

FINANCIAL INCLUSION: Measurement and determinants

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Why do we care about financial inclusion?

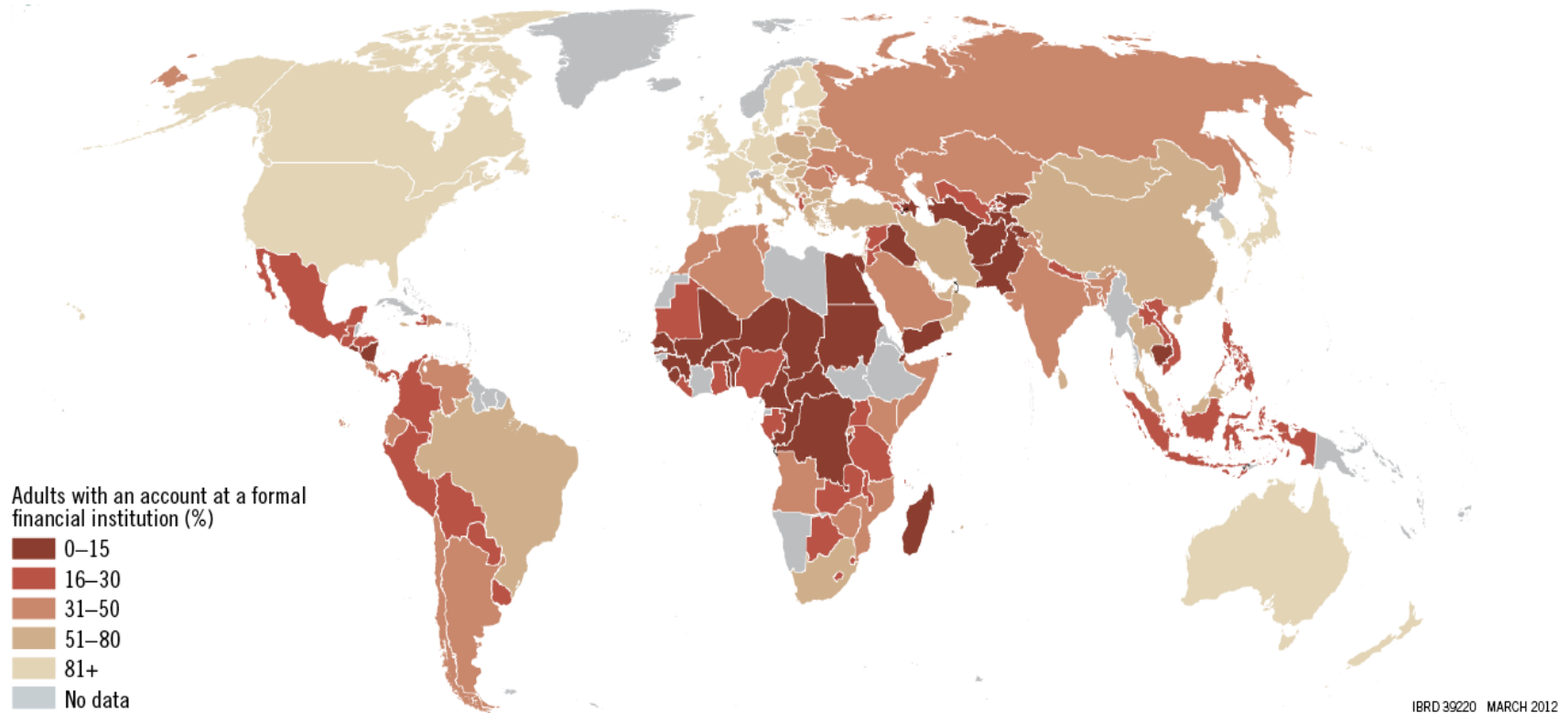
1. Growing evidence that financial inclusion has significant beneficial effects for individuals and firms.
 - Microcredit increases the # of businesses started and improves the profitability of existing ones (Banerjee et al., 2010). Access to credit also has a positive effect on consumption, employment status and income, and some aspects of mental health and outlook (Karlan and Zinman, 2010).
 - 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).
2. 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.

