

Access to Financial Services
and the Financial Inclusion Agenda
around the World

A Cross-Country Analysis with a New Data Set

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Abstract

Recent empirical evidence highlights that access to basic financial services can make a substantial positive difference in improving poor people's lives. Accordingly, financial sector reforms that promote financial inclusion are increasingly at the core of policymakers' agendas. The Consultative Group to Assist the Poor and the World Bank Group, in response, launched the *Financial Access* project, including a cross-country database on financial

inclusion topics and an annual report to inform the policy debate. Using this database, this paper (i) counts the number of unbanked adults around the world at 56 percent, (ii) analyzes the state of access to deposit and loan services as well as the extent of retail networks, and (iii) discusses the state of financial inclusion mandates around the world.

This paper is a product of the Financial Access Team in Consultative Group to Assist the Poor, Financial and Private Sector Development. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at nmylenko@worldbank.org.

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Access to Financial Services and the Financial Inclusion Agenda around the World: A Cross-Country Analysis with a New Data Set*

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1 Introduction

The strong relationship between financial development and economic growth is well documented in the literature (see, for example, King and Levine, 1993; Beck *et al.*, 2000; Demirgüç-Kunt and Maksimovic, 1998; Beck *et al.*, 2004; Levine, 2005; Klapper *et al.*, 2006; Demirgüç-Kunt *et al.*, 2008). In more recent years the debate expanded to include the notion of financial “exclusion” as a barrier to economic development and the need to build inclusive financial systems (Beck *et al.*, 2008).

Recent empirical evidence using household data indicates that access to basic financial services such as savings, payments and credit can make a substantial positive difference in improving poor people’s lives (Caskey *et al.*, 2006; Dupas and Robinson 2009). For firms, especially small and medium enterprises (SMEs), access to finance is often the main obstacle to growth (Schiffer and Weder, 2001; Cressy, 2002; IADB, 2004; and Beck *et al.*, 2005, 2006, and 2008).

Accordingly, financial sector reforms that promote financial inclusion are increasingly at the core of the international development agenda for policy makers and development institutions at the global level. The United Nations (UN) has declared 2005 the Year of Microfinance, and the recent Pittsburg and Korea G-20 communiqués increasingly underscore the importance that this topic has gained in the international arena. The Nobel Institute awarded the Nobel Peace Prize to the founders of microfinance, Muhammad Yunus and the Grameen Bank, in 2006. New international bodies, such as the Alliance for Financial Inclusion (AFI) have emerged whose primary objective is to advance financial inclusion for the world’s poor. The International Monetary Fund (IMF) and the International Finance Corporation (IFC) also increasingly pay attention to this debate. The IMF has launched a new database on financial inclusion,¹ and the IFC together with Consultative Group to Assist the Poor (CGAP) and AFI have been leading the G-20 discussion around financial inclusion for households and SMEs. The Bill & Melinda Gates Foundation has just pledged \$500 million per year over the next five years to expand access to saving services.

Against this backdrop, the World Bank Group (WBG) has initiated the *Financial Access* indicators and reports to respond to a higher demand for data and measurement of financial inclusion. This initiative aims to fill the gap in the data landscape by collecting supply-side data on financial access as well as data on financial inclusion policies and regulations from financial regulators around the world. The pilot round of surveys was implemented and published as *Banking the Poor* in 2008, which was based on data from both regulator and bank surveys, covering 54 countries around the world with a strong focus on Sub-Saharan African countries. Subsequently, CGAP and the WBG launched *Financial Access 2009*, the first in an annual series of reports to inform policy debate and monitor statistics of financial access worldwide. *Financial*

¹ <http://fas.imf.org>.

Access 2009 introduced statistics on the use of financial services in 139 countries and mapped a broad range of policies and initiatives supporting financial inclusion, focusing on data collection and measurement challenges. Building on this, *Financial Access 2010* updated statistics on the use of financial services and analyzed changes that took place in 2009 – a turbulent year for the financial sector in most countries around the world. As more countries provided more and higher quality data after the 2009 report, the focus shifted to the analysis of financial inclusion policies around the world (see World Bank, 2008; CGAP and the World Bank, 2009 and 2010).

This paper uses the *Financial Access* database to count the number of unbanked individuals in the world, and analyze the change of access to formal financial services around the world. Next, it reviews the role of the main financial regulator in relation to the implementation of financial inclusion reforms and mandates to give a broad global picture of the state of financial inclusion policies.

Our findings indicate that 56 percent of adults worldwide are unbanked, although the numbers differ across high-income and developing countries (17 percent and 64 percent, respectively). Overall, we predict a slight improvement in access to financial services in 2009: approximately 50 million more adults have accounts, although the adult population increased by approximately 79 million. The results of the econometric analysis confirm the earlier findings in the literature that higher deposit and/or loan correlation is associated with higher economic and financial development as measured by GDP per capita, the amount of electricity use, the availability of explicit deposit insurance and better credit environment, etc. Although access to deposit services has improved in 2009, the global financial crisis took its toll: volume of deposits and loans shrank. The world as a whole added 65 deposit accounts per 1,000 adults but the number of outstanding loans remained more or less the same.² At the same time, global retail networks, consisting of financial institution branches, ATMs, and POS terminals expanded. Per 100,000 adults, there are 167 new POS terminals, five ATMs, and one bank branch.

The analysis of data on financial inclusion mandates under the purview of financial regulators indicates that financial inclusion is high on policymakers' agendas and reforms are widespread. However, implementation capacity is often limited. Countries that have financial inclusion strategy documents also have more topics under the purview of financial regulators with more resources. Low-income countries have more topics under the purview of financial regulators, but fewer resources.

The rest of this paper is organized as follows. Section 2 describes the methodology and results of counting the number of unbanked adults across the world. The state of and changes in access to deposit and credit services, as well as in the extent of retail networks, are analyzed in Section 3.

² These are calculated for a subset of countries with comparable data in 2008 and 2009.

Data on financial inclusion mandates and reforms are introduced and analyzed in section 4. Section 5 concludes with a discussion.

