

Measuring Financial Inclusion

Explaining Variation Across and Within Countries

Asli Demirguc-Kunt and Leora Klapper *

Abstract: This paper summarizes the first publicly available, user-side dataset of indicators that measures how adults in 148 countries save, borrow, make payments, and manage risk. We use the data to benchmark financial inclusion around the world and investigate the significant country- and individual-level variation in how adults use formal and informal financial systems to manage their day-to-day finances and plan for the future. While the data show that 50 percent of adults worldwide have an account at a formal financial institution, account penetration varies across countries by economic development and across income groups within countries. Although half of adults around the world remain unbanked, reported barriers to account use—such as cost, distance and documentation requirements—may shed light on potential market failures and provide guidance to policymakers in shaping financial inclusion policies.

Keywords: Financial Inclusion; Financial Institutions; Emerging Markets

JEL Codes: G2, G21, O16

* Demirgüç-Kunt: World Bank, ademirguckunt@worldbank.org; Klapper: World Bank, lklapper@worldbank.org. We thank Franklin Allen, Oya Pinar Ardic Alper, Thorsten Beck, Massimo Cirasino, Robert Cull, Pascaline Dupas, Maya Eden, Tilman Ehrbeck, Michael Fuchs, Xavi Gine, Markus Goldstein, Ruth Goodwin-Groen, Raul Hernandez-Coss, Richard Hinz, Jake Kendall, Aart Kraay, Alexia Latortue, Sole Martinez Peria, Ignacio Mas-Ribo, Jonathan Morduch, Nataliya Mylenko, Mark Napier, Douglas Pearce, Bikki Randhawa, Liliana Rojas-Suarez, Richard Rosenberg, Armida San Jose, Kinnon M. Scott, Peer Stein, Gaiv Tata, Jeanette Thomas, Klaus Tilmes, Asli Togan Egrican, Augusto de la Torre, Rodger Voorhies, and Alan Winters for their valuable and substantive comments during various stages of the project. The team is also appreciative for the excellent survey execution and related support provided by Gallup, Inc. under the direction of Jon Clifton. We are especially grateful to the Bill & Melinda Gates Foundation for providing financial support making the collection and dissemination of the data possible. This paper was prepared with outstanding assistance from Atisha Kumar and Douglas Randall. This paper's findings, interpretations, and conclusions are entirely those of the authors and do not necessarily represent the views of the World Bank, their Executive Directors, or the countries they represent.

1. Introduction

Well-functioning financial systems serve a vital purpose, offering savings, payment, credit, and risk management products to people with a range of needs. More inclusive financial systems—allowing broad access to appropriate financial services—are likely to benefit poor people and other disadvantaged groups. For instance, access to formal savings and credit mechanisms may facilitate investment in productive activities such as education or entrepreneurship. In the absence of access to formal financial services, individuals rely on their own limited, informal savings to invest in their education or become entrepreneurs—and small enterprises on their limited earnings to take advantage of promising growth opportunities. This can contribute to persistent income inequality and slower economic growth.¹

This paper explores country- and individual-level variation in how adults around the world use formal and informal financial products to manage their finances and plan for the future. We define financial inclusion as the use of formal financial services and investigate how patterns of financial inclusion vary across countries at different levels of income and within countries at different levels of relative income. Next, we examine the barriers to financial inclusion and document the relationship between subjective and objective barriers to access. Finally, we discuss examples of public and private sector-led initiatives in this realm and how better data can inform policymakers in shaping financial inclusion policies. Although the literature and data provide suggestive evidence of market failures and potential welfare gains from greater financial inclusion, we emphasize that the role for our data is to help policy makers better understand the existence of these failures, rather than advocate specific policy interventions.

¹ See, for example, King and Levine (1993); Beck, Demirguc-Kunt, and Levine (2007); Beck, Levine, and Loayza (2000); Demirguc-Kunt and Levine (2009); Klapper, Laeven, and Rajan (2006); and World Bank (2008a).

Our paper contributes to a growing literature examining household finance and especially the borrowing and savings decisions of households.² Qualitative evidence from financial diaries demonstrates that poor people juggle complex financial transactions every day and use sophisticated techniques to manage their finances, irrespective of whether they use formal financial instruments or not (Collins et al., 2009). Evidence from field experiments highlights that people with access to savings accounts or simple informal savings technologies are more likely to increase consumption, productivity and income, investment in preventive health, and reduce vulnerability to illness and other unexpected events (Dupas and Robinson 2009, 2011, Ashraf, et al., 2010). Yet the evidence from field experiments that increase access to microcredit find more modest effects in promoting investment and entrepreneurship, mostly for households with existing businesses (Banerjee and Duflo, 2010, Karlan and Murdoch, 2010).

Until now, little had been known about the global reach of the financial sector—the extent of financial inclusion and the degree to which groups such as the poor are excluded from formal financial systems. Systematic indicators on the use of different financial services had been lacking for most countries.

The Global Financial Inclusion (“Global Findex”) database provides such indicators, measuring how adults in 148 countries around the world manage their day-to-day finances and plan for the future. The indicators are constructed with survey data from interviews with more than 150,000 nationally representative and randomly selected adults over the 2011 calendar

² For a detailed literature review, see World Bank (2008a) and references therein. Campbell (2006) also provides an overview of the household finance field.

year.³ The individual-level data is publicly available online and includes over 40 indicators related to account ownership, payments, saving, borrowing, and risk management.⁴

Consistent with previous findings, the Global Findex data show that the vast majority of adults actively use financial products— formal or informal – to manage their finances and plan for the future. We find that 75 percent of adults worldwide use at least one of the financial management tools included in the Global Findex survey, while half of all adults report having an individual or joint account at a formal financial institution. These accounts are used for a wide range of purposes including receiving wage payments, government transfers, and remittances from family living elsewhere.

On the country-level, the Global Findex data show sharp disparities in the use of financial services between high-income and developing countries, confirming the findings of previous studies (see, for example, Beck, Demirguc-Kunt, and Martinez Peria (2007); and Cull, Demirguc-Kunt, and Morduch, 2013). For instance, the share of adults in high-income countries with an account at a formal financial institution is more than twice that in developing countries.

On the individual-level, the data also show significant variation in financial inclusion within countries, across individual characteristics such as income. Around the world, wealthier adults make greater use of formal financial services, even after controlling for other individual characteristics and country fixed effects. For instance, in developing countries, adults in the highest 20 percent of income earners are more than twice as likely to have an account as those in the lowest 20 percent of earners.

Novel cross-country data on self-reported reasons for not having a formal account make it possible to identify barriers to financial inclusion. Moreover, the ability to disaggregate data by

³ The Bill & Melinda Gates Foundation funded three triennial rounds of data collection through the complete questionnaire. The next data collection will be in 2014.

⁴ The database and questionnaire are available at: <http://www.worldbank.org/globalfindex>

individual characteristics allows researchers and policy makers to identify population groups that are excluded from the formal financial system and better understand what characteristics are associated with certain financial behaviors.

Worldwide, by far the most common reason for not having a formal account—cited as the only reason by 30 percent of non-account-holders—is lack of enough money to use one. This speaks to the fact that having a formal account is not costless in most parts of the world and that individuals with small or irregular income streams might view an account as an unnecessary expense given the relatively high cost. Other common reasons reported for not having an account are that banks or accounts are too expensive (cited by 25 percent of adults without a formal account) and that banks are too far away (cited by 20 percent).

We examine the percentage of adults that put aside money, or saved, in the past year, and find that most savings in developing countries is done informally—even for adults that have an account. Worldwide, 36 percent of adults report having saved or set aside money in the past year. 22 percent of adults who reported saving (formally or informally) said they did so using a formal financial institution in the past 12 months. We also discuss informal savings and differences in the mode of savings across different income groups. In developing countries, for instance, 12 percent of account holders save using informal methods. The use of informal community-based savings methods (such as rotating savings clubs) is also widespread, particularly in Sub-Saharan African countries such as Nigeria, Cameroon, and Kenya.

We also find that most borrowing by adults in developing countries is from informal sources. Globally, 9 percent of adults report having originated a new loan from a formal financial institution in the past 12 months. But in developing countries, adults are three times as likely to borrow from family and friends as from formal financial institutions. In high-income countries,

the most commonly cited purpose of an outstanding loan is to purchase a home, while emergency and health reasons are most frequently cited by adults in the developing world.

Finally, we provide new data to examine recent initiatives to expand financial inclusion. For instance, in Kenya, 68 percent of adults in our sample report having used a mobile phone in the past 12 months to pay bills, send or receive money, of whom 41% are otherwise unbanked. The spread of mobile money products, the increasing proliferation of bank agents, and the increasing movement towards dispensing government payments via formal accounts all offer potential to significantly alter the ways in which adults manage their finances. Future rounds of data will allow us to document the pace of change in these behaviors.

The rest of the paper proceeds as follows. Section 2 defines and summarizes our financial inclusion indicators. Section 3 documents across- and within-country variation in the use of formal and informal financial services. Section 4 discusses self-reported barriers to financial inclusion. Section 5 discusses recent initiatives to expand financial inclusion and section 6 concludes.

2. Indicators and Methodology

The Global Findex indicators measure the *use* of financial services, which is distinct from *access* to financial services. *Access* most often refers to the supply of services, while use is determined by demand as well as supply factors.⁵ *Use* refers to the levels and patterns of use of different financial services among different groups, such as poor people, youth, and women. We cannot assume that all those who do not use formal financial services are somehow constrained from participating in the formal financial sector—access and use are not the same thing. The role of policy is to broaden financial inclusion to reach those that are excluded due to market failures.

⁵ World Bank 2008a.

2.1 *Indicators*

The first set of indicators focuses on the ownership and use of an account at a formal financial institution. For most people, a formal account serves as an entry point into the formal financial sector. A formal account facilitates the transfer of wages, remittances, and government payments. It can also encourage formal saving and open access to credit. Accounts are also a simple and consistent metric that facilitate the measurement of financial inclusion across countries. The ownership and use of accounts are relatively clear cut and basic checking and savings accounts are fairly similar across countries.

The Findex survey includes several questions on accounts that investigate the mechanics of the use of accounts (frequency of use, mode of access); the purpose of accounts (receipt of payments from work, government, or family); barriers to account use; and alternatives to formal accounts (mobile money).

Importantly, the account penetration indicator measures individual or joint ownership of formal accounts—accounts at a formal financial institution such as a bank, credit union, cooperative, post office, or microfinance institution. It includes those who report having a debit or ATM card tied to an account.

The second set of indicators focuses on savings behavior. Savings allow individuals to smooth consumption, make large investments in education or starting a business, and mitigate uncertainty and risk. The concept of savings is inherently more subjective than questions about account ownership and use. Individuals and cultures may have varying definitions of what constitutes “saving.” We focus on the purposeful action of saving, surveyed by asking individuals “have you saved or put aside any money” in the past year. We collect data on general savings behavior, as well as the use of formal accounts and community-based methods to

save. In doing so, we highlight the distinction between formal and semi-formal saving and the case where individuals simply consume less than their income. Individuals may save in the latter case as well (perhaps using informal means such as saving under a mattress), but we are particularly interested in use of formal accounts for savings.

The third set of indicators focuses on borrowing. Most people need to borrow money from time to time. They may want to buy or renovate a house, to invest in education, or to pay for a wedding or funeral. When they lack enough money to do so, they turn to someone who will lend it to them—a bank, a cousin, or an informal lender. And in some parts of the world many people may rely on credit cards to obtain short-term credit. We gather data on the sources of borrowing (formal and informal); purposes of borrowing (mortgage, emergency or health purposes, and the like); and use of credit cards.⁶

2.2 *Data coverage*

The Global Findex indicators are drawn from survey data collected over the 2011 calendar year, covering more than 150,000 adults in 148 countries and representing approximately 97 percent of the world’s population. The survey was carried out by Gallup, Inc. in association with its annual Gallup World Poll. The Gallup World Poll has been used in previous academic studies, mostly to study wellbeing and social capital. For example, Deaton (2008) uses Gallup World Poll questions on life and health satisfaction and looks at the

⁶ In a few instances surveyors and supervisors reported that respondents were somewhat taken aback at the series of questions, given the personal nature of the topic. This concern was particularly relevant in countries with large security risks, such as Mexico and Zimbabwe, and in countries where personal finance is widely regarded as a private matter, such as Cameroon, Italy, and Portugal. There were also reports from the field that the terminology and concepts used in the survey were entirely new to some respondents. Although efforts were made to include simple definitions of such terms as accounts and debit cards, the unfamiliarity and complexity of the topic were still reported to be a hurdle in several countries, including Afghanistan, Cambodia, Chad, and rural Ukraine. Overall, however, the rate of “don’t know” or “refuse” answers was very low. For the core questions (those not filtered by other questions), “don’t know” or “refuse” responses made up less than 1 percent of the total and no more than 2 percent in any region.

relationships with national income, age, and life expectancy. Gallup World Poll questions are also used by Stevenson and Wolfers (2008) and Sacks, Stevenson, and Wolfers (2010) as part of their research to analyze relationships between subjective well-being and income; by Clausen, Kraay, and Nyiri (2011) to analyze the relationship between corruption and confidence in public institutions; by Demircuc-Kunt, Klapper, Peter Van Oudheusden, and Zingales (2013) to study changes in trust in banks over the financial crisis; and by Stevenson and Wolfers (2011) to examine trust in institutions over the business cycle.

