The Foundations of Financial Inclusion

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- **Who are financially included?**
  - Financial Inclusion refers to the use of financial services
  - In this paper we focus on the use of accounts at a formal financial institution (bank, credit union, cooperative, post office, etc.)

- **Who are the excluded? (not mutually exclusive)**
  - *The Self-Excluded:* Adults who truly don't need or choose not to use financial services, for reasons other than market failures
  - *The Involuntarily Excluded:* Anyone who does not use services due to barriers (such as distance, high-cost, etc.*)* that arise as a result of market failures (like asymmetric information, inadequate contract environment, etc.)

- **The role of policy is to broaden financial inclusion to reach those that are excluded due to market failures**

- **Why do we care about financial inclusion?**

  - *Growing evidence that financial inclusion has significant beneficial effects for individuals and firms*
    - Providing individuals access to savings instruments increases savings (Aportela, 1999; Ashraf et al., 2010a), female empowerment (Ashraf et al., 2010b), productive investment (Dupas and Robinson, 2009), and consumption (Dupas and Robinson, 2009 and Ashraf et al., 2010b)

  - *Policymakers around the world are increasingly committed to promoting financial inclusion*
    - At their February 2012 meeting in Mexico, G20 leaders agreed to take the financial inclusion agenda forward to concrete results
    - According to a recent survey of bank regulators across 143 jurisdictions, 67 percent of regulators are charged with promoting financial inclusion
    - More than 30 developing country members of the Alliance for Financial Inclusion (AFI) have supported the “Maya Declaration”, committing to increase financial inclusion

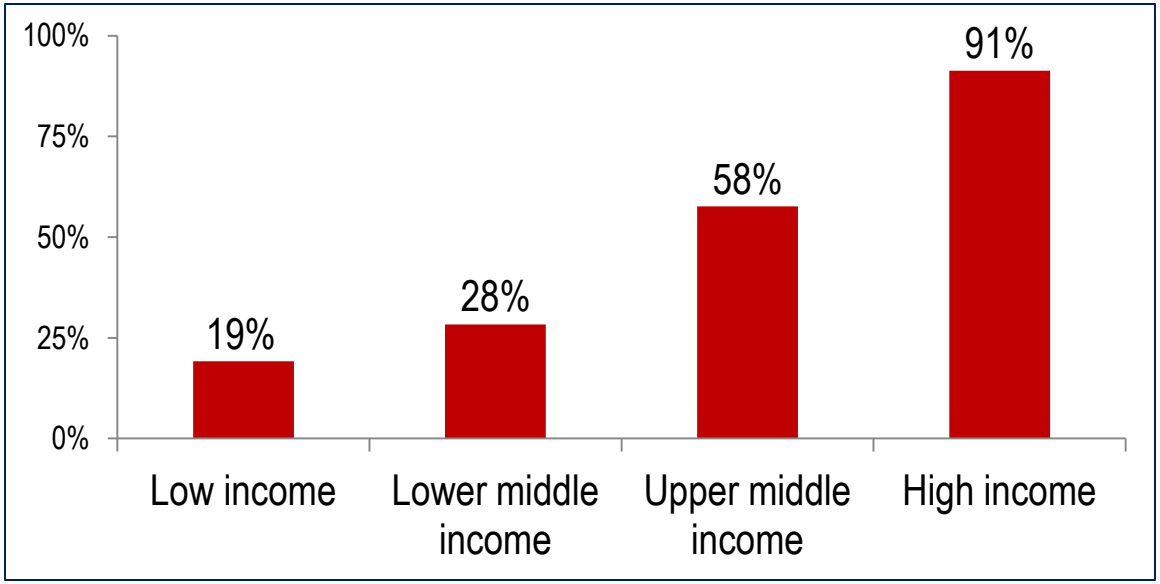
Goals of this research

- Analyze the first comparable cross-country data on financial inclusion collected from *individuals* around the world
  - Measure the use of formal and informal financial services, using a consistent methodology across economies and time
  - Collected by adding questions on the use of financial services to the 2011 Gallup World Poll
  - Country-level and micro- (individual-level) data *(coming December 16th)* is publicly available at: www.worldbank.org/globalfindex
  - See Demirguc-Kunt and Klapper, 2012 (WP6025)

- Study the determinants of financial inclusion
  - Focus on account ownership; the use of accounts for savings; and high-frequency use of accounts
  - Identify individuals that are more likely to be excluded
  - Investigate the relationship between country-level characteristics and policies and:
    - The use of formal financial accounts
    - Perceived barriers to account ownership (by the unbanked)