Goals of this research

1. Collect comparable cross-country data on financial inclusion by surveying individuals around the world
 - Measure the use of formal and informal financial services, using a consistent methodology across economies and time
 - Added questions on the use of financial services - *payments, savings, credit, and insurance* - to the 2011 Gallup World Poll
 - Data is publicly available at: www.worldbank.org/globalindex
 - See Demirguc-Kunt and Klapper, 2012 – WP6025

2. Analyze determinants of financial inclusion
 - Focus on account penetration and use
 - Identify individuals that are more likely to be excluded
 - Investigate the impact of country-level characteristics and policies

Account penetration around the world

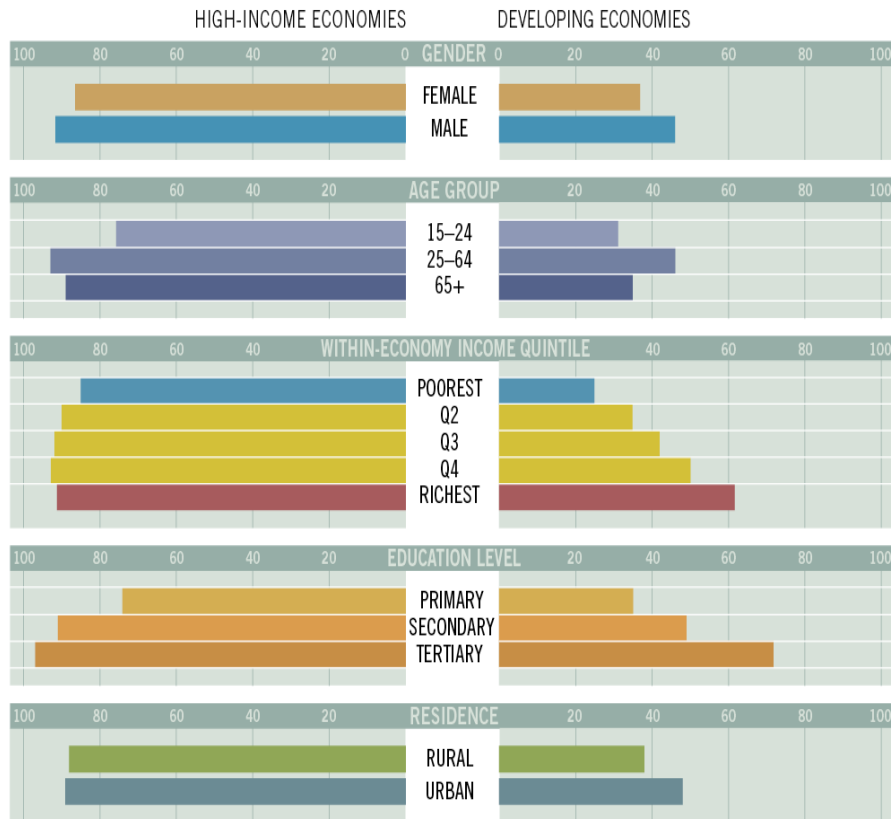


Source: Demirguc-Kunt and Klapper 2012.

- Over 2 billion adults do not have a formal account
- 41% of adults in developing economies are banked—compared to 89% of adults in high-income economies
- 37% of women in developing economies are banked—compared to 46% of men
- 23% of adults living below \$2 per day have a formal account

