-1 scale)	0.7	0.2	1.0	13
3.07	Ease of opening traditional account (0-1 scale)	0.9	0.8	1.0	9

(Cont'd)

Uganda

Mobile financial services development in detail *(cont'd.)*

	INDICATOR	DATA	LOW	HIGH	SAMPLE
	3rd pillar: Market competitiveness *(cont'd.)*				
	3.b: Telecom sector competitiveness				
3.08	Mobile network operator market competition	0.2	0.6	0.1	20
3.09	Effective price for mobile phone services (US$ PPP cent/min)	n/a	44.5	2.7	17
3.10	Churn of mobile subscriptions (%)	n/a	0.1	0.8	8
3.11	Average revenue per user (US$ PPP)	3.6	7.7	38.1	18
	3.c: Innovation				
3.12	Capacity for innovation (1-7 scale)	2.2	2.2	4.2	18
3.13	Investment in telecom (%)	3.4	1.7	38.8	13
	4rd pillar: Market catalysts				
	4.a: Government leadership				
4.01	Government disbursement scheme	No	No (3)	Yes (15)	18
4.02	Government disbursement reach (%)	n/a	0.0	39.2	15
4.03	Mobile G2P payments	n/a	No (2)	Yes (9)	11
4.04	Mobile tax payments	No	No (19)	Yes (1)	20
	4.b: Data collection and monitoring				
4.05	Availability of decision-making data: regulatory (%)	67.6	50.0	100.0	20
4.06	Availability of decision-making data: market (%)	75.0	30.0	100.0	20
4.07	Availability of decision-making data: end-user (%)	92.9	64.3	100.0	20
4.08	Availability of decision-making data: adoption (%)	91.7	8.3	100.0	20
	4.c: Other market catalysts				
4.09	Inbound international remittances to GDP (%)	5.1	0.1	15.4	19
4.10	Main method of international remittances	Non-cash	Cash (7)	Non-cash (8)	15
4.11	Cost of receiving international remittances (%)	5.7	4.4	15.7	17
	5th pillar: End-user empowerment and access				
	5.a: Financial literacy				
5.01	Financial literacy indicator (0-1 scale)	0.4	0.0	1.0	20
	5.b: Financial empowerment				
5.02	Depth of credit information (0-6 scale)	4.0	0.0	6.0	20
5.03	Women's access to bank loans (0-1 scale)	0.5	0.5	1.0	19
5.04	Corruption Perceptions Index (0-10 scale)	2.5	1.4	4.5	20
	5.c: Mobile penetration				
5.05	Population covered by mobile phone services (%)	100.0	60.9	100.0	19
5.06	Mobile phone services penetration (%)	40.3	37.8	128.5	20
5.07	Post-paid connections (%)	0.9	0.4	25.5	20
5.08	Mobile connection growth rate (%)	2.2	–18.4	42.8	20
	6th pillar: Distribution and agent network				
	6.a: Supporting infrastructure				
6.01	Bank branch penetration (per 100,000 adults)	2.7	1.8	18.0	18
6.02	ATM penetration (per 100,000 adults)	3.3	0.4	112.1	16
6.03	POS penetration (per 100,000 adults)	4.5	2.7	2,247.4	11
	6.b: Agent network development				
6.04	Agent density (per 100,000 adults)	4.6	0.0	128.6	14
6.05	Ease of enrollment for MFS agents (0-1 scale)	n/a	0.0	1.0	13

(Cont'd)

Uganda

Mobile financial services development in detail *(cont'd.)*

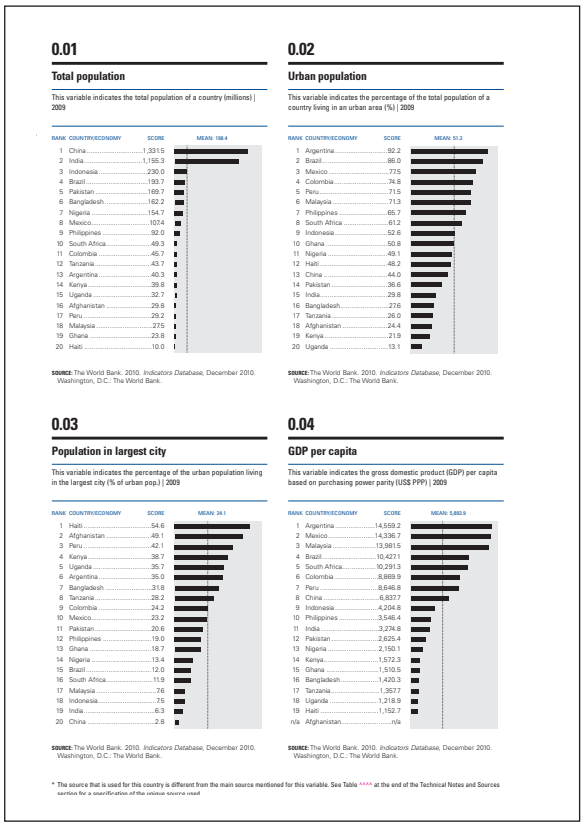
	INDICATOR	DATA	LOW	HIGH	SAMPLE
	7th pillar: Adoption and availability				
	7.a: Adoption				
7.01	Adoption of MFS services	Medium	Low (8)	High (4)	17
	7.b: Mobile payments diversity				
7.02	Number of active MFS deployments	3.0	1.0	5.0	17
7.03	Ability to buy airtime from account	Yes	No (1)	Yes (14)	15
7.04	Availability of domestic money transfer	Yes	No (3)	Yes (12)	15
7.05	Availability of international money transfer	Yes	No (8)	Yes (7)	15
7.06	Availability of bill payment	Yes	No (1)	Yes (14)	15
7.07	Availability of merchant payment	Yes	No (3)	Yes (12)	15
7.08	Availability of MFI loan repayment	No	No (11)	Yes (4)	15
7.09	Interoperability of MFS payment systems	n/a	No (9)	Yes (5)	14
	7.c: Mobile financial services diversity				
7.10	Availability of coupled accounts	Yes	No (10)	Yes (5)	15
7.11	Availability of (emergency) credit	No	No (14)	Yes (1)	15
7.12	Availability of insurance	No	No (11)	Yes (4)	15

Part 3

Data Tables

How to Read the Data Tables

The following pages provide detailed data for all 102 variables included in the *Mobile Financial Services Development Report 2011*. The data tables are organized into seven sections, which correspond to the seven pillars of the Index, as well as its country descriptors and financial inclusion characteristics:



0.01

Total population

This variable indicates the total population of a country (millions) | 2009

RANK COUNTRY/ECONOMY SCORE MEAN: 198.4

1 China 1,331.5
2 India 1,155.3
3 Indonesia 230.0
4 Brazil 193.7
5 Pakistan 169.7
6 Bangladesh 162.2
7 Nigeria 154.7
8 Mexico 107.4
9 Philippines 92.0
10 South Africa 49.3
11 Colombia 45.7
12 Tanzania 43.7
13 Argentina 40.3
14 Kenya 39.8
15 Uganda 32.7
16 Afghanistan 29.8
17 Peru 29.2
18 Malaysia 27.5
19 Ghana 23.8
20 Haiti 10.0

SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.02

Urban population

This variable indicates the percentage of the total population of a country living in an urban area (%) | 2009

RANK COUNTRY/ECONOMY SCORE MEAN: 51.2

1 Argentina 92.2
2 Brazil 86.0
3 Mexico 77.5
4 Colombia 74.8
5 Peru 71.5
6 Malaysia 71.3
7 Philippines 65.7
8 South Africa 61.2
9 Indonesia 52.6
10 Ghana 50.8
11 Nigeria 49.1
12 Haiti 48.2
13 China 44.0
14 Pakistan 36.6
15 India 29.8
16 Bangladesh 27.6
17 Tanzania 26.0
18 Afghanistan 24.4
19 Kenya 21.9
20 Uganda 13.1

SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.03

Population in largest city

This variable indicates the percentage of the urban population living in the largest city (% of urban pop.) | 2009

RANK COUNTRY/ECONOMY SCORE MEAN: 24.1

1 Haiti 54.6
2 Afghanistan 49.1
3 Peru 42.1
4 Kenya 38.7
5 Uganda 35.7
6 Argentina 35.0
7 Bangladesh 31.8
8 Tanzania 28.2
9 Colombia 24.2
10 Mexico 23.2
11 Pakistan 20.6
12 Philippines 19.0
13 Ghana 18.7
14 Nigeria 13.4
15 Brazil 12.0
16 South Africa 11.9
17 Malaysia 7.6
18 Indonesia 7.5
19 India 6.3
20 China 2.8

SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.04

GDP per capita

This variable indicates the gross domestic product (GDP) per capita based on purchasing power parity (US$ PPP) | 2009

RANK COUNTRY/ECONOMY SCORE MEAN: 5,810.9

1 Argentina 14,559.2
2 Mexico 14,336.7
3 Malaysia 13,981.5
4 Brazil 10,427.1
5 South Africa 10,291.3
6 Colombia 8,869.9
7 Peru 8,646.8
8 China 6,837.7
9 Indonesia 4,204.8
10 Philippines 3,546.4
11 India 3,274.8
12 Pakistan 2,625.4
13 Nigeria 2,150.1
14 Kenya 1,572.3
15 Ghana 1,510.5
16 Bangladesh 1,420.3
17 Tanzania 1,357.7
18 Uganda 1,218.9
19 Haiti 1,152.7
n/a Afghanistan n/a

SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

* The source that is used for this country is different from the main source mentioned for this variable. See Table AAA4 at the end of the Technical Notes and Sources section for a specification of the unique source used.

Two types of data are presented in the tables:

- **Quantitative data:** data taken from existing databases and primary data collection efforts.
- **Qualitative data:** data taken from existing databases and primary data collection efforts, as well as data obtained from surveys and interpretations of regulatory documents.

Quantitative data

Quantitative numeric data are presented in black bar graphs, with a dotted line indicating the mean score across all countries. A description of each variable is included at the top of the corresponding graph.

Data are displayed to one decimal point; however, exact figures are used to determine rankings.

Qualitative data

Qualitative non-numeric data are also represented by black bar graphs, but only two or three variations are possible. In order to facilitate the aggregation of non-numeric data with numeric data, the non-numeric value that is considered the lowest value is translated into a score of 0, and the highest score is translated into a numeric score of 1.

Index of Data Tables

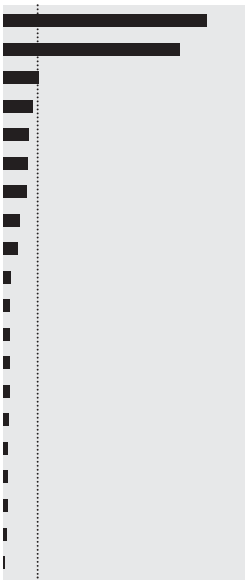
Country descriptors and financial inclusion characteristics

0.01

Total population

This variable indicates the total population of a country (millions) | 2009

RANK	COUNTRY	SCORE
1	China	1,331.5
2	India	1,155.3
3	Indonesia	230.0
4	Brazil	193.7
5	Pakistan	169.7
6	Bangladesh	162.2
7	Nigeria	154.7
8	Mexico	107.4
9	Philippines	92.0
10	South Africa	49.3
11	Colombia	45.7
12	Tanzania	43.7
13	Argentina	40.3
14	Kenya	39.8
15	Uganda	32.7
16	Afghanistan	29.8
17	Peru	29.2
18	Malaysia	27.5
19	Ghana	23.8
20	Haiti	10.0



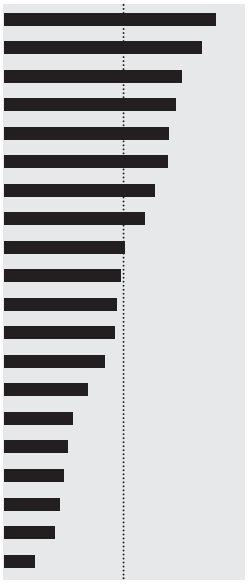
SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.02

Urban population

This variable indicates the percentage of the total population of a country living in an urban area (%) | 2009

RANK	COUNTRY	SCORE
1	Argentina	92.2
2	Brazil	86.0
3	Mexico	77.5
4	Colombia	74.8
5	Peru	71.5
6	Malaysia	71.3
7	Philippines	65.7
8	South Africa	61.2
9	Indonesia	52.6
10	Ghana	50.8
11	Nigeria	49.1
12	Haiti	48.2
13	China	44.0
14	Pakistan	36.6
15	India	29.8
16	Bangladesh	27.6
17	Tanzania	26.0
18	Afghanistan	24.4
19	Kenya	21.9
20	Uganda	13.1



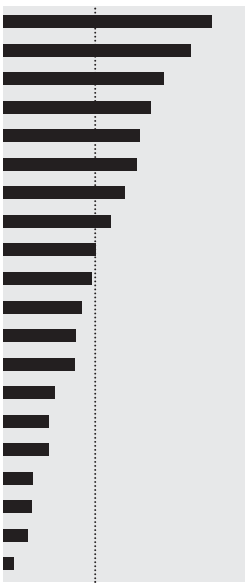
SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.03

Population in largest city

This variable indicates the percentage of the urban population living in the largest city (% of urban pop.) | 2009

RANK	COUNTRY	SCORE
1	Haiti	54.6
2	Afghanistan	49.1
3	Peru	42.1
4	Kenya	38.7
5	Uganda	35.7
6	Argentina	35.0
7	Bangladesh	31.8
8	Tanzania	28.2
9	Colombia	24.2
10	Mexico	23.2
11	Pakistan	20.6
12	Philippines	19.0
13	Ghana	18.7
14	Nigeria	13.4
15	Brazil	12.0
16	South Africa	11.9
17	Malaysia	7.6
18	Indonesia	7.5
19	India	6.3
20	China	2.8



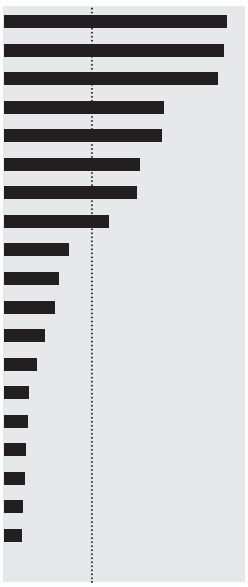
SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.04

GDP per capita

This variable indicates the gross domestic product (GDP) per capita based on purchasing power parity (US$ PPP) | 2009

RANK	COUNTRY	SCORE
1	Argentina	14,559.2
2	Mexico	14,336.7
3	Malaysia	13,981.5
4	Brazil	10,427.1
5	South Africa	10,291.3
6	Colombia	8,869.9
7	Peru	8,646.8
8	China	6,837.7
9	Indonesia	4,204.8
10	Philippines	3,546.4
11	India	3,274.8
12	Pakistan	2,625.4
13	Nigeria	2,150.1
14	Kenya	1,572.3
15	Ghana	1,510.5
16	Bangladesh	1,420.3
17	Tanzania	1,357.7
18	Uganda	1,218.9
19	Haiti	1,152.7
n/a	Afghanistan	n/a



SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

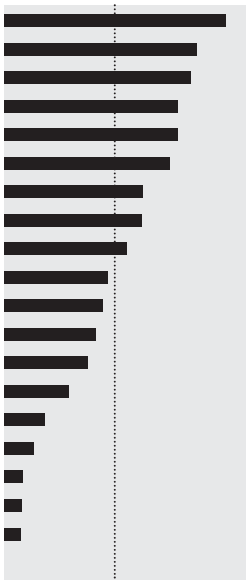
0.05

Poverty headcount ratio

This variable indicates the percentage of the population living at or less than US$2 a day (%) | 2008

RANK	COUNTRY	SCORE
1	Tanzania	96.6
2	Nigeria	83.9
3	Bangladesh	81.3
4	Uganda	75.6
5	India	75.6
6	Haiti	72.2
7	Pakistan	60.3
8	Indonesia	60.0
9	Ghana	53.6
10	Philippines	45.0
11	South Africa	42.9
12	Kenya	39.9
13	China	36.3
14	Colombia	27.9
15	Peru	17.8
16	Brazil	12.7
17	Mexico	8.2
18	Malaysia	7.8
19	Argentina	7.3
n/a	Afghanistan	n/a

MEAN: 47.6



SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

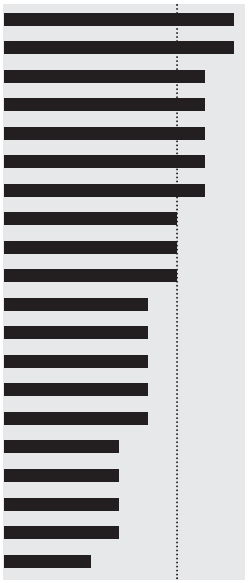
0.06

Human Development Index

This variable indicates a country's Human Development Index score (0-1 scale) | 2009

RANK	COUNTRY	SCORE
1	Argentina	0.8
2	Mexico	0.8
3	Malaysia	0.7
4	Peru	0.7
5	Brazil	0.7
6	Colombia	0.7
7	China	0.7
8	Philippines	0.6
9	Indonesia	0.6
10	South Africa	0.6
11	India	0.5
12	Pakistan	0.5
13	Kenya	0.5
14	Bangladesh	0.5
15	Ghana	0.5
16	Nigeria	0.4
17	Uganda	0.4
18	Haiti	0.4
19	Tanzania	0.4
20	Afghanistan	0.3

MEAN: 0.6



SOURCE: United Nations Development Program (UNDP). 2011. *International Human Development Indicators*, March 2011. New York, N.Y.: UNDP.

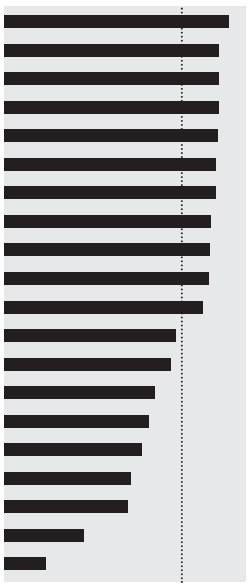
0.07

Adult literacy rate

This variable indicates the percentage of a country's adult population that is literate (%) | 2008

RANK	COUNTRY	SCORE
1	Argentina	97.7
2	China	93.7
3	Philippines	93.6
4	Colombia	93.4
5	Mexico	92.9
6	Malaysia	92.1
7	Indonesia	92.0
8	Brazil	90.0
9	Peru	89.6
10	South Africa	89.0
11	Kenya	86.5
12	Uganda	74.6
13	Tanzania	72.6
14	Ghana	65.8
15	India	62.8
16	Nigeria	60.1
17	Bangladesh	55.0
18	Pakistan	53.7
19	Haiti	34.7
20	Afghanistan	18.2

MEAN: 75.4



SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

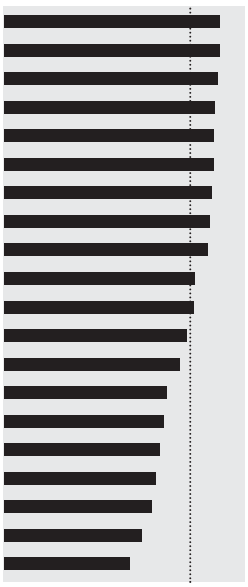
0.08

Life expectancy

This variable indicates life expectancy at birth (years) | 2008

RANK	COUNTRY	SCORE
1	Argentina	75.3
2	Mexico	75.1
3	Malaysia	74.4
4	Peru	73.3
5	China	73.1
6	Colombia	73.0
7	Brazil	72.4
8	Philippines	71.8
9	Indonesia	70.8
10	Pakistan	66.5
11	Bangladesh	66.1
12	India	63.7
13	Haiti	61.2
14	Ghana	56.6
15	Tanzania	55.6
16	Kenya	54.2
17	Uganda	52.7
18	South Africa	51.5
19	Nigeria	47.9
20	Afghanistan	43.9

MEAN: 64.0



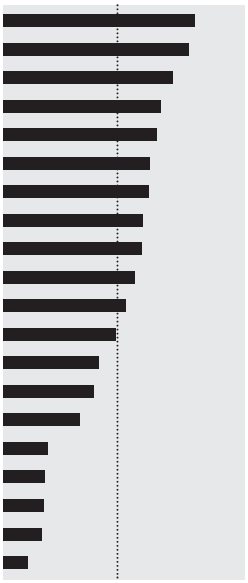
SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.09

Ease of doing business

This variable indicates the ease of doing business as expressed in the World Bank's 'Doing Business' ranking (1-183 rank) | 2010

RANK	COUNTRY	SCORE
1	Malaysia	21.0
2	South Africa	34.0
3	Mexico	35.0
4	Peru	36.0
5	Colombia	39.0
6	Ghana	67.0
7	China	79.0
8	Pakistan	83.0
9	Kenya	98.0
10	Bangladesh	107.0
11	Argentina	115.0
12	Indonesia	121.0
13	Uganda	122.0
14	Brazil	127.0
15	Tanzania	128.0
16	India	134.0
17	Nigeria	137.0
18	Philippines	148.0
19	Haiti	162.0
20	Afghanistan	167.0



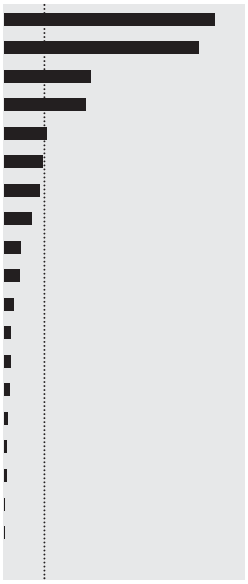
SOURCE: The World Bank. 2010. *Doing Business 2011*. December 2010. Washington, D.C.: The World Bank.

0.10

Inbound remittances

This variable indicates the volume of annual inbound remittances (millions US$) | 2010

RANK	COUNTRY	SCORE
1	India	55,000.0
2	China	51,000.0
3	Mexico	22,571.8
4	Philippines	21,310.7
5	Bangladesh	11,050.2
6	Nigeria	9,974.7
7	Pakistan	9,407.3
8	Indonesia	7,138.6
9	Brazil	4,277.1
10	Colombia	3,942.4
11	Peru	2,494.0
12	Kenya	1,757.9
13	Malaysia	1,576.3
14	Haiti	1,499.0
15	South Africa	1,008.4
16	Uganda	772.6
17	Argentina	682.2
18	Ghana	119.1
19	Tanzania	17.5
n/a	Afghanistan	n/a



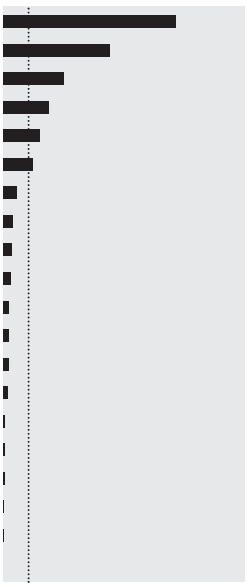
SOURCE: Sanket M., D. Ratha and A.Silwal. 2010. "*Outlook for Remittance Flows 2011-12: Recovery After the Crisis, but Risks Lie Ahead*" Migration and Development Brief. Washington, D.C.: The World Bank.