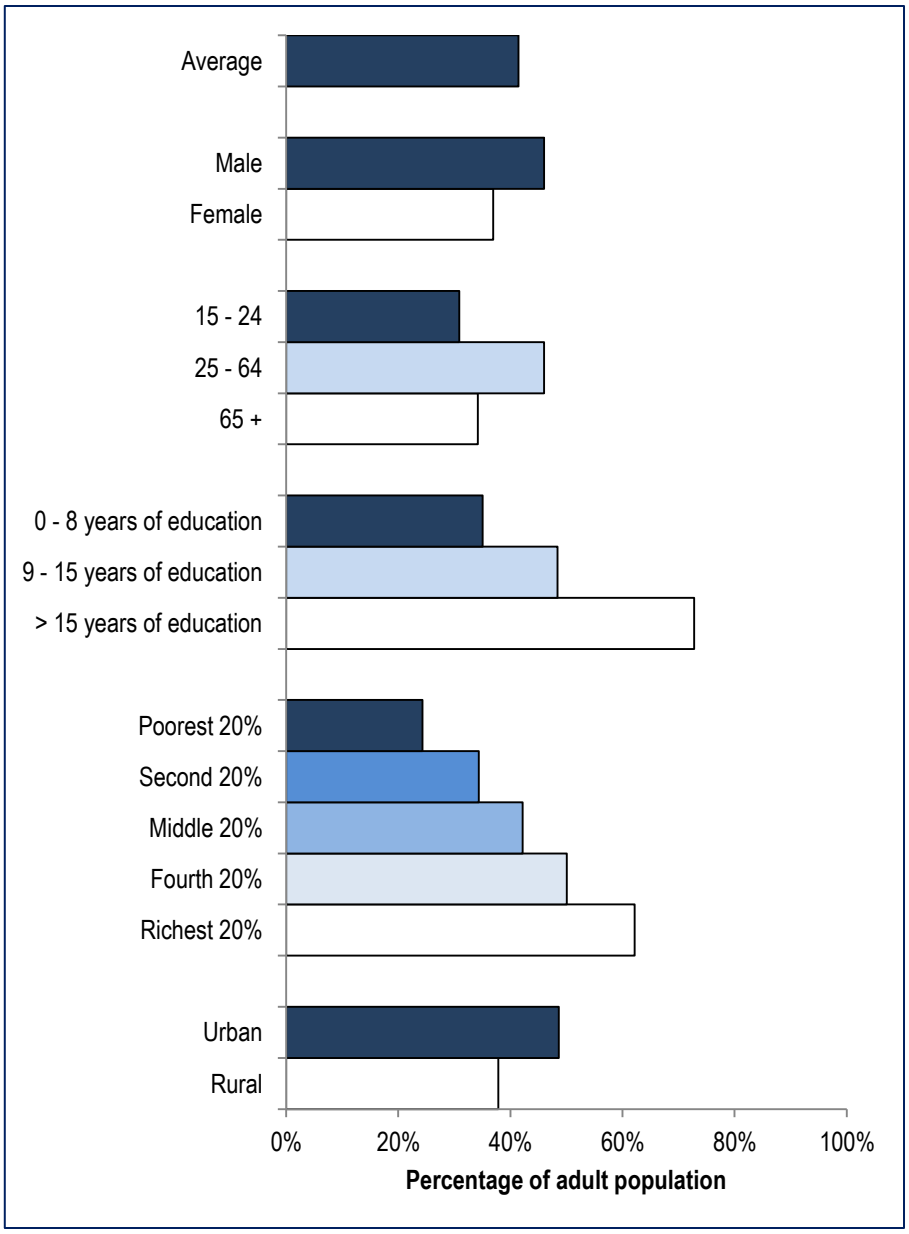
Ownership of Formal Accounts

% of adults that have an individual or joint account at a formal financial institution



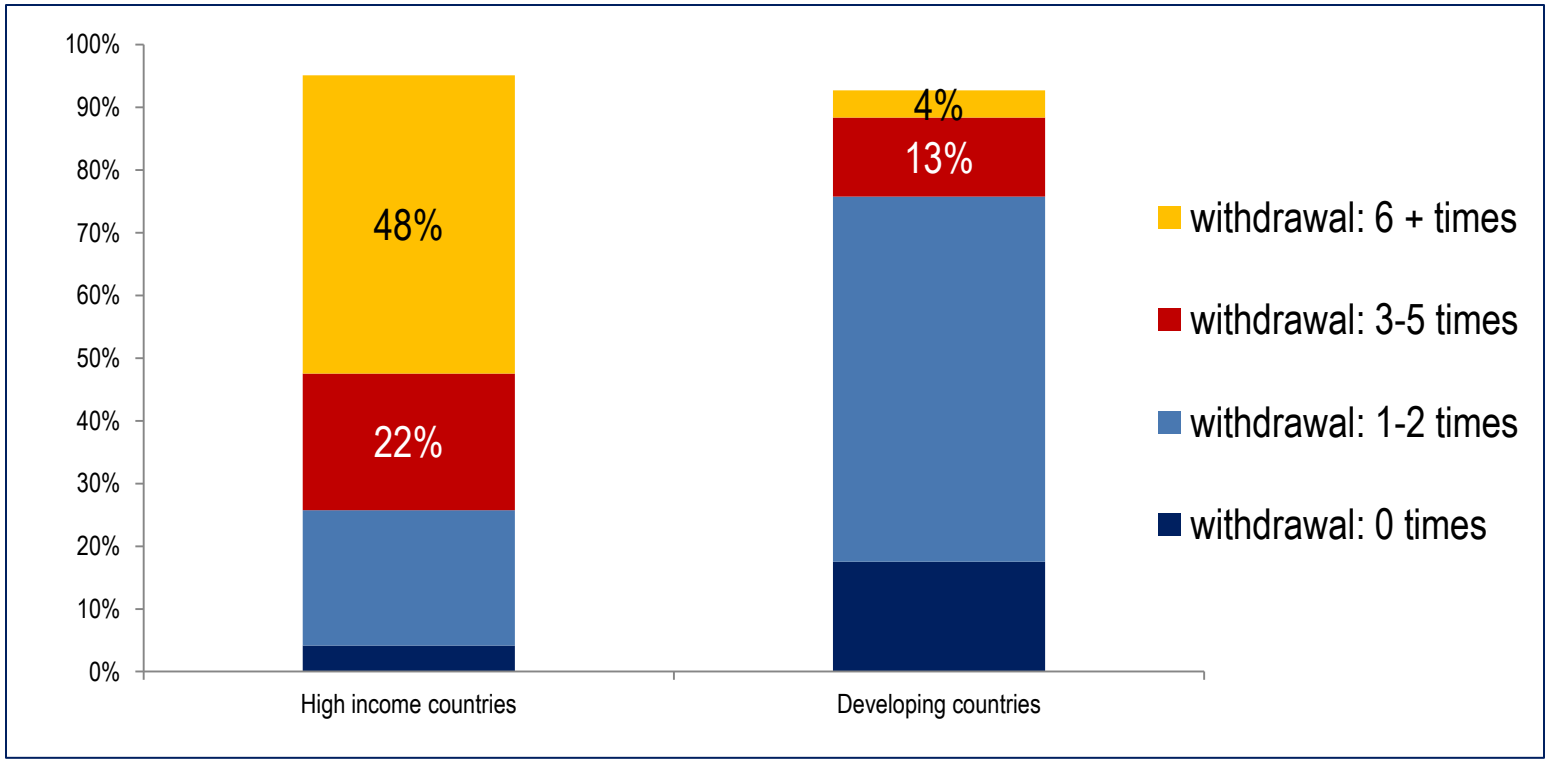
- We use data for 123 countries and over 124,000 individuals
- 41% of adults in developing economies in our sample are banked—compared to 91% of adults in high-income economies
- Adults in upper middle income countries (58%) are three times more likely to have an account than adults in low income countries (19%)
- 37% of women in developing economies are banked—compared to 46% of men