Account penetration by individual characteristics

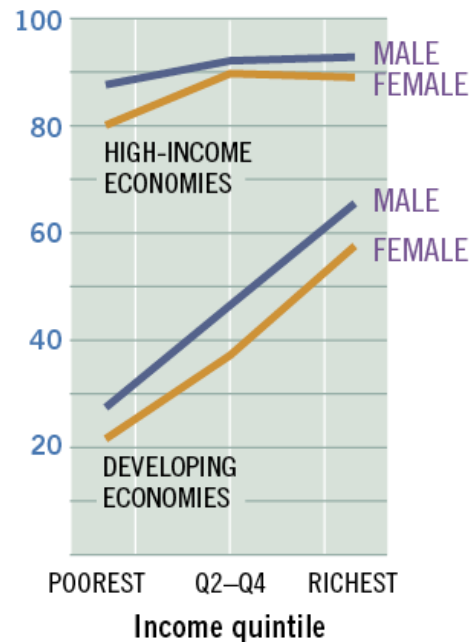
Adults with an account at a formal financial institution (%)



Source: Demirguc-Kunt and Klapper 2012.

Account penetration by gender across within-economy income quintiles

Adults with an account at a formal financial institution (%)

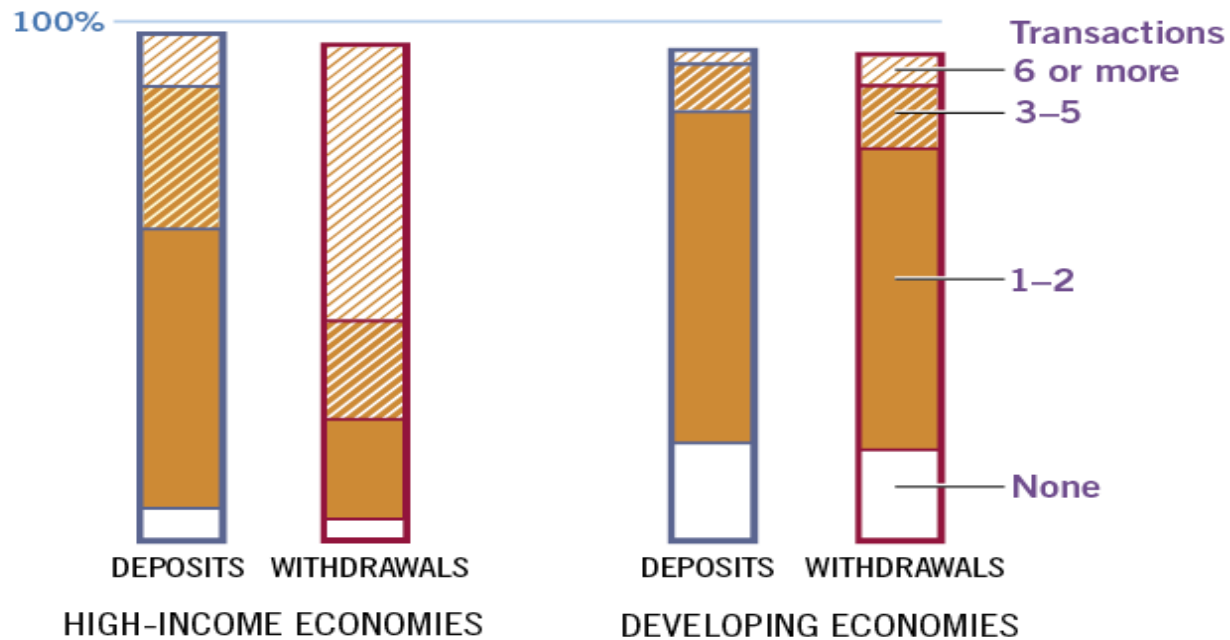


Source: Demirguc-Kunt and Klapper 2012.