0.11

Cash payments volume indicator

This variable indicates the approximate volume of cash payments in a country (billions US$) | 2008

RANK	COUNTRY	SCORE
1	China	1,501.0
2	India	924.6
3	Brazil	525.6
4	Mexico	393.9
5	Indonesia	318.1
6	Argentina	260.4
7	Colombia	117.7
8	Philippines	78.6
9	Malaysia	77.8
10	Bangladesh	61.3
11	Pakistan	52.0
12	South Africa	46.3
13	Peru	44.7
14	Nigeria	37.0
15	Tanzania	12.2
16	Kenya	11.0
17	Uganda	9.7
18	Ghana	6.2
19	Haiti	3.4
n/a	Afghanistan	n/a



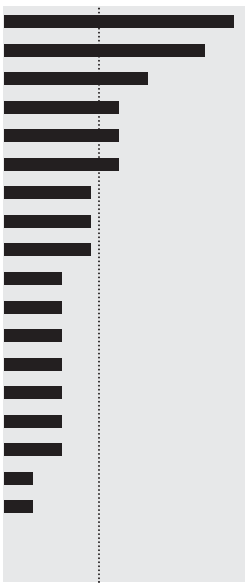
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

0.12

MFS maturity

This variable indicates the maturity of the mobile financial services ecosystem in a country, measured as the time since the launch of the first deployment (years) | 2010

RANK	COUNTRY	SCORE
1	Philippines	8.0
2	South Africa	7.0
3	Bangladesh	5.0
4	Brazil	4.0
4	Kenya	4.0
4	Malaysia	4.0
7	Afghanistan	3.0
7	China	3.0
7	Tanzania	3.0
10	Argentina	2.0
10	Colombia	2.0
10	Ghana	2.0
10	India	2.0
10	Nigeria	2.0
10	Pakistan	2.0
10	Uganda	2.0
17	Haiti	1.0
17	Indonesia	1.0
n/a	Mexico	n/a
n/a	Peru	n/a



SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

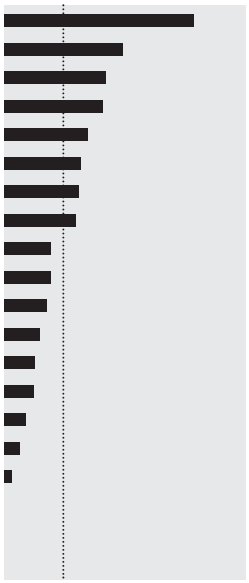
0.13

Deposit accounts at banks

This variable indicates the number of deposit accounts in a country held at commercial banks and cooperatives (per 1,000 adults) | 2010

RANK	COUNTRY	SCORE
1	Malaysia	2,066.1
2	Colombia	1,294.8
3	Mexico	1,104.0
4	Brazil	1,069.1
5	Argentina	906.4
6	South Africa	839.1
7	India	816.2
8	Peru	783.4
9	Philippines	505.3
10	Indonesia	504.7
11	Nigeria	461.2
12	Kenya	381.6
13	Ghana	332.6
14	Bangladesh	316.7
15	Pakistan	229.5
16	Uganda	173.2
17	Afghanistan	83.8
n/a	China	n/a
n/a	Haiti	n/a
n/a	Tanzania	n/a

MEAN: 698.1



SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

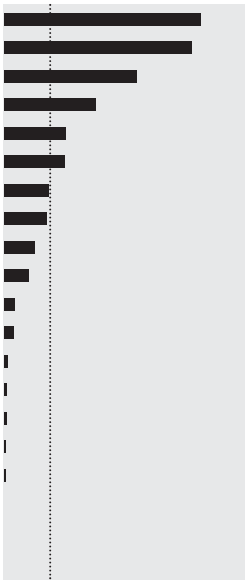
0.14

Deposit accounts at MFI's

This variable indicates the total number of depositors at microfinance institutions (per 1,000 adults) | 2009

RANK	COUNTRY	SCORE
1	Bangladesh	171.1
2	Kenya	163.2
3	Colombia	115.6
4	Peru	79.4
5	Ghana	53.6
6	Uganda	52.8
7	Mexico	39.1
8	Philippines	37.1
9	South Africa	26.3
10	Haiti	21.0
11	Afghanistan	9.5
12	Tanzania	8.2
13	Pakistan	2.7
14	Nigeria	2.6
15	India	1.8
16	Indonesia	1.6
17	Brazil	0.9
18	Argentina	0.0
18	Malaysia	0.0
n/a	China	n/a

MEAN: 41.4



SOURCE: Microfinance Exchange (MIX). 2011. *Microfinance at a Glance*, March 2011. Washington, D.C.: MIX.

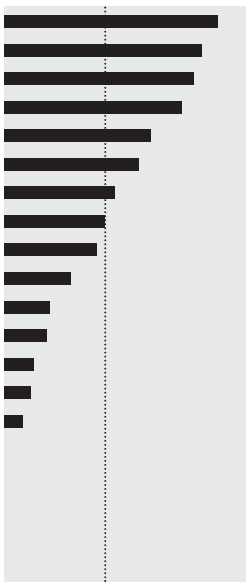
0.15

Average deposit value

This variable indicates the average amount deposited in accounts at a commercial bank or cooperative as a percentage of income per capita (% of income per capita) | 2010

RANK	COUNTRY	SCORE
1	Bangladesh	232.5
2	Uganda	215.2
3	Pakistan	206.5
4	Ghana	193.7
5	Kenya	178.5
6	South Africa	159.9
7	Philippines	146.7
8	Nigeria	119.9
9	India	109.7
10	Indonesia	100.8
11	Malaysia	72.9
12	Peru	49.4
13	Brazil	46.0
14	Argentina	32.0
15	Colombia	28.8
16	Mexico	19.7
n/a	Afghanistan	n/a
n/a	China	n/a
n/a	Haiti	n/a
n/a	Tanzania	n/a

MEAN: 119.5



SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

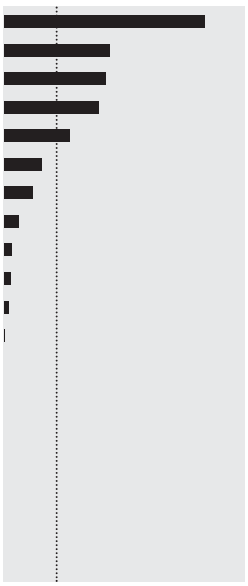
0.16

Loan accounts at banks

This variable indicates the number of loan accounts in a country held at commercial banks and cooperatives (per 1,000 adults) | 2010

RANK	COUNTRY	SCORE
1	Malaysia	1,050.9
2	Brazil	552.1
3	Argentina	532.5
4	Colombia	494.0
5	Peru	342.7
6	Indonesia	196.9
7	India	147.6
8	Kenya	75.5
9	Bangladesh	41.4
10	Pakistan	34.7
11	Uganda	25.2
12	Afghanistan	3.3
n/a	China	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Nigeria	n/a
n/a	Philippines	n/a
n/a	South Africa	n/a
n/a	Tanzania	n/a

MEAN: 291.4



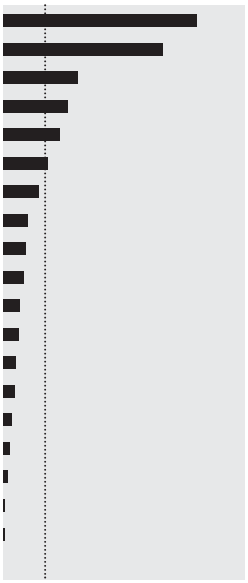
SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

0.17

Loan accounts at MFIs

This variable indicates the total number of borrowers from microfinance institutions (per 1,000 adults) | 2009

RANK	COUNTRY	SCORE
1	Bangladesh	126.8
2	Peru	104.5
3	Colombia	48.8
4	Mexico	42.0
5	Kenya	36.7
6	Philippines	29.1
7	India	23.0
8	South Africa	16.3
9	Ghana	15.0
10	Uganda	13.2
11	Haiti	10.9
12	Afghanistan	9.9
13	Pakistan	8.5
14	Malaysia	7.5
15	Tanzania	5.3
16	Brazil	4.2
17	Nigeria	2.8
18	Indonesia	1.2
19	Argentina	0.7
n/a	China	n/a



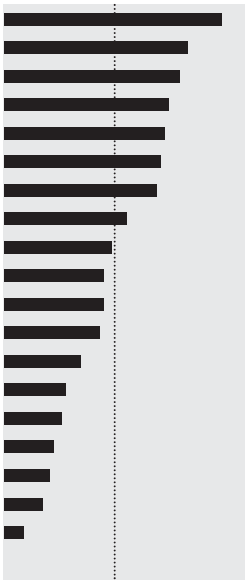
SOURCE: Microfinance Exchange (MIX). 2011. *Microfinance at a Glance*, March 2011. Washington, D.C.: MIX.

0.18

Composite access to financial services

This variable indicates the percentage of the adult population using formal financial intermediaries (%) | 2007

RANK	COUNTRY	SCORE
1	Malaysia	57.0
2	India	48.0
3	South Africa	46.0
4	Brazil	43.0
5	China	42.0
6	Colombia	41.0
7	Indonesia	40.0
8	Bangladesh	32.0
9	Argentina	28.0
10	Peru	26.0
10	Philippines	26.0
12	Mexico	25.0
13	Uganda	20.0
14	Ghana	16.0
15	Haiti	15.0
16	Nigeria	13.0
17	Pakistan	12.0
18	Kenya	10.0
19	Tanzania	5.0
n/a	Afghanistan	n/a



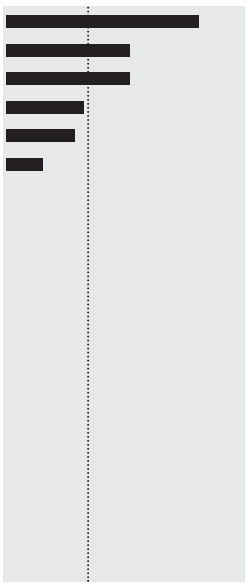
SOURCE: Honohan, 2007. ìCross Country Variation in Household Access to Financial Services" *Working paper prepared for the Access to Finance Conference in Washington, D.C.*

0.19

Informal banking sector access

This variable indicates the percentage of the population that accesses the informal banking sector (%) | 2009

RANK	COUNTRY	SCORE
1	Uganda	42.0
2	Kenya	27.0
2	Tanzania	27.0
4	Nigeria	17.0
5	Ghana	15.0
6	South Africa	8.0
n/a	Afghanistan	n/a
n/a	Argentina	n/a
n/a	Bangladesh	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	India	n/a
n/a	Indonesia	n/a
n/a	Malaysia	n/a
n/a	Mexico	n/a
n/a	Pakistan	n/a
n/a	Peru	n/a
n/a	Philippines	n/a



SOURCE: FinMark Trust. 2011. "*Financial Access Strands*" March 2011. Marshalltown, South Africa.

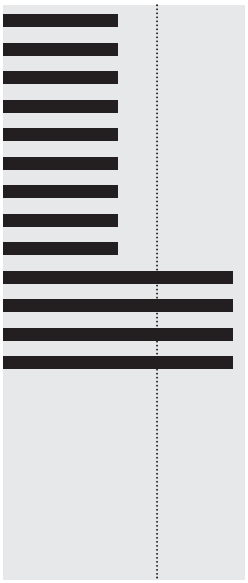
Pillar 1
Regulatory proportionality

1.01

Domestic financial sector liberalization

This variable indicates the degree of domestic financial sector liberalization within a country, standardized on a 3–1 scale [3 = least liberalized; 1 = most liberalized] (2-1 scale) | 2010

RANK	COUNTRY	SCORE
1	Argentina	1.0
1	Brazil	1.0
1	Colombia	1.0
1	Malaysia	1.0
1	Mexico	1.0
1	Nigeria	1.0
1	Peru	1.0
1	Philippines	1.0
1	South Africa	1.0
10	China	2.0
10	India	2.0
10	Indonesia	2.0
10	Pakistan	2.0
n/a	Afghanistan	n/a
n/a	Bangladesh	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Kenya	n/a
n/a	Tanzania	n/a
n/a	Uganda	n/a



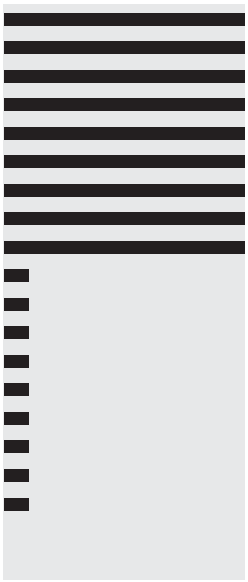
SOURCE: Graciela Kaminsky and Sergio Schmukler. 2003. ìShort-Run Pain, Long-Run Gain: The Effects of Financial Liberalization" *IMF Working Paper 03/34* Washington, D.C.: International Monetary Fund. Updated as of 2009 based on World Economic Forum analysis.

1.02

Proportional licensing scheme

This variable assesses whether more than one license is required for providing different banking activities, such as commercial banking, securities operations, insurance, etc. [No = 0; Yes = 1] | 2008

RANK	COUNTRY	SCORE
1	Bangladesh	Yes
1	China	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Malaysia	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Philippines	Yes
10	Argentina	No
10	Brazil	No
10	Colombia	No
10	Kenya	No
10	Mexico	No
10	Peru	No
10	South Africa	No
10	Tanzania	No
10	Uganda	No
n/a	Afghanistan	n/a
n/a	Haiti	n/a



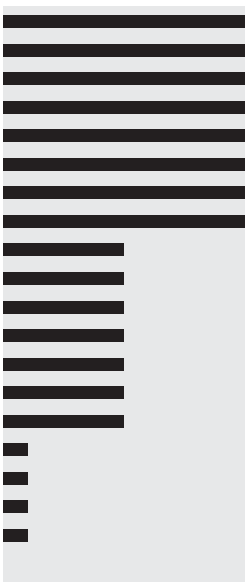
SOURCE: The World Bank. 2007. *Regulation and Supervision Database*, Updated June 2008. Washington, D.C.: The World Bank.

1.03

E-money licensing

This variable assesses whether there is specific regulation that governs the issuance of electronic money in place [No = 0; Non-specific = 0.5; Yes= 1] | 2011

RANK	COUNTRY	SCORE
1	Bangladesh	Yes
1	Haiti	Yes
1	India*	Yes
1	Indonesia*	Yes
1	Malaysia*	Yes
1	Pakistan	Yes
1	Philippines	Yes
1	South Africa	Yes
9	Afghanistan	Non-specific
9	Argentina*	Non-specific
9	Brazil*	Non-specific
9	China*	Non-specific
9	Colombia	Non-specific
9	Mexico	Non-specific
9	Nigeria	Non-specific
16	Ghana	No
16	Kenya	No
16	Peru	No
16	Tanzania	No
n/a	Uganda	n/a



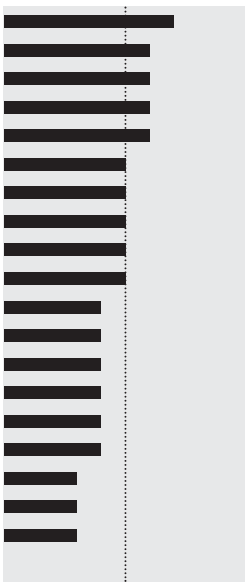
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.04

Regulatory quality for banking and investment

This variable measures the quality of regulation based on perception of the government's ability to formulate and implement sound policies and regulation [0= Low quality, 1 = High quality] (0-1 scale) | 2009

RANK	COUNTRY	SCORE
1	Peru	0.7
2	Ghana	0.6
2	Mexico	0.6
4	Colombia	0.6
4	Tanzania	0.6
6	South Africa	0.5
6	Uganda	0.5
8	Brazil	0.5
8	Kenya	0.5
10	Philippines	0.5
11	Malaysia	0.4
11	Nigeria	0.4
13	Argentina	0.4
13	India	0.4
13	Indonesia	0.4
16	Pakistan	0.4
17	Bangladesh	0.3
18	Haiti	0.3
19	China	0.3
n/a	Afghanistan	n/a



SOURCE: The World Bank. 2010. *Worldwide Governance Indicators*. Washington, D.C.: The World Bank.

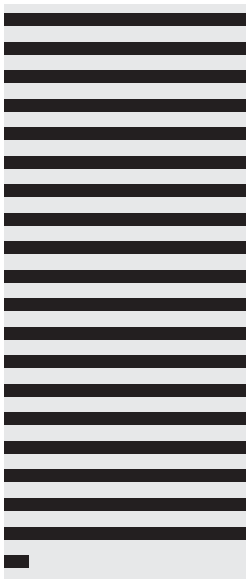
* The source that is used for this country is different from the main source mentioned for this variable. See Table 1 at the end of the Technical Notes and Sources section for a specification of the unique source used.

1.05

Telecommunication regulatory authority

This variable assesses whether a separate and independent regulatory telecom authority exists [No = 0; Yes = 1] | 2009

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Argentina	Yes
1	Bangladesh	Yes
1	Brazil	Yes
1	Colombia	Yes
1	Ghana	Yes
1	Haiti	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda	Yes
20	China	No



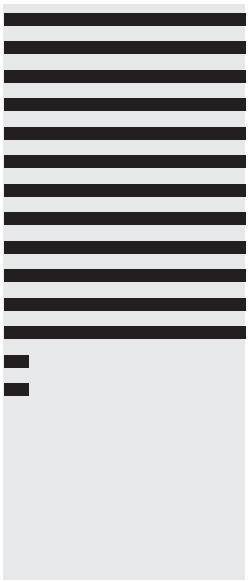
SOURCE: International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.06

Existence of universal service policy

This variable assesses the existence of a universal service (access) policy or rural telecoms development policy [No = 0; Yes = 1] | 2009

RANK	COUNTRY	SCORE
1	Argentina	Yes
1	Brazil	Yes
1	China	Yes
1	Colombia	Yes
1	Ghana	Yes
1	India	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Uganda	Yes
13	Haiti	No
13	Kenya	No
n/a	Afghanistan	n/a
n/a	Bangladesh	n/a
n/a	Indonesia	n/a
n/a	Philippines	n/a
n/a	South Africa	n/a
n/a	Tanzania	n/a



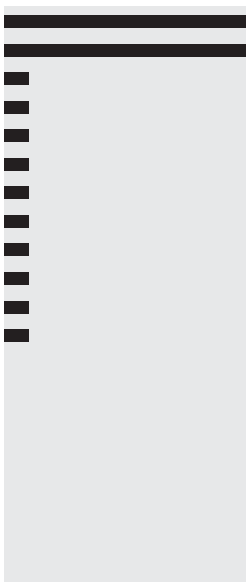
SOURCE: International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.07

Coverage rate requirement

This variable assesses the existence of regulation that requires MNOs to cover a specified percentage of a country's population or area with an operational service [No = 0; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Indonesia	Yes
1	Philippines	Yes
3	Argentina	No
3	Brazil	No
3	China	No
3	India	No
3	Kenya	No
3	Malaysia	No
3	Mexico	No
3	Nigeria	No
3	South Africa	No
3	Uganda	No
n/a	Afghanistan	n/a
n/a	Bangladesh	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Pakistan	n/a
n/a	Peru	n/a
n/a	Tanzania	n/a



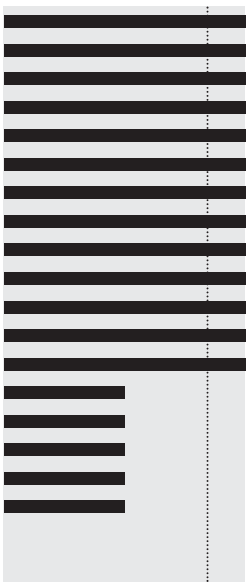
SOURCE: International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.08

Quality of service regulation index

This index measures whether the telecommunications regulatory entity has implemented quality of service regulation and has the mandate to enforce it [0 = no regulation, 1 = regulation in place] | 2009

RANK	COUNTRY	SCORE	MEAN: 0.8
1	Argentina	1.0	
1	Brazil	1.0	
1	China	1.0	
1	Colombia	1.0	
1	Ghana	1.0	
1	Haiti	1.0	
1	Kenya	1.0	
1	Malaysia	1.0	
1	Mexico	1.0	
1	Nigeria	1.0	
1	Pakistan	1.0	
1	Peru	1.0	
1	Uganda	1.0	
14	Afghanistan	0.5	
14	Bangladesh	0.5	
14	Indonesia	0.5	
14	South Africa	0.5	
14	Tanzania	0.5	
19	Philippines	0.0	
n/a	India	n/a	



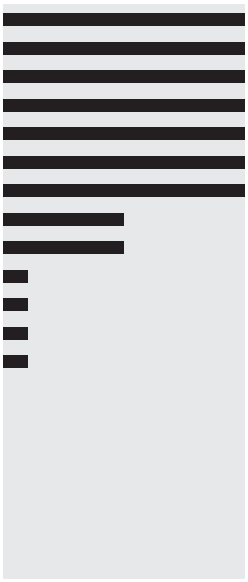
SOURCE: International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.09

Identification requirement for pre-paid services

This variable assesses whether identification is required for purchasing prepaid mobile communication services [No = 0; Considered = 0.5; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Ghana	Yes
1	Kenya	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	South Africa	Yes
1	Tanzania	Yes
8	Philippines	Considered
8	Uganda	Considered
10	Argentina	No
10	Brazil	No
10	Colombia	No
10	Peru	No
n/a	Bangladesh	n/a
n/a	China	n/a
n/a	Haiti	n/a
n/a	India	n/a
n/a	Indonesia	n/a
n/a	Malaysia	n/a
n/a	Pakistan	n/a



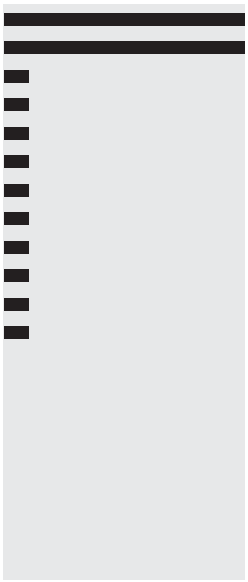
SOURCE: World Economic Forum study of publicly available sources (press releases, websites and academic databases). 2011.

1.10

Existence of MVNO's

This variable assesses whether Mobile Virtual Network Operators (MVNOs) exist in the marketplace [No = 0; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Indonesia	Yes
1	Philippines	Yes
3	Argentina	No
3	Brazil	No
3	China	No
3	India	No
3	Kenya	No
3	Malaysia	No
3	Mexico	No
3	Nigeria	No
3	South Africa	No
3	Uganda	No
n/a	Afghanistan	n/a
n/a	Bangladesh	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Pakistan	n/a
n/a	Peru	n/a
n/a	Tanzania	n/a



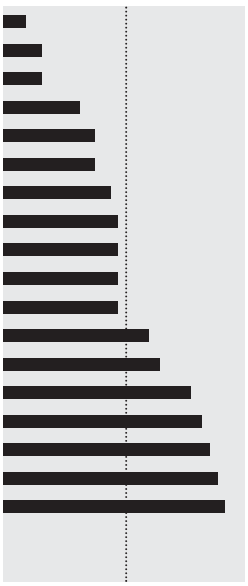
SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

1.11

Taxation of mobile communication services

This variable indicates the average taxation of total mobile service costs (%) | 2006

RANK	COUNTRY	SCORE
1	China	3.0
2	Malaysia	5.0
2	Nigeria	5.0
4	Indonesia	10.0
5	India	12.0
5	Philippines	12.0
7	South Africa	14.0
8	Bangladesh	15.0
8	Ghana	15.0
8	Mexico	15.0
8	Pakistan	15.0
12	Peru	19.0
13	Colombia	20.5
14	Argentina	24.5
15	Kenya	26.0
16	Tanzania	27.0
17	Brazil	28.0
18	Uganda	29.0
n/a	Afghanistan	n/a
n/a	Haiti	n/a



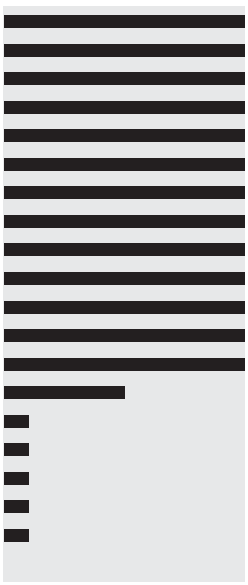
SOURCE: GSM Association (GSMA) and Deloitte. 2006 - 2007. *Global Mobile Tax Review*. London, U.K.: GSMA

1.12

Banking agent regulation

This variable assesses whether there are regulations that specify if licensed financial institutions can contract other legal entities as agents to provide services on their behalf [No = 0; Yes = 1] | 2009

RANK	COUNTRY	SCORE
1	Brazil	Yes
1	Colombia	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda	Yes
14	Ghana*	Unclear
15	Afghanistan	No
15	Argentina	No
15	Bangladesh	No
15	China	No
15	Haiti	No
n/a	Nigeria	n/a



SOURCE: Consultative Group to Assist the Poor (CGAP). 2009. "*Financial Access 2009*" Washington, D.C.: CGAP.