Formal Account Ownership, by Individual Characteristics



- Women, youth, the poor, and rural residents are the least likely to have a formal account
- A 6-9 percentage points gender gap persists across income groups in developing economies
- Adults in the poorest income quintile in developing economies are less than half as likely to be banked as adults in the richest quintile
- Account penetration among adults belonging to the poorest 20% in high income countries (not shown) is 23 percentage points higher than that of adults belong to the richest 20% in the developing world.

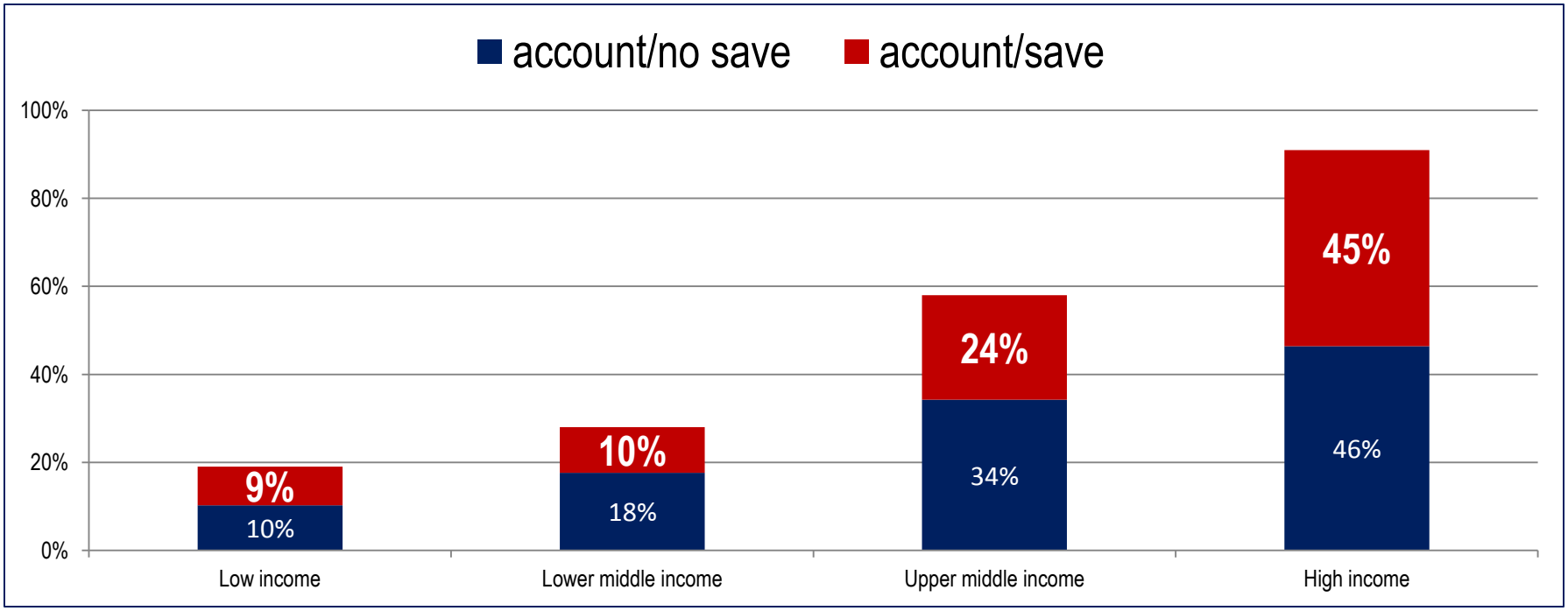
Frequency of Withdrawals in a Given Month (% of Adults)