- 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

Frequency of deposits and withdrawals by account holders

Adults with a formal account by number of transactions in a typical month (%)

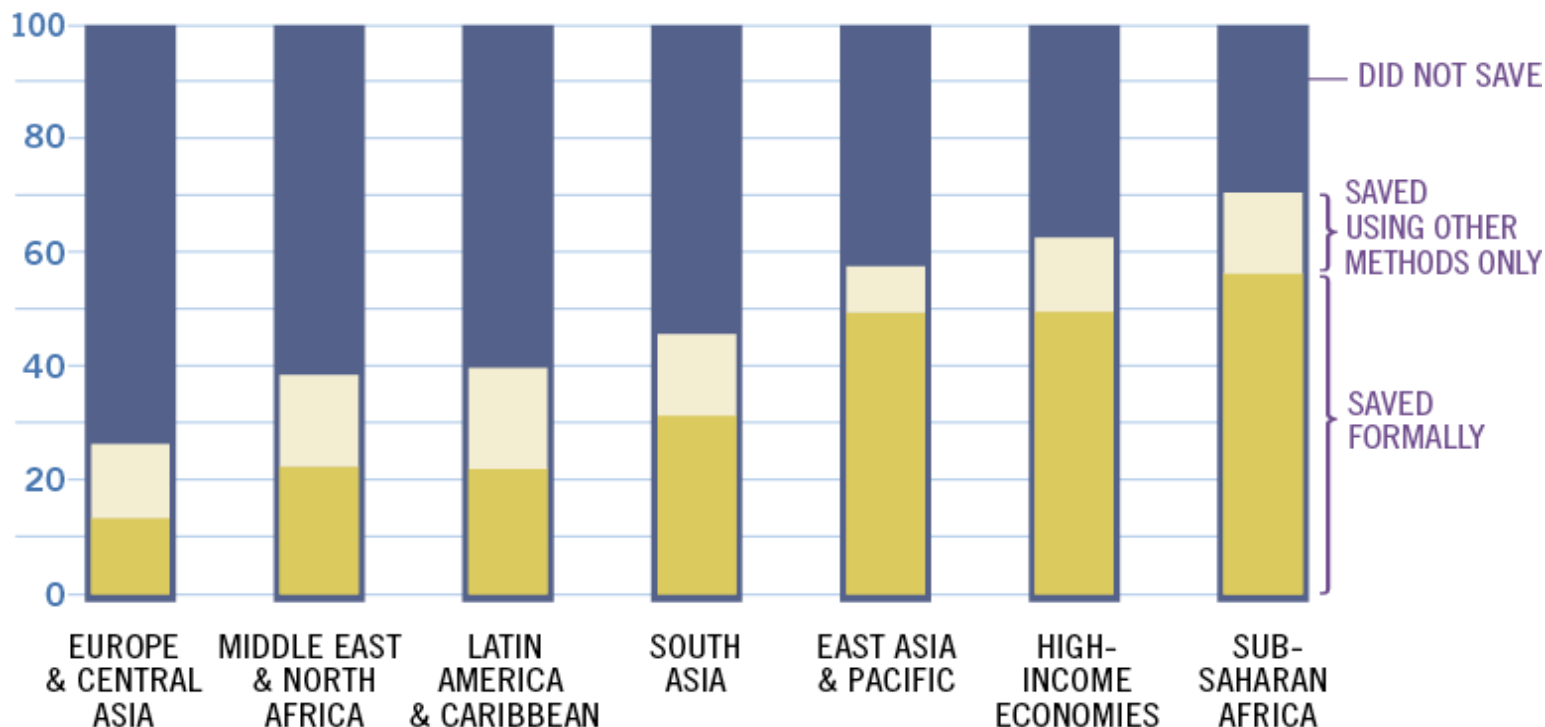


Note: Because of “don’t know” and “refuse” responses, the categories do not sum to 100 percent.
Source: Demirguc-Kunt and Klapper 2012.