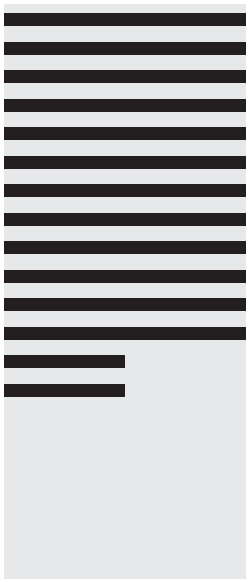
* The source that is used for this country is different from the main source mentioned for this variable. See Table 1 at the end of the Technical Notes and Sources section for a specification of the unique source used.

1.13

MNO role as banking agent

This variable assesses whether MNO's can perform banking activities on behalf of licensed financial institutions [No = 0; Unclear = 0.5; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Brazil*	Yes
1	Colombia*	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Nigeria*	Yes
1	Pakistan	Yes
1	Peru*	Yes
1	Philippines	Yes
1	South Africa	Yes
13	Ghana	Unclear
13	Tanzania*	Unclear
n/a	Afghanistan	n/a
n/a	Argentina	n/a
n/a	Bangladesh	n/a
n/a	China	n/a
n/a	Haiti	n/a
n/a	Uganda	n/a



SOURCE: GSM Association (GSMA). 2010. *Regulatory Database*, December 2010. London, U.K.: GSMA.

1.14

Non-bank agent deployment

This variable assesses whether mobile network operators without a traditional banking license can deploy agents for the provision of financial services [No = 0; Unclear = 0.5; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Afghanistan*	Yes
1	Colombia*	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Nigeria*	Yes
1	Peru*	Yes
1	Philippines	Yes
1	Tanzania*	Yes
10	Brazil*	Unclear
10	Mexico	Unclear
10	South Africa	Unclear
13	Argentina	No
13	Bangladesh	No
13	China	No
13	Ghana	No
13	Haiti*	No
13	India	No
13	Pakistan	No
n/a	Uganda	n/a

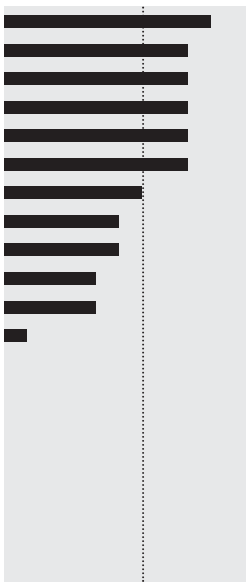
SOURCE: GSM Association (GSMA). 2010. *Regulatory Database*, December 2010. London, U.K.: GSMA.

1.15

Permitted agent activities

This index assesses the range of activities that can be performed by banking agents under existing agent regulation [0 = Small range; 1 = Wide range] (0-1 scale) | 2009

RANK	COUNTRY	SCORE
1	South Africa	0.9
2	Brazil	0.8
2	India	0.8
2	Malaysia	0.8
2	Mexico	0.8
2	Pakistan	0.8
7	Kenya	0.6
8	Colombia	0.5
8	Peru	0.5
10	Philippines	0.4
10	Tanzania	0.4
12	Uganda	0.1
n/a	Afghanistan	n/a
n/a	Argentina	n/a
n/a	Bangladesh	n/a
n/a	China	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Indonesia	n/a
n/a	Nigeria	n/a



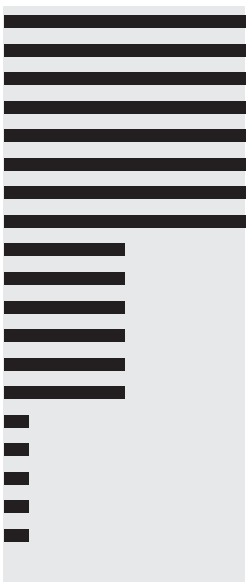
SOURCE: Consultative Group to Assist the Poor (CGAP). 2009. "*Financial Access 2009*" Washington, D.C.: CGAP.

1.16

Non-bank MFS licensing

This variable assesses whether entities that are not licensed financial institutions are allowed to provide mobile financial services [No = 0; Unclear = 0.5; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Afghanistan*	Yes
1	China	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Philippines	Yes
1	Tanzania*	Yes
9	Brazil*	Limited
9	Colombia*	Limited
9	India	Limited
9	Nigeria*	Limited
9	Peru*	Limited
9	South Africa	Limited
15	Argentina	No
15	Bangladesh	No
15	Ghana	No
15	Haiti*	No
15	Pakistan	No
n/a	Uganda	n/a



SOURCE: GSM Association (GSMA). 2010. *Regulatory Database*, December 2010. London, U.K.: GSMA.

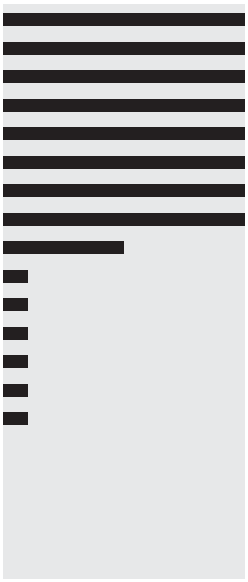
* The source that is used for this country is different from the main source mentioned for this variable. See Table 1 at the end of the Technical Notes and Sources section for a specification of the unique source used.

1.17

Value in mobile wallet considered deposit

This variable assesses whether transforming cash into electronic value in a mobile wallet is considered deposit-taking [Yes = 0; Sometimes = 0.5; No = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	No
1	Bangladesh	No
1	Colombia	No
1	Ghana	No
1	India*	No
1	Indonesia*	No
1	Pakistan	No
1	Tanzania	No
9	Kenya	Sometimes
10	Haiti	Yes
10	Mexico	Yes
10	Nigeria	Yes
10	Peru	Yes
10	Philippines	Yes
10	South Africa	Yes
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Malaysia	n/a
n/a	Uganda	n/a



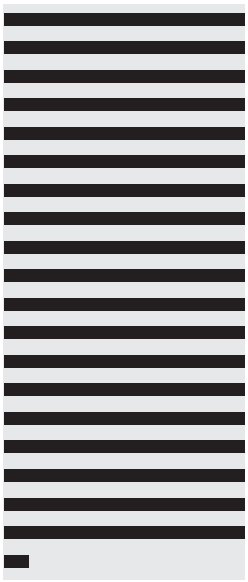
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.18

Existence of AML/CFT regulation

This variable assesses whether there is specific regulation in place that governs anti-money laundering (AML) and combating of the financing of terrorism (CFT) [No = 0; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Argentina*	Yes
1	Brazil*	Yes
1	China*	Yes
1	Colombia	Yes
1	Ghana	Yes
1	Haiti	Yes
1	India*	Yes
1	Indonesia*	Yes
1	Kenya	Yes
1	Malaysia*	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda*	Yes
20	Bangladesh	No



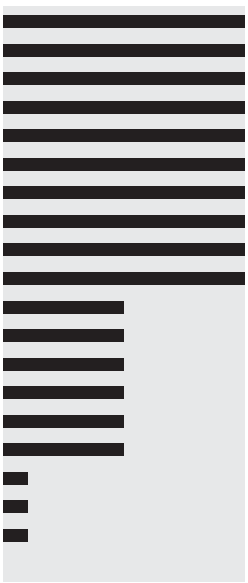
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.19

Compliance with AML/CFT standards

This variable assesses compliance with standards set by the Financial Action Task Force of local AML/CFT regulation [Non-compliant = 0; Deficiencies = 0.5; Compliant = 1] | 2011

RANK	COUNTRY	SCORE
1	Argentina	Compliant
1	Brazil	Compliant
1	China	Compliant
1	Colombia	Compliant
1	India	Compliant
1	Malaysia	Compliant
1	Mexico	Compliant
1	Peru	Compliant
1	South Africa	Compliant
1	Uganda	Compliant
11	Bangladesh	Deficiencies
11	Ghana	Deficiencies
11	Indonesia	Deficiencies
11	Pakistan	Deficiencies
11	Philippines	Deficiencies
11	Tanzania	Deficiencies
17	Haiti*	Non-compliant
17	Kenya	Non-compliant
17	Nigeria	Non-compliant
n/a	Afghanistan	n/a



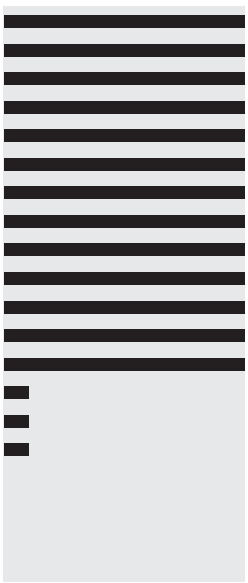
SOURCE: Financial Action Task Force (FATF). 2011. "Improving Global AML/CFT Compliance: update on-going process". Paris, France: FATF.

1.20

Proportional transaction limits

This variable assesses whether transaction limits are applied to transactions to and from mobile accounts [No = 0; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Brazil*	Yes
1	Colombia	Yes
1	Haiti	Yes
1	India*	Yes
1	Indonesia*	Yes
1	Kenya	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
14	Bangladesh	No
14	Ghana	No
14	Peru	No
n/a	Argentina	n/a
n/a	China	n/a
n/a	Malaysia	n/a
n/a	Uganda	n/a



SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

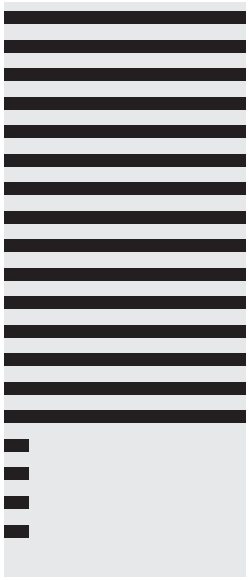
* The source that is used for this country is different from the main source mentioned for this variable. See Table 1 at the end of the Technical Notes and Sources section for a specification of the unique source used.

1.21

Proportional KYC requirements

This variable assesses whether the regulator allows for a more relaxed application of Know Your Customer (KYC) requirements to low risk accounts to improve access for the underserved [No = 0; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Argentina*	Yes
1	Brazil*	Yes
1	Colombia	Yes
1	Ghana	Yes
1	Haiti	Yes
1	India*	Yes
1	Kenya	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda*	Yes
16	Afghanistan	No
16	Bangladesh	No
16	Indonesia*	No
16	Malaysia*	No
n/a	China	n/a



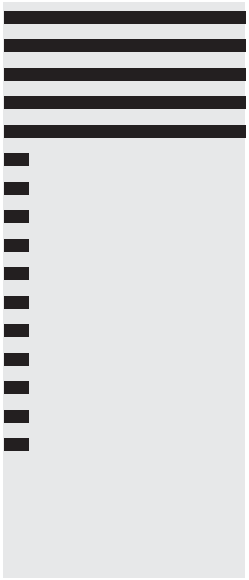
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.22

International mobile money transfer regulation

This variable assesses whether there is specific regulation in place that governs foreign exchange controls for banks and non-banks engaging in mobile financial services [No = 0; Unclear = 0.5; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Ghana	Yes
1	Kenya	Yes
1	Nigeria	Yes
1	South Africa	Yes
6	Argentina*	No
6	Bangladesh	No
6	Brazil*	No
6	Colombia	No
6	Haiti	No
6	India*	No
6	Mexico	No
6	Pakistan	No
6	Peru	No
6	Philippines	No
6	Tanzania	No
n/a	China	n/a
n/a	Indonesia	n/a
n/a	Malaysia	n/a
n/a	Uganda	n/a



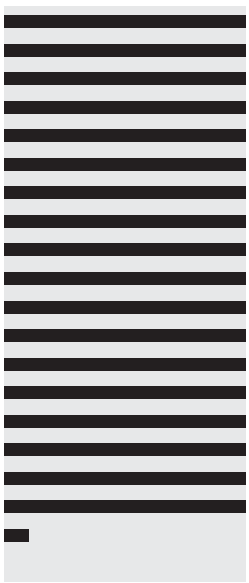
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.23

Publicly-defined financial inclusion strategy

This variable assesses whether the financial regulator has defined and published a strategy for financial inclusion [No = 0; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Argentina	Yes
1	Brazil	Yes
1	China	Yes
1	Colombia	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda	Yes
19	Bangladesh	No
n/a	Haiti	n/a



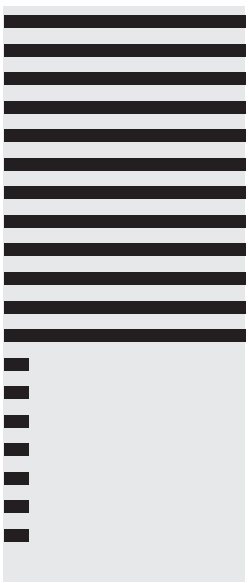
SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "Financial Access 2010". Washington, D.C.: CGAP.

1.24

Designation of financial access authority

This variable assesses whether promoting access in rural areas is allocated to a specific team or organizational unit by the financial regulator [No = 0; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Argentina	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	Tanzania	Yes
13	Bangladesh	No
13	Brazil	No
13	China	No
13	Colombia	No
13	Mexico	No
13	South Africa	No
13	Uganda	No
n/a	Haiti	n/a



SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

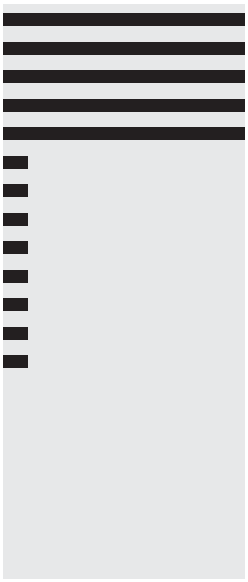
* The source that is used for this country is different from the main source mentioned for this variable. See Table 1 at the end of the Technical Notes and Sources section for a specification of the unique source used.

1.25

Basic account provision

This variable assesses whether the government or regulator requires financial institutions to offer a basic, low-cost and no-frills account that caters to the needs of low-income people [No = 0; Yes = 1] | 2008

RANK	COUNTRY	SCORE
1	India	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Pakistan	Yes
1	South Africa	Yes
6	Afghanistan	No
6	Bangladesh	No
6	Indonesia	No
6	Kenya	No
6	Nigeria	No
6	Philippines	No
6	Tanzania	No
6	Uganda	No
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Peru	n/a



SOURCE: The International Bank for Reconstruction and Development / The World Bank. 2009. "*Banking the Poor: Measuring Banking Access in 54 Economies*". Washington, D.C.: World Bank.

1.26

Telecom and FS regulatory alignment

This variable assesses whether a mechanism exists to harmonize MFS policies between the financial and telecom regulators [No = 0; Ad hoc = 0.5; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Colombia	Yes
1	Pakistan	Yes
3	Haiti	Ad hoc
3	Kenya	Ad hoc
3	Nigeria	Ad hoc
3	Peru	Ad hoc
3	South Africa	Ad hoc
3	Tanzania	Ad hoc
9	Afghanistan	No
9	Bangladesh	No
9	Ghana	No
9	Mexico	No
9	Philippines	No
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	India	n/a
n/a	Indonesia	n/a
n/a	Malaysia	n/a
n/a	Uganda	n/a

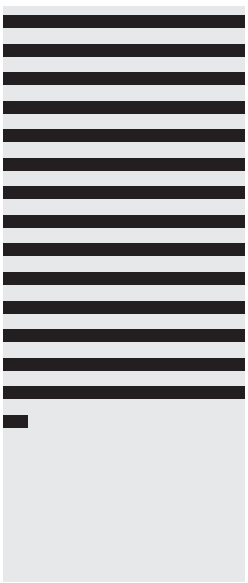
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.27

Institution-agnostic tax regime

This variable assesses whether financial transactions are taxed equally when provided by a non-bank or by a licensed institution [No = 0; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Bangladesh	Yes
1	China	Yes
1	Colombia	Yes
1	Ghana	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
15	Peru	No
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	Haiti	n/a
n/a	India	n/a
n/a	Uganda	n/a



SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

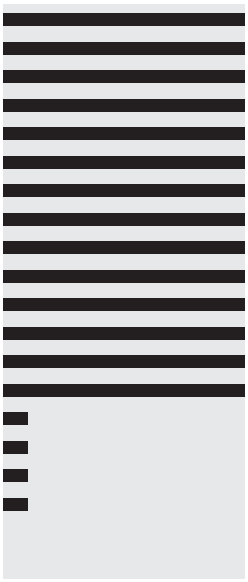
Pillar 2
Consumer protection

2.01

Existence of MFS consumer protection policy

This variable assesses whether there is specific regulation that governs MFS consumer protection [No = 0; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Brazil*	Yes
1	Colombia	Yes
1	Ghana	Yes
1	Indonesia*	Yes
1	Kenya	Yes
1	Malaysia*	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
15	Argentina*	No
15	Bangladesh	No
15	Haiti	No
15	Uganda*	No
n/a	China	n/a
n/a	India	n/a



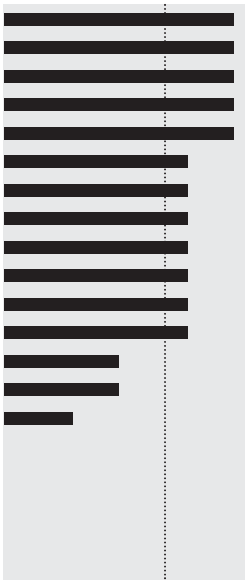
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

2.02

Breadth of MFS consumer protection

This index assesses the scope of MFS consumer protection regulations [0 = Narrow scope; 1 = Wide scope] (0-1 scale) | 2011

RANK	COUNTRY	SCORE
1	Ghana	1.0
1	Kenya	1.0
1	Pakistan	1.0
1	Philippines	1.0
1	Tanzania	1.0
6	Afghanistan	0.8
6	Brazil*	0.8
6	Colombia	0.8
6	Indonesia*	0.8
6	Malaysia*	0.8
6	Nigeria	0.8
6	South Africa	0.8
13	Mexico	0.5
13	Peru	0.5
15	Bangladesh	0.3
16	Haiti	0.0
n/a	Argentina	n/a
n/a	China	n/a
n/a	India	n/a
n/a	Uganda	n/a



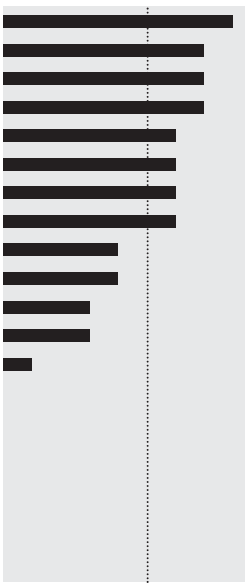
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

2.03

Transparency and consumer protection index

This index assesses the level of transparency and quality of general financial consumer protection regulation [0 = low transparency and no regulation, 1 = high transparency and regulation] (0-1 scale) | 2009

RANK	COUNTRY	SCORE
1	India	0.8
2	Indonesia	0.7
2	Mexico	0.7
2	Pakistan	0.7
5	Bangladesh	0.6
5	Malaysia	0.6
5	Nigeria	0.6
5	Uganda	0.6
9	Philippines	0.4
9	South Africa	0.4
11	Afghanistan	0.3
11	Kenya	0.3
13	Tanzania	0.1
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Peru	n/a



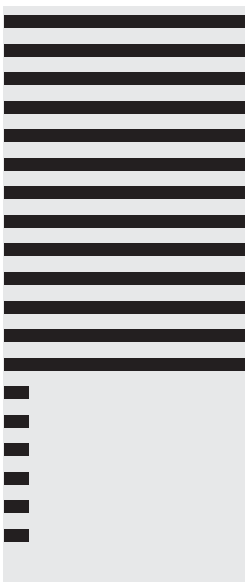
SOURCE: The International Bank for Reconstruction and Development / The World Bank. 2009. "*Banking the Poor: Measuring Banking Access in 54 Economies*". Washington, D.C.: World Bank.

2.04

Regulatory mandate for consumer protection

This variable assesses whether consumer protection is explicitly stated as a goal within the mandate of the financial regulator [No = 0; Yes = 1] (0-1 scale) | 2010

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Argentina	Yes
1	Brazil	Yes
1	Colombia	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Malaysia	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	Uganda	Yes
14	Bangladesh	No
14	China	No
14	Kenya	No
14	Mexico	No
14	South Africa	No
14	Tanzania	No
n/a	Haiti	n/a



SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

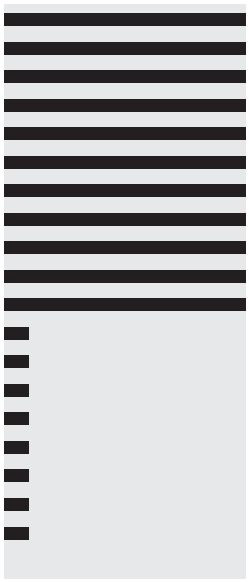
* The source that is used for this country is different from the main source mentioned for this variable. See Table 1 at the end of the Technical Notes and Sources section for a specification of the unique source used.

2.05

Consumer protection enforcement

This variable assesses whether there is a dedicated team or unit in place to implement consumer protection [No = 0; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Argentina	Yes
1	Brazil	Yes
1	Colombia	Yes
1	Ghana	Yes
1	Indonesia	Yes
1	Malaysia	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	Uganda	Yes
12	Afghanistan	No
12	Bangladesh	No
12	China	No
12	India	No
12	Kenya	No
12	Mexico	No
12	South Africa	No
12	Tanzania	No
n/a	Haiti	n/a



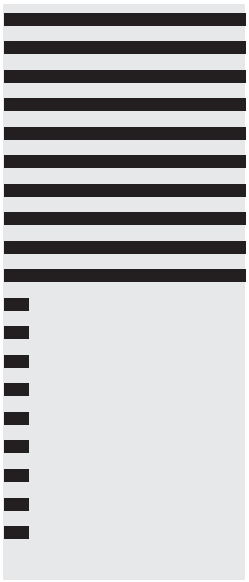
SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

2.06

Consumer complaint statistics reported

This variable assesses whether the supervising agency requires financial institutions to report statistics on the received number of complaints [No = 0; Yes = 1] | 2010

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Brazil	Yes
1	Colombia	Yes
1	India	Yes
1	Indonesia	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
11	Argentina	No
11	Bangladesh	No
11	China	No
11	Ghana	No
11	Kenya	No
11	Malaysia	No
11	Pakistan	No
11	Tanzania	No
11	Uganda	No
n/a	Haiti	n/a



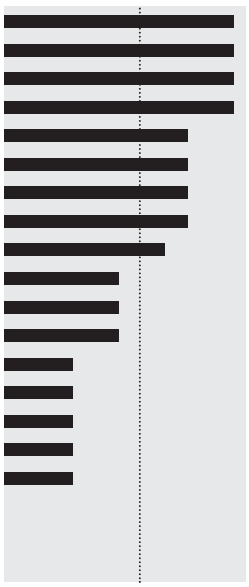
SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

2.07

Consumer protection administration

This index assesses the scope of consumer protection administration and mechanisms for the financial and telecom sectors [0 = Narrow scope; 1 = Wide scope] (0-1 scale) | 2009

RANK	COUNTRY	SCORE
1	Colombia	1.0
1	Mexico	1.0
1	Pakistan	1.0
1	Peru	1.0
5	Brazil	0.8
5	Malaysia	0.8
5	Nigeria	0.8
5	South Africa	0.8
9	Philippines	0.7
10	Afghanistan	0.5
10	Bangladesh	0.5
10	India	0.5
13	Indonesia	0.3
14	Ghana	0.3
14	Kenya	0.3
14	Tanzania	0.3
14	Uganda	0.3
n/a	Argentina	n/a
n/a	China	n/a
n/a	Haiti	n/a



SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*" *Washington*, D.C.: CGAP. International Telecommunication Union (ITU) 2011. "*ICT Statistics Database ICT Eye*". Geneva, CH: ITU-D.