2 Counting the unbanked

We follow Beck *et al.* (2007) to predict the extent of access to formal deposit services offered by regulated financial institutions by households according to the following model:

$$HH\ Share_i = \beta_0 + \beta_1 \ln \frac{deposits}{1,000\ adults_i} + \beta_2 \ln \frac{branches}{100,000\ adults_i} + \epsilon_i \quad (1)$$

where $HH\ share_i$ is the percentage of adults with a bank account in country i based on various household surveys collected on or after 2006. This data are compiled from various sources: recent Living Standard Measurement Surveys (World Bank, various years) where available, as well as regional sources: for the European Union, the European Commission's Eurobarometer, Special Barometer 260 (2007); for Africa, FinMark Trust's FinScope; for Latin America, Tejerina and Westley (2007), the MECOVI database, and Barr *et al.* (2007); and Nenova *et al.* (2007). These data are referenced and expanded upon in Claessens (2006), Honohan (2008), Gasparini *et al.* (2005) and Beck *et al.* (2007). See Table 1 for further details. Note that although some of these surveys are at the household level and some are at the individual level, Honohan (2008) argues that they can be used interchangeably.

Beck *et al.* (2007) point out that the logarithmic specification on the right-hand-side of (1) is due to outreach indicators having fat tails. Note also that the dependent variable takes values between zero and one only, and to avoid the predicted values from falling outside this range, it is possible to estimate equation (1) using a Tobit specification. Beck *et al.* also state that the coefficients and significance levels are similar under Tobit and OLS, which is also confirmed by our estimation results. Nevertheless, for the predicted values to lie within zero and one as well, Tobit specification is preferred. Table 2 provides the results from estimating equation (1) by both OLS and Tobit using 46 observations. As expected, a larger number of accounts and a larger number of branches per adult are associated with a greater percentage of banked households. The model is then used to predict the percentage of banked households for the rest of the world for which household survey data do not exist. The correlation between the actual and predicted values is 87 percent. See Figure 1 for the fit of the estimated model.

Given the data constraints for the explanatory variables, it is possible to construct out-of-sample predictions for 55 countries. Combined with the actual data available for 46 countries, this enables us to pin down the percentage of banked households for a total of 101 countries. Kendall *et al.* (2010) develop a different methodology and predict the number of accounts for each type of regulated financial institution in the *Financial Access* database. They then convert the number of accounts into the number of banked adults. With this methodology, they are able to predict the

percentage of banked adults for a total of 154 countries. We use their predictions for those countries for which data on explanatory variables in equation (1) were not available, and end up with 154 countries for which there are predictions or actual data on the percentage of formally banked households. The results indicate that, on average, half the world is unbanked. The regional breakdown of these predictions shows that Sub-Saharan Africa (SSA) and South Asia (SA) are the two regions with the lowest percentage of banked individuals, with medians of 12 and 22 percent, respectively. Latin America and the Caribbean (LAC), East Asia and Pacific (EAP), and Middle East and North Africa (MENA) follow with medians of 40, 42 and 42 percent, respectively. In the developing world, Europe and Central Asia (ECA) is the region with the highest percentage of banked households on average, with a median of 50 percent. High-income OECD and non-OECD countries have 91 percent of households banked on average.³

The next step is to calculate the number of unbanked adults in the world. Kendall *et al.* (2010) predict that approximately 2.7 billion adults in the developing world and 160 million adults in the developed countries are unbanked using data from *Financial Access 2009* as well as other sources. As their methodology differs, the predictions based on the methodology presented above are not comparable to their numbers. Hence, we then redo the prediction exercise with the methodology of Kendall *et al.* using updated data from *Financial Access 2010* to understand if there is a major change in the number of unbanked adults. In doing so, we also update the predictions of Kendall *et al.* by expanding their coverage. In the end, using the methodology of Kendall *et al.*, we arrive at two sets of predictions: one for 2008, and the other for 2009, both complemented with additional data from a variety of sources (see Table 3) and for the same sample of 191 countries.

Kendall *et al.* (2010) use a variety of econometric models to predict the number of commercial bank deposit accounts around the world. Table 4 provides the estimation results for the two sets of predictions mentioned above, which are almost identical to the results reported by Kendall *et al.* using *Financial Access 2009* data. We then use these models to predict the number of commercial bank deposit accounts for those countries for which data are unavailable. For the rest of the non-bank financial institution types, no estimation was made as the number of comparable observations at the country level is not sufficient. In addition, not all countries have different types of non-bank financial institutions. Instead, *Financial Access* data for both years are complemented by other data sources (see Table 3), and the number of deposit accounts for each institution type for each reporting country is counted. The total number of deposit accounts across all institutional types within each country is then calculated by adding up the numbers for each institutional type. This prediction exercise yields the total number of deposit accounts in each country. However, the indicator of interest is the total number of banked (or unbanked) adults (see Table 3). Hence, following Kendall *et al.*, we convert the number of deposit accounts

³ See Map 1.1 in CGAP and World Bank (2010), pp.4.

to the number of individuals with an account by using their estimate that, on average, each individual has 3 deposit accounts.⁴

As a result of this exercise we revise the estimate by Kendall *et al.* (2010) for the number of unbanked: as of December 2008, we predict that approximately 2.8 billion adults are unbanked, 175 million of which are in high-income countries, and 2.63 billion are in the developing world. These numbers imply that 58 percent of the world is unbanked (21 percent of adults in high-income countries, and 66 percent in developing countries). The numbers slightly improve by the end of 2009. A total of approximately 2.75 billion adults around the world are predicted to be unbanked, out of which 138 million live in high-income countries and 2.61 billion live in developing countries. Overall, 56 percent of the world is unbanked by the end of 2009, with 17 percent of adults unbanked in high-income countries and 64 percent in developing countries. Hence, about 50 million more adults in the world have bank accounts, and most of the improvement is seen in high-income countries. Note that, at the same time, the total adult population in the world increased by approximately 79 million.

3 Access to financial services

This section presents the state of access to financial services in 2009. We consider deposit and credit services only, as these are the basics. For both deposit services and credit services, we provide an overview of the global picture and summarize the results of econometric analyses. We also compare banks to non-bank financial institutions (NBFIs) in terms of deposit and loan penetration, although data on NBFIs are limited. Next, we consider the outreach of the financial system. An overview of the state of retail networks, including branches, ATMs, and POS terminals as well as urban vs. rural, and bank vs. non-bank divides are presented.