- 8% of account holders worldwide have zero deposits and withdrawals in a typical month
- 40% of account holders in developing economies both deposit into and withdraw from their account 1-2 times in a typical month

Savings behavior among account holders

Adults with a formal account by savings behavior in the past year (%)

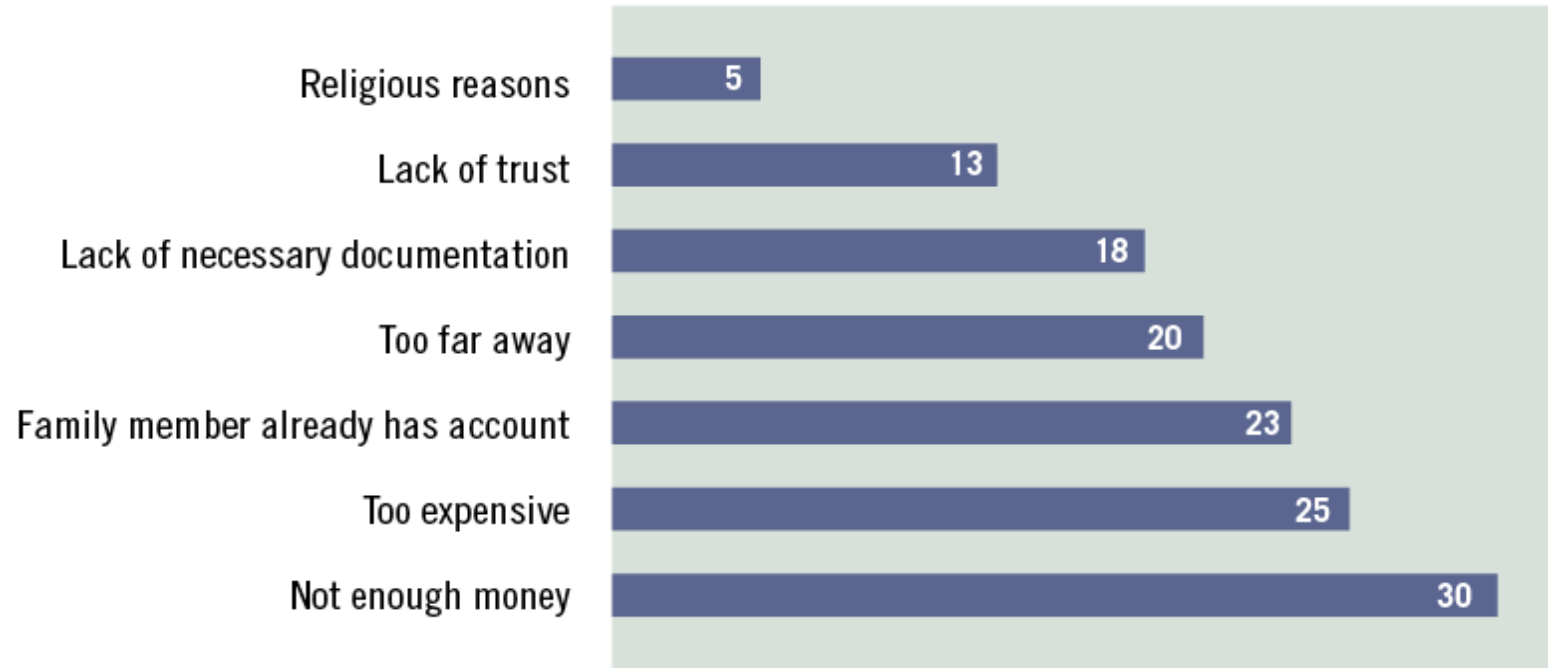


Source: Demirguc-Kunt and Klapper 2012.

- 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

Self-reported barriers to use of formal accounts

Non-account-holders reporting barrier as a reason for not having an account (%)



Note: Respondents could choose more than one reason. The data for “not enough money” refer to the percentage of adults who reported only this reason.

Source: Demirguc-Kunt and Klapper 2012.