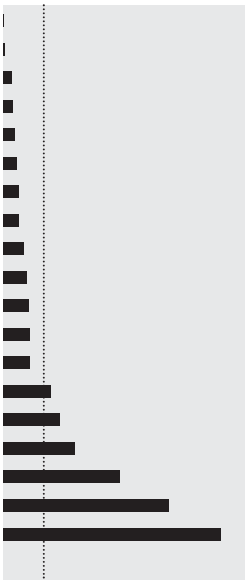
Pillar 3
Market competitiveness

3.01

Financial services market competition

This variable indicates the degree of competition in the banking market by expressing the difference in market share held by the largest and second largest market participant (%) | 2010

RANK	COUNTRY	SCORE
1	Mexico	0.1
2	Philippines	0.2
3	Argentina	1.4
4	Pakistan	1.7
5	Tanzania	2.0
6	Kenya	2.4
7	Brazil	2.7
8	Nigeria	2.7
9	Colombia	3.5
10	China	4.1
11	Malaysia	4.5
12	Indonesia	4.7
13	Ghana	4.7
14	South Africa	8.3
15	Uganda	9.8
16	Bangladesh	12.4
17	India	20.3
18	Peru	28.8
19	Afghanistan	38.0
n/a	Haiti	n/a



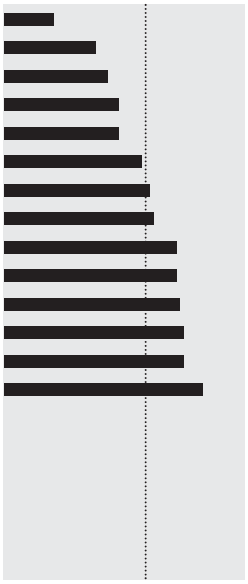
SOURCE: Bureau van Dijk. 2010. *BankScope database*, July 2010. Amsterdam, The Netherlands.

3.02

Aggregate profitability indicator

This variable indicates the average profitability of banks based on a three-year average of three measures of profitability: net interest margin, bank return on assets and bank return on equity (%) | 2006-08

RANK	COUNTRY	SCORE
1	Mexico	1.3
2	Argentina	2.4
3	Peru	2.7
4	Pakistan	3.0
5	Philippines	3.0
6	Colombia	3.6
7	Indonesia	3.8
8	Brazil	3.9
9	China	4.5
10	India	4.5
11	Malaysia	4.6
12	South Africa	4.7
13	Nigeria	4.7
14	Bangladesh	5.2
n/a	Afghanistan	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Kenya	n/a
n/a	Tanzania	n/a
n/a	Uganda	n/a



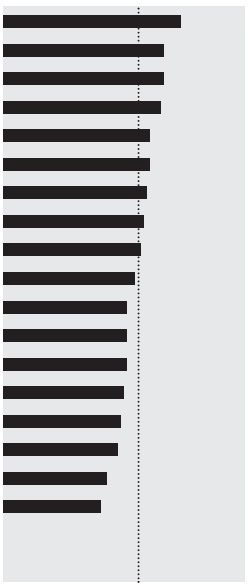
SOURCE: Thorsten Beck, Asli Demirguç-Kunt, and Ross Levine. 2000. "A New Database on Financial Development and Structure" *World Bank Economic Review 14: 597–605*. Updated May 2009.

3.03

Availability of financial services perception

This variable indicates the variety of financial products and services available to businesses [1 = not at all ; 7 = wide variety] (1-7 scale) | 2010

RANK	COUNTRY	SCORE
1	South Africa	6.2
2	Brazil	5.6
2	Malaysia	5.6
4	Peru	5.5
5	India	5.1
5	Philippines	5.1
7	Kenya	5.0
8	Colombia	4.9
9	Indonesia	4.8
10	China	4.6
11	Ghana	4.3
11	Mexico	4.3
11	Uganda	4.3
14	Nigeria	4.2
15	Bangladesh	4.1
16	Pakistan	4.0
17	Tanzania	3.6
18	Argentina	3.4
n/a	Afghanistan	n/a
n/a	Haiti	n/a



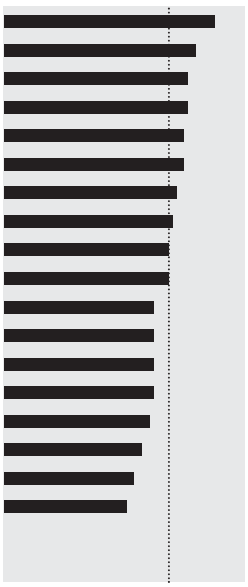
SOURCE: World Economic Forum, Executive Opinion Survey

3.04

Affordability of financial services perception

This variable indicates the affordability of financial products and services available to businesses [1 = not at all ; 7 = extremely well] (1-7 scale) | 2010

RANK	COUNTRY	SCORE
1	Malaysia	5.5
2	Peru	5.0
3	India	4.8
3	Philippines	4.8
5	China	4.7
5	South Africa	4.7
7	Brazil	4.5
8	Indonesia	4.4
9	Colombia	4.3
9	Kenya	4.3
11	Bangladesh	3.9
11	Ghana	3.9
11	Nigeria	3.9
11	Pakistan	3.9
15	Uganda	3.8
16	Mexico	3.6
17	Tanzania	3.4
18	Argentina	3.2
n/a	Afghanistan	n/a
n/a	Haiti	n/a



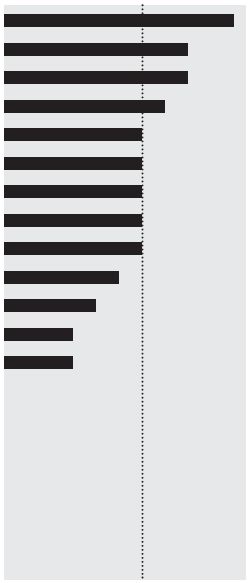
SOURCE: World Economic Forum, Executive Opinion Survey

3.05

Breadth of retail payment channels

Replace by: This index assesses the availability of different payments channels for consumer transactions for [0 = low availability of payment channels, 1 = high availability of payment channels]

RANK	COUNTRY	SCORE
1	South Africa	1.0
2	Philippines	0.8
3	Malaysia	0.8
4	Nigeria	0.7
5	Mexico	0.6
6	Kenya	0.6
7	Indonesia	0.6
8	India	0.6
9	Tanzania	0.6
10	Pakistan	0.5
11	Uganda	0.4
12	Bangladesh	0.3
13	Afghanistan	0.3
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Peru	n/a



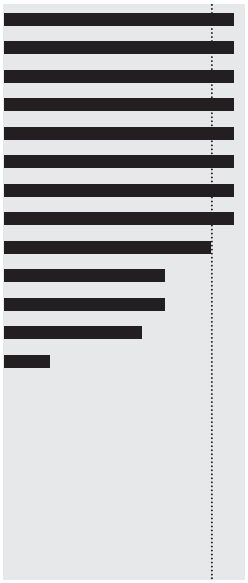
SOURCE: The International Bank for Reconstruction and Development / The World Bank. 2009. "*Banking the Poor: Measuring Banking Access in 54 Economies*". Washington, D.C.: World Bank.

3.06

Payment network quality and interoperability

This index assesses the network quality and interoperability for payment services available for a standard bank account at a traditional bank [0 = low interoperability, 1 = high interoperability] (0-1 scale) | 2008

RANK	COUNTRY	SCORE
1	India	1.0
1	Indonesia	1.0
1	Malaysia	1.0
1	Mexico	1.0
1	Nigeria	1.0
1	Pakistan	1.0
1	Philippines	1.0
1	South Africa	1.0
9	Kenya	0.9
10	Tanzania	0.7
10	Uganda	0.7
12	Bangladesh	0.6
13	Afghanistan	0.2
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Peru	n/a



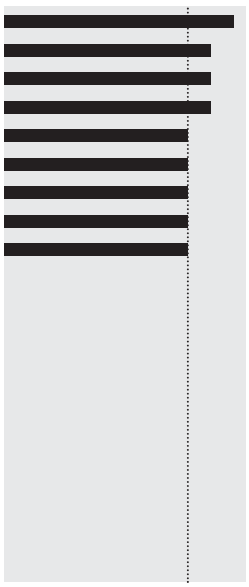
SOURCE: The International Bank for Reconstruction and Development / The World Bank. 2009. "*Banking the Poor: Measuring Banking Access in 54 Economies*". Washington, D.C.: World Bank.

3.07

Ease of opening traditional account

This index assesses the number of documents needed to open a traditional bank account (0-1 scale) | 2007

RANK	COUNTRY	SCORE
1	Bangladesh	1.0
2	Uganda	0.9
3	Kenya	0.9
4	Nigeria	0.9
5	Indonesia	0.8
6	Philippines	0.8
7	Mexico	0.8
8	India	0.8
9	Pakistan	0.8
n/a	Afghanistan	n/a
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Malaysia	n/a
n/a	Peru	n/a
n/a	South Africa	n/a
n/a	Tanzania	n/a



SOURCE: The World Bank. 2007. "*Finance for All? Policies and Pitfalls in Expanding Access*" Washington, D.C.: World Bank

3.08

Mobile network operator market competition

This variable indicates the degree of competition in the mobile communications market by using the Herfindahl–Hirschman Index for each country | 2010

RANK	COUNTRY	SCORE
1	Afghanistan	0.1
2	Pakistan	0.1
3	India	0.1
4	South Africa	0.1
5	Argentina	0.1
6	Brazil	0.1
7	Haiti	0.1
8	Uganda	0.2
9	Bangladesh	0.2
10	Malaysia	0.2
11	Tanzania	0.2
12	Ghana	0.2
13	Peru	0.2
14	Nigeria	0.2
15	Indonesia	0.2
16	Philippines	0.3
17	China	0.3
18	Colombia	0.4
19	Mexico	0.4
20	Kenya	0.6

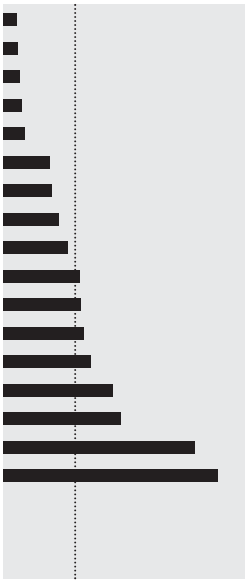
SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

3.09

Effective price for mobile phone services

This variable indicates the effective price per minute for mobile communication services (US$ PPP cent/min) | 2010

RANK	COUNTRY	SCORE
1	India	2.7
2	Indonesia	3.1
3	Bangladesh	3.5
4	Pakistan	3.9
5	China	4.5
6	Ghana	9.7
7	Tanzania	10.0
8	Colombia	11.6
9	Mexico	13.3
10	Peru	15.8
11	Kenya	16.0
12	Malaysia	16.6
13	Brazil	18.1
14	Argentina	22.6
15	Philippines	24.3
16	South Africa	39.6
17	Nigeria	44.5
n/a	Afghanistan	n/a
n/a	Haiti	n/a
n/a	Uganda	n/a



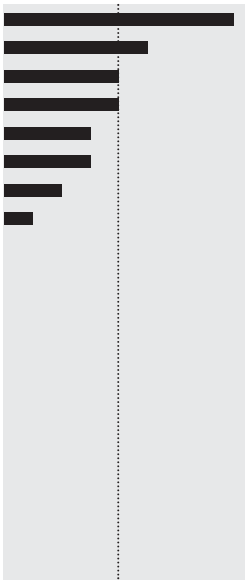
SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

3.10

Churn of mobile subscriptions

This variable indicates the level of voluntary and involuntary churn of mobile subscriptions (%) | 2010

RANK	COUNTRY	SCORE
1	India	0.8
2	Tanzania	0.5
3	China	0.4
4	Peru	0.4
5	Kenya	0.3
6	Pakistan	0.3
7	Colombia	0.2
8	Bangladesh	0.1
n/a	Afghanistan	n/a
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Indonesia	n/a
n/a	Malaysia	n/a
n/a	Mexico	n/a
n/a	Nigeria	n/a
n/a	Philippines	n/a
n/a	South Africa	n/a
n/a	Uganda	n/a



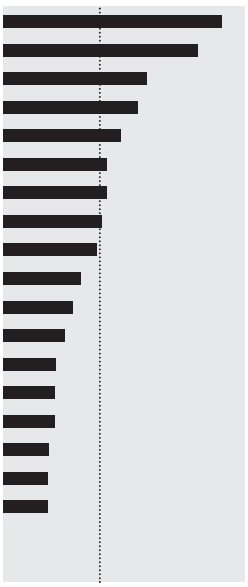
SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence atabase*, March 2011. London, U.K.: GSMA.

3.11

Average revenue per user

This variable indicates the average revenue per user in a country's mobile communications market (US$ PPP) | 2010

RANK	COUNTRY	SCORE
1	South Africa	38.1
2	Malaysia	34.0
3	Mexico	25.0
4	Argentina	23.5
5	Nigeria	20.5
6	Brazil	18.1
7	China	18.0
8	Peru	17.1
9	Colombia	16.3
10	Uganda	13.6
11	Kenya	12.2
12	India	10.8
13	Tanzania	9.2
14	Ghana	9.0
15	Philippines	8.9
16	Pakistan	8.0
17	Bangladesh	7.7
18	Indonesia	7.7
n/a	Afghanistan	n/a
n/a	Haiti	n/a



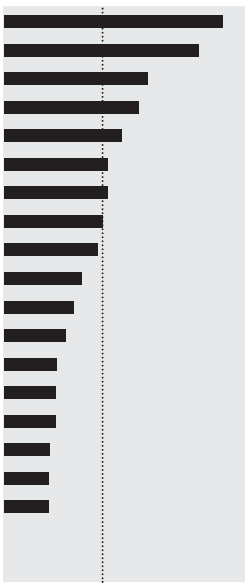
SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

3.12

Capacity for innovation

This variable indicates a country's capacity for innovation by addressing how technology is obtained [1 = exclusively from licensing or imitating; 7 = by conducting formal research] (1-7 scale) | 2010

RANK	COUNTRY	SCORE
1	China	4.2
2	Malaysia	4.1
3	Brazil	3.8
4	Indonesia	3.7
5	India	3.6
6	South Africa	3.4
7	Kenya	3.2
8	Pakistan	3.1
9	Argentina	3.0
10	Colombia	2.9
10	Nigeria	2.9
12	Philippines	2.8
12	Tanzania	2.8
14	Mexico	2.7
15	Peru	2.6
16	Ghana	2.5
17	Bangladesh	2.4
18	Uganda	2.2
n/a	Afghanistan	n/a
n/a	Haiti	n/a



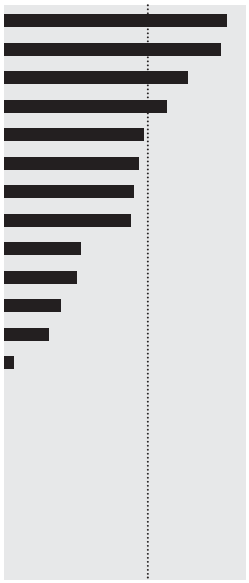
SOURCE: World Economic Forum, Executive Opinion Survey.

3.13

Investment in telecom

This variable indicates the total telecommunications investment (capital expenditure) as a percentage of telecommunications revenue (%) | 2008

RANK	COUNTRY	SCORE
1	Kenya	38.8
2	Afghanistan	37.8
3	China	32.0
4	Indonesia	28.3
5	Philippines	24.4
6	Uganda	23.4
7	Malaysia	22.5
8	Peru	22.0
9	Mexico	13.4
10	Brazil	12.6
11	South Africa	9.8
12	Nigeria	7.8
13	Pakistan	1.7
n/a	Argentina	n/a
n/a	Bangladesh	n/a
n/a	Colombia	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	India	n/a
n/a	Tanzania	n/a



SOURCE: The World Bank. 2010. "*The Little Data Book on Information and Communication Technology 2010*". Washington, D.C.: World Bank

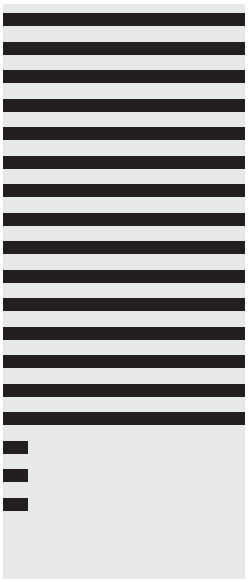
Pillar 4
Market catalysts

4.01

Government disbursement scheme

This variable assesses the existence of government disbursement schemes in a country (total, not only through mobile financial services systems) [No = 0; Yes = 1] | 2009

RANK	COUNTRY	SCORE
1	Argentina	Yes
1	Bangladesh	Yes
1	Brazil	Yes
1	China	Yes
1	Colombia	Yes
1	Haiti	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Mexico	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
1	South Africa	Yes
16	Malaysia	No
16	Tanzania	No
16	Uganda	No
n/a	Afghanistan	n/a
n/a	Ghana	n/a



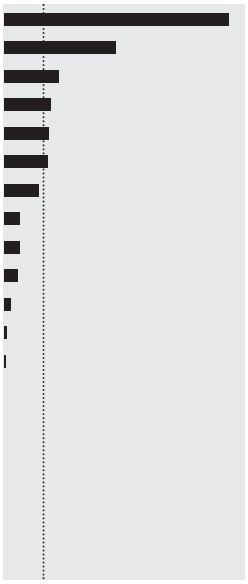
SOURCE: Consultative Group to Assist the Poor (CGAP). 2011. *Branchless Banking Database*, January 2011. Washington, D.C.: CGAP.

4.02

Government disbursement reach

This variable indicates the number of people receiving social disbursements from the government as a percentage of the population (%) | 2009

RANK	COUNTRY	SCORE
1	South Africa	39.2
2	Colombia	19.4
3	Brazil	9.5
4	Bangladesh	8.1
5	Argentina	7.7
6	Mexico	7.6
7	India	6.1
8	Peru	2.7
9	Pakistan	2.7
10	China	2.3
11	Philippines	1.2
12	Indonesia	0.5
13	Kenya	0.3
14	Nigeria	0.0
15	Haiti	0.0
n/a	Afghanistan	n/a
n/a	Ghana	n/a
n/a	Malaysia	n/a
n/a	Tanzania	n/a
n/a	Uganda	n/a



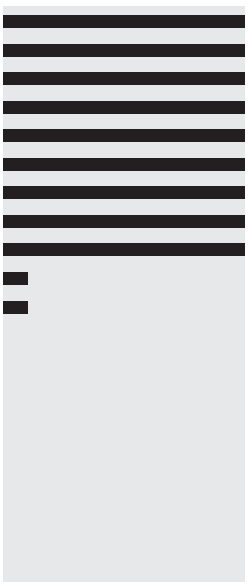
SOURCE: Consultative Group to Assist the Poor (CGAP). 2011. *Branchless Banking Database*, January 2011. Washington, D.C.: CGAP.

4.03

Mobile G2P payments

This variable assesses if a government disbursement plan exists that leverages mobile financial services systems [No = 0; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Afghanistan	Yes
1	Bangladesh	Yes
1	Colombia	Yes
1	Ghana	Yes
1	Kenya	Yes
1	Mexico	Yes
1	Pakistan	Yes
1	Peru	Yes
1	Philippines	Yes
10	South Africa	No
10	Tanzania	No
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	Haiti	n/a
n/a	India	n/a
n/a	Indonesia	n/a
n/a	Malaysia	n/a
n/a	Nigeria	n/a
n/a	Uganda	n/a



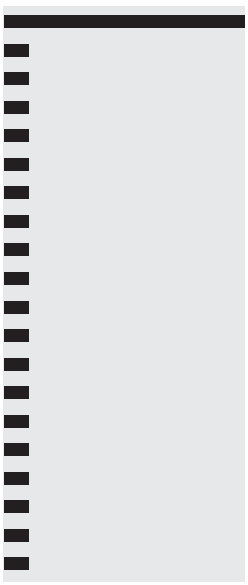
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

4.04

Mobile tax payments

This variable assesses if a government tax payment scheme exists that leverages mobile financial services systems [No = 0; Yes = 1] | 2011

RANK	COUNTRY	SCORE
1	Philippines	Yes
2	Afghanistan	No
2	Argentina	No
2	Bangladesh	No
2	Brazil	No
2	China	No
2	Colombia	No
2	Ghana	No
2	Haiti	No
2	India	No
2	Indonesia	No
2	Kenya	No
2	Malaysia	No
2	Mexico	No
2	Nigeria	No
2	Pakistan	No
2	Peru	No
2	South Africa	No
2	Tanzania	No
2	Uganda	No



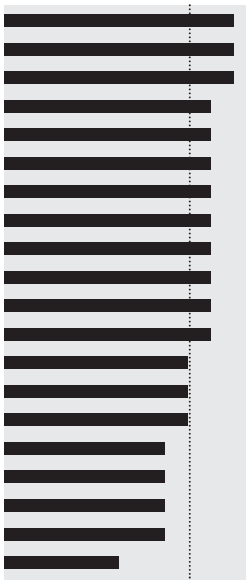
SOURCE: World Economic Forum study of publicly available sources (press releases, websites and academic databases), 2011.

4.05

Availability of decision-making data: regulatory

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the regulatory environment assessment of the countries in this report (%) | 2011

RANK	COUNTRY/ECONOMY	SCORE
1	Mexico	100.0
2	Kenya	97.1
2	Philippines	97.1
2	South Africa	97.1
5	Nigeria	94.1
6	Pakistan	91.2
7	Colombia	88.2
7	Peru	88.2
7	Tanzania	88.2
10	Brazil	85.3
10	Indonesia	85.3
10	Malaysia	85.3
13	Ghana	82.4
13	India	82.4
15	Bangladesh	79.4
16	Afghanistan	70.6
16	Argentina	70.6
18	Uganda	67.6
19	China	61.8
20	Haiti	50.0



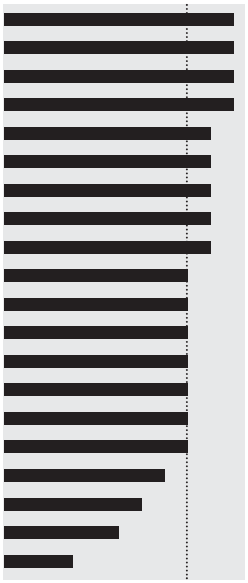
SOURCE: World Economic Forum analysis, 2011.

4.06

Availability of decision-making data: market

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the market environment assessment of the countries in this report (%) | 2011

RANK	COUNTRY/ECONOMY	SCORE
1	Pakistan	100.0
2	Kenya	95.0
2	Mexico	95.0
2	Philippines	95.0
5	Bangladesh	90.0
5	India	90.0
5	Indonesia	90.0
5	South Africa	90.0
9	Nigeria	85.0
10	China	80.0
10	Colombia	80.0
10	Malaysia	80.0
10	Peru	80.0
14	Brazil	75.0
14	Tanzania	75.0
14	Uganda	75.0
17	Argentina	60.0
17	Ghana	60.0
19	Afghanistan	40.0
20	Haiti	30.0



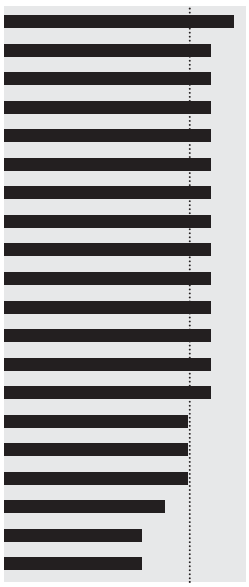
SOURCE: World Economic Forum analysis, 2011.

4.07

Availability of decision-making data: end-user

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the end-user environment assessment of the countries in this report (%) | 2011

RANK	COUNTRY/ECONOMY	SCORE
1	Afghanistan	100.0
1	Pakistan	100.0
1	Tanzania	100.0
4	Brazil	92.9
4	Colombia	92.9
4	Ghana	92.9
4	India	92.9
4	Kenya	92.9
4	Malaysia	92.9
4	Peru	92.9
4	Philippines	92.9
4	South Africa	92.9
4	Uganda	92.9
14	Bangladesh	85.7
14	Indonesia	85.7
14	Mexico	85.7
14	Nigeria	85.7
18	Argentina	78.6
19	Haiti	71.4
20	China	64.3



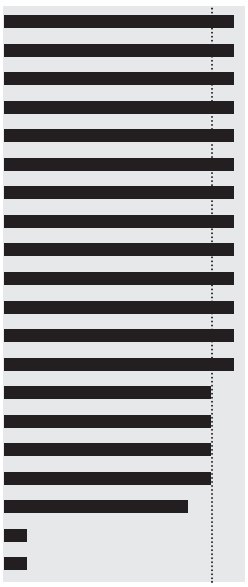
SOURCE: World Economic Forum analysis, 2011.