As part of the World Poll, since 2005, Gallup has surveyed about 1,000 people annually in each of up to 157 countries,⁷ using randomly selected, nationally representative samples.⁸ The target population is the entire civilian, noninstitutionalized population aged 15 and above. Surveys are conducted in the major languages of each economy.⁹

While broadly consistent, some nontrivial differences exist between the results of the Global Findex data and earlier efforts. Three key variations in user-side data include the definition of an account and its use, the units of measurement such as age cutoffs, and when the data was collected. Relative to other demand-side data efforts, one significant advantage of the Global Findex data is that it is consistent and comparable across countries. Two commonly cited cross-country user-side data collection efforts are the FinMark Trust's FinScope initiative, a specialized household survey in 14 African countries and Pakistan,¹ and the European Bank for

⁷ The worldwide aggregates omit countries for which Gallup excludes more than 20 percent of the population in the sampling either because of security risks or because the population includes non-Arab expatriates. These excluded countries are Algeria, Bahrain, the Central African Republic, Madagascar, Qatar, Somalia, and the United Arab Emirates. The Islamic Republic of Iran is also excluded because the data were collected in that country using a methodology inconsistent with that used for other countries (the survey was carried out by phone from Turkey). The exclusion of the Islamic Republic of Iran has a nontrivial effect on regional aggregates because its population is larger and wealthier than those of other countries in the Middle East and North Africa. For example, account penetration in the region is estimated to be 18 percent when the Islamic Republic of Iran is excluded but 33 percent when it is included.

⁸ In some countries oversamples are collected in major cities or areas of special interest. In addition, in some large countries, such as China and the Russian Federation, sample sizes of at least 4,000 are collected.

⁹ For details on the data collection dates, sample sizes, excluded populations, and margins of error, see: www.worldbank.org/globalindex.

Reconstruction and Development's Life in Transition Survey (LITS), which covers 35 countries in Europe and Central Asia and includes several questions on financial decisions as part of a broader survey. The Global Findex country-level estimates of account penetration are generally insignificantly different or higher than those of the FinScope surveys, perhaps because of the difference in timing (most of the FinScope surveys were carried out in the mid-2000s) and the variation in the definition of an account (Findex only includes accounts that can be used for both deposits and withdrawals). The Global Findex country-level estimates of account penetration are within 7 percentage points of the LITS estimates for the majority of countries, with discrepancies perhaps explained by the fact that the LITS financial access question is less descriptive than those in the Global Findex survey.¹⁰ Compared to data collected from the providers of financial services (financial institutions), the Global Findex data may fill a gap by going beyond data collected only from regulated financial institutions and allowing disaggregation of the data by demographic characteristics.¹¹

2.3 *Survey methodology*

The survey methodology for the Global Findex data is that used for the Gallup World Poll. Surveys are conducted face-to-face in countries where telephone coverage represents less

¹⁰ The exact question in the LITS survey is: "Does anyone in your household have a bank account".

¹¹ On the provider side, the International Monetary Fund collects indicators of financial outreach (such as number of bank branches and ATMs per capita and per square kilometer as well as the number of loan and deposit accounts per capita) directly from country regulators. These data sets are important sources of basic cross-country indicators developed at a relatively low cost. Yet indicators based on data collected from financial service providers have several important limitations. First, data are collected only from regulated financial institutions and thus provide a fragmented view of financial access. Second, aggregation can be misleading because of multiple accounts or dormant accounts (See Beck, Demirguc-Kunt and Martinez Peria for a discussion). Most important, this approach does not allow disaggregation of financial service users by income or other characteristics. That leaves policy makers unable to identify segments of the population with the lowest use of financial services, such as the poor, women, or youth.

than 80 percent of the population.¹² In most countries, the fieldwork is completed in two to four weeks. In countries where Gallup conducted face-to-face surveys, the identification of primary sampling units, consisting of clusters of households, constitutes the first stage of sampling. The primary sampling units are stratified by population size, geography, or both, and clustering is achieved through one or more stages of sampling. Where population information is available, sample selection is based on probabilities proportional to population size; otherwise, simple random sampling is used. Random route procedures are used to select sampled households. Unless an outright refusal occurs, interviewers make up to three attempts to survey the sampled household. If an interview cannot be obtained at the initial sampled household, a simple substitution method is used. Respondents are randomly selected within the selected households by means of the Kish grid.¹³

In countries where telephone interviewing is employed, random digit dialing or a nationally representative list of phone numbers is used. In selected countries where cell phone penetration is high, a dual sampling frame is used. Random respondent selection is achieved by using either the latest birthday or Kish grid method.¹⁴ At least three attempts are made to reach a person in each household, spread over different days and times of day.

¹² Croatia, the Czech Republic, Estonia, Greece, Hungary, Poland, Singapore, and the Slovak Republic are high-income countries where phone coverage is less than 80 percent and surveys are therefore conducted face to face. The Islamic Republic of Iran is the only developing economy where the survey is conducted by phone.

¹³ The Kish grid is a table of numbers used to select the interviewee. First, the interviewer lists the name, gender, and age of all permanent household members age 15 and above, whether or not they are present, starting with the oldest and ending with the youngest. Second, the interviewer finds the column number of the Kish grid that corresponds to the last digit of the questionnaire and the row number for the number of eligible household members. The number in the cell where the column and row intersect is the person selected for the interview. In countries where cultural restrictions dictate gender matching, respondents are randomly selected using the Kish grid from among all eligible adults of the interviewer's gender.

¹⁴ In the latest birthday method an interview is attempted with the adult in the household who had the most recent birthday.

2.4 *Data weighting*

Data weighting is used to ensure a nationally representative sample for each economy. First, base sampling weights are constructed to account for oversamples and household size. If an oversample has been conducted, the data are weighted to correct the disproportionate sample. Weighting by household size (number of residents age 15 and above) is used to adjust for the probability of selection, as residents in large households will have a disproportionately lower probability of being selected for the sample. Second, post-stratification weights are constructed. Population statistics are used to weight the data by gender, age, and, where reliable data are available, education or socioeconomic status. Finally, approximate study design effect and margin of error are calculated. The average country-level margin of error for the account penetration indicator is plus or minus 3.9 percent. All income group aggregates are also weighted by country population (age 15 and above).

3. Individual- and Country-level Variation in Financial Inclusion

In this section, we discuss the main findings from the Global Findex database to highlight broad patterns in financial inclusion across the globe. We focus on several indicators that we believe are particularly important to understanding the financial behavior of adults, including the ownership and use of formal accounts, the prevalence of formal and informal savings behavior, and the source and purposes of borrowing. We first examine country-level variation in account penetration across economies and regions. Next, we focus on differences in the use of financial products across individuals, and how disparities by individual characteristics vary across countries. We also identify trends in account ownership such as frequency and mode of use. In the next sub-section, we discuss savings behavior. In particular, we identify trends in the use of

formal and informal methods of savings across economies and income groups within countries. In the last sub-section, we highlight patterns in access to and sources of credit worldwide.

The variation in the data—pertaining to accounts, savings and credit—highlights differences in countries’ levels of financial inclusion. It also emphasizes that not only does the nature of the use of financial services, such as frequency of account use or purpose of credit, vary across countries, but it may be widely divergent within any given country. By focusing on both within- and cross- country inequality, we identify patterns in the data that may be useful to governments in informing their financial inclusion strategies and private sector actors in new product development.

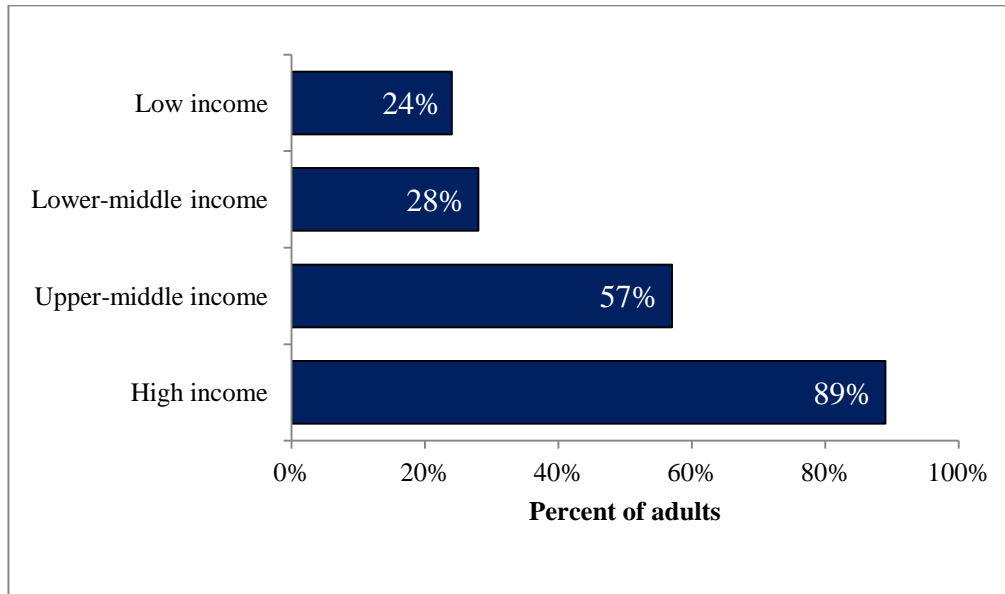
3.1 Accounts and payments

3.1.1. Explaining Variation in Account Penetration

Account penetration differs enormously between high-income and developing countries. While the proportion of banked adults in high-income countries is large, with 89 percent of adults reporting that they have an account at a formal financial institution, it is only 24 percent in low income countries (figure 1). Globally, 50 percent of the world’s population - more than 2.5 billion adults - does not have a formal account. The majority of this group resides in developing countries.¹⁵ In several countries around the world—including Cambodia, the Democratic Republic of Congo, Guinea, the Kyrgyz Republic, Turkmenistan, and the Republic of Yemen—more than 95 percent of adults do not have a formal account (map 1).

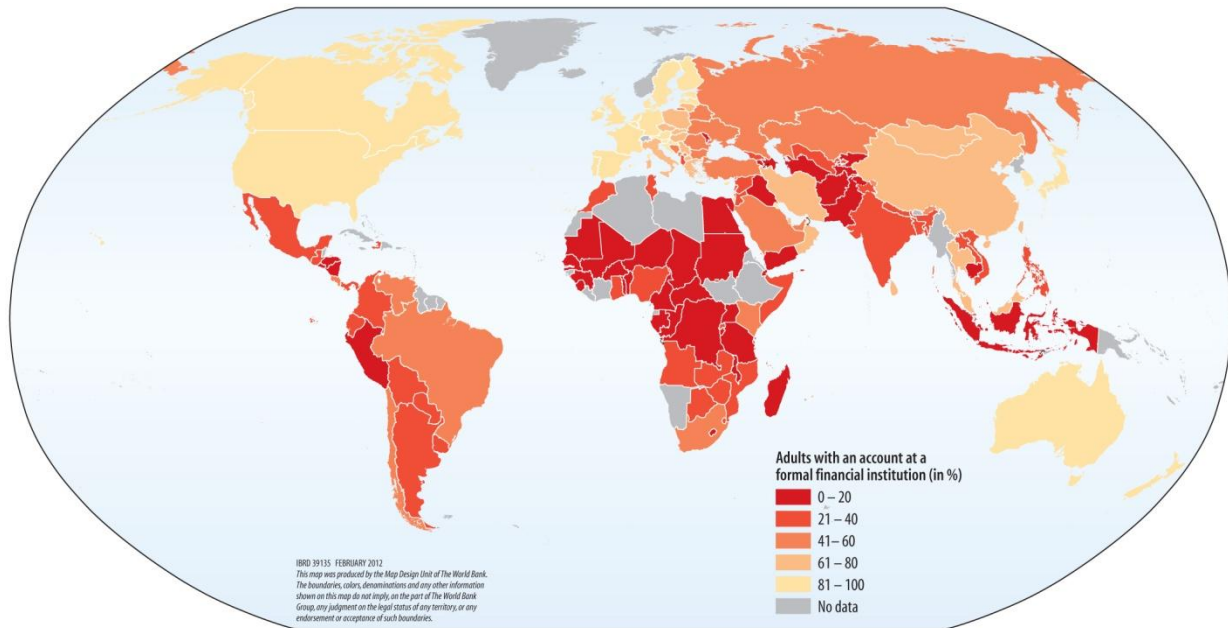
¹⁵ According to the latest available data from the World Bank’s World Development Indicators database, there are 5.08 billion adults age 15 and above worldwide.