- 18% of account holders in developing countries have zero withdrawals in a typical month against 4% in high income countries
- 58% of account holders in developing economies withdraw from their account 1-2 times in a typical month against 22% in high income countries
- On average, 17% of adults in developing countries withdraw from their accounts 3 or more times a month, as compared to 70% of adults in high income countries

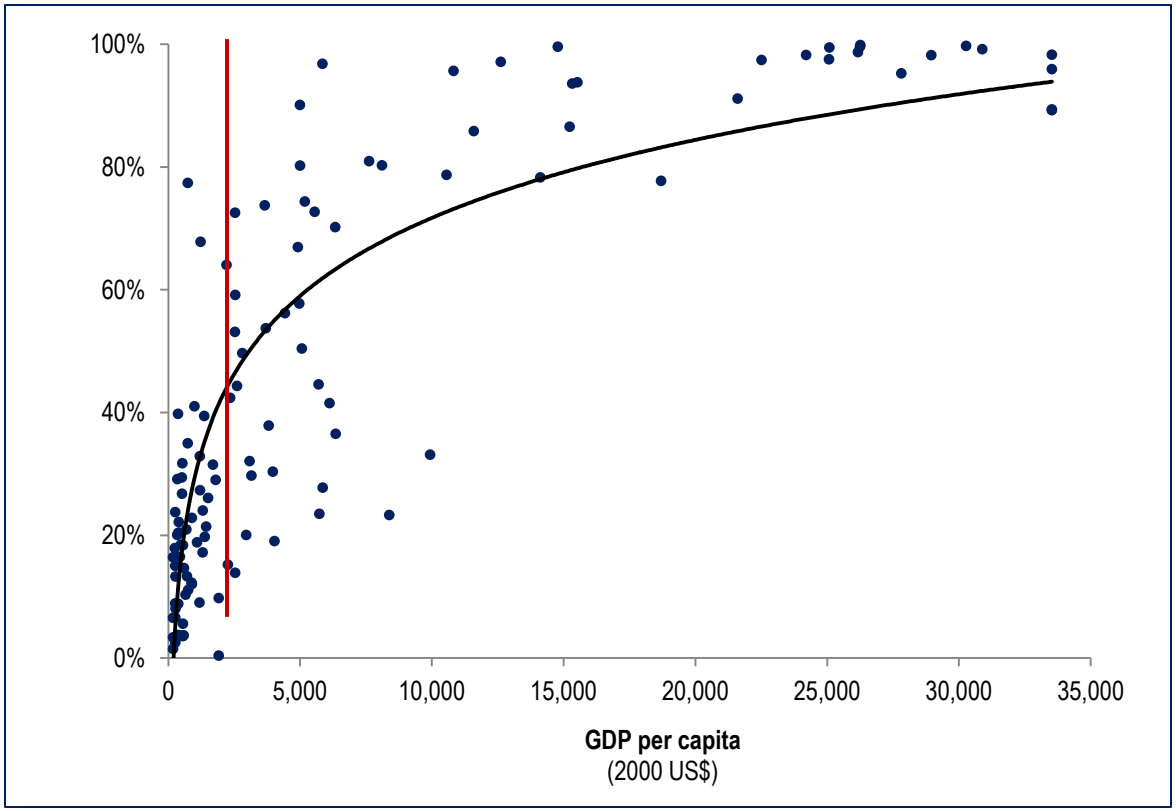
The Use of Accounts for Saving

% of adults that saved at a formal financial institution in the past 12 months



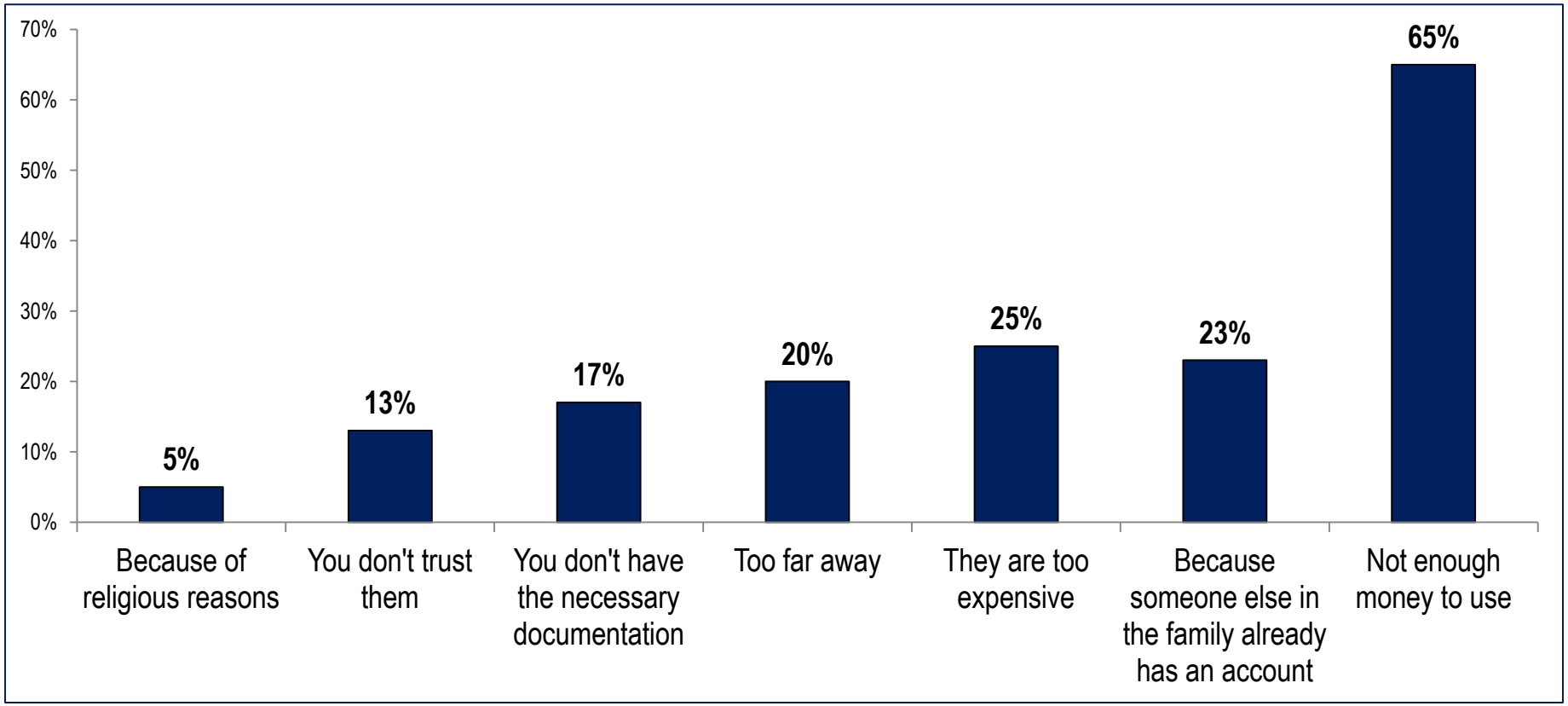
- 40% of account holders in developing economies saved formally in the past year
- 15% of account holders in ECA saved formally in the past year
- 58% of account holders in SSA and 23% of account holders in LAC saved formally in the
- past year