- 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

- **Variables of interest**

- 1) Likelihood that individual has an account.
- 2) Likelihood that individual uses account to save
- 3) Likelihood that individual uses account frequently

- **Types of estimations**

- i. Including only individual characteristics
- ii. Examining the impact of country characteristics and policies, controlling for individual characteristics
- iii. Interacting (i) and (ii)

The impact of individual characteristics

Variable	Account Probit	Savings Probit	Savings Probit (Selection)	Use Frequency Probit	Use Frequency Probit (Selection)
Controlling for country fixed effects	Yes	Yes	Yes	Yes	Yes
Female (0/1)	-0.028 (0.022)	-0.006 (0.017)	-0.012 (0.017)	-0.086*** (0.015)	-0.092*** (0.015)
Age	0.039*** (0.003)	-0.001 (0.004)		0.026*** (0.004)	0.032*** (0.004)
Age squared	-0.000*** (0.000)	0.000 (0.000)		-0.000*** (0.000)	-0.000*** (0.000)
Married (0/1)	0.106*** (0.021)	0.045* (0.024)	0.057** (0.027)	0.077*** (0.021)	0.096*** (0.021)
Divorced/Separated (0/1)	0.064* (0.034)	-0.088** (0.034)	-0.076** (0.038)	0.078** (0.034)	0.090*** (0.033)
0 - 8 years of education (0/1)	-0.579*** (0.027)	-0.200*** (0.028)	-0.283*** (0.029)	-0.324*** (0.030)	-0.444*** (0.032)
Confidence in financial institutions (0/1)	0.174*** (0.022)	0.164*** (0.020)	0.181*** (0.020)	-0.027 (0.025)	

- Females are less likely to use accounts frequently.
- Account penetration and use at first increases and then decreases with age.
- Married individuals are more likely to have an account, use it frequently and use it to save.
- Less educated individuals are less likely to have an account, to use it frequently and use to save.
- Trust in financial institutions increases likelihood of having an account and of using it to save.

The impact of individual characteristics (continued)

Variable	Account Probit	Savings Probit	Savings Probit (Selection)	Use Frequency Probit	Use Frequency Probit (Selection)
Controlling for country fixed effects	Yes	Yes	Yes	Yes	Yes
Income: poorest 20% (0/1)	-0.766*** (0.037)	-0.550*** (0.039)	-0.627*** (0.039)	-0.504*** (0.039)	-0.644*** (0.046)
Income: second 20% (0/1)	-0.610*** (0.032)	-0.392*** (0.031)	-0.458*** (0.031)	-0.376*** (0.035)	-0.497*** (0.041)
Income: middle 20% (0/1)	-0.451*** (0.028)	-0.269*** (0.027)	-0.319*** (0.029)	-0.224*** (0.031)	-0.322*** (0.034)
Income: fourth 20% (0/1)	-0.276*** (0.023)	-0.151*** (0.026)	-0.184*** (0.028)	-0.189*** (0.029)	-0.248*** (0.029)
Rural (0/1)	-0.163*** (0.025)	-0.012 (0.022)	-0.032 (0.022)	-0.099*** (0.028)	-0.131*** (0.028)
Employed for employer (0/1)	0.328*** (0.031)	-0.073*** (0.027)	-0.035 (0.027)	0.065* (0.033)	0.134*** (0.035)
Unemployed (0/1)	-0.324*** (0.036)	-0.492*** (0.042)	-0.521*** (0.042)	-0.281*** (0.057)	-0.337*** (0.053)
Out of workforce (0/1)	-0.366*** (0.030)	-0.306*** (0.033)	-0.345*** (0.032)	-0.238*** (0.033)	-0.296*** (0.034)

- The likelihood of having an account and the frequency of use increases with income and employment.
- Rural individuals are less likely to have an account and to use it frequently.