Note that due to limitations in data availability, especially in time dimension, it is not possible to control for potential endogeneity problems between financial service penetration and other indicators of growth and development. Hence, the econometric results reported below should be interpreted with caution, as they are likely not to point to causal effects but are rather partial associations. Furthermore, the data are from a crisis year, which may bias the results.

3.1 Deposits

In 2009 as the global financial crisis unfolded, about 60 percent of countries experienced a decline in real per capita GDP, and for those that went through expansions, median growth was only 2.1 percent. Deteriorating macroeconomic conditions affected the deposit volume around the globe as individuals and firms had to tap into their savings. Seventy-seven percent of countries in our sample experienced a decline in deposit-to-GDP ratio, with an average decline

⁴ Kendall *et al.* (2010) use household survey data together with *Financial Access* data to obtain this estimate.

of 11.8 percent. The overall world deposit-to-GDP ratio decreased from 72 percent at the end of 2008 to 66 percent at the end of 2009.

Yet even in the midst of the crisis, the use of financial services continued to expand. The number of deposit accounts per 1,000 adults increased in 69 percent of the countries reporting data. The world as a whole added 65 accounts per 1,000 adults in 2009, which is roughly a 10 percent increase in the median number of accounts per 1,000 adults. Growth has been uneven across countries, however, and the median change was only 4.3 percent.

Table 5 presents the summary statistics of the main indicators used in this part of the analysis (commercial banks). The table also shows substantial variance among countries in the different indicators. Changes in volume of deposits and number of deposit accounts differ substantially across regions. Europe and Central Asia, where the financial system was severely affected by the crisis, is the region that experienced the largest declines in deposit volumes.

Europe and Central Asia is also one of the regions that performed significantly worse than the rest of the world, with a decline in the number of deposit accounts of 1 percent. Sub-Saharan Africa, the region with the lowest level of deposit account penetration, experienced the second largest median increase in the number of deposit accounts per 1,000 adults, surpassed only by Latin America and the Caribbean. Both regions have experienced increases significantly larger than the rest of the world.

The variation in changes in the number of deposit accounts and the volume of deposits exhibit similar patterns across income groups. Middle-income and high-income countries on average experienced a significantly larger decline in volume of deposits as a percentage of GDP than did the low end of the world income distribution, mostly because of the effect of the financial crisis. Though the largest median increase in deposit account penetration is observed in the poorest 20 percent of countries, the richest 20 percent have seen only a slight expansion.

A thorough analysis of the cross-country covariates of deposit account penetration implies that the level of economic development is of great consequence. Table 6 reports the results of various models estimated by OLS with the number of deposit accounts per 1,000 adults in commercial banks as the dependent variable. GDP per capita and population density are both significantly and positively associated with deposit account penetration, confirming the results by Kendall *et al.* (2010). Hence, in what follows, we control for GDP per capita and population density and discuss partial associations with the rest of the variables.

Indicators of overall macroeconomic conditions apart from GDP per capita are not significant. Inflation rate, which was significant with a negative coefficient in Kendall *et al.* is not statistically significant with 2009 data. To control for the effects of the global financial crisis, we used a variable that we named as “expected real economic growth,” which is an indicator variable that takes a value of one if the actual real GDP growth in 2008 was negative and the expected real GDP growth for 2009 is positive, to capture a positive economic outlook for a

country. The source of the expected real GDP growth data is World Economic Outlook by the IMF (IMF, April 2010). According to our results, this variable is not statistically significant. Deposit rate, on the other hand, is significantly positively correlated with the number of deposit accounts.

Among the infrastructure indicators, electricity consumption does not have a significant relationship with deposit penetration, whereas the number of land line and cell phone users is positively correlated with the number of deposit accounts. Financial sector infrastructure indicators, such as the number of commercial bank branches per 100,000 adults and per 1,000 square kilometer that measure the geographic and demographic outreach of the financial system, are positively and significantly related to deposit penetration.

The legal environment, measured by the index of the strength of legal rights for borrowers and lenders, is also closely related to deposit penetration. A favorable legal environment for lending may enable banks to operate more profitably through lending and to grow, eventually leading to an expansion of deposit services. The analysis of the correlation between deposit account penetration and other indicators of favorable credit environment also produces similar findings. Moreover, the availability of explicit deposit insurance scheme suggests higher deposit penetration.

A greater degree of competition, as proxied by the concentration ratio in the banking sector, is associated with greater deposit penetration. This is in line with earlier studies (see, for example, Demirgüç-Kunt and Huizinga, 1999) arguing that competition in the banking sector would increase efficiency, and in turn, would lead to a larger variety of products and services offered to a larger depositor base.⁵ The analysis of the correlation between the interest rate spread (lending rate minus deposit rate) and deposit account penetration lends support to this argument (not shown in Table 6). Countries with lower interest rate spreads also show a higher number of deposit accounts per 1,000 adults.

Analysis of the volume of deposits normalized by GDP offers further insight into the factors affecting financial access (Table 7). Although inflation, as a proxy of macroeconomic stability, is not significantly correlated with the number of deposit accounts, it is negatively related to deposit volume. In other words, macroeconomic stability seems to matter for the decision of how much money to put in the bank account, but not for having an account at all. This result is consistent with the evidence of a simultaneous decrease in deposit volume and increase in number of accounts despite the financial crisis. It also supports the view that a deposit account is a basic service, and having one is inelastic with respect to macroeconomic disturbances.

The analysis of the changes in the number of deposit accounts per 1,000 adults between 2008 and 2009 highlights the importance of macroeconomic stability and growth for improving

⁵ Note that a higher degree of competition and lower concentration are not necessarily the same. Concentration is only one dimension of competition, and hence used as a proxy for competition.

financial access. The change in the number of accounts per 1,000 adults is strongly positively correlated with macroeconomic outlook, measured by short-run forecasts of real per capita GDP growth. In addition, lower deposit penetration at the end of 2008 is positively associated with a greater change in the number of deposit accounts per 1,000 adults.