Figure 1: Has an Account at a Formal Financial Institution, by Income Group



Source: Authors

Map 1: Has an Account at a Formal Financial Institution, by Economy



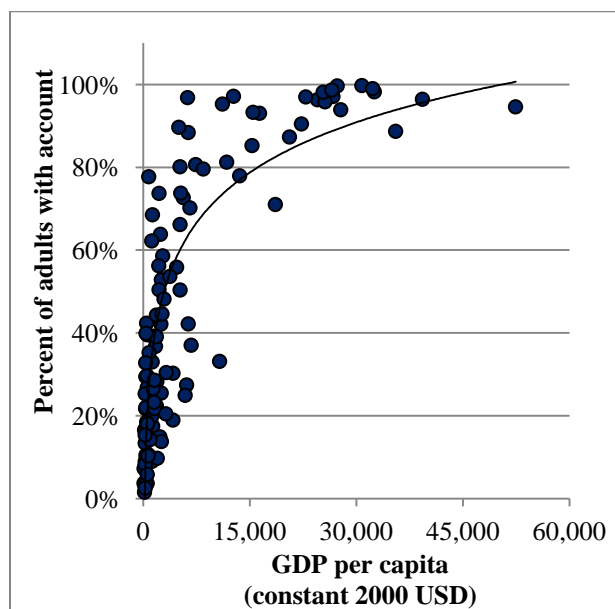
Source: Authors

Why is account penetration in Denmark considerably high while it remains almost negligible in Niger? GDP per capita accounts for much of the variation in account penetration

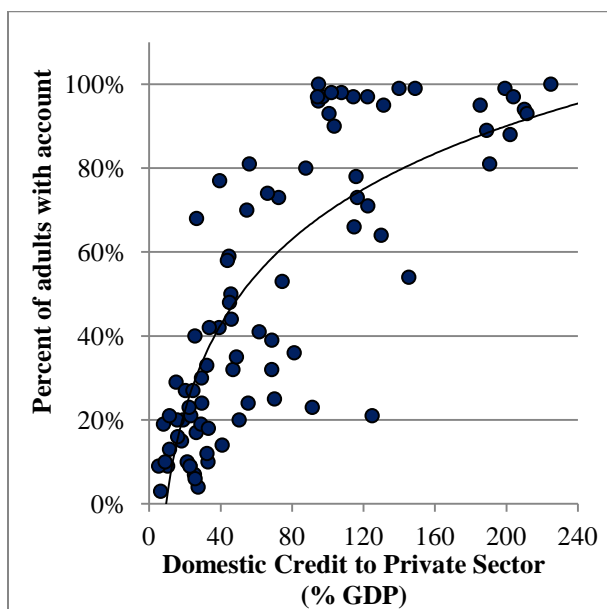
across countries (figure 2). Denmark is among the world’s richest countries while Niger is among the poorest. In most countries with a GDP per capita of \$15,000 or higher, account penetration is usually 90 percent or higher.¹⁶ Indeed, regression analysis shows that national income is significantly associated with account penetration and accounts for about 77 percent of the variation among the world’s countries in the share of adults with a formal account (table 1, column 1). Country-level regressions also show that while adults in low-income countries are 44% less likely to have an account than adults in high-income countries, adults in upper-middle countries are only 7% less likely. We find no significant differences between adults in low-income versus lower-middle-income countries, but find a significant gap between these lower two income categories and adults in upper-middle income countries (table 1, column 2).

Figure 2: Financial Inclusion, GDP Per Capita, and Financial Development, All countries

Panel A: GDP Per Capita



Panel B: Financial Development



Source: Authors and WB-WDI Statistics

¹⁶ Exceptions include, for example, Italy (with an account penetration of 71 percent) and the United States (88 percent).

National-level financial development —domestic credit to the private sector as a percentage of GDP—is also significantly associated with account penetration, even when controlling for GDP per capita (table 1, column 3). However, large amounts of credit in a financial system—both commercial and consumer—do not always correspond to the broad use of financial services, because the credit can be concentrated among the largest firms and wealthiest individuals. For instance, the ratio of domestic credit to the private sector amounts to 125 percent of GDP in Vietnam, but only 21 percent of adults in the country report having a formal account. Conversely, in the Czech Republic, with relatively modest financial depth (with domestic credit to the private sector at 56 percent of GDP), account penetration is relatively high (81 percent).

This suggests that financial depth and financial inclusion are related, but ultimately distinct dimensions of financial development—and that financial systems can become deep without delivering access for all. A more formal investigation of the country-level determinants of financial inclusion is beyond the scope of this paper, but the theme is explored further using Global Findex data in Allen et al. (2012).

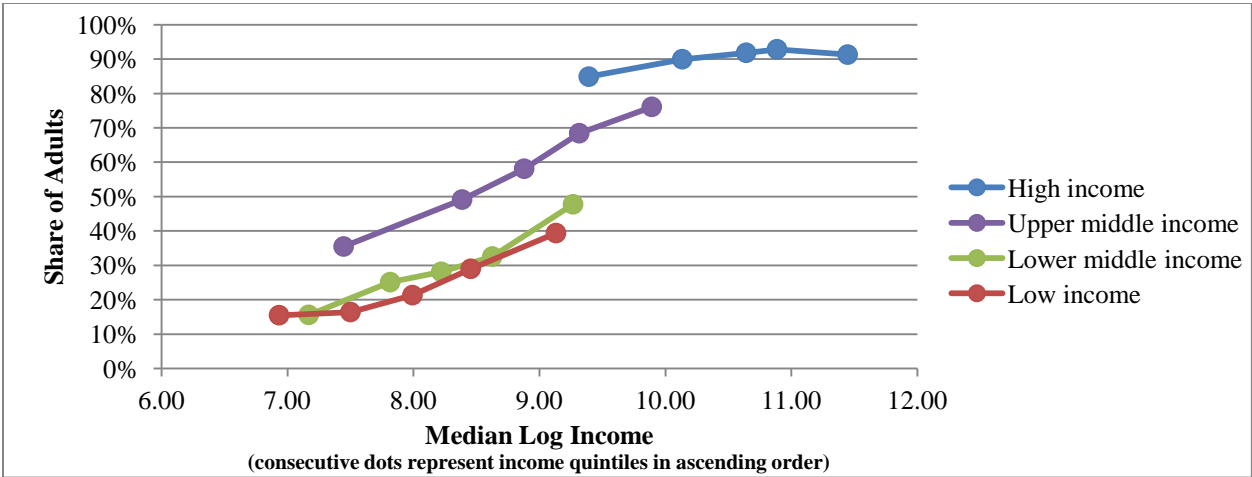
3.1.2. Account Penetration across Individual Characteristics

Beyond cross-country variation, there is also significant variation in account penetration across individuals within a given country. Examining account penetration by within-economy income quintiles highlights differences among the poor across within country-level income groups (figure 3). The difference in the slope of the lines in figure 3—that is, the difference in account penetration between income quintiles (indicated by consecutive dots)—is a rough measure of the gap in financial inclusion between the rich and poor within a given country.

Because the upper limit is 100 percent, there is little absolute difference in length between the dots for high-income countries. In these countries, on average, poorer adults are not significantly less likely than richer adults to have a formal account. But stark differences exist in account penetration within most developing countries. In upper-middle income countries, the slope of the line is very steep, but relatively constant. The richest adults in these countries are more than twice as likely as the poorest adults to have a formal account, with an approximate 10 percentage point gap separating each of the quintiles. In lower-middle income countries, there are sharp differences between the poorest and middle-class, as well as between the middle-class and the rich, highlighted by the kinks in the curve. In low income countries, account ownership does not vary significantly across the bottom two income quintiles, but it increases steadily as income increases after that point.

It is also striking that account penetration in the poorest quintile in high-income countries is 9 percentage points higher on average than in the richest quintile in upper-middle income countries. And account penetration in the richest quintile in low income countries is only 2 percentage points higher than in the lowest income in upper-middle income countries.

Figure 3: Has an Account at a Formal Financial Institution, by country-level income and within-country income quintiles



Source: Authors

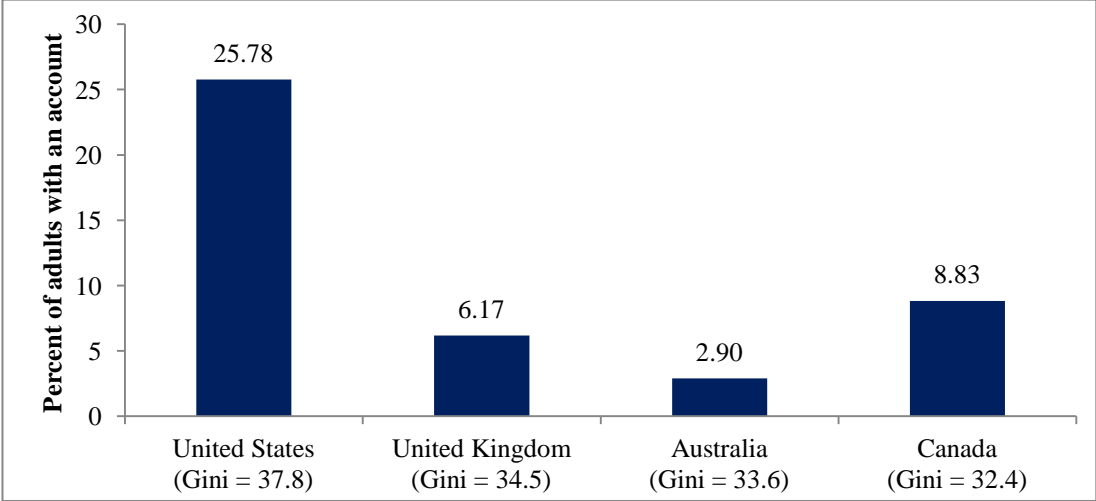
We also estimate multivariate probit models using individual-level data to test the relationship of account ownership and income quintiles, controlling for other individual characteristics such as gender, age, education, marital status, household size, employment, and rural/urban residence. Table 2 (columns 1-4) presents marginal effects for income quintiles 1-4 (the richest income quintile is the excluded category), which show significant differences in the within-country “financial inequality” across income groups. We find that in all country-level income groups, adults in the highest within-country income quintile are significantly more likely to be banked. For instance, in high-income countries, the poorest 20 percent of earners are 5 percent less likely to have an account than the richest 20 percent of earners. In upper-middle income countries, the poorest 20 percent of earners are 24 percent less likely and in low-income countries, the poorest earners are 13 percent less likely.

These findings may be explained in part by differences in economic inequality across income-groups. Indeed, we find a strong correlation between within-country inequality in the use of formal accounts and between-country income inequality as measured by the Gini coefficient (with higher values indicating a more unequal income distribution). The correlation between these two measures of financial and economic inequality (0.42) shows a strong and significant relationship. This association continues to hold even when controlling for national income (table 1, column 4).

Consider the example of the United Kingdom and the United States (figure 7). These two countries have relatively similar GDP per capita and relatively similar account penetration among adults in the top four income quintiles (92 percent in the United States and 98 percent in the United Kingdom). But the Gini coefficient in the United Kingdom is smaller than in the United States—which may help explain the sharp difference in account penetration in the poorest

income quintile. In the United States, 26 percent of adults in this group report having no formal account while the corresponding number for the United Kingdom is 6 percent. Such differences serve to reinforce the hypothesis that while the correlation between per capita income or income inequality and account penetration explains some variation in the use of financial services, it by no means explains all of it. Further, significant differences exist within any given country as well. For instance, a 2011 FDIC survey found a similarly large gap in account penetration between rich and poor households within the United States (FDIC, 2011). A comparison with account penetration in the poorest quintile in Australia and Canada—two other countries with broadly similar economic development and legal traditions to those of the United States, but with smaller Gini coefficients—further supports the hypothesis that income inequality may help explain the variation in the use of formal accounts.