The impact of country characteristics and policies

Variable	Account Probit	Savings Probit (Selection)	Use Frequency Probit (Selection)
Controlling for the log of GDP per capita and individual covariates	Yes	Yes	Yes
Costs of opening a bank account (0/1)	-0.429** (0.171)	-0.160 (0.114)	-0.330** (0.149)
Costs of maintaining a bank account (0/1)	-0.447*** (0.136)	-0.214** (0.106)	-0.174 (0.147)
Costs of direct credit (0/1)	-0.467*** (0.138)	-0.260** (0.105)	-0.268* (0.148)
Costs of debit cards (0/1)	-0.355** (0.171)	-0.235 (0.143)	-0.311 (0.189)
Offer basic or low fee account (0/1)	-0.018 (0.208)	-0.033 (0.114)	0.086 (0.144)
Principle component of KYC requirements	-0.025 (0.036)	-0.015 (0.028)	-0.056 (0.039)
Number of KYC requirements	-0.013 (0.032)	-0.008 (0.024)	-0.043 (0.034)
Exception from KYC requirements (0/1)	0.111 (0.161)	0.051 (0.112)	0.025 (0.143)
Branch penetration (geographic)	0.007** (0.003)	0.002 (0.001)	0.000 (0.002)
ATM penetration (geographic)	0.004*** (0.001)	0.001 (0.001)	0.000 (0.001)
Correspondent banking permitted (0/1)	0.194 (0.127)	0.119 (0.099)	0.141 (0.117)

The impact of country characteristics and policies (cont.)

Variable	Account Probit	Savings Probit (Selection)	Use Frequency Probit (Selection)
Controlling for the log of GDP per capita and individual covariates	Yes	Yes	Yes
Promoting Access in Rural Areas (0/1)	-0.079 (0.142)	0.052 (0.120)	-0.027 (0.142)
Explicit deposit insurance (0/1)	-0.081 (0.177)	-0.168 (0.139)	0.007 (0.147)
Share of member banks' deposits covered	0.006* (0.003)	0.002 (0.002)	0.001 (0.003)
Total disclosure requirements for deposits	-0.041* (0.022)	-0.032** (0.015)	-0.015 (0.018)
Consumer Protection: Monitoring Index	-0.028 (0.040)	-0.003 (0.029)	0.008 (0.031)
Consumer Protection: Enforcement Index	0.029 (0.027)	-0.000 (0.022)	0.041 (0.027)
Actual risk based capital ratio	-0.029* (0.017)	-0.017 (0.013)	-0.012 (0.019)
Bank competition: Lerner	-0.139 (0.755)	0.100 (0.524)	-0.198 (0.705)
Asset share of government controlled banks	-0.001 (0.004)	-0.005* (0.003)	-0.004 (0.003)
Asset share of foreign controlled banks	-0.000 (0.002)	0.001 (0.001)	0.004* (0.002)

The impact of country characteristics and policies (cont.)

Variable	Account Probit	Savings Probit (Selection)	Use Frequency Probit (Selection)
Controlling for the log of GDP per capita and individual covariates	Yes	Yes	Yes
Worldwide Governance Indicator	0.563*** (0.117)	0.361*** (0.091)	0.658*** (0.109)
Legal rights index	0.077*** (0.019)	0.048*** (0.016)	0.065*** (0.022)
Political risk rating	0.032*** (0.008)	0.022*** (0.006)	0.043*** (0.009)
G2P transfers: open accounts (0/1)	0.149 (0.144)	0.088 (0.087)	0.232* (0.125)
Promoting Savings, Savings scheme (0/1)	0.112 (0.175)	0.041 (0.094)	0.272* (0.149)
Promoting Savings, Tax incentive scheme (0/1)	0.330*** (0.125)	0.119 (0.100)	0.213* (0.127)