4.08

Availability of decision-making data: adoption

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the adoption and availability assessment of the countries in this report (%) | 2011

RANK	COUNTRY/ECONOMY	SCORE
1	Afghanistan	100.0
1	Bangladesh	100.0
1	Brazil	100.0
1	Colombia	100.0
1	Ghana	100.0
1	Haiti	100.0
1	India	100.0
1	Indonesia	100.0
1	Kenya	100.0
1	Pakistan	100.0
1	Philippines	100.0
1	South Africa	100.0
1	Tanzania	100.0
14	Argentina	91.7
14	Malaysia	91.7
14	Nigeria	91.7
14	Uganda	91.7
18	China	83.3
19	Mexico	8.3
19	Peru	8.3



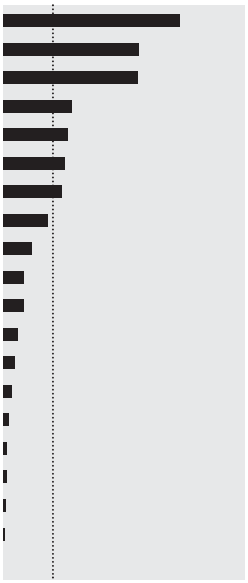
SOURCE: World Economic Forum analysis, 2011.

4.09

Inbound international remittances to GDP

This variable indicates the inbound volume of remittances per year expressed as a percentage of GDP (%) | 2009

RANK	COUNTRY	SCORE
1	Haiti	15.4
2	Bangladesh	11.8
3	Philippines	11.7
4	Pakistan	6.0
5	Nigeria	5.6
6	Kenya	5.4
7	Uganda	5.1
8	India	3.9
9	Mexico	2.5
10	Peru	1.8
11	Colombia	1.8
12	Indonesia	1.3
13	China	1.0
14	Ghana	0.7
15	Malaysia	0.5
16	South Africa	0.3
17	Brazil	0.3
18	Argentina	0.2
19	Tanzania	0.1
n/a	Afghanistan	n/a



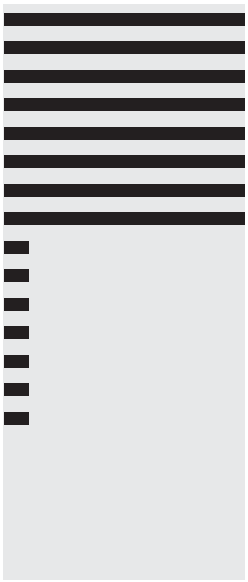
SOURCE: Sanket M., D. Ratha and A.Silwal. 2010. "Outlook for Remittance Flows 2011-12: Recovery After the Crisis, but Risks Lie Ahead". *Migration and Development Brief*. Washington, D.C.: The World Bank.

4.10

Main method of international remittances

This variable assesses the main method of sending international remittances [Cash = 0; Non-cash = 1] | 2006

RANK	COUNTRY	SCORE
1	Afghanistan	Non-cash
1	Brazil	Non-cash
1	China	Non-cash
1	Indonesia	Non-cash
1	Pakistan	Non-cash
1	Philippines	Non-cash
1	Tanzania	Non-cash
1	Uganda	Non-cash
9	Colombia	Cash
9	Ghana	Cash
9	India	Cash
9	Kenya	Cash
9	Malaysia	Cash
9	Mexico	Cash
9	South Africa	Cash
n/a	Argentina	n/a
n/a	Bangladesh	n/a
n/a	Haiti	n/a
n/a	Nigeria	n/a
n/a	Peru	n/a



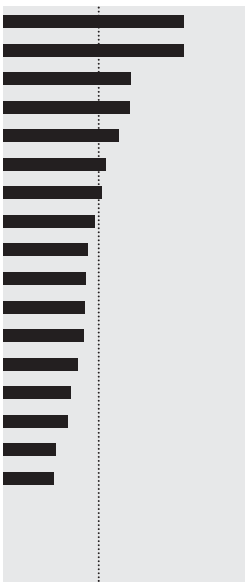
SOURCE: The World Bank. 2008. "*Payment Systems Worldwide: a Snapshot. Outcomes of the Global Payment Systems Survey 2008*". Washington, D.C.: The World Bank.

4.11

Cost of receiving international remittances

This variable indicates the average fee to receive a US$200 remittance through a money transfer operator (%) | 2010

RANK	COUNTRY	SCORE
1	Uganda	15.7
2	Kenya	15.7
3	China	11.1
4	Haiti	11.0
5	Brazil	10.1
6	Nigeria	8.9
7	South Africa	8.6
8	India	8.0
9	Indonesia	7.4
10	Ghana	7.2
11	Mexico	7.1
12	Pakistan	7.0
13	Philippines	6.5
14	Malaysia	5.9
15	Colombia	5.6
16	Peru	4.6
17	Bangladesh	4.4
n/a	Afghanistan	n/a
n/a	Argentina	n/a
n/a	Tanzania	n/a



SOURCE: The World Bank. 2010. *Remittance Prices Worldwide*, Q3 2010. Washington, D.C.: The World Bank.

Pillar 5
End-user empowerment

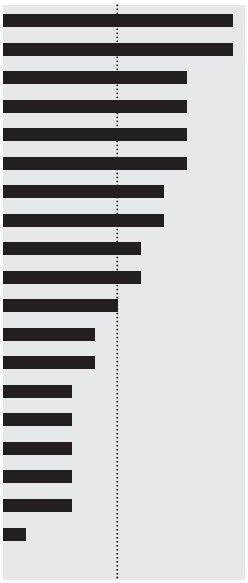
5.01

Financial literacy indicator

This variable indicates the level of financial literacy in a country [0 = Low literacy; 1 = High literacy] (0-1 scale) | 2009

RANK	COUNTRY	SCORE
1	Malaysia	1.0
2	Indonesia	1.0
3	India	0.8
4	Colombia	0.8
5	Argentina	0.8
6	China	0.8
7	Mexico	0.7
8	Brazil	0.7
9	Kenya	0.6
10	Peru	0.6
11	Philippines	0.5
12	Uganda	0.4
13	Ghana	0.4
14	Pakistan	0.3
15	Tanzania	0.3
16	Bangladesh	0.3
17	South Africa	0.3
18	Nigeria	0.3
19	Afghanistan	0.1
20	Haiti	0.0

MEAN: 0.5



SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank. The World Economic Forum, Executive Opinion Survey Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*" Washington, D.C.: CGAP

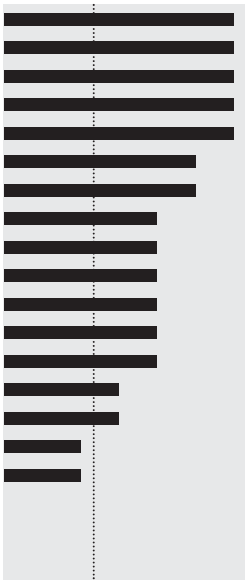
5.02

Depth of credit information

This variable measures the availability of credit information available through a public or private credit registry [0 = No information; 6 = High information availability]

RANK	COUNTRY	SCORE
1	Argentina	6.0
1	Malaysia	6.0
1	Mexico	6.0
1	Peru	6.0
1	South Africa	6.0
6	Brazil	5.0
6	Colombia	5.0
8	China	4.0
8	India	4.0
8	Indonesia	4.0
8	Kenya	4.0
8	Pakistan	4.0
8	Uganda	4.0
14	Ghana	3.0
14	Philippines	3.0
16	Bangladesh	2.0
16	Haiti	2.0
18	Afghanistan	0.0
18	Nigeria	0.0
18	Tanzania	0.0

MEAN: 3.7



SOURCE: The World Bank. 2010. *Doing Business 2011*. December 2010. Washington, D.C.: The World Bank.

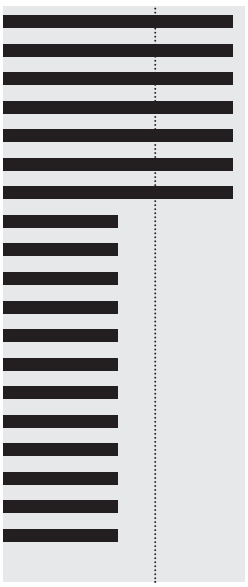
5.03

Women's access to bank loans

This index assesses women's access to bank loans [0 = No access, 1 = Full access] (0-1 scale) | 2009

RANK	COUNTRY	SCORE
1	Argentina	1.0
1	Brazil	1.0
1	China	1.0
1	Colombia	1.0
1	Indonesia	1.0
1	Malaysia	1.0
1	Peru	1.0
8	Afghanistan	0.5
8	Bangladesh	0.5
8	Ghana	0.5
8	Haiti	0.5
8	India	0.5
8	Kenya	0.5
8	Nigeria	0.5
8	Pakistan	0.5
8	Philippines	0.5
8	South Africa	0.5
8	Tanzania	0.5
8	Uganda	0.5
n/a	Mexico	n/a

MEAN: 0.7



SOURCE: Organisation for Economic Co-Operation and Development (OECD). 2009. *Gender, Institutions and Development Database*, January 2011. Paris, France: OECD.

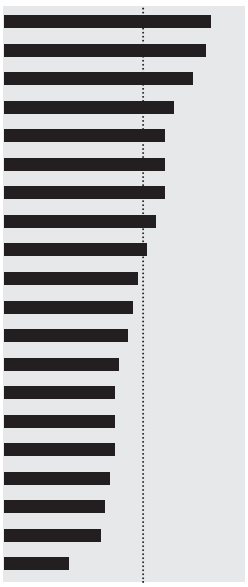
5.04

Corruption Perceptions Index

This index measures the degree to which public sector corruption is perceived to exist in 178 countries around the world [0 = Highly corrupt; 10 = Very clean] (0-10 scale) | 2010

RANK	COUNTRY	SCORE
1	South Africa	4.5
2	Malaysia	4.4
3	Ghana	4.1
4	Brazil	3.7
5	China	3.5
5	Colombia	3.5
5	Peru	3.5
8	India	3.3
9	Mexico	3.1
10	Argentina	2.9
11	Indonesia	2.8
12	Tanzania	2.7
13	Uganda	2.5
14	Bangladesh	2.4
14	Nigeria	2.4
14	Philippines	2.4
17	Pakistan	2.3
18	Haiti	2.2
19	Kenya	2.1
20	Afghanistan	1.4

MEAN: 3.0



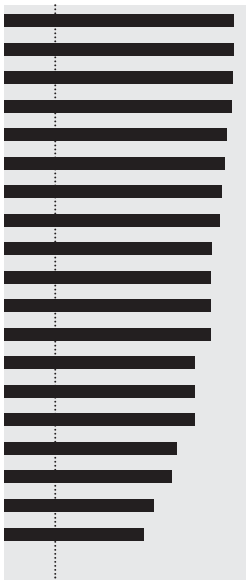
SOURCE: Transparency International (TI). 2010. *Corruption Perceptions Index 2010*, October 2010. Berlin, Germany: TI.

5.05

Population covered by mobile phone services

This variable indicates the percentage of the population that is covered by mobile phone network services (%) | 2008

RANK	COUNTRY	SCORE
1	Uganda	100.0
2	Mexico	99.9
3	South Africa	99.8
4	Philippines	99.0
5	China	97.0
6	Malaysia	96.0
7	Peru	94.8
8	Argentina	94.1
9	Brazil	90.6
10	Bangladesh	90.0
10	Indonesia	90.0
10	Pakistan	90.0
13	Colombia	83.0
13	Kenya	83.0
13	Nigeria	83.0
16	Afghanistan	75.0
17	Ghana	73.0
18	Tanzania	65.0
19	India	60.9
n/a	Haiti	n/a



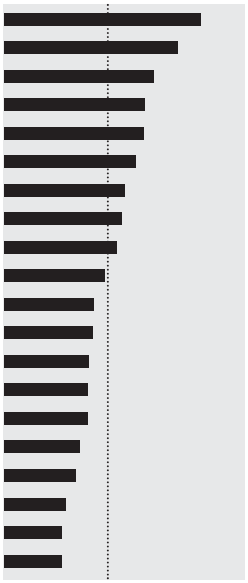
SOURCE: The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

5.06

Mobile phone services penetration

This variable indicates the number of active connections in a country as a percentage of the population (%) | 2010

RANK	COUNTRY	SCORE
1	Argentina	128.5
2	Malaysia	113.6
3	Brazil	97.9
4	Philippines	92.1
5	South Africa	91.0
6	Colombia	86.2
7	Indonesia	78.7
8	Mexico	76.7
9	Peru	73.4
10	Ghana	65.5
11	China	58.5
12	Kenya	57.6
13	Pakistan	55.4
14	India	54.5
15	Nigeria	54.5
16	Afghanistan	49.2
17	Tanzania	46.5
18	Uganda	40.3
19	Bangladesh	37.8
20	Haiti	37.8



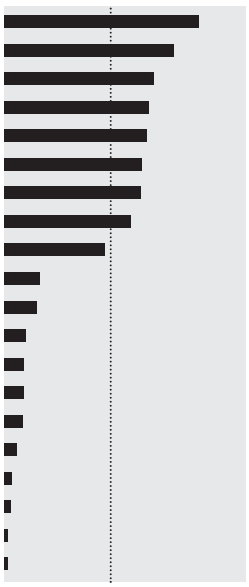
SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

5.07

Post-paid connections

This variable indicates the number of post-paid active connections as a percentage of total active connections (%) | 2010

RANK	COUNTRY	SCORE
1	Argentina	25.5
2	Malaysia	22.2
3	South Africa	19.6
4	Brazil	18.9
5	China	18.6
6	Afghanistan	18.0
7	Peru	17.8
8	Colombia	16.6
9	Mexico	13.2
10	India	4.6
11	Haiti	4.3
12	Philippines	2.8
13	Bangladesh	2.5
14	Indonesia	2.5
15	Nigeria	2.4
16	Pakistan	1.6
17	Kenya	1.0
18	Uganda	0.9
19	Ghana	0.5
20	Tanzania	0.4



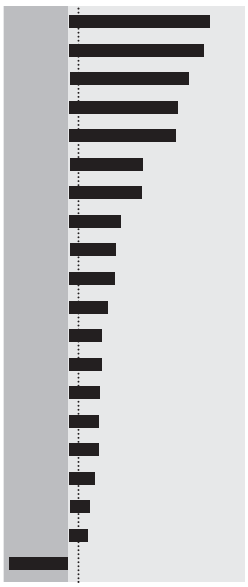
SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

5.08

Mobile connection growth rate

This variable indicates annual mobile connection growth using quarterly data (%) | 2010

RANK	COUNTRY	SCORE
1	Bangladesh	42.8
2	Tanzania	41.0
3	India	36.3
4	Indonesia	33.0
5	Afghanistan	32.4
6	Uganda	22.2
7	Philippines	22.1
8	China	15.7
9	Ghana	14.0
10	Brazil	13.9
11	Nigeria	11.6
12	Peru	9.9
13	Pakistan	9.8
14	Malaysia	9.3
15	Argentina	8.9
16	Kenya	8.9
17	Mexico	7.7
18	Colombia	6.0
19	Haiti	5.6
20	South Africa	–18.4



SOURCE: GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

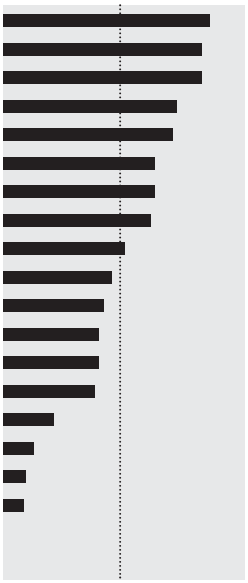
Pillar 6
Distribution and agent network development

6.01

Bank branch penetration

This variable indicates the number of branches of commercial banks, cooperatives, specialized state owned financial institutions and microfinance institutions (per 100,000 adults) | 2010

RANK	COUNTRY	SCORE
1	Mexico	18.0
2	Brazil	17.3
3	Malaysia	17.3
4	Colombia	15.1
5	Peru	14.8
6	Argentina	13.2
7	Philippines	13.2
8	India	12.9
9	Pakistan	10.6
10	Nigeria	9.5
11	Bangladesh	8.8
12	Indonesia	8.3
13	Ghana	8.3
14	South Africa	8.0
15	Kenya	4.4
16	Uganda	2.7
17	Afghanistan	2.0
18	Tanzania	1.8
n/a	China	n/a
n/a	Haiti	n/a



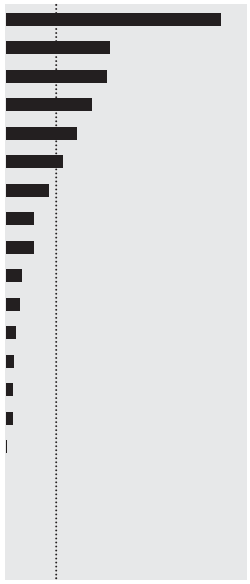
SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

6.02

ATM penetration

This variable indicates the number of automated teller machines (ATMs) in each country (per 100,000 adults) | 2010

RANK	COUNTRY	SCORE
1	Brazil	112.1
2	Malaysia	54.0
3	South Africa	52.4
4	Mexico	44.8
5	Argentina	36.9
6	Colombia	29.6
7	Peru	22.3
8	Indonesia	14.4
9	Philippines	14.2
10	Kenya	8.3
11	India	7.3
12	Ghana	4.8
13	Pakistan	4.1
14	Tanzania	3.4
15	Uganda	3.3
16	Afghanistan	0.4
n/a	Bangladesh	n/a
n/a	China	n/a
n/a	Haiti	n/a
n/a	Nigeria	n/a



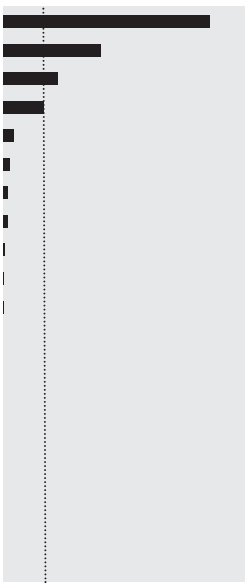
SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

6.03

POS penetration

This variable indicates the number of point-of-sale terminals in each country (per 100,000 adults) | 2010

RANK	COUNTRY	SCORE
1	Brazil	2,247.4
2	Malaysia	1,063.1
3	Mexico	592.1
4	Colombia	441.1
5	Indonesia	117.9
6	India	67.1
7	Peru	54.0
8	Pakistan	49.0
9	Tanzania	16.1
10	Uganda	4.5
11	Afghanistan	2.7
n/a	Argentina	n/a
n/a	Bangladesh	n/a
n/a	China	n/a
n/a	Ghana	n/a
n/a	Haiti	n/a
n/a	Kenya	n/a
n/a	Nigeria	n/a
n/a	Philippines	n/a
n/a	South Africa	n/a



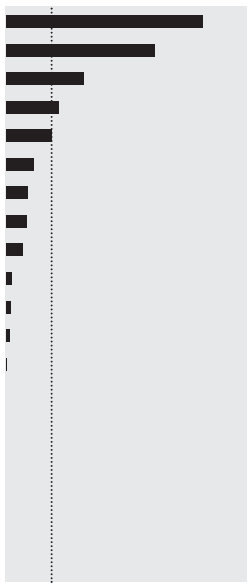
SOURCE: Consultative Group to Assist the Poor (CGAP). 2010. "*Financial Access 2010*". Washington, D.C.: CGAP.

6.04

Agent density

This variable indicates the number of agents or business correspondents that provide services for mobile financial services customers in each country (per 100,000 adults) | 2010

RANK	COUNTRY	SCORE
1	Kenya	128.6
2	Tanzania	96.8
3	Ghana	51.0
4	Uganda	34.6
5	Philippines	29.8
6	South Africa	18.2
7	Bangladesh	14.1
8	Pakistan	13.1
9	Malaysia	11.1
10	Nigeria	3.6
11	Afghanistan	3.2
12	Haiti	2.5
13	India	0.1
14	Brazil	0.0
n/a	Argentina	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Indonesia	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



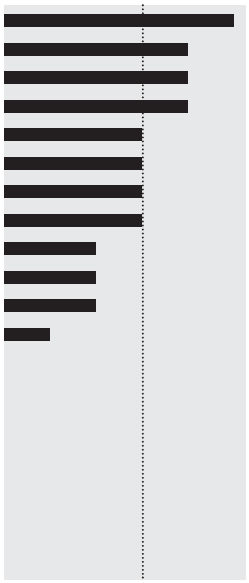
SOURCE: World Economic Forum, survey off mobile network operators and study of publicly available sources, 2011.

6.05

Ease of enrollment for MFS agents

This index assesses the requirements for enrolling agents for the delivery of mobile financial services (0-1 scale) | 2011

RANK	COUNTRY	SCORE
1	Nigeria	1.0
2	Afghanistan	0.8
2	Kenya	0.8
2	South Africa	0.8
5	Bangladesh	0.6
5	Haiti	0.6
5	Mexico	0.6
5	Tanzania	0.6
9	Colombia	0.4
9	Peru	0.4
9	Philippines	0.4
12	Pakistan	0.2
13	Ghana	0.0
n/a	Argentina	n/a
n/a	Brazil	n/a
n/a	China	n/a
n/a	India	n/a
n/a	Indonesia	n/a
n/a	Malaysia	n/a
n/a	Uganda	n/a



SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

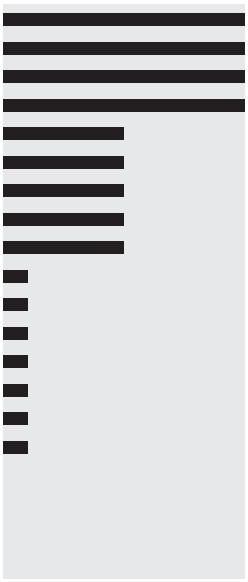
Pillar 7
Adoption and availability

7.01

Adoption of MFS services

This variable assesses the number of wallets/mobile accounts that have been opened for any mobile financial service in a country, as a percentage of adult population [Low= 0; Medium = 0.5; High = 1] | 2010

RANK	COUNTRY	SCORE
1	Ghana	High
1	Kenya	High
1	Philippines	High
1	Tanzania	High
5	Afghanistan	Medium
5	Indonesia	Medium
5	Malaysia	Medium
5	South Africa	Medium
5	Uganda	Medium
10	Argentina	Low
10	Bangladesh	Low
10	Brazil	Low
10	Colombia	Low
10	Haiti	Low
10	India	Low
10	Nigeria	Low
10	Pakistan	Low
n/a	China	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



SOURCE: World Economic Forum, survey of mobile network operators and study of publicly available sources, 2011.