Figure 7: Adults in the poorest income quintile without an account at a formal financial institution (%)



Source: Authors and OECD Statistics

3.1.3. Features of Account Ownership

Beyond the simple ownership of formal accounts, the frequency and methods of access shed light on a stark difference in the use of financial services between high-income and

developing countries. For instance, financial activity varies considerably for account holders across different countries. In developing countries, 10 percent of account holders—more than 150 million people worldwide—maintain what can be considered an inactive account: they make neither withdrawals from nor deposits into their account in a typical month (although they may maintain a positive balance). In contrast, only two percent of account holders in high-income countries have an inactive account.

The majority of adults with a formal account in developing countries make deposits or withdrawals only once or twice in a typical month. In high-income countries, more than half of account-holders withdraw money from their accounts six or more times in a typical month. ATMs and electronic payment systems (debit cards, electronic bill payments, and the like) facilitate access to accounts. Indeed, adults with a formal account in high-income countries report most commonly using ATMs for withdrawals. Those in developing countries report most commonly making withdrawals over the counter in a branch of their bank or financial institution.

People also have myriad reasons for maintaining an account at a formal financial institution. Using a formal account to receive wages is most common in high-income countries, where 50 percent of adults report using an account for this purpose, as compared to 14 percent of adults in developing countries. Relying on an account to receive money or payments from the government is also most common in high-income countries where 42 percent of all adults (and 47 percent of account holders) report having used their account for this type of transaction in the past year, compared to 6 percent of adults in developing countries. Accounts were also used to send or receive money from relatives by eight percent of all adults (and 21 percent of account holders) in developing countries.

3.2 *Saving*

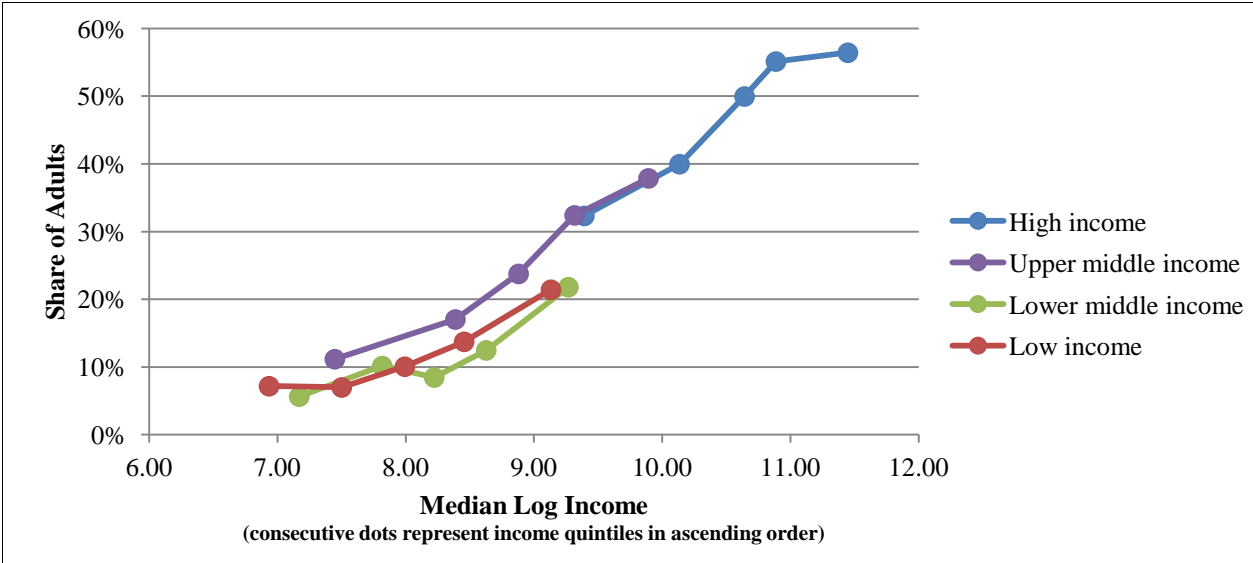
Saving to cover future expenses—education, a wedding, a big purchase—or to provide against possible emergencies is a universal tendency. Not only does the propensity to save differ across and within countries, but the mode and purpose of savings also varies. Globally, 36 percent of adults report having saved or set aside money in the past year, though this ranges from 30 percent in low-income countries to 58 percent in high-income countries.

More interesting, marked differences exist in *how* people save. A proportion of adults who save do so using a formal account. Many others, including some who own a formal account, turn to alternative methods of saving. Worldwide, about one-fourth of adults report having saved at a bank, credit union, or microfinance institution in the past year. This ranges from 45 percent in high-income countries, to 24 percent in upper-middle income countries, to 11 percent in lower-middle and low-income countries. The difference in formal savings between high and upper middle income countries is statistically significant, although there is not statistical difference among developing countries (table 1, column 5).

As with account penetration, formal savings behavior also varies by individual characteristics within countries. As seen in Figure 8, in high-income countries, the rate of formal savings is high in the bottom half of the income distribution. As income rises, in the top 50% of the income distribution, the formal savings rate is much flatter. This suggests that, in high-income countries, individuals in the middle class (Q3) are significantly more likely to save formally than the poor (Q1) (50 percent vs. 32 percent). However, the rich are only marginally more likely than the middle class to do so (56 percent vs. 50 percent). In contrast, the savings rate increases more linearly in upper-middle income countries. A 6 percentage point gap exists between each income quintile in the proportion that formally saves. Further, in lower-middle and

low-income countries, there is almost no difference in the between the middle class and the poor with respect to the proportion of adults saving formally (9 percent of adults in the middle class save formally vs. 6 percent of the poor do). However, in these countries, the rich are more than twice as likely to save formally as the middle class (21 percent vs. 9 percent). Probit estimations of individual-level data confirm these results. For instance, in high-income countries, adults in the poorest income quintile are 21 percent less likely to formally save than adults in the richest income quintile, while in low-income countries, the poorest 20 percent of earners are only 8 percent less likely than the richest 20 percent of earners to formally save (Table 2, columns 5-8).

Figure 8: Saves at a Formal Financial Institution, by country-level income and within-country income quintiles



Source: Authors

Despite having a formal account, individuals may not necessarily use it to save. Savings behavior varies even among account holders. Worldwide, about 43 percent of account holders report having saved or set aside money at a formal financial institution in the past year, with relatively little variation across country-level income groups. However, in many Sub-Saharan African countries, such as Liberia and Uganda, more than 65 percent of account holders report

saving formally. This suggests that in these countries the ability to save in a secure location may motivate individuals to open and maintain a formal account. In contrast, in many European and Central Asian countries, individuals do not primarily use their accounts to save—in this region, less than one in six adults with a formal account report having saved or set aside money using a formal account in the past year. In Georgia, just 3 percent of account holders (and 1 percent of all adults) report having saved using a formal account in the past year. Adults in Europe and Central Asia are especially likely to use their accounts to receive wages and government payments. The transfer of payments, rather than savings, may thus be a key reason why these adults own formal accounts.

Many adults, despite having a formal account, save solely using other methods. These people, who might be classified as the “underbanked,” constitute 12 percent of account holders worldwide. Individuals may choose an informal savings method rather than use their formal account to save due to prohibitively high costs of using their account. Barriers such as balance and withdrawal fees and physical distance often raise the cost of opening and maintaining a formal account. It is also possible that accounts set up by employers or the governments are not conducive to saving. Policymakers or commercial banks in countries where greater financial inclusion is a priority could introduce new products to encourage existing account holders to save in formal institutions. Such products could be especially important in countries with aging populations.¹⁷

In developing countries, savings clubs often serve as an alternative (or complement) to saving at a formal financial institution. One common form of such savings clubs is the rotating savings and credit association (ROSCA). It is known as a *susu* in West Africa, an *arisan* in

¹⁷ See for example Chawla, Betcherman, and Banerji (2007), who provide an overview of the challenges of aging populations in Eastern Europe and the former Soviet Union.

Indonesia, and a *pandero* in Peru. These clubs generally operate by pooling the weekly deposits of their members and disbursing the entire amount to a different member each week. Although members generally do not earn interest on their deposits as in a formal account, these clubs can provide members an opportunity to save.

Community-based savings methods such as savings clubs are widely used in some parts of the world and are most commonly found in low-income countries. In Sub-Saharan Africa, 19 percent of adults report having saved in the past year using a savings club or person outside the family. Among just those who report any savings activity in the past 12 months, 48 percent use community-based savings methods. The practice is particularly common in Nigeria, where ROSCAs are called *esusu*, *ajo*, *cha*, or *adashi*. In Nigeria, 44 percent of adults (and 69 percent of those who save) report using a savings club or person outside the family. Perhaps because of the widespread use of this savings method, the share of Nigerians who report any type of saving in the past year is equal to that in Canada and the Republic of Korea and far higher than that in other developing countries.

The popularity of savings clubs speaks to their advantages, but these arrangements also have downsides. Their defining characteristic—informality—is accompanied by risks of fraud and collapse. It is important to note that often formal accounts are also not immune to these risks, especially in many developing countries where explicit government-run deposit insurance is absent or inadequate. In addition, individuals may find that the cyclical nature of contributions and disbursements is too rigid for some people. A fixed schedule may not serve their needs to deposit surplus income when available or quickly withdraw funds for an emergency.

Community-based savings methods and formal financial institutions are not the only options for saving. A large share of adults around the world who report having saved or set aside

money in the past year did not use a formal financial institution, informal savings club, or person outside the family. While the Global Findex survey did not gather data on other alternative methods, they might include saving through asset accumulation (such as gold or livestock) and saving “under the mattress.”¹⁸ These adults account for 29 percent of savers worldwide and constitute more than half of savers in 55 countries.

3.3 *Borrowing*

Most people need to borrow money from time to time. They may want to buy or renovate a house, invest in an education, or pay for a wedding. When they lack the money to engage in these activities, they often turn to someone who will lend it to them: a bank, a cousin, or an informal lender. In some parts of the world, many people may rely on credit cards for short-term credit.

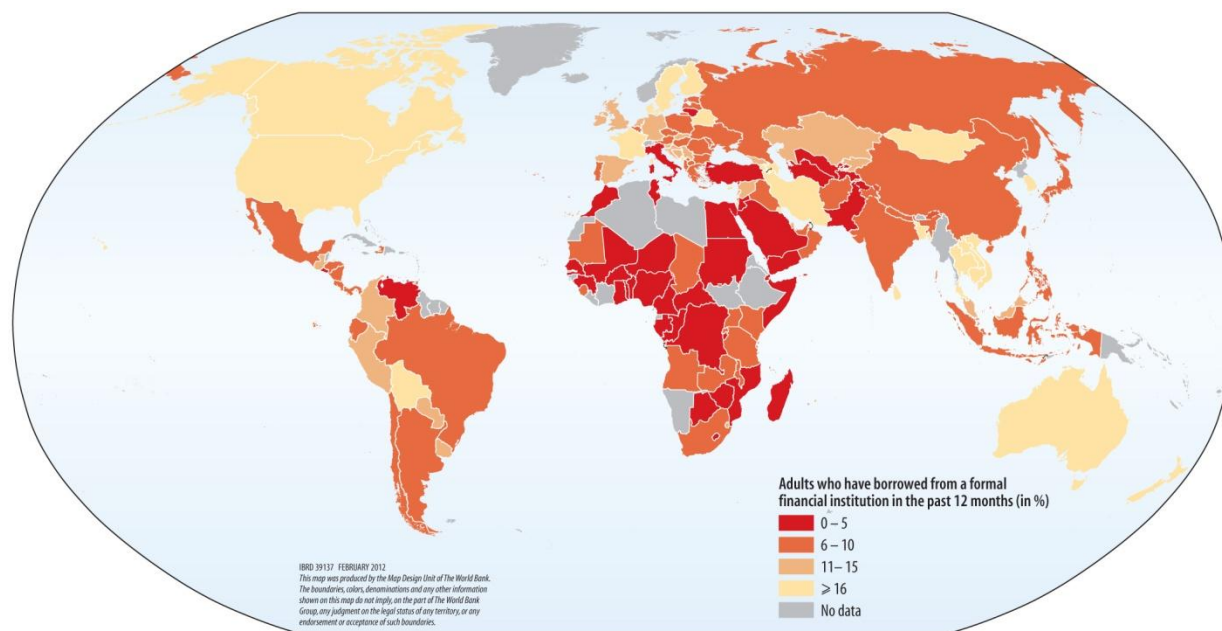
The overall rate of the origination of new loans—formal and informal—remains fairly steady across income groups and individual characteristics. On average, almost one-third of adults report having borrowed money in the past year in both high-income and developing countries. However, measures of new (or rolled-over) household debt are sensitive to the business cycle and current economic factors and future rounds of data collection may yield significantly different estimates. Moreover, the use of credit is sensitive to the tax, legal, and regulatory environment of a given country. For example, the provision of private credit is higher in countries with better creditor protection and broader credit information coverage.¹⁹ Beyond the overall rate of new borrowing, high-income and developing countries do not exhibit much commonality in the sources and purpose of credit.