A number of other macro and policy environment variables were tested and showed weak correlations after controlling for income per capita (Table 8). Overall, the results indicate that access to basic deposit services continues to improve, but macroeconomic stability and growth are essential for sustainable improvement in financial access.

3.1.1 Banks vs. non-banks in access to deposit services

Robust analysis of the changes in the number and volume of deposits between banks and non banks is not feasible due to data limitations.⁶ Only 73 countries were able to provide data on the breakdown of deposits by the type of depositors and financial institutions. Estimates from the smaller subset of countries with comparable data suggest that commercial banks experienced a larger decline on average in deposit-to-GDP ratio than non-banks, while also enjoying a larger median increase in the number of accounts per 1,000 adults.

Banks are the main providers of deposit services around the world. The majority of the deposit volume by both individuals and non-financial businesses are in commercial banks. 91 percent of total deposit volume and 94 percent of total deposit accounts are held in commercial banks. These numbers should be interpreted with caution, as they are likely to underestimate the share of deposits held by non-banks due to limited reporting on deposit volumes and especially on the number of accounts for non-bank financial institutions (NBFIs).

Deposits by individuals account for the vast majority of deposit volume. Deposits held by individuals account for 71 percent of the total volume of deposits and 96 percent of the number of accounts. Individual deposits represent a greater share of bank deposit volume (76 percent) as well as a greater share of deposit volume in NBFIs (86 percent).

3.2 Loans

Credit services fared much worse than deposits in 2009. Indeed, the global financial crisis took its toll on access to credit services, with the value of loans as a percentage of world GDP declining from 74 percent to 65 percent. In about 85 percent of countries, loan volume as a share of GDP declined in 2009. At the same time throughout the year, the number of outstanding loans per 1,000 adults remained more or less unchanged. The number of outstanding loans per 1,000 adults decreased in 57 percent of the countries. Table 5 presents the summary statistics for these indicators aggregated at the world level and also at the regional level. The differences in median changes in commercial bank loan volume (as a percentage of GDP) show less variation across

⁶ For further details on data limitations, see Kendall *et al.* (2010).

countries than median changes in the number of loans. Loan volume as a percentage of GDP dropped in all regions.

Although all regions have seen contractions in lending volumes, there is significant variance amongst regions. Europe and Central Asia, where the financial system was severely affected by the crisis, experienced the largest decline in lending volumes. All the countries in that region for which data are available experienced drops in loans-to-GDP ratios ranging between 19 percent and 52 percent. All countries in Latin America and the Caribbean, but one, also experienced declines in lending volumes. For the number of outstanding loan accounts, the picture differs. Some regions have even seen improvements in loan account penetration. For instance, all countries in the Middle East and North Africa, except for Israel, underwent expansions in the number of outstanding loans. Conversely, all countries in Europe and Central Asia, except for Albania and Turkey, have had contractions in the number of outstanding loans.

Table 9 presents the regression results where the dependent variable is the number of outstanding commercial bank loans per 1,000 adults. Confirming the findings by Kendall *et al.* (2010), we find that while GDP per capita is significantly positively associated with loan penetration, population density is insignificant. On the other hand, the number of outstanding loans is negatively correlated with inflation. Branch penetration and physical infrastructure indicators such as phone lines per capita are significantly positively related to loan penetration.

The link between loan penetration and banking sector concentration is negative, indicating that more competitive banking markets have higher levels of credit access. Better creditor rights and comprehensive credit information systems are associated with greater access to financial services. The minimum amount of consumer loans that banks make as a percentage of GSDP per capita, as a non-price barrier to accessing credit services, is significantly negatively related to number of outstanding loans.

There is also a positive link between the existence of explicit deposit insurance and loan penetration. Similar to the effect of credit rights on deposits, this indicates that to improve access to financial services, a favorable business climate that supports both deposit and loan services is essential. Sustainable improvement in access to credit is possible only if sustainable financial institutions are able to effectively manage both the asset and liability sides of their balance sheets.

Loan volume as a ratio to GDP is significantly positively related to GDP per capita and population density, and negatively related to inflation and lending rate (Table 10). Offshore financial centers have larger loan volumes as a percentage of GDP, after controlling for income per capita and population density. Branch penetration and allowing agents to provide credit related services are positively related to loan volume, in addition to a favorable credit environment measured by legal rights of borrowers and lenders, and better credit information systems.

Countries with higher expected GDP levels are more likely to experience an increase in the number of loans per 1,000 adults (Table 11). This also means that countries where macroeconomic expectations are negative are more likely to experience decreases in loan numbers as demand shrinks and banks tighten supply as credit quality deteriorates. Increase in loan penetration is larger for countries with a smaller number of outstanding loans to start with, indicating that even after controlling for expected GDP—a proxy for macroeconomic stability—access to credit continues to expand. The implications of these results are twofold. First, similar to deposit services, there is evidence that access to financial services is improving, albeit slowly. Second, macroeconomic stability is fundamental for access to credit services.

3.2.1 Banks vs. non-banks in access to credit services

Comparison of the data provided by regulators on loans granted by banks and nonbanks is difficult for the same reasons highlighted earlier with regard to deposit services. The subset of countries with comparable data on the number of loans includes only 19 countries. The numbers are even smaller for specialized state financial institutions and microfinance institutions: 15 and 7 countries, respectively. In all cases, the average percentage change in the number of loans is not statistically significantly different from zero, similar to commercial banks.

The decline in loan volume is essentially even across different financial institutions. Nevertheless, NBFIs have experienced an increase, on average, in the number of loans per 1,000 adults, the median increase being 9 percent. It is important to note, however, that a number of countries in the sample which did not report any data on some or all types of NBFIs in 2009 did so in 2010, leading to a possible overestimation of the changes in loan volume.

Among the regulated financial institutions, banks hold 87 percent of loans-to-GDP ratio and 81 percent of number of outstanding loans per 1,000 adults. Among NBFIs, cooperatives and credit unions are the major source of credit by volume as well as by number, though the structure of the NBFIs sector varies greatly from country to country. For example, in Spain and France, cooperatives account for at least half the credit volume while in South Korea, specialized state financial institutions account for nearly 67 percent of the volume.