Interactions with rural

Variable	Account Probit	Savings Probit (Selection)	Use Frequency Probit (Selection)
Controlling for country fixed effects and individual covariates	Yes	Yes	Yes
Costs of opening a bank account (0/1) x rural	-0.124* (0.066)	-0.113** (0.051)	-0.109 (0.092)
Offer basic or low fee account (0/1) x rural	0.191** (0.079)	0.095* (0.053)	0.081 (0.100)
Principle component of KYC requirements x rural	-0.013 (0.016)	-0.025* (0.014)	-0.025 (0.017)
Exception from KYC requirements (0/1) x rural	0.127* (0.068)	0.017 (0.067)	-0.030 (0.070)
Branch penetration (geographic) x rural	0.003*** (0.001)	-0.000 (0.001)	0.001 (0.001)
ATM penetration (geographic) x rural	0.001** (0.001)	-0.000 (0.000)	0.000 (0.000)
Correspondent banking permitted (0/1) x rural	0.072 (0.053)	0.081* (0.046)	-0.043 (0.060)
Promoting Access in Rural Areas (0/1) x rural	-0.092 (0.058)	0.018 (0.062)	-0.112* (0.066)
Explicit deposit insurance (0/1) x rural	0.162** (0.077)	0.147** (0.065)	0.105* (0.058)
Total disclosure requirements for deposits x rural	0.018* (0.009)	0.005 (0.008)	-0.000 (0.010)

Interaction with rural (continued)

Variable	Account Probit	Savings Probit (Selection)	Use Frequency Probit (Selection)
Controlling for country fixed effects and individual covariates	Yes	Yes	Yes
Consumer Protection: Monitoring Index x rural	0.038*** (0.014)	0.030** (0.014)	0.019 (0.018)
Consumer Protection: Enforcement Index x rural	0.033*** (0.011)	0.011 (0.012)	0.031** (0.012)
Actual risk based capital ratio x rural	-0.013 (0.009)	0.011** (0.006)	-0.001 (0.010)
Worldwide Governance Indicator x rural	0.166*** (0.033)	0.039* (0.021)	0.102*** (0.026)
Political risk rating x rural	0.010*** (0.003)	0.002 (0.002)	0.009*** (0.002)
G2P transfers: open accounts (0/1) x rural	0.107* (0.058)	0.061 (0.043)	0.081 (0.058)

Interaction with the poorest 20%

Variable	Account Probit	Savings Probit (Selection)	Use Frequency Probit (Selection)
Controlling for country fixed effects and individual covariates	Yes	Yes	Yes
Principle component of KYC requirements x poorest 20%	-0.022 (0.026)	-0.038* (0.022)	-0.058** (0.027)
Number of KYC requirements x poorest 20%	-0.018 (0.022)	-0.028 (0.020)	-0.055** (0.023)
Branch penetration (geographic) x poorest 20%	0.003** (0.001)	0.000 (0.001)	0.002 (0.002)
ATM penetration (geographic) x poorest 20%	0.002*** (0.001)	0.000 (0.000)	0.001** (0.001)
Correspondent banking permitted (0/1) x poorest 20%	-0.018 (0.087)	0.276*** (0.080)	0.110 (0.086)
Share of member banks' deposits covered x poorest 20%	0.006*** (0.002)	0.003 (0.002)	0.003 (0.002)
Total disclosure requirements for deposits x poorest 20%	0.024* (0.012)	-0.012 (0.012)	0.010 (0.014)
Asset share of government controlled banks x poorest 20%	-0.000 (0.002)	0.004* (0.002)	0.000 (0.002)
Worldwide Governance Indicator x poorest 20%	0.144*** (0.053)	-0.040 (0.042)	0.062 (0.051)
Political risk rating x poorest 20%	0.014*** (0.004)	-0.004 (0.004)	0.007 (0.004)

Conclusions

- The likelihood of having an account, using it frequently, and saving in the account is lower among poorer, less educated, unemployed, and rural individuals.
- Higher costs of bank accounts have a negative impact on the likelihood of having and using bank accounts.
- The presence of banks and the existence of deposit insurance and tax incentives schemes that promote savings are positively related to the likelihood of having an account.
- Better institutions and lower political risks increase the likelihood of having an account, of using it frequently, and of saving in the account.
- The impact of policies and other country characteristics varies across individuals.
 - Account costs, KYC requirements, bank and correspondent presence, deposit insurance, consumer protection, G2P policies and the quality of institutions have a larger impact among rural individuals and individuals in the bottom income quintile.