¹⁸ Because of the sensitivity of household finances and the inhibitions brought about by face-to-face surveys, the Global Findex survey did not probe deeply into the practices of “under the mattress” saving in the home.

¹⁹ Djankov, McLiesh, and Shleifer 2007.

Individuals in higher-income countries are significantly more likely to borrow from formal sources, such as banks or store credit (Table 1, columns 7). In comparison, adults in lower income countries are more likely to use informal sources of credit such as family and friends. To illustrate, in Finland, 24 percent of adults report having borrowed money from a formal financial institution such as a bank, credit union, or microfinance institution in the past year (map 3.2). In Ukraine, only 8 percent report having done so, and in Burundi, only 2 percent report having formal credit. The pattern is reversed with respect to the proportion of adults with informal credit. 37 percent of adults in Ukraine and 44 percent in Burundi report having borrowed money from family or friends in the past 12 months. In Finland, however, only 15 percent have credit from family or friends.

Map 3.2 Origination of new formal loans around the world

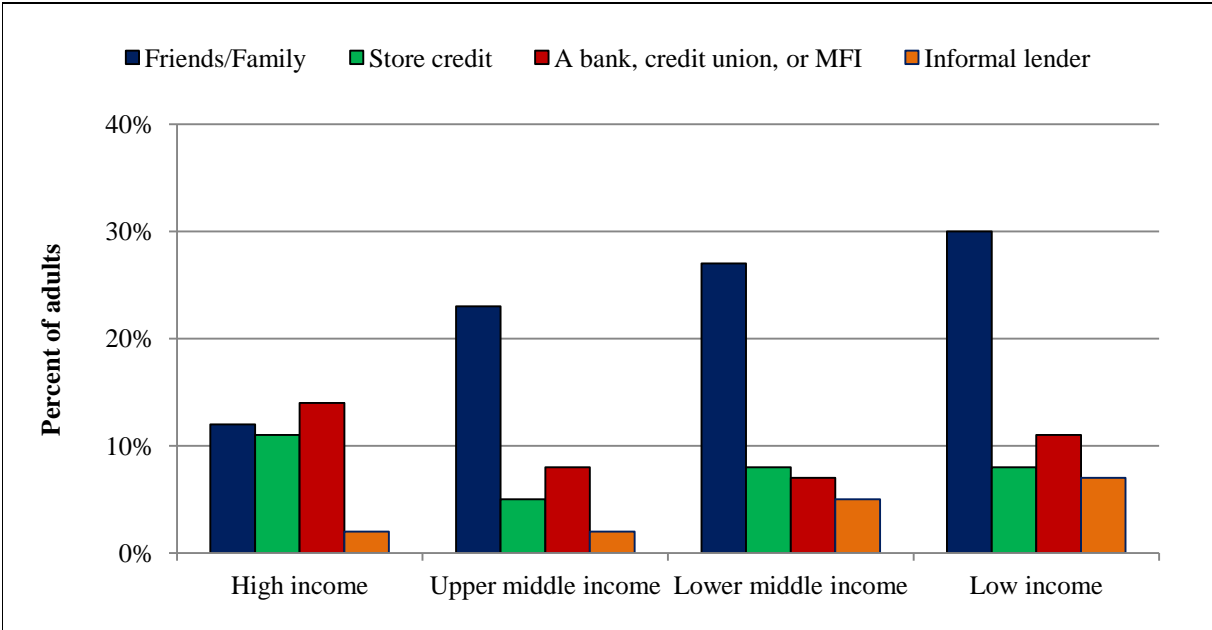


Source: Authors

This propensity toward informal rather than formal lending persists across low and middle income countries. Friends and family are the most commonly reported source of new

loans in upper-middle, lower-middle and low-income countries, but not in high-income countries (figure 9). In low-income countries, 20 percent of adults report friends or family as their only source of new loans in the past year. In contrast, only 6 percent of adults report a formal financial institution as their only source. Adults in poorer countries are also more likely to report having borrowed money from a private informal lender in the past year. An important caveat to this finding is that social norms may have a significant effect on the degree to which this type of borrowing is reported.

Figure 9: Sources of new formal and informal loans, (%)



Note: Respondents could report borrowing from more than one source

Source: Authors

The introduction of credit cards may effect the demand for and use of short-term formal credit. In high-income countries, half of the adult population reports having a credit card. Despite a surge in recent years, credit card ownership in developing countries still lags far behind that in high-income countries. Only 7 percent of adults in low and middle-income countries

report having a credit card, though there are some notable exceptions including Brazil, Uruguay, and Turkey where the proportion of adults with a credit card exceeds 35 percent.

As a result of the extensive ownership of credit cards, adults in high-income countries may have less need for short-term loans from financial institutions. This may help explain why the share of adults in these countries who report having received a loan in the past year from a formal financial institution (such as a bank, cooperative, credit union, or microfinance institution) is not particularly high. Indeed, if the adults in high-income countries who report owning a credit card are included in the share of those who report borrowing from a formal financial institution in the past year (a measure that may not include credit card balances), that share increases by 40 percentage points—from 14 percent to 54 percent.²⁰ The remainder of the discussion in this chapter focuses on measures of borrowing activity that do not include credit card ownership.

Within-country relative income is also associated with formal borrowing and the direction of association varies across developing and high-income countries (Table 2, columns 9-12). On average, the differences in the origination of new formal loans between the poorest and richest income quintiles in developing countries is about 4 percent and statistically significant. However, in high-income countries, there is no significant difference across within country income groups in reported new formal loan origination in the past year.

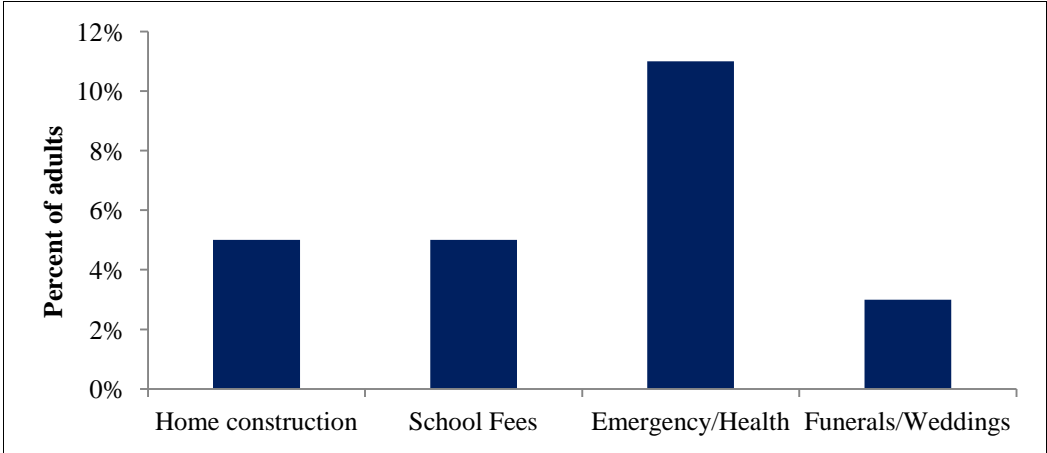
Why do people borrow? Similar to the differences in sources of credit across countries and individual characteristics, the purpose of borrowing also exhibits variation. Data gathered in developing countries highlight that emergency or health purposes are the most common reason

²⁰ The Gallup World Poll collects information on the ownership of credit cards but not their use.

for having an outstanding loan (figure 10).²¹ Adults in the poorest income quintiles also commonly report emergency and health loans. On average, in developing countries, 14 percent of adults in the poorest quintile had a loan for emergency or health purposes, compared with 8 percent of those in the richest fifth of the population.

The data also highlights variation in the reason for borrowing across regions. In Sub-Saharan Africa, 8 percent of adults report borrowing to pay school fees. In the developing world as a whole, outstanding loans for funerals or weddings are reported by 3 percent of adults in the developing world. However, they are significantly more common in fragile and conflict-affected states such as Afghanistan (29 percent), Iraq (13 percent), Somalia (11 percent), and West Bank and Gaza (11 percent).

Figure 10: Purpose of outstanding loans reported by borrowers in developing countries (%)



Source: Authors

How common is the use of mortgages in high-income countries vs. developing countries?

Data on the use of mortgages show a large difference between countries at different income

²¹ Data on the main purpose of outstanding loans were gathered only in developing countries because Gallup, Inc. enforces a time limit for phone interviews conducted in high-income countries, limiting the number of questions that can be added to the core questionnaire. Respondents chose from a list of reasons for borrowing so it is possible that reasons not listed (borrowing to start a business, for example) are also common.

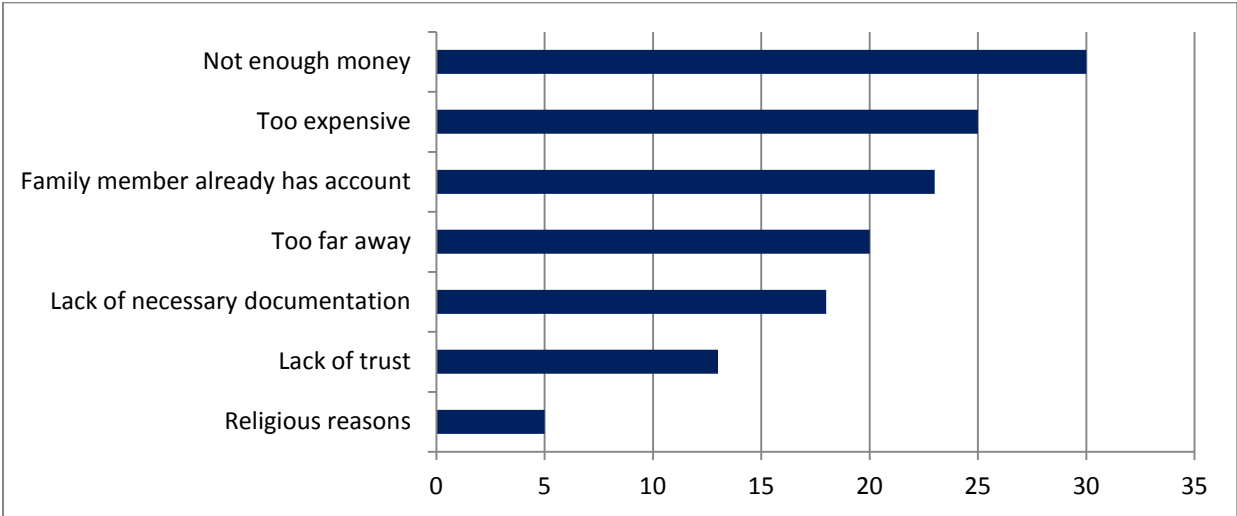
levels. In high-income countries, 24 percent of adults report having an outstanding loan to purchase a home or apartment. The corresponding number is only 3 percent in developing countries. Even within the European Union, there is large variation in the use of mortgages with very low rates of use in some of the new member states. For example, while 21 percent of adults in Germany have an outstanding mortgage, only 3 percent in Poland do (map 3.3). Such differences may, in part, reflect differences in housing finance systems across countries—such as in product diversity, types of lenders, mortgage funding, and the degree of government participation. Studies have found that these factors may affect the availability of loans to individuals (IMF, 2011). Collateral and bankruptcy laws that define legal rights of borrowers and lenders have also been shown to affect housing finance (Warnock and Warnock, 2008). And to develop fully in the first place, a mortgage market requires the existence of formal property rights and an efficient framework to record ownership of property (De Soto, 2000).

4. Barriers to Financial Inclusion

Income levels and individual characteristics clearly help explain some of the differences in the use of accounts around the world. But what do people themselves say when asked why they do not have an account? The Global Findex survey, by asking more than 70,000 adults without a formal account the reasons for not having one, provides novel data on the barriers to financial inclusion. In this section, we discuss each self-reported barrier individually. Each one represents a distinct dimension that can help policymakers who are aiming to expand financial inclusion. We also examine these self-reported barriers by country-level income group and individual characteristics. This allows us to document robust relationships between subjective and objective assessments of barriers to financial access, even when accounting for GDP per capita.