Loans to firms represent 43.5 percent of the credit portfolio by value, but only 17.4 percent in terms of number. Banks are the main providers of credit to firms, while NBFIs are more often geared towards serving individuals in terms of volume. Nevertheless, the number of outstanding loans to individuals by banks constitutes the bulk of bank loans by number, if not by volume.

3.3 Outreach

Global retail networks, consisting of financial institution branches, ATMs, and POS terminals, expanded in 2009. The world on average added about one bank branch, five ATMs, and 167 POS terminals per 100,000 adults. However, this growth was not universal. The number of bank branches decreased in 43 percent of countries, about half of which are high-income and Eastern

European countries. The number of ATMs decreased in 16 out of 104 countries, and the number of POS terminals decreased in 13 out of 77.

Growth in the retail network varies across regions and income groups. Low-income countries show the highest rates of growth in the number of bank branches, ATMs, and POS terminals, which is another sign of improved access to financial services. Africa, South Asia, and the Middle East, the regions with the lowest levels of retail network outreach, show higher rates of growth in the number of bank branches and ATMs.

The growth in low-income countries starts from a low base, especially for ATM and POS numbers, and the increase in coverage is less pronounced. For example, a 27 percent increase in the number of ATMs in Malaysia translates into an increase in coverage by more than 10 ATMs per 100,000 adults, but an equivalent percentage change in Kenya adds only 1.6 ATMs per 100,000 adults. At the extreme, Burundi doubled the number of ATMs but still has only about 0.08 ATMs per 100,000 adults—a total of four ATMs in the entire country. Less dramatic examples are Syria (with 366 ATMs) and Malawi (with 203 ATMs)—both doubled the number of ATMs, resulting in coverage of 2.6 ATMs per 100,000 adults. Overall, patterns of retail network outreach are broadly unchanged.

Tables 12 and 13 show the regression results where demographic penetration of branches—measured by number of branches per 100,000 adults—and geographic penetration of branches—measured by number of branches per square kilometer—are used as dependent variables, respectively. While GDP per capita, and number of phone users are significantly positively associated with both measures of branch penetration, population density is significantly positively associated only with geographic branch penetration. No other variable is found to have a statistically significant relationship with branch penetration.

Table 14 reports the partial association between changes in branch penetration and relevant indicators. The statistically significant results indicate that countries with lower branch penetration to start with have larger increases in branch penetration. Moreover, change in the number of banks is positively related to change in the number of branches. Regional dummies for East Asia and Pacific, Latin America and the Caribbean, high income, and offshore financial center dummies all have significant coefficient estimates with negative signs, indicating countries in those groups experienced decreases in branch penetration.

3.3.1 *Branches vs. non-branch retail locations*

Despite the fast growth, ATM and POS networks remain small relative to branch networks in low and middle-income countries. In 2009 the average number of ATMs barely exceeded the number of bank branches in low-income countries for the first time. There are two ATMs per bank branch in middle-income countries and three per bank branch in high-income countries. In South Asia the ratio is the lowest – on average there is one ATM for two bank branches. It is important to note that a greater number of ATMs does not automatically mean better access. For

example, lack of interoperability in the system requiring each bank to build its own ATM network raises overall cost.⁷ Still, the magnitude of variation between regions and income groups is indicative of the physical reach of the existing retail network.

As new technologies evolve, the trends in the use of ATMs and POS are changing. Data show that the number of ATMs relative to the number of branches slightly declined in high-income countries. At the same time the number of POS increased, reflecting a growing reliance on non-cash payments. A greater use of electronic transactions through internet and cell phones may also reduce the need for ATMs going forward. For now though, as cash remains the main medium of exchange for retail transactions in most countries, cash-in-cash-out points, whether it be branches, ATMs or POS allowing cash-back, are essential elements of financial access.

3.3.2 Banks vs. nonbanks in retail networks

Worldwide, banks have the largest branch network representing two-thirds of all branches. Cooperatives are the second largest with 23 percent of branches worldwide (Figure 2). In over 60 percent of countries (52 out of 83) with the data, non-banks had half the number of branches of commercial banks. The number of cooperative branches exceeds the number of bank branches only in a small number of countries, namely Austria, Burundi, Germany, Hungary, Korea, and Spain. Figure 2 likely underestimates the size of the nonbank branch network due to data limitations for non-banks.

Commercial banks mainly target urban areas. Most bank branches are located in urban areas, representing 90 percent of all financial institutions in urban areas. On average, only 24 percent of all bank branches are in rural areas, compared to 40 percent in cooperatives and specialized state financial institutions and 50 percent in microfinance institutions (Figure 2). Even though a smaller share of bank branches is located in rural areas, they still provide the bulk of rural coverage.

Data limitations do not allow for a robust change analysis in bank versus non-bank branch network. The challenge is threefold. First, in a number of countries information on a larger number of NBFIs is not available. Second, financial institutions changed their status by becoming banks in a number of countries. Third, only partial data are available, distorting comparison of banks and non-banks within the system. For a small subset of countries with comparable data for banks and non-banks (45 countries), there is no statistically significant difference in the growth rate of bank and non-bank branch networks.

4 Financial inclusion agenda

In addition to collecting fundamental indicators on financial access, the survey also explores the extent to which financial regulators are mandated to oversee financial inclusion. Historically, the

⁷ See, for example, Saloner and Shepard (1995) and Prager (1999).

main role of the financial regulator has been to ensure the stability of the financial system, focusing on regulation and supervision for the safety and soundness of financial institutions. With many countries embracing financial inclusion as a reform objective and putting in place programs to expand financial access, some regulators are playing a more promotional role as well. However, recent financial crises underscored the dilemma of choice between encouraging financial sector growth, especially credit, and maintaining the stability of the financial system.

4.1 Financial inclusion mandates and reforms

The survey asked financial regulators which of the following topics relevant for a financial inclusion agenda were under the purview of their agency: consumer protection, financial capability, regulation of microfinance, promotion of savings, promotion of access to finance for SMEs, and promotion of rural finance.

We find that 86 percent of countries in the sample have at least one element of financial inclusion under their responsibility. Seventy-one percent of countries stated they have at least two elements of financial inclusion under their responsibility. About half have at least three, and only 17 percent of the countries in our sample have all elements of financial inclusion under their mandate.