7.02

Number of active MFS deployments

This variable indicates the number of active mobile financial services deployments that involve a mobile network operator | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	South Africa	5.0
2	Ghana	4.0
2	Kenya	4.0
2	Tanzania	4.0
5	Bangladesh	3.0
5	India	3.0
5	Pakistan	3.0
5	Uganda	3.0
9	Brazil	2.0
9	Haiti	2.0
9	Indonesia	2.0
9	Malaysia	2.0
9	Philippines	2.0
14	Afghanistan	1.0
14	Argentina	1.0
14	China	1.0
14	Colombia	1.0
n/a	Mexico	n/a
n/a	Nigeria	n/a
n/a	Peru	n/a

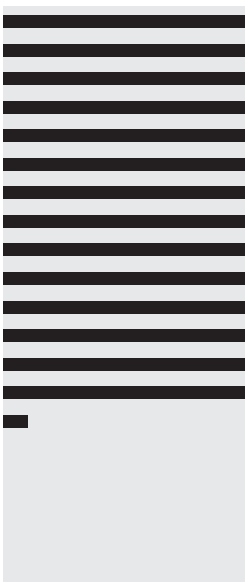
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.03

Ability to buy airtime from account

This variable assesses whether buying airtime from stored mobile money is possible from at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Afghanistan	Yes
1	Bangladesh	Yes
1	Brazil	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda	Yes
15	Argentina	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



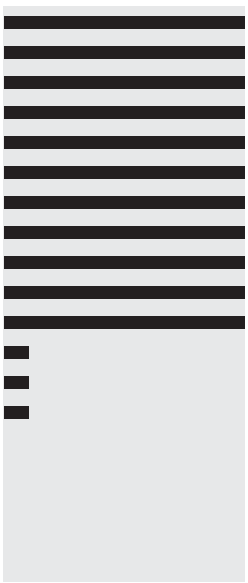
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.04

Availability of domestic money transfer

This variable assesses whether sending and receiving money between users is possible from at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Afghanistan	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda	Yes
13	Argentina	No
13	Bangladesh	No
13	Brazil	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



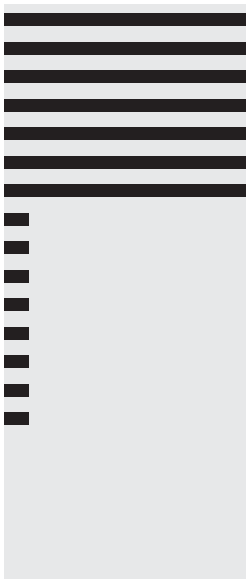
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.05

Availability of international money transfer

This variable assesses whether sending and receiving money internationally is possible at one of the deployments in a country [No = 0; Yes = 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Bangladesh	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Pakistan	Yes
1	Philippines	Yes
1	Tanzania	Yes
1	Uganda	Yes
8	Afghanistan	No
8	Argentina	No
8	Brazil	No
8	Ghana	No
8	India	No
8	Indonesia	No
8	Nigeria	No
8	South Africa	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



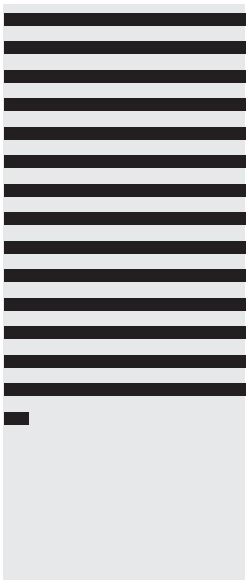
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.06

Availability of bill payment

This variable assesses whether paying utility, education and other bills is possible using at least one of the active mobile financial services deployments in a country [No = 0; Yes= 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Afghanistan	Yes
1	Argentina	Yes
1	Bangladesh	Yes
1	Brazil	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Nigeria	Yes
1	Pakistan	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda	Yes
15	Malaysia	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



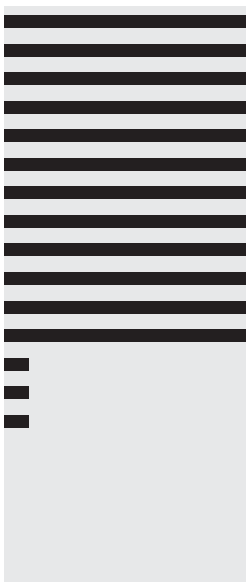
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.07

Availability of merchant payment

This variable assesses whether it is possible to pay merchants with mobile money at a point-of-sale using at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Argentina	Yes
1	Brazil	Yes
1	Ghana	Yes
1	India	Yes
1	Indonesia	Yes
1	Kenya	Yes
1	Malaysia	Yes
1	Nigeria	Yes
1	Philippines	Yes
1	South Africa	Yes
1	Tanzania	Yes
1	Uganda	Yes
13	Afghanistan	No
13	Bangladesh	No
13	Pakistan	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



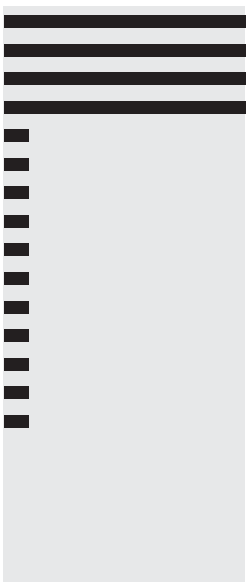
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.08

Availability of MFI loan repayment

This variable assesses whether it is possible to repay loans issued by an MFI using at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Afghanistan	Yes
1	Kenya	Yes
1	Nigeria	Yes
1	Philippines	Yes
5	Argentina	No
5	Bangladesh	No
5	Brazil	No
5	Ghana	No
5	India	No
5	Indonesia	No
5	Malaysia	No
5	Pakistan	No
5	South Africa	No
5	Tanzania	No
5	Uganda	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



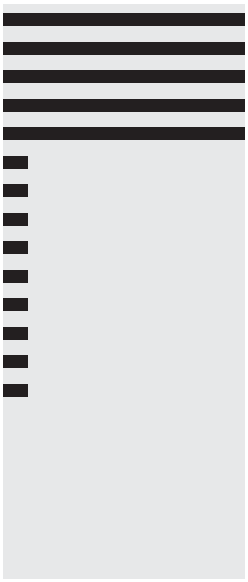
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.09

Interoperability of MFS payment systems

This variable assesses whether the regulator requires e-money systems to be interconnected [No = 0; Yes = 1] | 2011

RANK	COUNTRY/ECONOMY	SCORE
1	India*	Yes
1	Indonesia*	Yes
1	Kenya	Yes
1	Mexico	Yes
1	Peru	Yes
6	Afghanistan	No
6	Bangladesh	No
6	Brazil*	No
6	Ghana	No
6	Nigeria	No
6	Pakistan	No
6	Philippines	No
6	South Africa	No
6	Tanzania	No
n/a	Argentina	n/a
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Malaysia	n/a
n/a	Uganda	n/a



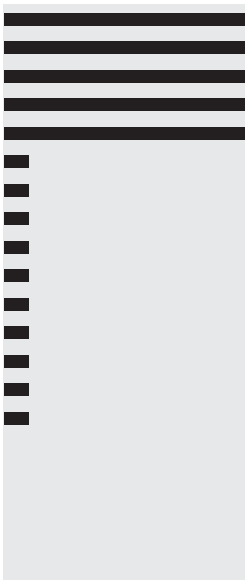
SOURCE: The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

7.10

Availability of coupled accounts

This variable assesses whether it is possible to couple a traditional bank (savings) account with at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Kenya	Yes
1	Nigeria	Yes
1	Philippines	Yes
1	Tanzania	Yes
1	Uganda	Yes
6	Afghanistan	No
6	Argentina	No
6	Bangladesh	No
6	Brazil	No
6	Ghana	No
6	India	No
6	Indonesia	No
6	Malaysia	No
6	Pakistan	No
6	South Africa	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



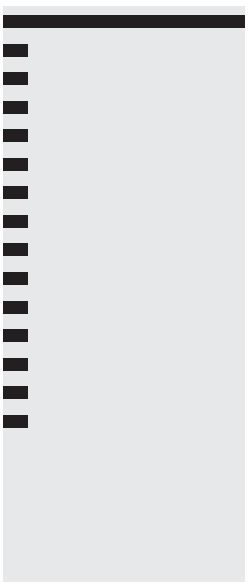
SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.11

Availability of (emergency) credit

This variable assesses whether it is possible to access some form of direct credit using one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2011

RANK	COUNTRY/ECONOMY	SCORE
1	Kenya	Yes
2	Afghanistan	No
2	Argentina	No
2	Bangladesh	No
2	Brazil	No
2	Ghana	No
2	India	No
2	Indonesia	No
2	Malaysia	No
2	Nigeria	No
2	Pakistan	No
2	Philippines	No
2	South Africa	No
2	Tanzania	No
2	Uganda	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



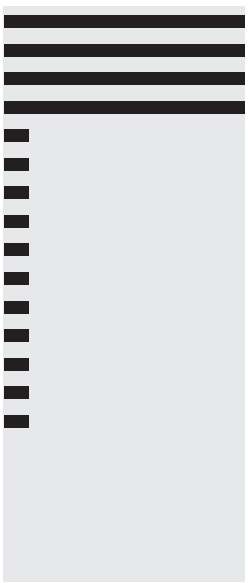
SOURCE: World Economic Forum study of publicly available sources (press releases, websites and academic databases). 2011.

7.12

Availability of insurance

This variable assesses whether it is possible to acquire or sustain any form of insurance product using at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

RANK	COUNTRY/ECONOMY	SCORE
1	Ghana	Yes
1	Kenya	Yes
1	Philippines	Yes
1	Tanzania	Yes
5	Afghanistan	No
5	Argentina	No
5	Bangladesh	No
5	Brazil	No
5	India	No
5	Indonesia	No
5	Malaysia	No
5	Nigeria	No
5	Pakistan	No
5	South Africa	No
5	Uganda	No
n/a	China	n/a
n/a	Colombia	n/a
n/a	Haiti	n/a
n/a	Mexico	n/a
n/a	Peru	n/a



SOURCE: GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

* The source that is used for this country is different from the main source mentioned for this variable. See Table 1 at the end of the Technical Notes and Sources section for a specification of the unique source used.

Technical Notes and Sources

The following section complements the Data Tables by providing additional information and definitions for the hard data indicators that are used in the *Mobile Financial Services Development Report 2011*.

In the following pages, the number next to the variable corresponds to the number of the Data Table that shows the data for all economies on this particular indicator.

The data used in this *Report* represent the best available estimates from various international agencies, private sources, and national authorities at the time the Report was prepared. It is possible that some data will have been updated or revised after publication.

In general, it was attempted to use a single source for each variable. For some variables, however, different sources had to be combined, as the original source did not include all economies in scope here. An overview of those variables that had multiple sources is given in Table 1. In the sources section of this chapter, the most frequent source for each of these variables is presented as the main source.

Country descriptors and financial inclusion characteristics

0.01 Total population

This variable indicates the total population of a country | 2009

The total population includes all residents regardless of legal status or citizenship - except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin. The values are midyear estimates.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.02 Urban population

This variable indicates the percentage of the total population of a country living in an urban area | 2009

Urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.03 Population in largest city

This variable indicates the percentage of the urban population living in the largest city | 2009

The population in the largest city is defined as the percentage of a country's urban population living in that country's largest metropolitan area.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.04 GDP per capita

This variable indicates the gross domestic product (GDP) per capita based on purchasing power parity | 2009

GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.05 Poverty headcount ratio

This variable indicates the percentage of the population living at or less than US$2 a day | 2008

The poverty headcount ratio is defined as the percentage of the population living on less than US$2.00 a day at 2005 international prices.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.06 Human Development Index

This variable indicates a country's Human Development Index score | 2009

The human development index is a composite statistic used to rank countries by level of human development, separating developed (high development), developing (middle development), and underdeveloped (low development) countries, composed from data on life expectancy, education and per-capita gross domestic product (GDP) (as an indicator of standard of living) collected at the national level. The data represents a country's rank in the total country set.

United Nations Development Program (UNDP). 2011. *International Human Development Indicators*, March 2011. New York, N.Y.: UNDP.

0.07 Adult literacy rate

This variable indicates the percentage of a country's adult population that is literate | 2008

The adult literacy rate is calculated as the percentage of people aged 15 and older who can, with understanding, read and write a short, simple statement. When 2008 data are not available, data from the most recent year available are included.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.08 Life expectancy

This variable indicates life expectancy at birth | 2008

Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of birth were to stay the same throughout his/her life.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

0.09 Ease of doing business

This variable indicates the ease of doing business as expressed in the World Bank's 'Doing Business' ranking | 2010

The ease of doing business index ranks economies from 1 to 183. For each economy the index is calculated as the ranking on the simple average of its percentile rankings on each of the 9 topics included in the index in Doing Business 2011: starting a business, dealing with construction permits, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and closing a business.

The World Bank. 2010. *Doing Business 2011*. December 2010. Washington, D.C.: The World Bank.

0.10 Inbound remittances

This variable indicates the volume of annual inbound remittances | 2010

Workers' remittances are current transfers by migrants who are employed or intend to remain employed for more than a year in another economy in which they are considered residents. Some developing countries classify workers' remittances as a factor income receipt and thus as a component of gross national income. The World Bank adheres to international guidelines in defining gross national income, and its classification of workers' remittances may therefore differ from national practices. This item shows receipts by the reporting country. Data are in current U.S. dollars and represent expected values.

Sanket M., D. Ratha and A.Silwal. 2010. *Outlook for Remittance Flows 2011-12: Recovery After the Crisis, but Risks Lie Ahead* Migration and Development Brief. Washington, D.C.: The World Bank.

0.11 Cash payments volume indicator

This variable indicates the approximate volume of cash payments in a country | 2008

The volume of cash payments in a country is approximated as the product of the currency stock (monetary base M0 excluding liquid assets) and the velocity of circulation (quotient of the money stock M1 over GDP). Data are based on analysis by the GSM Association.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

0.12 MFS maturity

This variable indicates the maturity of the mobile financial services ecosystem in a country, measured as the time since the launch of the first deployment | 2010

Calculation is based on the first year of launch of a MFS deployment that involves a MNO in a country as identified by the GSM Association. An overview of deployments is published by the GSMA on its 'Deployment Tracker'.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

0.13 Deposit accounts at banks

This variable indicates the number of deposit accounts in a country held at commercial banks and cooperatives | 2010

Commercial banks are banks with a full banking license. In some countries, the term universal banks or other terms may be used. Majority government- and state-owned banks should be included in this category to the extent that they perform a broad set of retail banking functions and are regulated and supervised in the same manner as privately owned banks. Cooperatives are financial and institutions that are owned and controlled by their members (customers), regardless of whether they do business exclusively with their members or with members and nonmembers. Penetration of deposit services is based on availability (and not usage) of a deposit account; multiple accounts per adult are possible. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

0.14 Deposit accounts at MFI's

This variable indicates the total number of depositors at microfinance institutions | 2009

The total number of people registered as active depositors at an MFI divided by the total population.

Microfinance Exchange (MIX). 2011. *Microfinance at a Glance*, March 2011. Washington, D.C.: MIX.

0.15 Average deposit value

This variable indicates the average amount deposited in accounts at a commercial bank or cooperative as a percentage of income per capita | 2010

The deposit-to-income ratio data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

0.16 Loan accounts at banks

This variable indicates the number of loan accounts in a country held at commercial banks and cooperatives | 2010

Commercial banks are banks with a full banking license. In some countries, the term universal banks or other terms may be used. Majority government- and state-owned banks should be included in this category to the extent that they perform a broad set of retail banking functions and are regulated and supervised in the same manner as privately owned banks. Cooperatives are financial and institutions that are owned and controlled by their members (customers), regardless of whether they do business exclusively with their members or with members and nonmembers. Penetration of loan services is based on availability (and not usage) of a loan account; multiple accounts per adult are possible. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

0.17 Loan accounts at MFIs

This variable indicates the total number of borrowers from microfinance institutions | 2009

The total number of people registered as active borrowers at an MFI divided by the total population.

Microfinance Exchange (MIX). 2011. *Microfinance at a Glance*, March 2011. Washington, D.C.: MIX.

0.18 Composite access to financial services

This variable indicates the percentage of the adult population using formal financial intermediaries | 2007

Based on an assessment by P. Honohan (2007). The estimates are constructed by combining information on banking and MFI account numbers (together with banking depth and GDP data). See the original working paper for a definition and the used sources.

Honohan, 2007. Cross Country Variation in Household Access to Financial Services *Working paper prepared for the Access to Finance Conference in Washington, D.C.*

0.19 Informal banking sector access

This variable indicates the percentage of the population that accesses the informal banking sector | 2009

This variable expresses the percentage of the population that only has financial products from the informal financial services sector. Limited demand-side data are available on the extent to which consumers find ways to address their financial needs outside the formal economy. Data are taken from extensive household surveys. When 2010 data are not available, data from the most recent year available are included.

FinMark Trust. 2011. *Financial Access Strands* March 2011. Marshalltown, South Africa.

Section I: Institutional environment

1.01 Domestic financial sector liberalization

This variable indicates the degree of domestic financial sector liberalization within a country, standardized on a 3–1 scale [3 = least liberalized; 1 = most liberalized] | 2010

This index is calculated on the basis of whether or not controls (ceilings and floors) on interest rates and credit exist, and whether or not deposits in foreign currency are allowed. Schmukler and Kaminsky updated their results up to 2005 for a subset of the sample countries. The World Economic Forum uses their methodology to update all of the countries included here for the purposes of the calculations in this Report. National sources, central banks, and IMF reports are the main sources of these updates.

Graciela Kaminsky and Sergio Schmukler. 2003. Short-Run Pain, Long-Run Gain: The Effects of Financial Liberalization *IMF Working Paper 03/34* Washington, D.C.: International Monetary Fund. Updated as of 2009 based on World Economic Forum analysis.

1.02 Proportional licensing scheme

This variable assesses whether more than one license is required for providing different banking activities, such as commercial banking, securities operations, insurance, etc. [No = 0; Yes = 1] | 2008

The proportional licensing assessment is based on the bank regulation and supervision database 'entry into banking' segment. The question answered is: Is more than one license required (e.g., one for each banking activity, such as commercial banking, securities operations, insurance, etc.)?

The World Bank. 2007. *Regulation and Supervision Database*, Updated June 2008. Washington, D.C.: The World Bank.

1.03 E-money licensing

This variable assesses whether there is specific regulation that governs the issuance of electronic money in place [No = 0; Non-specific = 0.5; Yes= 1] | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is 'Is there a requirement for Consumer Protection?' For those countries that are not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.04 Regulatory quality for banking and investment

This variable measures the quality of regulation based on perception of the government's ability to formulate and implement sound policies and regulation [0= Low quality, 1 = High quality] | 2009

The Heritage Foundation constructs an Index of Economic Freedom consisting of 10 components. Data from three of these components, based on subjective assessments of Heritage staff, are comparable over time and are used to address regulatory quality: Investment Freedom, Financial Freedom, and Property Rights. These indicators are scored on a 100-point scale. Because the indicators refer to data from the previous year, they lag the data from this source by one year

The World Bank. 2010. *Worldwide Governance Indicators*. Washington, D.C.: The World Bank.

1.05 Telecommunication regulatory authority

This variable assesses whether a separate and independent regulatory telecom authority exists [No = 0; Yes = 1] | 2009

Data are obtained from a survey by the International Telecommunication Union (ITU). The question answered is: Does a separate Telecommunication Regulatory Authority exist? The ITU's Market Information and Statistics (STAT) Division collects its Telecommunication/ICT data directly from governments by means of an annual questionnaire sent to the government agency in charge of telecommunications/ICT and then verifies and harmonizes the data. When 2009 data are not available, data from the most recent year available are included.

International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.06 Existence of universal service policy

This variable assesses the existence of a universal service (access) policy or rural telecoms development policy [No = 0; Yes = 1] | 2009

Data are obtained from a survey by the International Telecommunication Union (ITU). The question answered is: Has your country adopted a universal access/service policy or rural telecoms development policy? The ITU's Market Information and Statistics (STAT) Division collects its Telecommunication/ ICT data directly from governments by means of an annual questionnaire sent to the government agency in charge of telecommunications/ICT and then verifies and harmonizes the data. When 2009 data are not available, data from the most recent year available are included.

International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.07 Coverage rate requirement

This variable assesses the existence of regulation that requires MNOs to cover a specified percentage of a country's population or area with an operational service [No = 0; Yes = 1] | 2010

Mobile network operators are either required or not to realize a specific coverage rate (either specified as a percentage of population or as a percentage of geographic area) by the regulator. The data are based on a high level assessment by the GSM Association of publicly available data for license auctions or other license award processes. As not all data regarding auctions or license processes might be publicly available, the data presented here should be interpreted carefully and validated independently.

International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.08 Quality of service regulation index

This index measures whether the telecommunications regulatory entity has implemented quality of service regulation and has the mandate to enforce it [0 = no regulation, 1 = regulation in place] | 2009

The quality of service regulation index is calculated on the basis of whether or not the telecommunications regulatory authority has implemented quality of service regulation and has the mandate to enforce it. data are taken from the International Telecommunication Union's ICT Eye database that presents survey answers by Union members. The World Economic Forum combines these two factors into an index score, allocating equal weights to both factors. When 2009 data are not available, data from the most recent year available are included.

International Telecommunication Union (ITU). 2011. *ICT Statistics Database ICT Eye*, March 2011. Geneva, CH: ITU-D.

1.09 Identification requirement for pre-paid services

This variable assesses whether identification is required for purchasing prepaid mobile communication services [No = 0; Considered = 0.5; Yes = 1] | 2011

Governments require the registration of identity, including for existing active SIM cards. This variable addresses whether or not it is possible for consumers to purchase pre-paid mobile phone services without formal registration of their identity. The data for this variable are derived from a study by the World Economic Forum based on publicly available data. As public sources might not reflect the latest developments, the data presented here should be interpreted carefully and validated independently.

World Economic Forum study of publicly available sources (press releases, websites and academic databases). 2011.

1.10 Existence of MVNO's

This variable assesses whether Mobile Virtual Network Operators (MVNOs) exist in the marketplace [No = 0; Yes = 1] | 2010

MVNOs are defined by the International Telecommunication Union as an operator that offers mobile services to end users but that does not have a governmental license to use its own radio frequency. This variable is included as an indirect indicator of the competitive environment created by a regulator. These data are based on reporting by individual MNOs to the GSM Association in 2010.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

1.11 Taxation of mobile communication services

This variable indicates the average taxation of total mobile service costs | 2006

Taxation of mobile services may consist of consumption taxes and any taxes related to mobile rental and usage. They do not include taxation of handsets. Taxation is expressed as a percentage of total mobile service costs. This data is derived from a report by the GSM Association in cooperation with Deloitte.

GSM Association (GSMA) and Deloitte. 2006 - 2007. *Global Mobile Tax Review*. London, U.K.: GSMA

1.12 Banking agent regulation

This variable assesses whether there are regulations that specify if licensed financial institutions can contract other legal entities as agents to provide services on their behalf [No = 0; Yes = 1] | 2009

The duties of an agent (or business correspondent) include such items as agent security, liquidity management, pricing transparency and other disclosures. The liabilities are defined as those held with customers and by being legally bound to the institution they represent or by acting as an independent third party. This variable assesses if specific regulations are in place that govern the duties and liabilities of agents. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator. These data were collected in 2008 and so circumstances in some countries may have changed since that time. For Ghana, data have been updated with information from a survey by The Alliance for Financial Inclusion.

Consultative Group to Assist the Poor (CGAP). 2009. *Financial Access 2009* Washington, D.C.: CGAP.

1.13 MNO role as banking agent

This variable assesses whether MNO's can perform banking activities on behalf of licensed financial institutions [No = 0; Unclear = 0.5; Yes = 1] | 2010

To assess the opportunities for MNO's to be involved in offering financial services, this variable assess if an MNO can act as an agent for a licensed financial services institution. Data are based on proprietary research by the GSM Association in 37 countries. For those countries that had no data available, data are derived from a regulatory survey by the Alliance for Financial Inclusion, as is specified in Table 1 at the end of the Technical Notes and Sources section.

GSM Association (GSMA). 2010. *Regulatory Database*, December 2010. London, U.K.: GSMA.

1.14 Non-bank agent deployment

This variable assesses whether mobile network operators without a traditional banking license can deploy agents for the provision of financial services [No = 0; Unclear = 0.5; Yes = 1] | 2010

Assesment of opportunity for mobile network operators (entities without a traditional banking license) to employ agents for the provision of financial services. This is traditionally the case for a mobile network operator that seeks to run a mobile payments and remittance system. Data are based on proprietary research by the GSM Association on the regulatory situation in 37 countries. For those countries that had no data available, data are derived from a regulatory survey executed by the Alliance for Financial Inclusion, as is specified in Table 1 at the end of the Technical Notes and Sources section.

GSM Association (GSMA). 2010. *Regulatory Database*, December 2010. London, U.K.: GSMA.