Globally, the most frequently cited reason for not having a formal account is the lack of enough money to use one (figure 11). This is the response given by 65 percent of adults without a formal account—with 30 percent citing this as the only reason (multiple responses were permitted).²² The next most commonly cited reasons for not having an account are that banks or accounts are too expensive and another family member already has one. Each of these is cited by about a quarter of adults without an account. The other reasons reported (in order of importance) are banks being too far away, lack of the necessary documentation, lack of trust in banks, and religious reasons. On average, respondents chose 1.7 responses, including most commonly the lack of enough money to use an account along with a second barrier. However, in low-income countries, adults gave 1.91 responses, on average. Adults in these countries were significantly more likely to cite distance, cost, documentation, and lack of money as compared to adults in other country-level income groups. Lack of trust and someone else in the family already having an account were more commonly cited in middle- and high-income countries.

Figure 11: Reported Reasons for not having a Bank Account



Note: Respondents can choose more than one reason. The data for “note enough money” refer to the percentage of adults who reported only this reason.

Source: Authors

²² Among respondents, 12 percent chose none of the given reasons for not having an account.

As previously mentioned, the most commonly cited reason for not having an account at a formal financial institution is a lack of money. At first glance it may appear that the segment of the population for whom this is a concern is less likely to be bankable. Those who report not having an account because one of this reason are likely suggesting that, *under current circumstances*, the costs of having an account do not outweigh its benefits. It seems reasonable to assume, however, that if individuals found it easier or cheaper to use accounts, or if they provided benefits such as the ability to receive remittances or government transfers, then for some proportion of the respondents, the costs associated with having an account would be outweighed by the benefits.

The next most commonly cited reason was that another member of the family already has an account, a response identifying indirect users. Women and adults living in high-income and upper-middle income countries (where relatives are most likely to have an account) were significantly more likely to choose this reason. A recent study shows that lack of account ownership (and personal asset accumulation) limits women's ability to pursue self-employment opportunities.²³ Hence, while such voluntary exclusion may be linked to individual preferences or cultural norms, or it may indicate a lack of awareness of financial products or lack of financial literacy more generally.²⁴

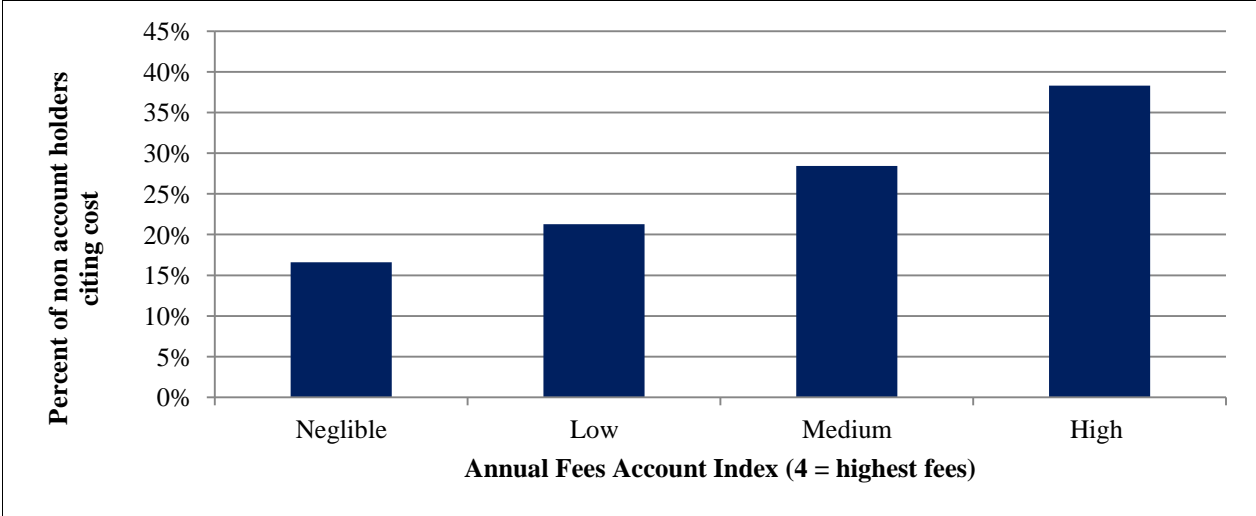
As already mentioned above, affordability is an important barrier to account ownership. High costs are cited by a quarter of unbanked respondents on average, and 32 percent in low-income countries. Fixed transaction costs and annual fees tend to make small transactions unaffordable for large parts of the population. Maintaining a checking account in Sierra Leone, for example, costs the equivalent of 27 percent of GDP per capita in annual fees alone. So it is no

²³ Hallward-Driemeier and Hasan 2012.

²⁴ The institutional barriers to financial inclusion are further analyzed in Allen and others (2012).

surprise that 44 percent of non-account-holders in the country cite high cost as a reason for not having a formal account. Figure 12 plots the self-reported measures of costs as a barrier to account ownership against the ‘Annual Fees Account Index’ from the World Bank’s Bank Regulation and Supervision Database (Beck, Demirguc-Kunt, and Martinez Peria, 2008)). The figure reflects that the increase in proportion of adults citing cost as a barrier to account ownership is higher in countries where the account index is ‘High.’ Fixed fees and high costs of opening and maintaining accounts also often reflect lack of competition and underdeveloped physical or institutional infrastructure.

Figure 12: Subjective vs. Objective Measures of Cost as a Barrier to Access



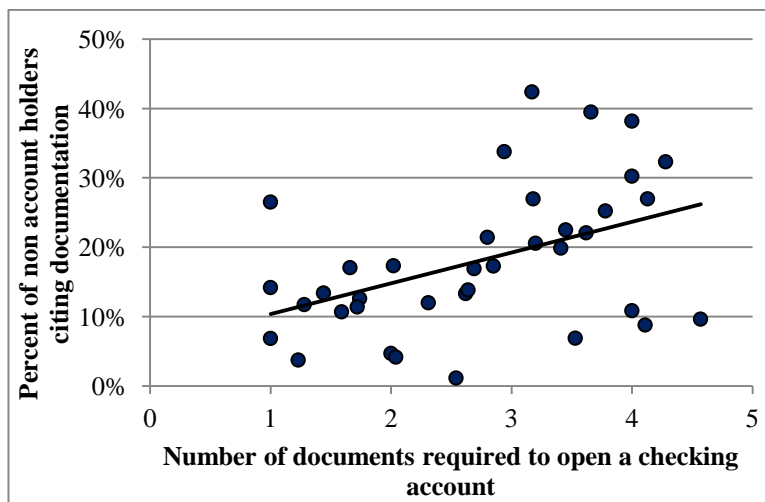
Source: Authors; Beck, Demirguc-Kunt, and Martinez Peria (2008)

Twenty percent of unbanked respondents cited distance as a key reason for not having a formal account. The frequency with which this barrier was cited increases sharply as one moves down the country-level income scale, from 10 percent in high-income countries to 28 percent in low-income countries. Among developing countries, there is a significant relationship between distance as a self-reported barrier and objective measures of providers such as bank branch penetration. To illustrate this point, Tanzania has a large share of non-account-holders who cite

distance as a reason for not having an account—47 percent—and also ranks near the bottom in bank branch penetration, averaging less than 0.5 bank branches per thousand square kilometers.²⁵

Documentation requirements for opening an account may also exclude workers in the rural or informal sector, who are less likely to have wage slips or formal proof of residence. As Figure 13 shows, there is a significant relationship between subjective and objective measures of documentation requirements as a barrier to account use, which holds even after accounting for GDP per capita. Indeed, the Financial Action Task Force, recognizing that overly cautious Anti-Money Laundering and Terrorist Financing (AML/CFT) safeguards can have the unintended consequence of excluding legitimate businesses and consumers from the financial system. The Task Force has emphasized the need to ensure that such safeguards also support financial inclusion where greater inclusion is a national goal.²⁶

Figure 13: Subjective vs. Objective Measures of Documentation and cost as a Barrier to Access



Source: Authors

²⁵ World Bank Global Payment Systems Survey, 2010.

²⁶ For more on documentation requirements and safeguards against money laundering, see Yikona and others (2011) and FATF (2011).

Distrust in formal financial institutions is also a nontrivial barrier to wider financial inclusion, and one that is difficult to address in the short-term. Thirteen percent of adults without a formal account cite lack of trust in banks as a reason why they do not own an account. This distrust can stem from cultural norms, discrimination against certain population groups, past episodes of government expropriation of banks, or economic crises and uncertainty. In Russia, 38 percent of non-account-holders cite lack of trust in banks as a reason for not having an account—a share almost three times that in other developing countries on average.

Finally, only 5 percent of unbanked respondents cite religious reasons for not having a formal account, though the proportion is higher in some Middle Eastern and South Asian countries like West Bank & Gaza and Pakistan. In these regions, developing financial products compatible with religious beliefs (Islamic finance) could potentially increase account penetration.

This systematic data on self-reported barriers to the use of financial services allows researchers and policymakers to understand reasons for nonuse and provide clues for design of policy interventions. However such cross-sectional data cannot be used to determine the causal impact of removing these barriers. Furthermore, since people often face multiple barriers and report them, addressing individual constraints may not necessarily expand use of accounts if other barriers are binding.

5. Mobile Money, Branchless Banking, and Beyond

As documented in Section 3, there is a strong correlation between national income and financial inclusion. However, policy innovations may still be able to bring about more inclusive financial systems at low levels of income. The Global Findex database allows us to observe how

public- and private-sector led initiatives might change how people engage with the formal financial system.

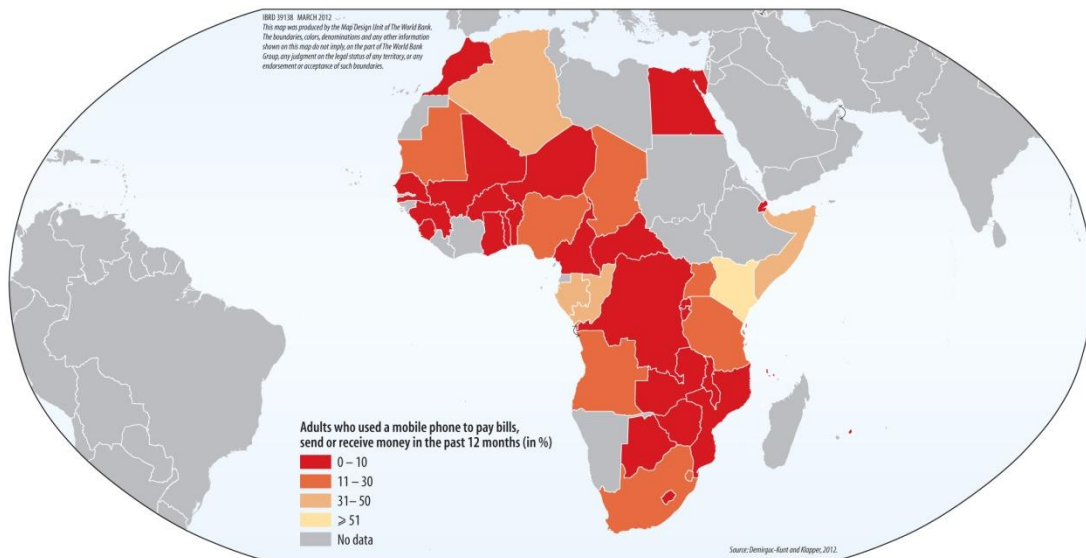
The success of mobile money illustrates the transformative potential for technical progress and innovation on financial. Mobile money—sometimes a form of branchless banking—has allowed people who are otherwise excluded from the formal financial system to perform financial transactions in a relatively cheap, secure, and reliable manner (Jack and Suri, 2011). Individuals using mobile money maintain a type of account allowing them to make deposits and withdrawals through cash transactions at a network of retail agents. They can then transfer money or pay bills using text messages. Many mobile money accounts—such as those provided by M-PESA in Kenya or GCash in the Philippines—are not connected to an account at a financial institution, though the providers are often required to store the aggregate sums of the accounts in a bank. Customers are ordinarily charged a fee for sending money to others or making a withdrawal from their accounts.

Mobile money has achieved the broadest success in Sub-Saharan Africa, where 16 percent of adults report having used a mobile phone in the past 12 months to pay bills or send or receive money (map 2). The share of adults using mobile money is less than 5 percent in all other regions—though a few countries are notable exceptions to regional patterns, including Haiti and the Philippines.