Financial Inclusion and GDP per Capita



- GDP per capita can explain a lot: around 73 percent of the variation at the country-level for the whole sample…
- … But for the bottom 50 percent (below $2,436 USD): only 15 percent of the variation (left side of the red line)
- Cambodia and Bangladesh have the same GDP per capita (approx. $500 USD) but a penetration rate of 4 and 32 percent, respectively

Reported Reasons for Not Having a Formal Account (% of adults without an account)



- 32 percent of unbanked in Sub-Saharan Africa choose “Too far away”
- 31 percent of unbanked in Europe and Central Asia choose “[I] don’t trust banks”
- 40 percent of unbanked in Latin America and the Caribbean choose “They are too expensive”

Empirical analysis of the use of formal accounts:

- **Variables of interest (0/1)**
  - Adults with an account.
  - Adults that use an account to save
  - Adults that withdraw from their account three or more times in a typical month

- **Types of estimations**
  i. Including only individual characteristics, controlling for country fixed-effects
  ii. Examining the impact of country characteristics and policies (one at a time), controlling for individual characteristics and log GDP per capita
  iii. Testing for heterogeneous effects of country characteristics by rural residents and the poor, controlling for individual characteristics and country fixed-effects

Country Characteristics: Banking Costs

Explanatory Variables:

1) Central Banker perceptions of banking costs:

=0 when these costs are perceived as 'low' to 'negligible'

=1 when these costs are perceived as 'medium' to 'high'

Source: Global Payment *System Survey 2010*

— Costs of opening a bank account (0/1)
— Costs of maintaining a bank account (0/1)
— Costs of direct credit (0/1)
— Costs of debit cards (0/1)

2) Are banks required to offer basic or low fee account? (0/1)

Source: CGAP (2009)

Country Characteristics: Documentation Requirements

Explanatory Variables:

1) Principle component of "Know Your Customer" (KYC) requirements:

   — proof of identity through gov' ID
   — proof of identity through any ID
   — proof of nationality/legal status
   — proof of address
   — proof of income
   — proof of employment

   Source: CGAP, 2009

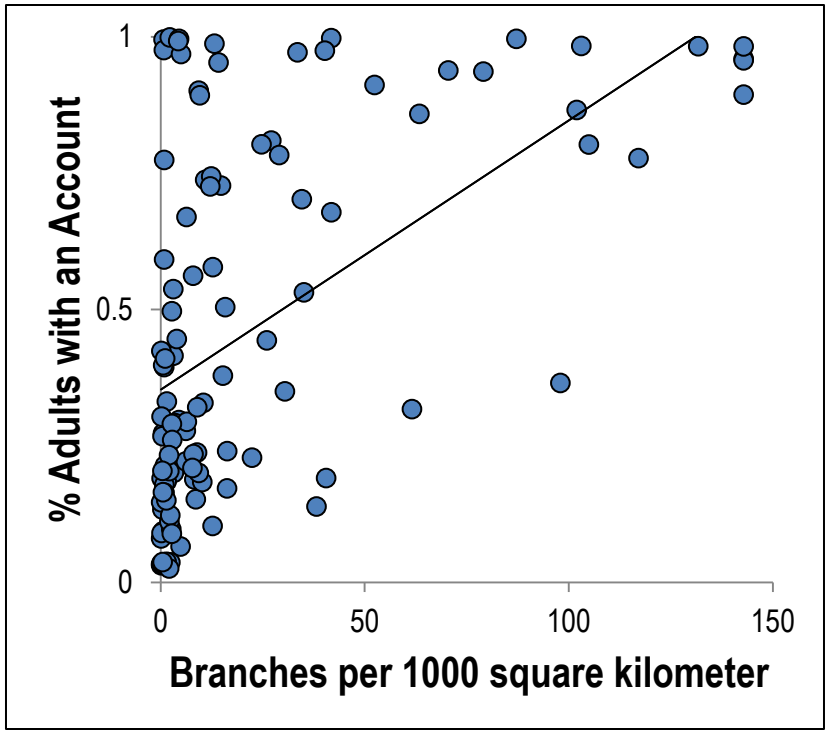
2) Government exceptions of KYC requirements for low-income applicants or small accounts (0/1)