Regulators from developing countries tend to be more concerned with financial inclusion as a policy objective. They have, on average, more topics under their mandate than developed countries do (3.34 versus 2.13 out of a maximum of 6). Consumer protection and financial literacy are the topics that seem to be important across all regions but developing countries also seem to place a lot of emphasis on the rest of the topics as well. A plausible explanation could be that richer countries have already achieved higher levels of inclusion and do not have the need to actively pursue policy goals in this respect. However, consumer protection and financial literacy are topics that are always relevant especially in the light of the recent financial crisis.

The survey also asked regulators whether there were reforms in the following ten areas in 2009: (1) consumer protection, (2) financial literacy, (3) basic accounts, (4) government-to-person transfers, (5) access to finance in rural areas, (6) microfinance, (7) know-your-customer (KYC) requirements, (8) access to finance by SMEs, (9) branchless banking, and (10) over-indebtedness. Consumer protection is the most popular area of reform, followed by KYC requirements, access to finance by SMEs, microfinance, access to finance in rural areas, and financial literacy. The remaining four areas are not as popular. Consumer protection reforms are especially popular in high-income countries. Reforms are widespread in South Asia, East Asia and Pacific, Sub-Saharan Africa, Latin America and the Caribbean, and Middle East and North Africa also have, on average, reforms in 4-5 areas.

4.2 Strategy documents

Not only is financial inclusion high on regulators' agenda but we also find that many regulators draft comprehensive financial inclusion strategy documents in order to help them advance their policy objectives. Forty-five percent of regulators in the sample have produced such documents, and have done so recently. Two-thirds of countries that report the existence of financial inclusion strategy documents have drafted them in the last three years and 91 percent have done so after 2004. In addition, we find that countries that have strategy documents also have more topics under their responsibility and more resources allocated to achieving their financial inclusion objectives.

4.3 Resource gap

Low-income countries, in addition to more pressing financial inclusion needs with lower levels of access and with more financial inclusion topics under the responsibility of the regulators, need to manage with fewer resources available to overcome their challenges. One possible measure of the resource gap is to count the existing teams or units within regulators that work on topics in the financial inclusion agenda which are under the purview of their agencies. According to the survey, many regulators have more topics under their responsibility than teams and staff working on these topics. The problem is even more severe for low-income countries.

4.4 Cross-country covariates of financial inclusion mandates and reforms

Table 15 summarizes the output of selected econometric analyses on the partial association between the existence of various types of financial inclusion mandates and reforms, and deposit penetration. The results show a negative correlation, suggesting the possibility that the direction of causality may, in fact, run from the extent of financial access to the number of items in the financial inclusion agenda and reforms. We henceforth take this approach and report the results of these analyses in Tables 16 to 21.

We form two indices using data on the six topics of financial inclusion under the purview of financial regulators. One index, named as FI index, assigns a value between 0 and 1 to each country based on the number of topics under the regulator's mandate, 0 for no topics and 1 for all six topics simultaneously. However, this may not be an ideal measure for the comprehensiveness of the regulators' financial inclusion agenda because it does not provide us with any information on the implementation capacity of the regulators. Therefore, we also form a second index, named FI effective index, which is also between 0 and 1, that takes into account the topic under purview together with the availability of designated staff or teams that work on that topic. In this case, a country can have a value of 0 for this index even if it has a value of 1 in the FI index, simply because there are no teams designated to work on any one of the topics. A value of 1 for the FI effective index means that the regulator has all six topics under its mandate, and each topic has a designated team. Although this second index is not an exact measure of if and how the financial inclusion agenda is implemented, it is a proxy of implementation capacity.

Table 16 uses FI index and FI effective index as dependent variables in Tobit regressions. Countries with lower income per capita levels, after controlling for deposit and loan penetration, have more topics under the mandate of the regulators. This result also holds for countries with a positive economic outlook. The existence of explicit deposit insurance is negatively related to both indices, and loan penetration is positively related to the FI effective index. Hence, poorer countries seem to have a more loaded financial inclusion agenda.

The extent of reforms, measured by a similar index constructed using the ten areas of financial inclusion reforms surveyed, is also negatively related to GDP per capita, and not related to the degree of deposit or loan penetration. However, once the items in the financial inclusion agenda are controlled for using the two indices described above, the effect of GDP per capita is no longer observed. Countries that have a more loaded financial inclusion agenda seem to have a higher number of reforms in 2009 (Table 17), although it is not possible to comment on the effectiveness of the reforms.

When examining specific areas of financial inclusion topics, we find that countries with lower GDP per capita and lower deposit penetration are more likely to have promotion of basic accounts as a mandate of the regulator with a designated team (Table 18), whereas regulators in countries with lower GDP per capita and a positive economic outlook tend to have promoting access to finance in rural areas as a mandate (Table 19). Financial consumer protection and financial literacy are the two topics that are likely to receive more attention in countries where loan penetration is higher (Table 20), but countries with explicit deposit insurance tend to be less likely to have financial literacy as a mandate for the regulator with a designated team. Lastly, countries with lower GDP per capita levels are more likely to have their regulators work effectively on promoting access to finance by SMEs (Table 21).

5 Conclusion

Using the *Financial Access* database by CGAP and the World Bank Group, this paper (i) counts the number of unbanked adults around the world, (ii) analyzes the state of access to deposit and loan services as well as the extent of retail networks, and (iii) discusses the state of financial inclusion mandates around the world.

The findings indicate that there is yet much to be done in the financial inclusion arena. Fifty-six percent of adults in the world do not have access to formal financial services. The situation is even worse in the developing world with 64 percent of adults unbanked. Nevertheless, high-income countries also have to worry because approximately one in every five adults is unbanked. On the contrary to conventional wisdom, poor people indeed need and use financial services, albeit in small amounts and usually from informal sources as it is costly for formal providers to provide services for such small amounts. Anecdotal evidence suggests that informal financial

services are at least 5-10 times more costly and also less reliable than formal ones. Hence, making formal and affordable financial services available for the unbanked would definitely have positive consequences on the lives of these people.