1.15 Permitted agent activities

This index assesses the range of activities that can be performed by banking agents under existing agent regulation [0 = Small range; 1 = Wide range] | 2009

The variables measured in this index of agent activities include the ability to: receive and forward applications to open accounts; open accounts on behalf of a bank; receive payments (for taxes, utilities, etc.); accept funds for deposits to client accounts; pay withdrawals from client accounts; receive and forward loan requests; evaluate credit and approve loan requests on behalf of a bank, and collect loan payments on behalf of a bank. The World Economic Forum compiles these activities into an index where each of the activities is equally weighted. A broader set of activities engaged upon by the agent results in a higher score. Data collected are part of an access to finance questionnaire administered in February 2009. For Kenya, this data has been updated with input from a 2011 survey by the Alliance for Financial Inclusion. Circumstances may have changed since the original data were collected

Consultative Group to Assist the Poor (CGAP). 2009. *Financial Access 2009* Washington, D.C.: CGAP.

1.16 Non-bank MFS licensing

This variable assesses whether entities that are not licensed financial institutions are allowed to provide mobile financial services [No = 0; Unclear = 0.5; Yes = 1] | 2010

This question is answered with 'Yes' when non-banks such as mobile network operators are allowed to deploy e-money services and to perform (or outsource) related cash-in activities as a principal. This methodology does not address the business model flexibility and independence available to non-banks. Non-banks may be required to mirror customer deposits with licensed financial institutions. Data are based on proprietary research by the GSM Association on the regulatory situation in 37 countries. For those countries that had no data available, data are derived from a regulatory survey executed by the Alliance for Financial Inclusion, as is specified in Table 1 at the end of the Technical Notes and Sources section.

GSM Association (GSMA). 2010. *Regulatory Database*, December 2010. London, U.K.: GSMA.

1.17 Value in mobile wallet considered deposit

This variable assesses whether transforming cash into electronic value in a mobile wallet is considered deposit-taking [Yes = 0; Sometimes = 0.5; No = 1] | 2011

This variable expresses if the value stored in a mobile account (i.e. a wallet) is considered a deposit. The question answered is: Is there a policy that considers money stored in mobile phones to be deposits or something similar? Information for this variable is from a survey by the Alliance for Financial Inclusion across 20 regulatory bodies. For those countries that were not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.18 Existence of AML/CFT regulation

This variable assesses whether there is specific regulation in place that governs anti-money laundering (AML) and combating of the financing of terrorism (CFT) [No = 0; Yes = 1] | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Is there specific regulation in place that governs money laundering and/or the financing of terrorism for banks and non-bank financial institutions? For those countries that were not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.19 Compliance with AML/CFT standards

This variable assesses compliance with standards set by the Financial Action Task Force of local AML/CFT regulation [Non-compliant = 0; Deficiencies = 0.5; Compliant = 1] | 2011

Compliant is defined as the country reported being part of the assessment by the Financial Access Task Force (FATF) as indicated in their 2009-2010 annual report but it is not mentioned in the 2011 update as 'non-compliant' or having 'strategic deficiencies'. 'Non-compliant is defined as if these jurisdictions do not take sufficient action to implement significant components of their action plan by June 2011, then the FATF will identify these jurisdictions as being out of compliance. These data are based on an assessment as published in FATF's Improving Global AML/CFT Compliance: Update On-going Process in February 2011. A large number of jurisdictions have not yet been reviewed by the FATF. For Haiti, data have been updated based on interviews with local experts.

Financial Action Task Force (FATF). 2011. Improving Global AML/CFT Compliance: update on-going process. Paris, France: FATF.

1.20 Proportional transaction limits

This variable assesses whether transaction limits are applied to transactions to and from mobile accounts [No = 0; Yes = 1] | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Is there a policy that requires MFS transactions to be subject to transactional limits? For those countries that were not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.21 Proportional KYC requirements

This variable assesses whether the regulator allows for a more relaxed application of Know Your Customer (KYC) requirements to low risk accounts to improve access for the underserved [No = 0; Yes = 1] | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Is there flexibility in KYC requirements for low value or low risk accounts—in either or both the identification and verification stages? For those countries that were not included in the survey, information from CGAP's Regulation Center, analysis by the GSM Association, or information from the World Bank's Getting Finance study is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.22 International mobile money transfer regulation

This variable assesses whether there is specific regulation in place that governs foreign exchange controls for banks and non-banks engaging in mobile financial services [No = 0; Unclear = 0.5; Yes = 1] | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Is there specific regulation in place that governs foreign exchange controls for banks and non-banks engaging in mobile financial services? For those countries that were not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.23 Publicly-defined financial inclusion strategy

This variable assesses whether the financial regulator has defined and published a strategy for financial inclusion [No = 0; Yes = 1] | 2010

These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator. The question answered is: Is a strategy document to improve financial inclusion under the purview of the financial regulator? Data for South Africa has been updated based on CGAP materials.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

1.24 Designation of financial access authority

This variable assesses whether promoting access in rural areas is allocated to a specific team or organizational unit by the financial regulator [No = 0; Yes = 1] | 2010

These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator. The question answered is: Is a dedicated team or unit in place that is tasked with promoting access in rural areas?

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

1.25 Basic account provision

This variable assesses whether the government or regulator requires financial institutions to offer a basic, low-cost and no-frills account that caters to the needs of low-income people [No = 0; Yes = 1] | 2008

These data are based on regulators' answers to a survey by The World Bank. The questions ask whether national regulations require that a basic or simplified account be made available to some or all segments of the population. The questionnaire explains that such accounts may be designed for low-income persons and may have the following characteristics: no opening fee, no monthly fee, a basic package of transactions free of charge (such as a limited number of free withdrawals, balance inquiries, and payments), and restrictions on check writing and card-only transactions. Indicators are obtained from a bank-level survey that was executed in 2008. Data for South Africa have been updated based on CGAP materials. Circumstances may have changed since the data were originally collected.

The International Bank for Reconstruction and Development / The World Bank. 2009. *Banking the Poor: Measuring Banking Access in 54 Economies*. Washington, D.C.: World Bank.

1.26 Telecom and FS regulatory alignment

This variable assesses whether a mechanism exists to harmonize MFS policies between the financial and telecom regulators [No = 0; Ad hoc = 0.5; Yes = 1] | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Is there a specific mechanism in place to align policies set by the Financial Regulator with those set by the Telecommunications Regulator? When the answer is other, please specify, this response is represented as ad hoc alignment, except for Colombia that indicated that it has a structural committee for alignment.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

1.27 Institution-agnostic tax regime

This variable assesses whether financial transactions are taxed equally when provided by a non-bank or by a licensed institution | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Are financial transactions taxed differently when provided by a bank instead of a mobile network operator? For those countries that were not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

2.01 Existence of MFS consumer protection policy

This variable assesses whether there is specific regulation that governs MFS consumer protection [No = 0; Yes = 1] | 2011

Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Is there a requirement for Consumer Protection? For those countries that were not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

2.02 Breadth of MFS consumer protection

This index assesses the scope of MFS consumer protection regulations [0 = Narrow scope; 1 = Wide scope] | 2011

The areas of consumer protection regulation addressed in this question are: consumer education, disclosure of fees and charges, the existence of a redress mechanism and the monitoring of suspicious transactions. The question answered is: What areas does consumer protection cover? The World Economic Forum compiles these elements into an index in which the score in each area is weighted equally. A broader set of activities results in a higher score. Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. For those countries that were not included in the survey, information from CGAP's Regulation Center or analysis by the GSM Association is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

2.03 Transparency and consumer protection index

This index assesses the level of transparency and quality of general financial consumer protection regulation [0 = low transparency and no regulation, 1 = high transparency and regulation] | 2009

The transparency and consumer protection index measures the level of transparency and quality of financial consumer protection regulation. It is composed of twelve subindices that require a yes or no answer: The central bank provides public information on fees and charges levied on transactions at commercial banks as well as disclosure of interest rates and charges to the customer.

The International Bank for Reconstruction and Development / The World Bank. 2009. *Banking the Poor: Measuring Banking Access in 54 Economies*. Washington, D.C.: World Bank.

2.04 Regulatory mandate for consumer protection

This variable assesses whether consumer protection is explicitly stated as a goal within the mandate of the financial regulator [No = 0; Yes = 1] | 2010

Consumer protection agencies, competition authorities, ministries of justice, or ministries of economy may be responsible for implementing broad consumer protection legislation. This variable expresses if central banks, bank supervisory authorities, securities commissions, and other financial service regulators are involved in implementing financial consumer protection regulations that apply to the institutions they oversee. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator. The question answered is: Is an agency made responsible for consumer protection?

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

2.05 Consumer protection enforcement

This variable assesses whether there is a dedicated team or unit in place to implement consumer protection [No = 0; Yes = 1] | 2010

Indicates whether surveyed regulators had specific teams, units, or departments assigned to each of the financial inclusion topics under their purview. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator. The question answered is: Is a dedicated team or unit in place that is resonsible for consumer protection?

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

2.06 Consumer complaint statistics reported

This variable assesses whether the supervising agency requires financial institutions to report statistics on the received number of complaints [No = 0; Yes = 1] | 2010

Indicates whether or not the supervising agency requires financial institutions to report on the number and scope of consumer complaints they receive. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator. The question answered is: Does the supervisory agency require financial institutions to report statistics on number of complaints?

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

2.07 Consumer protection administration

This index assesses the scope of consumer protection administration and mechanisms for the financial and telecom sectors [0 = Narrow scope; 1 = Wide scope] | 2009

The consumer protection administration index is calculated on the basis of whether or not reforms are planned by the financial regulator in the area of consumer protection, whether or not a financial ombudsman exists for dispute resolution, whether or not the regulator employs a call center that allows consumers to contact them with complaints and whether or not the telecommunications regulator makes the outcome of the dispute resolutions public. The World Economic Forum combined these four factors into an index score, allocating equal weights to all factors. When 2009 data are not available, data from the most recent year available are included.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010 Washington, D.C.: CGAP. International Telecommunication Union (ITU) 2011. ICT Statistics Database ICT Eye*. Geneva, CH: ITU-D.

Section II: Market environment

3.01 Financial services market competition

This variable indicates the degree of competition in the banking market by expressing the difference in market share held by the largest and second largest market participant | 2010

Market competition is expressed as the difference in market share between the largest and second largest banks in each country. Market share is calculated in terms of the average assets held by the banks (which can include bank holding companies, commercial banks, cooperative banks, Islamic banks, savings banks and specialized governmental credit institutions). Data on banking assets were derived from BankScope and retrieved in July 2010.

Bureau van Dijk. 2010. *BankScope database*, July 2010. Amsterdam, The Netherlands.

3.02 Aggregate profitability indicator

This variable indicates the average profitability of banks based on a three-year average of three measures of profitability: net interest margin, bank return on assets and bank return on equity | 2006-08

The aggregate profitability indicator is based on a three-year average of three measures of profitability: net interest margin, bank return on assets, and bank return on equity. The net interest margin is the accounting value of a bank's net interest revenue as a share of its interest-bearing (total earning) assets. Return on assets is calculated as net income as a percentage of total assets. Return on equity is calculated as net income as a percentage of total shareholders' equity.

Thorsten Beck, Asli Demirguç-Kunt, and Ross Levine. 2000. A New Database on Financial Development and Structure *World Bank Economic Review 14: 597–605*. Updated May 2009.

3.03 Availability of financial services perception

This variable indicates the variety of financial products and services available to businesses [1 = not at all; 7 = wide variety] | 2010

Data based on answers to The World Economic Forum's annual Executive Opinion Survey in The Global Competitiveness Report 2010 - 2011. The question answered is: Does the financial sector in your country provide a wide variety of financial products and services to businesses? [1 = not at all ; 7 = provides a wide variety].

World Economic Forum, Executive Opinion Survey

3.04 Affordability of financial services perception

This variable indicates the affordability of financial products and services available to businesses [1 = not at all; 7 = extremely well] | 2010

Data based on answers to The World Economic Forum's annual Executive Opinion Survey in The Global Competitiveness Report 2010 - 2011. The question answered is: To what extent does competition among providers of financial services in your country ensure the provision of financial services at affordable prices? [1 = not at all; 7 = extremely well].

World Economic Forum, Executive Opinion Survey

3.05 Breadth of retail payment channels

This index assesses the availability of different payment channels for consumer transactions for [0 = low availability of payment channels, 1 = high availability of payment channels] | 2008

The index of retail payment channels is comprised of six retail payment transactions and assesses their availability in each of three different channels: person to person, individual to business, and individual to government. Each has equal weight. The six transactions are: check payment; payment cards used on bank premises; payment cards used at ATMs; direct credits initiated on bank premises; direct credits via telephone, Internet, or mobile banking technology; and direct debits initiated by the beneficiary. Indicators are obtained from a bank-level survey.

The International Bank for Reconstruction and Development / The World Bank. 2009. *Banking the Poor: Measuring Banking Access in 54 Economies*. Washington, D.C.: World Bank.

3.06 Payment network quality and interoperability

This index assesses the network quality and interoperability for payment services available for a standard bank account at a traditional bank [0 = low interoperability, 1 = high interoperability] | 2008

The index of network quality and interoperability comprises two variables that assess the interoperability of payments networks: whether debit cards can be used at ATMs belonging to other banks that share the bank's network; and whether debit cards can be used at merchants through point-of-service devices. The two variables have different weights: 0.4 for the former and 0.6 for the latter. Indicators are obtained from a bank-level survey executed by The World Bank in 2009 and may not reflect recent changes in the countries covered by the survey.

The International Bank for Reconstruction and Development / The World Bank. 2009. *Banking the Poor: Measuring Banking Access in 54 Economies*. Washington, D.C.: World Bank.

3.07 Ease of opening traditional account

This index assesses the number of documents needed to open a traditional bank account | 2007

The number of documents needed to open a checking account can consist of identification, payment slip, letter of reference, proof of domicile, and any other document a bank requires. This indicator varies from 1 to 5 depending on the number of documents required. Indicators are obtained from a bank-level survey executed by The World Bank in 2007 and may not reflect recent changes in the countries covered by the survey.

The World Bank. 2007. *Finance for All? Policies and Pitfalls in Expanding Access* Washington, D.C.: World Bank

3.08 Mobile network operator market competition

This variable indicates the degree of competition in the mobile communications market by using the Herfindahl-Hirschman Index for each country | 2010

The Herfindahl-Hirschman Index is a measure of the size of firms in relation to the industry and an indicator of the amount of competition among them. It is defined as the sum of the squares of the market shares of the 50 largest firms within the industry. These data are based on reporting by individual MNOs to the GSM Association for Q2 2010.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

3.09 Effective price for mobile phone services

This variable indicates the effective price per minute for mobile communication services | 2010

The effective price per minute is calculated as the unweighted average revenue per user divided by the average minutes of usage per user for operators reporting to the GSM Association. Data are based on Q2 2010 and are converted into US$ based on the average exchange rate for Q1 2011. Data for Kenya is based on Q1 2010.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

3.10 Churn of mobile subscriptions

This variable indicates the level of voluntary and involuntary churn of mobile subscriptions | 2010

Churn is calculated as the total gross disconnections (voluntary or involuntary) in the period divided by the average total connections in the period and annualized subsequently. In this study, it is calculated per operator, and the unweighted average for all operators is reported here. These data are based on reporting by individual MNOs to the GSM Association for Q2 2010. Data for Indonesia is based on Q4 2009.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

3.11 Average revenue per user

This variable indicates the average revenue per user in a country's mobile communications market | 2010

The average revenue per user is calculated as the total recurring revenue divided by the weighted average number of customers during the same period. The figure is expressed monthly, whereby if an operator reports annual ARPU, Wireless Intelligence divides this reported number by 12 to get a monthly equivalent. These data are based on reporting by individual MNOs to the GSM Association for Q2 2010. Data for Nigeria and Uganda are based on Q4 2009. Prices have been adjusted for purchasing power parity based on 2009 data from The World Bank.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

3.12 Capacity for innovation

This variable indicates a country's capacity for innovation by addressing how technology is obtained [1 = exclusively from licensing or imitating; 7 = by conducting formal research] | 2010

Data are based on answers to The World Economic Forum's annual Executive Opinion Survey in the Global Competitiveness Report 2010 - 2011. The question answered is: In your country, how do companies obtain technology?

World Economic Forum, Executive Opinion Survey

3.13 Investment in telecom

This variable indicates the total telecommunications investment (capital expenditure) as a percentage of telecommunications revenue | 2008

Also referred to as annual capital expenditure, this is the gross annual investment in telecom (including fixed, mobile and Internet services) for acquiring property and network. This should include all operators (both network and virtual operators) offering services within the country. The term investment means the expenditure associated with acquiring the ownership of property (including intellectual and non-tangible property such as computer software) and plant by the operator. This includes expenditure in initial installations and on additions to existing installations where the usage is expected to be over an extended period of time. Note that this applies to telecom services that are available to the public, and excludes investment in telecom software or equipment for internal use. It excludes expenditures on research and development and fees for operating licenses and for the use of radio spectrum. When 2008 data are not available, data from the most recent year available are included.

The World Bank. 2010. *The Little Data Book on Information and Communication Technology 2010*. Washington, D.C.: World Bank

4.01 Government disbursement scheme

This variable assesses the existence of government disbursement schemes in a country (total, not only through mobile financial services systems) [No = 0; Yes = 1] | 2009

A government disbursement scheme (G2P) might include social transfers as well as wage and pension payments. Data are based on field research by CGAP.

Consultative Group to Assist the Poor (CGAP). 2011. *Branchless Banking Database*, January 2011. Washington, D.C.: CGAP.

4.02 Government disbursement reach

This variable indicates the number of people receiving social disbursements from the government as a percentage of the population | 2009

The number of recipients of payments from a government payments scheme as part of the adult population, which might include social transfers as well as wage and pension payments. Data are based on field research by CGAP.

Consultative Group to Assist the Poor (CGAP). 2011. *Branchless Banking Database*, January 2011. Washington, D.C.: CGAP.

4.03 Mobile G2P payments

This variable assesses if a government disbursement plan exists that leverages mobile financial services systems [No = 0; Yes = 1] | 2011

A government might promote the use of MFS by distributing social payments via the mobile platform. Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Are G2P payments part of the transactions through mobile financial services systems?

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

4.04 Mobile tax payments

This variable assesses if a government tax payment scheme exists that leverages mobile financial services systems [No = 0; Yes = 1] | 2011

The mobile tax payments variable assesses if the government promotes the use of MFS by providing taxpayers the ability to make tax payments via the mobile platform. Data for this variable are compiled by the World Economic Forum and based on publicly available data. As public sources may not always reflect the latest developments, the data represented should be interpreted carefully and validated independently.

World Economic Forum study of publicly available sources (press releases, websites and academic databases), 2011.

4.05 Availability of decision-making data: regulatory

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the regulatory environment assessment of the countries in this report | 2011

The availability of country data for the first and second pillars of this report is used to estimate this variable. The total number of unavailable variables (n/a on the country profiles) is divided by the total number of variables in the institutional environment.

World Economic Forum analysis, 2011.

4.06 Availability of decision-making data: market

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the market environment assessment of the countries in this report | 2011

The availability of country data for the third and fourth pillars of this report is used to estimate this variable. The total number of unavailable variables (n/a on the country profiles) is divided by the total number of variables in the market environment.

World Economic Forum analysis, 2011.

4.07 Availability of decision-making data: end-user

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the end-user environment assessment of the countries in this report | 2011

The availability of country data for the fifth and sixth pillars of this report is used to estimate this variable. The total number of unavailable variables (n/a on the country profiles) is divided by the total number of variables in the end-user environment.

World Economic Forum analysis, 2011.

4.08 Availability of decision-making data: adoption

This variable estimates the extent of data collection and sharing. It is based on the availability of data collected as a part of the adoption and availability assessment of the countries in this report | 2011

The availability of country data for the seventh pillar of this report is used to estimate this variable. The total number of unavailable variables (n/a on the country profiles) is divided by the total number of variables in the 'adoption and availability' pillar.

World Economic Forum analysis, 2011.

4.09 Inbound international remittances to GDP

This variable indicates the inbound volume of remittances per year expressed as a percentage of GDP | 2009

Inbound remittances as a percentage of GDP are calculated as the quotient of workers' remittances and GDP at purchasing power parity as provided by The World Bank.

Sanket M., D. Ratha and A.Silwal. 2010. Outlook for Remittance Flows 2011-12: Recovery After the Crisis, but Risks Lie Ahead. *Migration and Development Brief*. Washington, D.C.: The World Bank.

4.10 Main method of international remittances

This variable assesses the main method of sending international remittances [Cash = 0; Non-cash = 1] | 2006

Information is based on a ranking by central banks of the relevance of different instruments available in their countries for cross-border payments and international remittances. Instruments used for cross-border payments and peer-to-peer remittances are cash, current account transfers, (prepaid) payment cards, and mobile payments. This variable distinguishes cash based versus non-cash based instruments. When the main instrument for sending and receiving remittances is non-cash based, this is assumed to indicate a favorable environment for the development of mobile financial services systems. The survey was executed in 2006 and data might therefore not represent the current situation. An updated survey is expected to be available in 2011.

The World Bank. 2008. *Payment Systems Worldwide: a Snapshot. Outcomes of the Global Payment Systems Survey 2008*. Washington, D.C.: The World Bank.

4.11 Cost of receiving international remittances

This variable indicates the average fee to receive a US$200 remittance through a money transfer operator | 2010

The cost of receiving international remittances expresses how much it costs, on average, to receive money in a country for the most relevant international remittance corridors. The total cost includes transaction fees and the exchange rate margin or spread. Prices reflect the unweighted average of a number of relevant corridors that were identified for each country. Corridor averages are unweighted and do not reflect the market shares of the different firms that compose the average. In some corridors, exchange rate information is not available, and therefore prices in those corridors may be higher than the amount shown. The few cases where negative exchange rate margins are shown are related to either the existence of a parallel or grey foreign exchange market, or the remittance service provider offering a promotion on the day the information was collected. For additional details refer to corridor-specific notes and explanations.

The World Bank. 2010. *Remittance Prices Worldwide*, Q3 2010. Washington, D.C.: The World Bank.

Section III: End user environment

5.01 Financial literacy indicator

This variable indicates the level of financial literacy in a country [0 = Low literacy; 1 = High literacy] | 2009

As there are no cross-country data available on financial literacy levels, this index is composed of three indirect factors that relate to the concept. Combining a proxy for reach (the percentage of the population that is considered literate) with a proxy for quality (the quality of mathematical and science education) and a proxy for government support (whether or not there is regulation requiring local language disclosure), this index can only be interpreted as a very indirect indication. The requirement for local language disclosure is weighted 50% relative to the other factors to compensate for its discrete nature. Data for literacy levels are obtained from The World Bank's Indicator Database. Data for quality of mathematics and science education are taken from the World Economic Forum's annual Executive Opinion Survey. Data on local language requirements are taken from CGAP's Financial Access 2010 study.

The World Bank. 2010. *Indicators Database, December 2010*. Washington, D.C.: The World Bank. The World Economic Forum, Executive Opinion Survey. Consultative Group to Assist the Poor (CGAP). 2010. Financial Access 2010 Washington, D.C.: CGAP

5.02 Depth of credit information

This variable measures rules and practices affecting the coverage, scope and accessibility of credit information available through either a public credit registry or a private credit bureau [0 = No information; 6 = High information availability] | 2010

The index ranges from 0 to 6, with higher values indicating the availability of more credit information, from either a public credit registry or a private credit bureau, to facilitate lending decisions. If the credit registry or bureau is not operational or has a coverage of less than 0.1% of the adult population, the score on the depth of credit information index is 0.

The World Bank. 2010. *Doing Business 2011*. December 2010. Washington, D.C.: The World Bank.