   Source: CGAP, 2009

Country Characteristics: Distance (Access)

Explanatory Variables:

1) Commercial bank branches per 1,000 Km^2
2) ATM's per 1,000 Km^2
   Source: FAS
3) Interoperability, POSs
   Source: Global Payment *System Survey 2010*
4) Correspondent banking permitted (0/1)
   Source: CGAP, 2009
5) If promoting access in rural areas is a responsibility of financial regulators (0/1)
   Source: CGAP, 2009



Country Characteristics: Trust / Consumer Protection

Explanatory Variables:

1) Share of member banks' deposits covered; *Source: BRS, 2012*

2) Total disclosure requirements for deposits both upon opening and periodic; *Source: CGAP, 2010*

3) Consumer Protection Indices:
   - Monitoring Index
   - Enforcement Index

   Source: CGAP, 2010

4) Legal rights index; *Source: Doing Business, 2011*

5) Political risk rating; *Source: ICRG, 2011*

Country Characteristics: Bank Structure

Explanatory Variables:

1) Percentage of total asset shares of:
   - Government controlled banks
   - Foreign controlled banks

   Source: BRS (2012)

Country Characteristics: Policies to Promote Financial Inclusion

Explanatory Variables:

1) 'G2P Transfers': If the country reported encouraging or mandating electronic transfers through the banking system of government benefits (0/1)

2) If the country has a matched savings scheme in place to promote savings (0/1)

3) If the country provides tax incentives to promote savings (0/1)

Source: CGAP (2009)

The Relationship with Individual Characteristics *(Table 4)*

- The likelihood of owning an account is higher among richer, older, urban, educated, employed, married individuals, with greater trust in banks
  - For example, compared to someone in the highest income quintile, the likelihood to own an account of a person in the lowest income quintile is almost 16 percentage points lower.
- The likelihood of using an account to save—conditional on having an account– is higher among richer, educated, married individuals, with greater trust in banks
  - We estimate a selection model, using *age and age-squared* as instruments
    - Although there might be a relationship between the "intensive" margin of savings over the life-cycle, theory does not suggest an "extensive" margin of formal savings and age, which is supported by our data.
- The likelihood of using an account frequently—conditional on having an account– is higher among older, richer, educated, married men
  - We estimate a selection model, using *trust in banks* as an instrument

The Relationship with Individual Characteristics *(Table 4)*

Variable	(1) Account	(2) Savings	(3) Savings	(4) Frequency of Use	(5) Frequency of Use
Model	Probit	Probit	Probit (selection)	Probit	Probit (selection)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Female (0/1)	-0.028	-0.006	-0.012	-0.086***	-0.092***
	(0.022)	(0.017)	(0.017)	(0.015)	(0.015)
Income: poorest 20% (0/1)	-0.766***	-0.550***	-0.627***	-0.504***	-0.644***
	(0.037)	(0.039)	(0.039)	(0.039)	(0.046)
Income: second 20% (0/1)	-0.610***	-0.392***	-0.458***	-0.376***	-0.497***
	(0.032)	(0.031)	(0.031)	(0.035)	(0.041)
Income: middle 20% (0/1)	-0.451***	-0.269***	-0.319***	-0.224***	-0.322***
	(0.028)	(0.027)	(0.029)	(0.031)	(0.034)
Income: fourth 20% (0/1)	-0.276***	-0.151***	-0.184***	-0.189***	-0.248***
	(0.023)	(0.026)	(0.028)	(0.029)	(0.029)
Age	0.039***	-0.001		0.026***	0.032***
	(0.003)	(0.004)		(0.004)	(0.004)
Age squared	-0.000***	0.000		-0.000***	-0.000***
	(0.000)	(0.000)		(0.000)	(0.000)
Rural (0/1)	-0.163***	-0.012	-0.032	-0.099***	-0.131***
	(0.025)	(0.022)	(0.022)	(0.028)	(0.028)
0 - 8 years of education (0/1)	-0.579***	-0.200***	-0.283***	-0.324***	-0.444***
	(0.027)	(0.028)	(0.029)	(0.030)	(0.032)
Log of household size	-0.139***	-0.110***	-0.125***	-0.128***	-0.156***
	(0.018)	(0.021)	(0.020)	(0.019)	(0.019)
Married (0/1)	0.106***	0.045*	0.057**	0.077***	0.096***
	(0.021)	(0.024)	(0.027)	(0.021)	(0.021)
Divorced/Separated (0/1)	0.064*	-0.088**	-0.076**	0.078**	0.090***
	(0.034)	(0.034)	(0.038)	(0.034)	(0.033)
Employed for employer (0/1)	0.328***	-0.073***	-0.035	0.065*	0.134***
	(0.031)	(0.027)	(0.027)	(0.033)	(0.035)
Unemployed (0/1)	-0.324***	-0.492***	-0.521***	-0.281***	-0.337***
	(0.036)	(0.042)	(0.042)	(0.057)	(0.053)
Out of workforce (0/1)	-0.366***	-0.306***	-0.345***	-0.238***	-0.296***
	(0.030)	(0.033)	(0.032)	(0.033)	(0.034)
Confidence in financial institutions (0/1)	0.174***	0.164***	0.181***	-0.027	
	(0.022)	(0.020)	(0.020)	(0.025)	
Constant	-0.927***	0.039	-0.342***	-0.538***	-1.220***
	(0.071)	(0.098)	(0.085)	(0.100)	(0.153)
Observations	124,334	59,216	59,216	59,216	59,216