The degree to which mobile money is capturing the unbanked market differs across countries. In Kenya, 43 percent of adults who report having used mobile money in the past 12 months do not have a formal account. In Sudan, 92 percent do not own an account. This may reflect the varied and fast evolving regulations surrounding mobile money. When M-PESA was launched in Kenya, it had no association with the formal banking sector and mobile banking

customers there were exempt from the documentation requirements imposed by banks. But governments are increasingly favoring bank-led models in which mobile money providers have partnerships with or formed directly through banks (CGAP, 2010).

Map 2: Use of Mobile Money in Sub-Saharan Africa



Source: Authors

In recent years, the proliferation of “branchless banking” has also received growing attention as a way to increase financial access in developing countries, particularly among underserved groups.²⁷ One mode of branchless banking centers on bank agents, who often operate out of retail stores, gas stations, or post offices. By capitalizing on existing infrastructure and client relationships, operators can expand financial access in a more cost-efficient manner. Bank agents can also be mobile, making daily or weekly rounds among clients. Few account holders currently report relying on bank agents (whether over the counter at a retail store or from some other person associated with their bank) as their main mode of withdrawal or deposit. But in several Asian countries—including Bangladesh, the Lao People’s Democratic Republic,

²⁷ For more information, see Mas and Kumar (2008).

Nepal, and the Philippines—more than 10 percent of account holders already report using bank agents.

There is also enormous scope for the public sector to bring about transformative change in how adults around the globe interact with the formal financial sector. Increasingly, governments are using formal accounts to disburse transfer payments. In Brazil, the government allows recipients of conditional cash transfers (as part of its *Bolsa Familia* program) to receive payments via no-frills bank accounts, though many more chose to receive payments via a virtual account that does not allow deposits or indefinite storage (CGAP, 2011). Still, according to Findex data, 20 percent of adults in Brazil report receiving government transfers via a bank account, among the highest in the developing world. In India, the government recently began depositing government pension and scholarship payments directly into the bank accounts of almost 250,000 people in 20 districts. Officials plan to expand the program and hope it will prevent corruption as well as expand financial access (Harris, 2013). The data provides suggestive evidence that these types of reforms may have the potential to dramatically expand the reach of the formal financial sector to the poorest individuals.

6. Conclusion

For most people having an account at a financial institution serves as an entry point into the formal financial sector. A formal account can encourage saving and open access to credit. It can also make it easier to transfer wages, remittances, and government payments. Broad-based access to accessible and affordable formal accounts is a hallmark of an inclusive financial system, the absence of which can contribute to persistent income inequality and slower economic growth.

Yet until now little had been known about the global reach of the financial sector and financial inclusion—the extent of account ownership and the use of formal payments, savings, and credit— and the degree to which such groups as the poor are excluded from formal financial systems. Systematic indicators of the use of different formal and informal financial services had been lacking for most countries.

The Global Financial Inclusion (Global Findex) database provides a new set of indicators that measure how adults in 148 countries save, borrow, make payments, and manage risk. The indicators are constructed with survey data from interviews with more than 150,000 nationally representative and randomly selected adults age 15 and above in 148 countries during the 2011 calendar year. This dataset will next be updated in 2014.

As the first public database of indicators that consistently measure people’s use of financial products across countries and over time, the Global Findex database fills a big gap in the financial inclusion data landscape. The data show wide gaps in account penetration between high-income and developing countries and between the poor and rich within countries. Also, the data show variation in the use of formal and informal savings and credit. By enabling policy makers to identify segments of the population excluded from the formal financial sector, the data can help provide insights for the design and prioritization of reforms.

References

- Allen, F., A. Demirguc-Kunt, L. Klapper, and M. S. Martinez Peria. 2012. “The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts.” Policy Research Working Paper 6290, World Bank, Washington D.C..
- Ashraf N., Aycinena, C., Martinez, A., Yang, D., (2010). Remittances and the problem of control: A field experiment among migrants from El Salvador. Mimeo.
- Aterido, R., T. Beck, and L. Iacovone. 2011. “Gender and Finance in Sub-Saharan Africa: Are Women Disadvantaged?” Policy Research Working Paper 5571, World Bank, Washington, DC.
- Beck, T. 2009. “FinAccess 2009: Trends, Analysis and Policy Conclusions.” Consultant report for FSD Trust Kenya, Nairobi.
- Beck, T., and M. Brown. 2011. “Use of Banking Services in Emerging Markets: Household-Level Evidence.” European Banking Center Discussion Paper 2011-024, Tilburg University, Netherlands.
- Beck, T., A. Demirguc-Kunt, and R. Levine. 2007. “Finance, Inequality, and the Poor.” *Journal of Economic Growth* 12 (1): 27–49.
- Beck, T., A. Demirguc-Kunt, and M. S. Martinez Peria. 2007. “Reaching Out: Access to and Use of Banking Services across Countries.” *Journal of Financial Economics* 85 (2): 234–66.
- . 2008. “Banking Services for Everyone? Barriers to Bank Access and Use around the World.” *World Bank Economic Review* 22 (3): 397–430.
- Beck, T., R. Levine, and N. Loayza. 2000. “Finance and the Sources of Growth.” *Journal of Financial Economics* 58 (1): 261–300.
- Campbell, J. 2006. “Household Finance.” *Journal of Finance* 61 (4): 1553–604.
- CGAP (Consultative Group to Assist the Poor). 2010. “Technology Program Focus Country: India.”
- CGAP (Consultative Group to Assist the Poor). 2011. “CGAP G2P Brazil Country Report”
- Chawla, M., G. Betcherman, and A. Banerji. 2007. *From Red to Gray: The “Third Transition” of Aging Populations in Eastern Europe and the Former Soviet Union*. Washington, DC: World Bank.
- Chen, S., M. Ravallion, and P. Sangraula. 2010. “The Developing World Is Poorer Than We Thought But No Less Successful in the Fight against Poverty.” *Quarterly Journal of Economics* 125 (4): 1577–625.
- Clausen, B., A. Kraay, and Z. Nyiri. 2011. “Corruption and Confidence in Public Institutions: Evidence from a Global Survey.” *World Bank Economic Review* 25 (2): 212–49.
- Cole, S., T. Sampson, and B. Zia. 2011. “Prices or Knowledge? What Drives Demand for Financial Services in Emerging Markets?” *Journal of Finance* 66 (6): 1933–67.

- Collins, D., J. Morduch, S. Rutherford, and O. Ruthven. 2009. *Portfolios of the Poor: How the World's Poor Live on Two Dollars a Day*. Princeton, NJ: Princeton University Press.
- Cull, R., A. Demirguc-Kunt, and J. Morduch. 2013. *Banking the World: Empirical Foundations of Financial Inclusion*. Cambridge, MA: MIT Press.
- Deaton, A. 2008. "Income, Health, and Well-Being around the World: Evidence from the Gallup World Poll." *Journal of Economic Perspectives* 22 (2): 53–72.
- Demirguc-Kunt, A., and L. Klapper. 2012. "Measuring Financial Inclusion: The Global Findex Database." Policy Research Working Paper 6025, World Bank, Washington, DC.
- Demirguc-Kunt, A., L. Klapper, and L. Zingales. 2012. "Trust in Banks." Working paper, Development Research Group, World Bank, Washington, DC.
- Demirguc-Kunt, A., and R. Levine. 2009. "Finance and Inequality: Theory and Evidence." *Annual Review of Financial Economics* 1: 287–318.
- de Soto, Hernando. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. New York: Random House.
- Djankov, S., C. McLiesh, and A. Shleifer. 2007. "Private Credit in 129 Countries." *Journal of Financial Economics* 2 (84): 299–329.
- Dupas, P., and J. Robinson. 2009. "Savings Constraint and Microenterprise Development: Evidence from a Field Experiment in Kenya." NBER Working Paper 14693, National Bureau of Economic Research, Cambridge, MA.
- . 2011. "Why Don't the Poor Save More? Evidence from Health Savings Experiments." NBER Working Paper 17255, National Bureau of Economic Research, Cambridge, MA.
- EBRD (European Bank for Reconstruction and Development). 2011. *Life in Transition: After the Crisis*. <http://www.ebrd.com>.
- FATF (Financial Action Task Force). 2011. *FATF Guidance on Anti-Money Laundering and Terrorist Financing Measures and Financial Inclusion*. FATF/OECD: Paris.
- FDIC (Federal Deposit Insurance Corporation). 2011. FDIC National Survey of Unbanked and Underbanked Households. FDIC: Washington, DC.
- Hallward-Driemeier, M., and T. Hasan. Forthcoming. *Empowering Women: Legal Rights and Economic Opportunities in Africa*. Development Forum Series. Paris: Agence Française de Développement; Washington, DC: World Bank.
- Harris, G. 2013. "India Aims to Keep Money for Poor Out of Others' Pockets." *New York Times* January 5 2013.
- Honohan, P. 2008. "Cross-Country Variation in Household Access to Financial Services." *Journal of Banking and Finance* 32: 2493–500.
- IMF (International Monetary Fund). 2011. *Global Financial Stability Report: Grappling with Crisis Legacies, September 2011*. Washington, DC: IMF.
- Jack, W., and T. Suri. 2011. "Mobile Money: The Economics of M-PESA." NBER Working Paper 16721, National Bureau of Economic Research, Cambridge, MA.

- Johnston, D., and J. Morduch. 2008. "The Unbanked: Evidence from Indonesia." *World Bank Economic Review* 22 (3): 517–37.
- Karlan, D., Zinman, J., (2010). Expanding credit access: Using randomized supply decisions to estimate the impacts. *Review of Financial Studies* 23 (1), 433-464.
- King, R. G., and R. Levine. 1993. "Finance and Growth: Schumpeter Might Be Right." *Quarterly Journal of Economics* 108 (3): 717–37.
- Klapper, L., L. Laeven, and R. Rajan. 2006. "Entry Regulation as a Barrier to Entrepreneurship." *Journal of Financial Economics* 82: 591–629.
- Klapper, L., and I. Love. 2011. "The Impact of the Financial Crisis on New Firm Registration." *Economics Letters* 113: 1–4.
- Mas, I., and K. Kumar. 2008. "Banking on Mobiles: Why, How, for Whom?" Focus Note 48, Consultative Group to Assist the Poor, Washington, DC.
- Ratha, D. 2006. "Leveraging Remittances for Development." *Federal Reserve Bank of Dallas Proceedings*, pp. 173–85.
- Sacks, D., B. Stevenson, and J. Wolfers. 2010. "Subjective Well-Being, Income, Economic Development and Growth." NBER Working Paper 16441, National Bureau of Economic Research, Cambridge, MA.
- Stevenson, B., and J. Wolfers. 2008. "Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox." *Brookings Papers on Economic Activity* 39 (1): 1–102.
- . 2011. "Trust in Public Institutions over the Business Cycle." *American Economic Review Papers and Proceedings* 101 (3): 281–87.
- Warnock, V. C., and F. E. Warnock. 2008. "Markets and Housing Finance." *Journal of Housing Economics* 17 (3): 239–51.
- World Bank. 2008a. *Finance for All? Policies and Pitfalls in Expanding Access*. Washington, DC: World Bank.
- . 2008b. *Global Purchasing Power Parities and Real Expenditures: 2005 International Comparison Program*. Washington, DC: World Bank.
- Yikona, S., B. Slot, M. Geller, B. Hansen, and F. el Kadir. 2011. *Ill-Gotten Money and the Economy: Experiences from Malawi and Namibia*. Washington, DC: World Bank.