5.03 Women's access to bank loans

This index assesses women's access to bank loans [0 = No access, 1 = Full access] | 2009

Women's access to bank loans combines women's right and de facto access to bank loans. Even though women generally have the legal right to obtain credit, they frequently face restrictions as banks may ask the written permission of a woman's husband or require land as collateral, which women frequently lack. Data have been taken from the OECD's 'Gender, Institutions and Development Database' that has been compiled from secondary sources such as Gender Stats and the Human Development Report as well as from in-depth reviews of country case studies.

Organisation for Economic Co-Operation and Development (OECD). 2009. *Gender, Institutions and Development Database*, January 2011. Paris, France: OECD.

5.04 Corruption Perceptions Index

This index measures the degree to which public sector corruption is perceived to exist in 178 countries around the world [0 = Highly corrupt; 10 = Very clean] | 2010

Transparency International (TI) defines corruption as the abuse of entrusted power for private gain. This definition encompasses corrupt practices in both the public and private sectors. The Corruption Perceptions Index (CPI) ranks countries according to the perception of corruption in the public sector. The CPI is an aggregate indicator that combines different sources of information about corruption, making it possible to compare countries.

Transparency International (TI). 2010. *Corruption Perceptions Index 2010*, October 2010. Berlin, Germany: TI.

5.05 Population covered by mobile phone services

This variable indicates the percentage of the population that is covered by mobile phone network services | 2008

The mobile phone services coverage variable is defined as the percentage of people that live in areas served by a mobile cellular signal regardless of whether they use it. When 2008 data are not available, data from the most recent year available are included.

The World Bank. 2010. *Indicators Database*, December 2010. Washington, D.C.: The World Bank.

5.06 Mobile phone services penetration

This variable indicates the number of active connections in a country as a percentage of the population | 2010

The number of active connections, reflected in this variable, does not reflect the effect of multiple SIM ownership and inactive connections; and therefore does not accurately represent the number of users of mobile communication services. The number can be higher than the population size, i.e., penetration can be higher than 100% for this reason. These data are based on reporting by individual MNOs to the GSM Association for Q2 2010.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

5.07 Post-paid connections

This variable indicates the number of post-paid active connections as a percentage of total active connections | 2010

The number of active post-paid (or contract) connections reflected in this variable does not reflect the effect of multiple SIM ownership and inactive connections; and therefore does not accurately represent the number of users of mobile communication services. The number can be higher than the population size. i.e., penetration can be higher than 100% for this reason. These data are based on reporting by individual MNOs to the GSM Association for Q2 2010. Data for Afghanistan has been adjusted based on feedback from market participants.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

5.08 Mobile connection growth rate

This variable indicates annual mobile connection growth using quarterly data | 2010

Calculated as the number of net connections in Q2 2010, divided over the total number of connections in that quarter and annualized subsequently. These data are based on reporting by individual MNOs to the GSM Association.

GSM Association (GSMA). 2011. *Wireless Intelligence Database*, March 2011. London, U.K.: GSMA.

6.01 Bank branch penetration

This variable indicates the number of branches of commercial banks, cooperatives, specialized state owned financial institutions and microfinance institutions | 2010

Commercial banks are banks with a full banking license. In some countries, the term universal banks or other terms may be used. Majority government- and state owned banks should be included in this category to the extent that they perform a broad set of retail banking functions and are regulated and supervised in the same manner as privately owned banks. Cooperatives are financial and institutions that are owned and controlled by their members (customers), regardless of whether they do business exclusively with their members or with members and nonmembers. Specialized state owned financial institutions (SSFIs) and microfinance institutions (MFIs) are institutions whose primary business model is to lend to (and possibly take deposits from) the poor, often using specialized methodologies such as group lending. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

6.02 ATM penetration

This variable indicates the number of automated teller machines (ATMs) in each country | 2010

Automated teller machines (ATM) data are included as they are an important means of cash-in and cash-out. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

6.03 POS penetration

This variable indicates the number of point-of-sale terminals in each country | 2010

Point-of-sale (POS) terminals are an important means for cash-in and cash-out. These data are collected as part of an access to finance questionnaire administered in February 2010. The survey is directed to the central bank governor's office or head office of the financial regulator.

Consultative Group to Assist the Poor (CGAP). 2010. *Financial Access 2010*. Washington, D.C.: CGAP.

6.04 Agent density

This variable indicates the number of agents or business correspondents that provide services for mobile financial services customers in each country | 2010

This variable estimates the density of mobile financial services agents for the combined mobile financial services systems in a country. It is calculated as the number of agents per 100,000 adults. As there are limited data available on the number of agents per mobile financial services system, only countries reporting for systems representing 50 percent of total subscribers have been included. Data on the number of agents has been retrieved from operators directly or has been based on publicly available sources, for those operators identified by the GSM Association in their 'Deployment Tracker'. The presented data refer to the situation in December 2010. These data represent a very rough estimate and independent validation is highly recommended.

World Economic Forum, survey off mobile network operators and study of publicly available sources, 2011.

6.05 Ease of enrollment for MFS agents

This index assesses the requirements for enrolling agents for the delivery of mobile financial services | 2011

The requirements that are considered for the enrollment as an agent include the number of years in business, the existence of a non-exclusivity agreement, and other requirements. The World Economic Forum translates these requirements into an index, where each of the requirements is weighted equally and a broader set of requirements results in a higher score. Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: What are the minimum requirements to be an agent?

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

Section IV: Adoption and availability

7.01 Adoption of MFS services

This variable assesses the number of wallets/mobile accounts that have been opened for any mobile financial service in a country, as a percentage of adult population [Low= 0; Medium = 0.5; High = 1] | 2010

The adoption of mobile wallets or accounts is based on an estimate of the total number of wallets that have been opened for any mobile financial services system in a country. It is calculated as the number of mobile wallets or accounts opened, divided by the total population between the ages of 15 and 64. Given the approximate and propiateary nature of the data obtained, penetration scores have been placed in ranges which include low (<1%), medium (1-10%) and high (>10%). Data on the number of wallets have been retrieved from operators directly or have been based on publicly available sources, for those operators identified by the GSM Association in its Deployment Tracker. Wallets do not represent active users and there are differences in the types of functionality that are linked to the accounts. Some mobile financial services do not involve a 'wallet' or a similar concept. The presented data reflect the situation as of December 2010. These data represent a very rough estimate and should be interpreted carefully and validated independently.

World Economic Forum, survey of mobile network operators and study of publicly available sources, 2011.

7.02 Number of active MFS deployments

This variable indicates the number of active mobile financial services deployments that involve a mobile network operator | 2010

The number of active MFS deployments is based on a selection of mobile financial services that involve a mobile network operator, as identified by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. Expert interviews in Nigeria indicated that all deployments are only in pilot phase and therefore not included here.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.03 Ability to buy airtime from account

This variable assesses whether buying airtime from stored mobile money is possible from at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

The availability of this functionality is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.04 Availability of domestic money transfer

This variable assesses whether sending and receiving money between users is possible from at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

The availability of this functionality is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.05 Availability of international money transfer

This variable assesses whether sending and receiving money internationally is possible at one of the deployments in a country [No = 0; Yes = 1] | 2010

The availability of this functionality is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.06 Availability of bill payment

This variable assesses whether paying utility, education and other bills is possible using at least one of the active mobile financial services deployments in a country [No = 0; Yes= 1] | 2010

The availability of this functionality is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.07 Availability of merchant payment

This variable assesses whether it is possible to pay merchants with mobile money at a point-of-sale using at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

The availability of this functionality is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.08 Availability of MFI loan repayment

This variable assesses whether it is possible to repay loans issued by an MFI using at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

The availability of this functionality is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.09 Interoperability of MFS payment systems

This variable assesses whether the regulator requires e-money systems to be interconnected [No = 0; Yes = 1] | 2011

Interoperability is considered a technological concept for this question, and the requirement refers to the possibility for a user to transact to and from different e-money systems. Information for this variable is obtained from a survey by the Alliance for Financial Inclusion of 20 regulatory bodies. The question answered is: Is there interconnection of e-money systems with various operators? For those countries that were not included in the survey, information from CGAP's Regulation Center is used, as is specified in Table 1 at the end of the Technical Notes and Sources section.

The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.

7.10 Availability of coupled accounts

This variable assesses whether it is possible to couple a traditional bank (savings) account with at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

The availability of a coupled savings account is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. The functionality that is considered here is: Linked MFI, SACCO, Bank Account. This functionality does not mean that subscribers to a mobile financial services system can automatically assess the coupled account. Nor does it mean that the coupled account is necessarily interest bearing. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

7.11 Availability of (emergency) credit

This variable assesses whether it is possible to access some form of direct credit using one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2011

The availability of access to (emergency) credit is based on a web study by the World Economic Forum that was validated by experts from the GSM Association. The criteria applied here is that access to credit has to be possible for a subscriber to a mobile financial services system without having to take additional administrative actions, such as to sign up for a coupled account eligible for credit at a licensed financial institution. In the one identified case—M-Kesho in Kenya—users can access limited emergency credit without extra KYC requirements.

World Economic Forum study of publicly available sources (press releases, websites and academic databases). 2011.

7.12 Availability of insurance

This variable assesses whether it is possible to acquire or sustain any form of insurance product using at least one of the active mobile financial services deployments in a country [No = 0; Yes = 1] | 2010

The availability of this functionality is based on an assessment by the GSM Association. An overview of the deployments that are part of the assessment is published by the GSMA on its Deployment Tracker. When one deployment offers the functionality, it is considered available for the country.

GSM Association (GSMA). 2010. *Wireless Intelligence; Mobile Money for the Unbanked*, November 2010. London, U.K.: GSMA.

Table 1: Detailed overview of individual country sources for selected variables

	1.03	1.13	1.14	1.16	1.17	1.18	1.2	1.21	1.22	1.27	2.01	2.02	7.09
Afghanistan	A	M	M	M	A	A	A	A	A	A	A	A	A
Argentina	C2	G	G	G	n/a	C2	n/a	C2	C2	n/a	C2	n/a	n/a
Bangladesh	A	G	G	G	A	A	A	A	A	A	A	A	A
Brazil	C2	C2	C2	C2	n/a	C2	C2	C2	C2	n/a	C2	C2	C2
China	G	G	G	G	n/a	G	n/a	n/a	n/a	A	n/a	n/a	n/a
Colombia	A	C2	C2	C2	A	A	A	A	A	A	A	A	A
Ghana	A	G	G	G	A	A	A	A	A	A	A	A	A
Haiti	A	M	M	M	A	A	A	A	A	A	A	A	A
India	C2	G	G	G	C2	C2	C2	C2	C2	n/a	n/a	n/a	C2
Indonesia	C2	G	G	G	C2	C2	G	C2	n/a	G	C2	C2	C2
Kenya	A	G	G	G	A	A	A	A	A	A	A	A	A
Malaysia	G	G	G	G	n/a	G	n/a	G	n/a	G	C2	C2	n/a
Mexico	A	G	G	G	A	A	A	A	A	A	A	A	A
Nigeria	A	M	M	M	A	A	A	A	A	A	A	A	A
Pakistan	A	G	G	G	A	A	A	A	A	A	A	A	A
Peru	A	A	A	A	A	A	A	A	A	A	A	A	A
Philippines	A	G	G	G	A	A	A	A	A	A	A	A	A
South Africa	A	G	G	G	A	A	A	A	A	A	A	A	A
Tanzania	A	A	A	A	A	A	A	A	A	A	A	A	A
Uganda	n/a	n/a	n/a	n/a	n/a	C2	n/a	W	n/a	n/a	C2	n/a	n/a

A The Alliance For Financial Inclusion (AFI). 2011. *Mobile Financial Services Working Group Survey*, March 2011. Bangkok, Thailand: AFI.
C1 Consultative Group to Assist the Poor (CGAP). 2009. "Financial Access 2009" Washington, D.C.: CGAP.
C2 CGAP. 2010. 'Updated Notes On Regulating Branchless Banking'. Working paper. Washington, DC: Consultative Group to Assist the Poor (CGAP).
F Financial Action Task Force (FATF). 2011. "Improving Global AML/CFT Compliance: update on-going process", Paris, France: FATF
G GSM Association (GSMA). 2010. Regulatory Database, December 2010. London, U.K.: GSMA.
M Expert interview by the World Economic Forum
W The World Bank. 2009. "Banking the Poor" Washington, DC: CGAP.
n/a Not available

List of Acronyms

AML	anti-money laundering
ATM	automated teller machine
B2B	business-to-business
CFT	combating the financing of terrorism
CGAP	Consultative Group to Assist the Poor
FATF	financial action task force
G2P	government-to-person
GPFI	Global Partnership for Financial Inclusion
GSM	global system for mobile communications
GSMA	Groupe Speciale Mobile Association
ICT	information and communications technologies
KYC	know your customer
m-banking	mobile phone banking
MFI	microfinance institution
MFS	mobile financial services
m-money	mobile money
MMT	mobile money transfer
MNO	mobile network operator
MVNO	mobile virtual network operator
m-payments	mobile phone payments
m-wallet	mobile wallet
P2B	person-to-business
P2P	person-to-person
POS	point-of-sale
SIM	subscriber identity module
SMS	short message service
STK	SIM toolkit
SSFI	specialized state financial institution
telco	telephone company
USSD	Unstructured Supplementary Services Data
WAP	wireless application protocol

About the Authors

Her Royal Highness Princess Máxima of the Netherlands, United Nations Secretary-General's Special Advocate for Inclusive Finance for Development

Her Royal Highness Princess Máxima is an active global voice on the importance of inclusive finance for reducing poverty and achieving development goals. Designated in 2009 by UN Secretary-General Ban Ki-moon as his Special Advocate for Inclusive Finance for Development, Princess Máxima works with governments, financial regulators, standard setters, parliaments, intergovernmental organizations, civil society, the private sector and the media to raise awareness and foster action.

As Special Advocate, Princess Máxima encourages universal access, at a reasonable cost, to a wide range of financial services, provided by a diversity of sound and sustainable institutions for individuals and small- and medium- sized enterprises (SMEs). Access to savings is especially important. As a means to an end, financial services can have powerful impact when they are combined with access to basic needs. Consumer protection and enhanced financial literacy are also important elements of financial inclusion. As Special Advocate and Honorary Chair in 2010 of the G-20 SME Finance Data Working Group, the Princess emphasizes the need for quality data for decision-making.

Princess Máxima also advocates for financial inclusion and education, especially for youth, in her own country. The Princess has served on the Dutch Council on Microfinance since 2006 and became Honorary Chair of the national partnership "CentiQ, Wiser in Money Matters" in 2010. Princess Máxima previously served on the UN Advisors Groups to the International Year of Microcredit (2005) and on Inclusive Financial Sectors (2006-2009).

James Bilodeau

James Bilodeau is an Associate Director and Head of the Emerging Markets Finance Group at the World Economic Forum USA. At the Forum he has led initiatives related to financial system development, the private finance of infrastructure, and mobile financial services. He joined the Forum following 10 years of management consulting and research experience, primarily in the areas of financial services and information technology. While working at the Corporate Executive Board in Washington, DC, he led research initiatives on topics such as the provision of financial services to lower income consumers, emerging enterprise applications for wireless technology, and IT-enabled collaboration. Mr. Bilodeau also worked as a strategy consultant with Arthur D. Little, Inc. He has an MBA with concentrations in Finance and Strategic Management from the University of Chicago and a BA (honors) in East Asian Studies from Brown University. He completed a fellowship at Keio University in Tokyo, Japan, as the recipient of the Monbusho Japan Studies Scholarship and was a Global Leadership Fellow at the Forum.

Tilman Ehrbeck

Tilman Ehrbeck is the CEO of the Consultative Group to Assist the Poor (CGAP). Prior to joining CGAP, he was a partner with management consulting firm McKinsey & Company, where he held a series of leadership positions in the firm's global Banking & Securities and Healthcare Payor & Provider Practices. He has worked in Africa, Asia, Europe, and North America. He was part of the leadership of the firm's Indian operations in 2005–2009. Over the past 10 years, he has advised a number of governments, micro-finance networks, foundations, and commercial players on a variety of financial inclusion issues ranging from new products and services aimed at better meeting underlying end-user needs, to new business models significantly lowering operating costs, to enabling infrastructure and policy interventions. Ehrbeck holds a Ph.D. in Economics from the European University Institute, the graduate school and research center sponsored by the European Union, and an undergraduate degree from the University of Hamburg.

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Salah Goss is an Associate Program Officer in the Financial Services for the Poor initiative at the Bill & Melinda Gates Foundation. Salah works on mobile money projects, savings-led community managed micro-finance, and financial sector deepening in Africa, South East Asia and the Caribbean. Prior to joining the foundation, she worked on several financial service projects for Development Alternatives, Inc. As a Financial Analyst at Sanabel Microfinance Network of Arab Countries, in Cairo, Egypt, she supported micro-finance institutions from twelve Middle Eastern and North African countries and contributed to The MIX Benchmarking Arab Microfinance 2006. Currently, in her role at the foundation, she draws on her past experience as Grants Administrator for the West Africa Regional Office of the Soros Foundation to use innovative grantmaking tools such as challenge funds and prizes. She is a graduate of The Paul H. Nitze School of Advanced International Studies at Johns Hopkins University and is proficient in French and speaks beginning Arabic.

William Hoffman

William Hoffman heads the World Economic Forum's Telecommunications Industry Group, where he supports a global community of industry partners in addressing some of the world's most pressing challenges. Along with his work related to mobile financial services, areas of focus at the Forum include a cross-industry initiative on personal data and the scaling of mobile health solutions. Additionally, William leads the Information and Communications Technology Industry Agenda Council–a community of nineteen of the world's leaders in ICT. Prior to joining the World Economic Forum, William was the Director of Enterprise Marketing at AT&T. With extensive experience in the communications industry, he has a broad background with emerging technologies and strategic planning. William holds a Bachelor's degree from the S.I. Newhouse School of Public Communications at Syracuse University as well as a Master's degree from the Annenberg School for Communications at the University of Pennsylvania.

Sean Krepp

Sean has overall responsibility for Grameen Foundation's operations and programs in Uganda, ensuring the ongoing delivery of impact, while scaling and developing sustainable business models for the CKW initiative and new AppLab Uganda initiatives such as mobile financial services. Sean came to Grameen Foundation with over 11 years of ICT experience, including extensive work in the African context. From 2008-2010, Sean served as Head of Emerging Market Services, Middle East and Africa, at Nokia, where he and his team developed mobile services such as Nokia Ovi's Life Tools, aimed at supporting poor farmers and their families with mobile services in agriculture, education, and health. In addition, Sean previously served as Deputy Head of Nokia's EU office, and held the role of secretary of the EU Africa Business Forum. He has served in various roles in strategy, marketing, product, and business development throughout his career. He is also a recent graduate of the TRIUM Global Executive MBA (NYU Stern, LSE and HEC Paris) program.

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Ignacio Mas is a Senior Advisor for the Financial Services for the Poor program at the Bill & Melinda Gates Foundation. Most recently, he served as a Senior Adviser in the Technology Program at CGAP. Prior to joining CGAP in September 2007, Ignacio was Executive Vice President of Marketing and Account Management at interTouch (an NTT-DoCoMo Group Company), Director of Global Business Strategy at Vodafone Group, and Senior Manager responsible for telecommunications investments in Europe at Intel Capital (Intel Corp's venture capital arm). He has also been a consultant, and was at the World Bank in the early part of his career, where he worked on financial sector reforms in Latin America as well as in the Treasury department. Ignacio has been a Visiting Professor of International Business at the Graduate School of Business at the University of Chicago. Ignacio holds undergraduate degrees in mathematics and economics from MIT and a PhD in economics from Harvard University.

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Olga Morawczynski is the mobile financial services manager at AppLab in Uganda, an initiative of the Grameen Foundation. Olga spent four years studying the adoption, usage and impact of M-PESA as part of her doctoral degree. She has also studied mobile money and branchless banking systems in other countries including India, Pakistan, Tanzania and Uganda. Olga has collaborated with several partners during her research including CGAP, Microsoft Research India and the Bill & Melinda Gates Foundation. Olga's work has received recognition. She was awarded a PhD scholarship by Microsoft Research. Her paper on M-PESA was also noted by the GSMA Development Fund as being in the "top 20" of the field. Olga is currently setting up a testing ground for new mobile financial services at AppLab. She has recently completed a pilot that examines how mobile money agents can act as savings mobilizers.

Sjoerd Nikkelen

Sjoerd Nikkelen works as a project manager for the Mobile Financial Services Development Report 2011 at the World Economic Forum USA. He has been seconded by the Boston Consulting Group's Amsterdam office, where he works as a strategy consultant focusing on telecommunications. Sjoerd received his MBA from Columbia Business School in New York in 2009 and his MSc in Telecommunication Engineering from Delft University of Technology in the Netherlands in 2004. Since his selection as a youth representative by the International Telecommunication Union (ITU) in 2003, he has been passionate about the potential of telecommunications for development and has been a panelist and spokesperson in multiple ITU events.

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Evelyn Stark is a Senior Program Officer in the Financial Services for the Poor team in the Global Development Program at the Bill & Melinda Gates Foundation. Evelyn's work with the team is focused on product design, marketing and innovations that increase the relevance of financial services for poor people and lead to greater financial inclusion. After working in US commercial banks for the better part of a decade, she moved to Uganda where she spent six years in Uganda and the region working on short and long-term assignments in micro-finance: developing curriculum, delivering training and technical assistance primarily on market research and product development. She also managed donor-funded projects and provided evaluation and research services to both MFIs and international organizsations. In 2003 Evelyn joined USAID's office of Microenterprise Development where she managed a grant portfolio focused on products and services intended to extend financial inclusion to underserved populations in Sub-Saharan Africa and the Middle East and North Africa, particularly populations such as youth, those affected by conflict, and the very poor. She worked at CGAP on the Expanding Access agenda before joining the foundation in late 2008.

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Michael Tarazi is a Senior Policy Specialist at the Consultative Group to Assist the Poor (CGAP). Michael joined CGAP in 2008 as a member of CGAP's Government & Policy Team. He leads the team's efforts in the area of branchless banking regulation and has worked with regulators around the world to develop regulatory frameworks. He led CGAP's regulatory efforts in the Maldives and has worked in countries such as Nigeria, Rwanda, Fiji, Haiti and Jordan. He is a co-author of Regulating Banking Agents, Nonbank E-Money Issuers: Regulatory Approaches to Protecting Customer Deposits, and Islamic Microfinance: An Emerging Market Niche. Michael teaches branchless banking at the Boulder Institute for Microfinance. He also was chosen as a Young Global Leader by the World Economic Forum and is a member of the Forum's Dialogue Series on Access to Finance through Technology. Prior to joining CGAP, Tarazi was a corporate attorney in private practice and served as the European General Counsel to a U.S. company providing finance-related technological services to developing countries. He also served as an advisor to Israeli-Palestinian peace negotiations. Tarazi holds a bachelor's degree from Harvard University and a law degree from Harvard Law School.

The promise of mobile phones has never been greater in empowering the world's poor to better manage their financial lives and protect themselves against adverse events. Although a growing body of research exists on the development of mobile financial services, little of the available literature investigates these developments across countries. To address this gap, the World Economic Forum has undertaken an ongoing initiative to provide business leaders and policymakers with a common framework for identifying and discussing the key factors in the development of mobile financial services.

The *Mobile Financial Services Development Report 2011*, in its first edition, assesses the development of the mobile financial services ecosystem by measuring the key drivers of adoption and scale across the institutional, market and end-user environments. This assessment centers on Country Profiles for 20 economies in Africa, the Middle East, Asia and Latin America. The *Report* aims to provide a comprehensive means for countries to benchmark the various aspects of their mobile financial services and establish priorities for improvement.

The *Report* measures each country along a framework developed by the World Economic Forum in collaboration with the academic community, multilateral organizations, and business leaders. It assembles a vast amount of data to create a holistic assessment of the different aspects of mobile financial systems. Data used in the Country Profiles are fully annotated and clearly presented. Essay contributions elaborate on how mobile financial services are utilized by end-users and what approaches are needed in the regulatory and market environments to take mobile financial services to a higher level and realize greater financial inclusion.

Written in a nontechnical language and style, the *Report* appeals to a large audience of policymakers, business leaders, academics, and civil society organizations.

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