The Relationship with Country Characteristics *(Table 5)*

The likelihood of owning a bank account is higher where:

- The costs of opening and using a bank account are lower
  - *the likelihood of owning an account would be, on average, 11 percentage points higher if these costs were perceived as low to negligible compared instead of as medium to high*
- The level of branch or ATM penetration is higher
  - *For instance, reducing distance barriers, measured by a one standard deviation increase in branch or ATM penetration, increases the likelihood of account ownership by around 5.5 percentage points*
- The share of deposits covered by the deposit insurance system is higher
- The legal rights index and of the political stability rating is higher
- Disclosure of information related to bank account products is lower
- Policymakers encourage savings through tax incentive schemes

The Relationship with Country Characteristics *(Table 5)*

The likelihood of using an account to save—conditional on having an account—is higher in countries where:

- The costs of using (but not opening) a bank account are lower
- The level of geographic branch and ATM penetrations is higher
- The legal rights index and of the political stability rating is higher
- Disclosure of information related to bank account products is lower

The likelihood of using an account with high-frequency is higher in countries where:

- The costs of opening and using a bank account are lower
  - *A higher cost of operating an account is associated with a 7 percentage point decrease in high-frequency use of accounts*
- The interoperability of Points of Sales is better
- The legal rights index and of the political stability rating is higher
- The government makes G2P payments
- Where saving schemes and tax incentive programs are in place

The Relationship with Country Characteristics

But does it really matter?!

- In both Malawi and Peru, the costs of opening an account are perceived as 'medium' to 'high', and the population share that has an account is 16 and 20 percent, respectively.
  - *Our estimation results imply that if these costs were to be perceived as 'negligible' to 'low', then the average predicted probability of having an account at a formal financial institution would be around 6 percentage points higher in Malawi and 15 percentage points higher in Peru.*

- Angola has approximately one bank branch per 1000 square kilometer, while India has almost 30.
  - *Our results suggest that the average predicted probability of having an account at a formal financial institution would be around 7 percentage points higher in both countries when the number of bank branches per 1000 square kilometer increases by 36, which is a one standard deviation increase.*

- On the other hand, both the United States and Peru have slightly more than 9 branches per 1000 square kilometer.
  - *A one standard deviation increase will lead to a 3 percentage point increase in the average predicted probability of having an account at a formal financial institution for the United Sates but a 9 percentage point increase for Peru.*

The Relationship with Country Characteristics *(Table 5)*

	(1)	(2)	(3)
Variable	Account	Savings	Frequency of Use
Model	Probit	Probit (selection)	Probit (selection)
Individual determinants	Yes	Yes	Yes
Controlled for log GDP per capita	Yes	Yes	Yes
Costs of opening a bank account (0/1)	-0.429**	-0.160	-0.330**
	(0.171)	(0.114)	(0.149)
Costs of maintaining a bank account (0/1)	-0.447***	-0.214**	-0.174
	(0.136)	(0.106)	(0.147)
Costs of direct credit (0/1)	-0.467***	-0.260**	-0.268*
	(0.138)	(0.105)	(0.148)
Costs of debit cards (0/1)	-0.355**	-0.235	-0.311
	(0.171)	(0.143)	(0.189)
Offer basic or low fee account (0/1)	-0.018	-0.033	0.086
	(0.208)	(0.114)	(0.144)
Principle component of KYC requirements	-0.025	-0.015	-0.056
	(0.036)	(0.028)	(0.039)
Branch penetration (geographic)	0.006***	0.002*	-0.000
	(0.002)	(0.001)	(0.001)
Interoperability POSs	-0.163	-0.003	-0.278***
	(0.099)	(0.075)	(0.091)
Correspondent banking permitted (0/1)	0.194	0.119	0.141
	(0.127)	(0.099)	(0.117)
Promoting Access in Rural Areas (0/1)	-0.079	0.052	-0.027
	(0.142)	(0.120)	(0.142)
Share of member banks' deposits covered	0.006*	0.002	0.001
	(0.003)	(0.002)	(0.003)
Total disclosure requirements for deposits	-0.041*	-0.032**	-0.015
	(0.022)	(0.015)	(0.018)
Consumer Protection: Enforcement Index	0.029	-0.000	0.041
	(0.027)	(0.022)	(0.027)
Asset share of government controlled banks	-0.001	-0.005*	-0.004
	(0.004)	(0.003)	(0.003)
Asset share of foreign controlled banks	-0.000	0.001	0.004*
	(0.002)	(0.001)	(0.002)
Legal rights index	0.077***	0.048***	0.065***
	(0.019)	(0.016)	(0.022)

The Heterogeneous Relationship with Rural Residency *(Table 6)*

The likelihood of owning a bank account is higher for rural residents (*relative to urban residents*) where:

- Policies offering basic or low-fee accounts
- Policies granting KYC exemptions
- Introduction of G2P policies