Table 1: Country-level Regressions

Each column represents the OLS estimation result of a regression of a financial inclusion indicator on country-level measures of economic and financial development and income inequality. *Account* is the share of adults in a country reported to currently have a bank account at a formal institution. *Formal Savings* is the share of adults in a country that reported saving or putting aside money at a financial institution in the past 12 months. *Formal Credit* is the share of adults in a country reported to have borrowed from a formal financial institution in the past 12 months. GDP Per Capita, Domestic Credit to the Private Sector, and Gini index are for 2011 or the most recent year (World Bank-World Development Indicators). Standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Account	Account	Account	Account	Formal Savings	Formal Credit
GDP per capita (ln)	0.105*** (0.014)		0.122*** (0.014)	0.157*** (0.012)		
Low income (1)		-0.436*** (0.106)			-0.316*** (0.027)	-0.063*** (0.014)
Lower-middle income (2)		-0.442*** (0.079)			-0.313*** (0.025)	-0.052*** (0.013)
Upper-middle income (3)		-0.325*** (0.053)			-0.276*** (0.024)	-0.039*** (0.013)
Domestic credit to the private sector (% of GDP)			0.185*** (0.037)			
Gini index				-0.488** (0.190)		
Constant		0.203 (0.241)	-0.606*** (0.093)	-0.582*** (0.126)	0.407*** (0.017)	0.135*** (0.009)
Observations	134	134	123	110	139	139
R-squared	0.772	0.783	0.747	0.662	0.622	0.160
F-statistic (p-value):						
H ₀ : (1) = (2)		0.904			0.931	0.443
H ₀ : (2) = (3)		0.015			0.127	0.310

Table 2: Individual-level Regressions

Each column represents the estimation result of a regression of a financial inclusion indicator on country fixed effects and a set of individual characteristics. Shown are marginal effects estimated from multivariate probit regressions. *Account* is a dummy (0/1) if the respondent reported to currently have a bank account at a formal institution. *Formal Savings* is a dummy (0/1) indicating if the respondent reported saving or putting aside money at a financial institution in the past 12 months. *Formal Credit* is a dummy (0/1) indicating if the respondent reported to have borrowed from a formal financial institution in the past 12 months. All regressions control for the following individual characteristics, not shown: gender, age, age squared, rural residence, education, log of household size, marital status, and employment. All regressions include country fixed-effects and account for stratification and clustering in the survey design. ***, **, and * denote significance at the 1%, 5%, and 10% level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Account				Formal Savings				Formal Credit			
	Low- Income	Lower- Middle	Upper- Middle	High- Income	Low- Income	Lower- Middle	Upper- Middle	High- Income	Low- Income	Lower- Middle	Upper- Middle	High- Income
poorest 20% (1)	-0.133*** (0.009)	-0.185*** (0.014)	-0.239*** (0.019)	-0.051*** (0.007)	-0.084*** (0.010)	-0.110*** (0.011)	-0.152*** (0.012)	-0.208*** (0.018)	-0.035*** (0.013)	-0.036*** (0.008)	-0.044*** (0.010)	-0.011 (0.009)
second 20% (2)	-0.113*** (0.009)	-0.148*** (0.013)	-0.177*** (0.016)	-0.037*** (0.007)	-0.075*** (0.006)	-0.090*** (0.013)	-0.116*** (0.007)	-0.137*** (0.013)	-0.038*** (0.010)	-0.034*** (0.010)	-0.036*** (0.007)	-0.012 (0.009)
middle 20% (3)	-0.090*** (0.007)	-0.103*** (0.011)	-0.135*** (0.014)	-0.019** (0.008)	-0.049*** (0.006)	-0.070*** (0.008)	-0.085*** (0.008)	-0.087*** (0.013)	-0.033*** (0.008)	-0.018*** (0.007)	-0.034*** (0.008)	-0.000 (0.007)
fourth 20% (4)	-0.050*** (0.008)	-0.079*** (0.010)	-0.075*** (0.010)	-0.004 (0.008)	-0.032*** (0.006)	-0.045*** (0.006)	-0.052*** (0.010)	-0.032*** (0.012)	-0.021*** (0.007)	-0.014*** (0.005)	-0.022** (0.009)	0.002 (0.007)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	25,369	34,144	35,820	30,681	25,369	34,144	35,820	30,681	25,369	34,144	35,820	30,681
F-statistic (p-value):												
H ₀ : (1) = (2)	0.02**	0.00***	0.00**	0.02**	0.34	0.01***	0.00***	0.00***	0.72	0.75	0.27	0.90
H ₀ : (2) = (3)	0.02**	0.00***	0.00***	0.01*	0.00***	0.10*	0.00***	0.00***	0.41	0.02**	0.83	0.12
H ₀ : (3) = (4)	0.00***	0.02**	0.00***	0.10	0.03**	0.00***	0.00***	0.00***	0.11	0.48	0.09	0.73

Appendix 1: Select Questions²⁸

All questions include additional choices: (i) Don't know and (ii) Refused, not shown.

(Read:) This next section is about banks and financial institutions. We are trying to understand how people across the world use financial institutions and how available they are to people. Please remember that all information you provide is completely confidential.

- Do you, either by yourself or together with someone else, currently have an account at any of the following places? An account can be used to save money, to make or receive payments, or to receive wages and remittances. Do you currently have an account at **(read A-B)?**
 - 1 Yes
 - 2 No
 - A A bank or credit union (or other formal financial institution, where applicable, like a cooperative in Latin America)
 - B A Post Office

- A debit card, sometimes called an ATM card, is a card that allows you to make payments, get money, or buy things and the money is taken out of your bank account right away. Do you have a debit card?
 - 1 Yes
 - 2 No

- A credit card is like a debit card but the money is not taken from your account right away. You get credit to make payments or buy things, and you can pay the balance off later. Do you have a credit card?
 - 1 Yes
 - 2 No

- In a typical month, about how many times is money deposited into your personal account(s)? This includes cash or electronic deposits, or any time money is put into your account(s) by yourself or others. **(Read 1-4 – Code one only)**
 - 1 0
 - 2 1 – 2 times
 - 3 3 – 5 times
 - 4 6 times or more

- In a typical month, about how many times is money taken out of your personal account(s)? This includes cash withdrawals, electronic payments or purchases, checks, or any other time money is removed from your account(s) by yourself or others. **(Read 1-4 – Code one only)**
 - 1 0
 - 2 1 – 2 times
 - 3 3 – 5 times
 - 4 6 times or more

- When you need to get cash (paper or coins) from your account(s), do you usually get it **(Read 1-4 – Code one only)**
 - 1 At an ATM
 - 2 Over the counter in a branch of your bank or financial institution
 - 3 Over the counter at a retail store
 - 4 From some other person who is associated with your bank or financial institution
 - 5 (Do not withdraw cash)

- When you put cash (paper or coins) into your account(s), do you usually do it **(read 1-4 – Code one only)**
 - 1 At an ATM
 - 2 Over the counter in a branch of your bank or financial institution
 - 3 Over the counter at a retail store
 - 4 From some other person who is associated with your bank or financial institution
 - 5 (Do not withdraw cash)

²⁸ The complete questionnaire is available in 15 languages at: <http://go.worldbank.org/5XL9LXK6B0>.

- In the past 12 months, have you used your account(s) to **(read A-D)**?
 - 1 Yes
 - 2 No
 - A Receive money or payments for work or from selling goods
 - B Receive money or payments from the government
 - C Receive money from family members living elsewhere
 - D Send money to family members living elsewhere

- Please tell me whether each of the following is a reason why you, personally, DO NOT have an account at a bank, credit union or other financial institution. **(Read & rotate A-G)**
 - 1 Yes
 - 2 No
 - A They are too far away
 - B They are too expensive
 - C You don't have the necessary documentation (ID, wage slip)
 - D You don't trust them
 - E You don't have enough money to use them
 - F Because of religious reasons
 - G Because someone else in the family already has an account

- In the past 12 months, have you saved or set aside any money?
 - 1 Yes CONTINUE
 - 2 No (Skip to Q74)

- In the past 12 months, have you saved or set aside any money by **(read A-B)**?
 - 1 Yes
 - 2 No
 - A Using an account at a bank, credit union, or microfinance institution
 - B Using an informal savings club or a person outside the family (insert local example)

- In the past 12 months, have you borrowed any money from **(read A-E)**?
 - 1 Yes
 - 2 No
 - A A bank, credit union, or microfinance institution
 - B A store by using installment credit or buying on credit
 - C Family or friends
 - D Employer
 - E Another private lender

- Do you currently have a loan you took out for any of the following reasons **(read A-E)**?
 - 1 Yes
 - 2 No
 - A To purchase your home or apartment
 - B To purchase materials or services to build, extend, or renovate your home or apartment
 - C To pay school fees
 - D For emergency/health purposes
 - E For funerals or weddings

- In the past 12 months, have you used a mobile phone to **(read A-C)**?
 - 1 Yes
 - 2 No
 - A Pay bills
 - B Send money
 - C Receive money

Appendix 2: Account Penetration (% adults 15+)

	All	Poorest 20%	Richest 20%		All	Poorest 20%	Richest 20%
Afghanistan	9	0	20	Djibouti	12	4	34
Albania	28	7	43	Dominican Republic	38	19	62
Algeria	33	22	50	Ecuador	37	22	61
Angola	39	31	40	Egypt, Arab Rep.	10	5	25
Argentina	33	19	55	El Salvador	14	1	32
Armenia	17	16	24	Estonia	97	94	99
Australia	99	97	100	Finland	100	99	100
Austria	97	93	99	France	97	96	100
Azerbaijan	15	13	25	Gabon	19	4	38
Bahrain	65	64	60	Georgia	33	25	50
Bangladesh	40	33	54	Germany	98	97	100
Belarus	59	37	75	Ghana	29	17	61
Belgium	96	92	96	Greece	78	75	85
Benin	10	5	24	Guatemala	22	8	52
Bolivia	28	12	50	Guinea	4	2	10
Bosnia and Herzegovina	56	35	69	Haiti	22	4	49
Botswana	30	12	48	Honduras	21	15	47
Brazil	56	33	71	Hong Kong SAR, China	89	78	98
Bulgaria	53	29	76	Hungary	73	58	86
Burkina Faso	13	6	25	India	35	21	56
Burundi	7	3	23	Indonesia	20	8	48
Cambodia	4	0	12	Iran, Islamic Rep.	74	63	80
Cameroon	15	14	22	Iraq	11	5	13
Canada	96	91	98	Ireland	94	88	97
Central African Republic	3	1	9	Israel	90	88	92
Chad	9	6	26	Italy	71	61	81
Chile	42	19	68	Jamaica	71	71	67
China	64	39	83	Japan	96	94	96
Colombia	30	9	62	Jordan	25	16	33
Comoros	22	9	40	Kazakhstan	42	30	55
Congo, Dem. Rep.	4	0	18	Kenya	42	19	85
Congo, Rep.	9	1	20	Korea, Rep.	93	86	94
Costa Rica	50	30	69	Kosovo	44	24	59
Croatia	88	75	94	Kuwait	87	86	90
Cyprus	85	76	89	Kyrgyz Republic	4	1	11
Czech Republic	81	70	88	Lao PDR	27	16	27
Denmark	100	99	100	Latvia	90	82	95

	All	Poorest 20%	Richest 20%		All	Poorest 20%	Richest 20%
Lebanon	37	20	54	Saudi Arabia	46	32	51
Lesotho	18	8	29	Senegal	6	4	13
Liberia	19	3	41	Serbia	62	47	70
Lithuania	74	66	87	Sierra Leone	15	4	30
Luxembourg	95	97	94	Singapore	98	98	98
Macedonia, FYR	74	66	85	Slovak Republic	80	66	85
Madagascar	6	1	19	Slovenia	97	92	100
Malawi	17	9	36	Somalia	31	12	58
Malaysia	66	45	82	South Africa	54	35	78
Mali	8	4	18	Spain	93	91	92
Malta	95	93	96	Sri Lanka	69	52	87
Mauritania	17	7	43	Sudan	7	4	15
Mauritius	80	66	94	Swaziland	29	12	44
Mexico	27	12	58	Sweden	99	99	100
Moldova	18	6	36	Syrian Arab Republic	23	20	28
Mongolia	78	68	89	Taiwan	87	77	90
Montenegro	50	34	67	Tajikistan	3	1	6
Morocco	39	0	0	Tanzania	17	3	45
Mozambique	40	21	56	Thailand	73	64	87
Nepal	25	15	39	Togo	10	2	18
Netherlands	99	98	99	Trinidad and Tobago	76	70	85
New Zealand	99	100	99	Tunisia	32	14	63
Nicaragua	14	4	31	Turkey	58	46	72
Niger	2	0	6	Turkmenistan	0	0	1
Nigeria	30	12	62	Uganda	20	7	37
Oman	74	63	92	Ukraine	41	21	59
Pakistan	10	5	19	United Arab Emirates	60	57	58
Panama	25	18	44	United Kingdom	97	97	97
Paraguay	22	4	51	United States	88	74	90
Peru	20	6	47	Uruguay	24	7	49
Philippines	27	4	54	Uzbekistan	23	15	27
Poland	70	60	82	Venezuela, RB	44	27	54
Portugal	81	64	87	Vietnam	21	6	35
Qatar	66	47	80	West Bank and Gaza	19	8	34
Romania	45	25	69	Yemen, Rep.	4	0	9
Russian Federation	48	34	61	Zambia	21	8	50
Rwanda	33	23	42	Zimbabwe	40	22	63