Fortunately, the need for improving access to financial services and building inclusive financial systems are increasingly at the core of policymakers' agendas. The data indicates that access to deposit services have improved in 2009 despite the crisis. In addition, financial regulators are increasingly assuming the role of promoting financial access besides their traditional roles of regulating and supervising financial institutions for the soundness of the financial system and to ensure financial stability.

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Table 1: Household survey sources, years and countries

Country	% households with access to a bank account	Source
Austria	91	Eurobarometer
Bangladesh	32	Nenova et al.
Belgium	96	Eurobarometer
Bolivia	9.9	Tejerina & Westley
Botswana	41	FINSCOPE
Brazil	39.7	Barr et al.
Colombia	39.2	Barr et al.
Czech Republic	83	Eurobarometer
Ecuador	35	Honohan
Estonia	89	Eurobarometer
France	97	Eurobarometer
Greece	90	Eurobarometer
Guatemala	17.8	Claessens
Hungary	70	Eurobarometer
India	48	Nenova et al.
Ireland	89	Eurobarometer
Italy	69	Eurobarometer
Kenya	27	FINSCOPE
Latvia	80	Eurobarometer
Lesotho	18	FINSCOPE
Lithuania	78	Eurobarometer
Malawi	19.1	FINSCOPE
Mexico	44.1	Barr et al.
Mozambique	11.8	FINSCOPE
Namibia	45.3	FINSCOPE
Netherlands	96	Eurobarometer
Nigeria	21	FINSCOPE
Pakistan	11	FINSCOPE
Panama	35.2	Tejerina & Westley
Paraguay	3.7	Tejerina & Westley
Peru	4.5	Tejerina & Westley
Philippines	26	Nenova et al.
Poland	70	Eurobarometer
Rwanda	26	FINSCOPE
Singapore	98	Nenova et al.
Slovakia	82	Eurobarometer
Slovenia	96	Eurobarometer
South Africa	60	FINSCOPE
Spain	91	Eurobarometer
Sri Lanka	59	Nenova et al.
Swaziland	35.3	FINSCOPE
Thailand	59	Nenova et al.
Uganda	18	FINSCOPE
United Kingdom	93	Eurobarometer
United States	93	FDIC, U.S. Census
Zambia	14.6	FINSCOPE

Table 2: Prediction models for percentage of banked households

	OLS	Tobit
log (Deposits per 1,000 adults)	20.02*** (3.62)	20.02*** (3.54)
log (Branches per 100,000 adults)	3.65** (1.55)	3.65** (1.52)
Constant	-87.88*** (23.05)	-87.88*** (22.53)
σ	-	16.53 (2.08)
N	46	46 [†]
R^2	0.72	0.13 [±]

Notes: Dependent variable is percent of households banked.

[†] Number of uncensored observations is 46.

[±] Pseudo R^2 is reported for Tobit specification.

***, **, * indicate significance at 1%, 5% and 10%, respectively.

Table 3: Data sources and models used in the estimation of the number of accounts in commercial banks, cooperatives & credit unions, specialized state financial institutions and microfinance institutions.

Commercial Banks

	# countries	% sample	% final count 2008	% final count 2009
Actuals	110	58%	59.4%	59.0%
Model (1)	22	12%	11.1%	11.3%
Model (2)	7	4%	26.0%	26.3%
Model (3)	1	1%	0.3%	0.3%
Model (4)	1	1%	0.1%	0.1%
Model (5)	25	13%	1.8%	1.8%
Model (6)	25	13%	1.3%	1.3%
Totals	191	100%	100%	100%

Cooperatives & Credit Unions

	# countries	% sample	% final count 2008	% final count 2009
Actuals	65	58%	54.6%	54.7%
WOCCU	38	34%	28.7%	28.7%
EACB	9	8%	16.6%	16.6%
Totals	112	100%	100%	100%

Notes: WOCCU is World Council of Credit Unions; ECBA is European Cooperative Banking Association.

Specialized State Financial Institutions

	# countries	% sample	% final count 2008	% final count 2009
Actuals	79	59%	61.5%	61.4%
CGAP "Big Numbers" *	55	41%	38.5%	38.6%
Totals	134	100%	100%	100%

Notes: CGAP "Big Numbers" refers to data gathered for CGAP, Occasional Paper No. 8, 2004.

Microfinance Institutions

	# countries	% sample	% final count 2008	% final count 2009
Actuals	95	75%	88.7%	89.4%
Microfinance Exchange (MIX)	31	25%	11.3%	10.6%
Totals	126	100%	100%	100%

Note: MIX numbers are values voluntarily reported by MFIs and aggregated at the country level.

Table 4: Prediction models of the number of deposit accounts in commercial banks

This table shows the estimates of OLS regressions of the number of deposit accounts in commercial banks per thousand adults on several covariates. Each column represents a different regression. The dependent variable in each regression is $\ln(\text{Number of accounts in commercial banks per 1,000 adults})$.

2008	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
$\ln(\text{GDP/capita})$	0.540*** (0.117)	0.696*** (0.101)	0.530*** (0.114)	0.687*** (0.101)	0.864*** (0.085)	
High Income dummy	-1.035*** (0.319)	-1.167*** (0.326)	-1.026*** (0.323)	-1.153*** (0.330)	-1.170*** (0.328)	1.225*** (0.220)
$\ln(\text{Population Density})$	0.095 (0.081)	0.110 (0.101)	0.117 (0.074)	0.131 (0.093)	0.212** (0.099)	0.110 (0.112)
$\ln(\text{Private Credit/GDP})$	0.262 (0.172)	0.367** (0.165)	0.327** (0.142)	0.428*** (0.152)		
$\ln(\text{Branches/100,000 Adults})$	0.324** (0.145)		0.333** (0.143)			
$\ln(\text{Value Deposits/GDP})$	0.149 (0.159)	0.134 (0.157)				
Constant	1.330 (1.034)	0.841 (1.224)	1.248 (1.006)	0.795 (1.189)	-1.415 (0.951)	5.572*** (0.525)
Observations	77	78	78	79	83	85
R-squared	0.729	0.695	0.725	0.689	0.672	0.172
Adjusted R-squared	0.706	0.674	0.706	0.672	0.659	0.152
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