- The costs of opening is lower
- The level of branch penetration is higher
- Better disclosure/consumer protection
- The political stability rating is higher

The Heterogeneous Relationship with Rural Residency *(Table 6)*

The likelihood of using an account to save is higher for rural residents (*relative to urban residents*) where:

- Correspondent banking is allowed; Policies offering basic or low-fee accounts are in place; The costs of opening is lower; There are fewer KYC requirements; and Better consumer protection
  - *Making correspondent banking and basic or low fee accounts available would increase the likelihood of saving using an account another 2 percentage points for the rural*

The likelihood of using an account with high-frequency is higher for rural residents (*relative to urban residents*) where:

- Policies to promote access in rural areas are not in place; Better consumer protection; Political stability rating is higher; and geographic branch and ATM penetration is higher

The Heterogeneous Relationship with Income *(Table 7)*

The likelihood of owning an account is higher for the lowest income quintile (*relative to higher income quintiles*) where:

- Greater bank branch penetration; deposit insurance coverage, political stability rating and total disclosure requirements are higher

The likelihood of using an account to save is higher for the lowest income quintile (*relative to higher income quintiles*) where:

- Correspondence banking is permitted; and a higher percentage of assets at government owned banks
  - *Allowing correspondent banking would increase the likelihood of owning an account by 5 percentage points*

The likelihood of using an account with high frequency is higher for the lowest income quintile (*relative to higher income quintiles*) where:

- Exception from KYC requirements are not in place; and the legal rights index is lower

Perceived Barriers the *Unbanked* and Individual Characteristics *(Table 8)*

- **Cost** is significantly more likely to be cited reported by poor, middle-aged, less educated, and rural residents
- **Lack of necessary documentation** is significantly more likely to be cited by less educated and rural residents, as well as younger, unmarried, middle-quintile earning adults
- **Distance** is significantly more likely to be cited as a barrier by rural residents, as well as less educated, married, poor adults
- **Trust** is a reported barrier by male, middle-aged, and wealthier adults (above the poorest 20 percent of earners)
- **Don't have enough money to use an account** is reported by the poor and less educated adults
- **Don't have enough money to use an account** is reported as the only reason by women, the poor, older, urban, unemployed/out of workforce adults

Perceived Barriers the *Unbanked* and Country Characteristics *(Table 9)*

- **Cost** is significantly more likely to be reported in countries with higher banking costs; and a lower share of government owned bank assets
- **Lack of necessary documentation** is significantly less likely to be cited in countries with a higher share of government owned bank assets and a smaller share of foreign owned bank assets
- **Distance** is significantly more likely to be cited as a barrier in countries with lower branch penetration, higher bank costs, and a smaller share of government owned bank assets and a higher share of foreign owned bank assets
- **Trust** is a more likely reported barrier in countries with lower branch penetration and a larger share of foreign owned bank assets
- **Don't have enough money to use an account** is more likely to be reported in countries with higher banking costs and without a requirement for banks to provide a basic or low-fee account
- **Don't have enough money to use an account** is more likely to be reported as the only reason in countries without the policy to provide a basic or low-fee account; without KYC exemptions; where correspondent banking is not permitted; where consumer protection is weak; where G2P has not been introduced; and where there is no saving scheme

Conclusions

- A greater use of accounts is associated with a better enabling environment to access financial services such as lower banking costs, greater proximity to branches, and fewer documentation requirements to open an account

- Policies targeted to promote inclusion are especially effective among the most excluded

- Barriers to the use of accounts reported by the unbanked suggest that policies to broaden financial inclusion can expand the pool of eligible account users

List of countries

Afghanistan	Comoros	Indonesia	Mongolia	Sri Lanka
Angola	Congo, Dem. Rep.	Iraq	Mozambique	Swaziland
Argentina	Congo, Rep.	Ireland	Nepal	Sweden
Armenia	Costa Rica	Israel	Netherlands	Syrian Arab Republic
Australia	Cyprus	Italy	New Zealand	Taiwan, China
Austria	Czech Republic	Jamaica	Nicaragua	Tajikistan
Azerbaijan	Denmark	Japan	Niger	Tanzania
Bangladesh	Djibouti	Kazakhstan	Nigeria	Thailand
Belarus	Dominican Republic	Korea, Rep.	Pakistan	Togo
Belgium	Ecuador	Kyrgyz Republic	Panama	Trinidad and Tobago
Benin	Egypt, Arab Rep.	Lao PDR	Paraguay	Tunisia
Bolivia	El Salvador	Latvia	Peru	Turkey
Botswana	Estonia	Lebanon	Philippines	Turkmenistan
Brazil	Finland	Lesotho	Poland	Uganda
Bulgaria	France	Liberia	Portugal	Ukraine
Burkina Faso	Gabon	Lithuania	Romania	United States
Burundi	Georgia	Luxembourg	Russian Federation	Uruguay
Cambodia	Ghana	Malawi	Senegal	Uzbekistan
Cameroon	Greece	Malaysia	Sierra Leone	Venezuela, RB
Canada	Guinea	Mali	Singapore	Vietnam
Central African Republic	Haiti	Malta	Slovak Republic	West Bank and Gaza
Chad	Honduras	Mauritania	Slovenia	Yemen, Rep.
Chile	Hong Kong SAR, China	Mauritius	Somalia	Zambia
China	Hungary	Mexico	South Africa	
Colombia	India	Moldova	Spain	