2009	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
$\ln(\text{GDP/capita})$	0.568*** (0.119)	0.668*** (0.099)	0.570*** (0.113)	0.709*** (0.090)	0.815*** (0.073)	
High Income dummy	-0.786*** (0.276)	-0.878*** (0.256)	-0.801*** (0.272)	-0.977*** (0.255)	-0.874*** (0.274)	1.412*** (0.209)
$\ln(\text{Population Density})$	0.092 (0.077)	0.088 (0.092)	0.132* (0.072)	0.144 (0.088)	0.206** (0.090)	0.095 (0.101)
$\ln(\text{Private Credit/GDP})$	0.116 (0.208)	0.194 (0.185)	0.212 (0.142)	0.317** (0.140)		
$\ln(\text{Branches/100,000 Adults})$	0.225 (0.155)		0.259* (0.150)			
$\ln(\text{Value Deposits/GDP})$	0.231 (0.206)	0.228 (0.195)				
Constant	1.268 (1.064)	1.055 (1.145)	0.872 (1.031)	0.366 (1.105)	-1.118 (0.826)	5.638*** (0.462)
Observations	83	83	89	91	98	100
R-squared	0.701	0.687	0.721	0.718	0.681	0.204
Adjusted R-squared	0.677	0.667	0.704	0.705	0.670	0.188
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Table 5: Summary statistics

	N	Mean	Std. Dev.	25%	Median	75%
<i>Commercial Banks (% Change)</i>						
Value deposit accounts / GDP	97	-.116	.162	-.217	-.119	-.033
Deposit accounts / Adult population	74	.064	.112	-.016	.040	.104
Value loans / GDP	92	-.157	.173	-.264	-.158	-.053
Loans / Adult population	56	.012	.171	.072	.012	.094
<i>Latin America & the Caribbean (% Change)</i>						
Value deposit accounts / GDP	18	.10	.146	-.141	-.103	-.035
Deposit accounts / Adult population	15	.088	.102	.019	.082	.119
Value loans / GDP	16	-.178	.129	-.242	-.182	-.119
Loans / Adult population	13	.038	.151	-.06	-.009	.056
<i>East Asia & Pacific (% Change)</i>						
Value deposit accounts / GDP	10	-.040	-.108	-.119	-.081	.019
Deposit accounts / Adult population	8	.023	.111	-.036	-.031	.061
Value loans / GDP	10	-.117	.106	-.136	-.089	-.052
Loans / Adult population	7	.017	.054	.016	.010	-.090
<i>Europe & Central Asia (% Change)</i>						
Value deposit accounts / GDP	18	-.198	.204	-.283	-.220	-.094
Deposit accounts / Adult population	11	.004	.114	-.052	-.011	-.065
Value loans / GDP	19	-.290	.116	-.373	-.270	-.192
Loans / Adult population	12	-.056	.096	-.126	-.061	-.009
<i>Sub-Saharan Africa (% Change)</i>						
Value deposit accounts / GDP	12	-.126	.135	-.218	-.124	-.066
Deposit accounts / Adult population	17	.111	.127	.031	.087	.234
Value loans / GDP	13	-.102	.261	-.227	-.147	-.019
Loans / Adult population	12	-.006	.261	-.199	-.003	.182
<i>Middle East & North Africa (% Change)</i>						
Value deposit accounts / GDP	8	-.153	.156	-.256	-.185	-.063
Deposit accounts / Adult population	8	.050	.084	-.004	.028	.090
Value loans / GDP	7	-.154	.121	-.261	-.183	-.052
Loans / Adult population	6	.162	.160	.074	.117	.250
<i>South Asia (% Change)</i>						
Value deposit accounts / GDP	5	-.024	.133	-.112	.021	.080
Deposit accounts / Adult population	4	.027	.048	-.002	.009	.057
Value loans / GDP	4	-.109	.158	-.240	-.113	.019
Loans / Adult population	4	-.089	.166	-.221	-.101	.043
<i>High Income (% Change)</i>						
Value deposit accounts / GDP	23	-.100	.164	-.197	-.130	-.007
Deposit accounts / Adult population	11	.074	.121	-.004	.036	.148
Value loans / GDP	23	-.091	.175	-.189	-.106	.017
Loans / Adult population	3	.067	.123	-.068	.096	.174

Table 6: Cross-country covariates associated with deposit account penetration

The results of OLS regressions of the natural logarithm of number of deposit accounts per 1,000 adults in commercial banks on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
GDP per capita (log)	0.685** * (0.055)	0.666** * (0.053)	0.506** * (0.078)	0.467** * (0.083)	0.675** * (0.062)	0.708** * (0.057)	0.561** * (0.053)	0.476** * (0.162)	0.209* (0.109)	0.589** * (0.068)	0.669** * (0.055)	0.716** * (0.067)
Population density (log)		0.204** * (0.064)	0.170** * (0.056)	-0.084 * (0.130)	0.205** * (0.065)	0.219** * (0.070)	0.213** * (0.062)	0.180** * (0.062)	0.217** * (0.066)	0.169** * (0.061)	0.209** * (0.063)	0.205** * (0.064)
Branches per adult (log)			0.244* (0.125)									
Branches per km ² (log)				0.243** (0.114)								
Expected real economic growth					0.272 (0.438)							
Inflation						0.003 (0.008)						
Deposit insurance							0.641** * (0.160)					
Electricity consumption								0.110 (0.175)				
Land line and cell phone users									0.877** * (0.244)			
Absence of violence										0.023 (0.095)		
Offshore financial center											-0.109 (0.300)	
Deposit rate												0.047** (0.019)
Constant	0.716 (0.484)	-0.046 (0.579)	3.738** (1.748)	4.211** (1.694)	-0.356 (0.899)	-0.514 (0.663)	0.421 (0.514)	0.955 (0.612)	-0.074 (0.638)	0.839 (0.694)	-0.082 (0.590)	-0.695 (0.679)
N	100	99	93	85	97	94	98	76	73	88	99	70
Adjusted R ²	0.630	0.673	0.690	0.648	0.674	0.681	0.711	0.581	0.706	0.636	0.669	0.678

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6 (continued)

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
GDP per capita (log)	0.552*** (0.050)	0.696*** (0.069)	0.611*** (0.058)	0.600*** (0.069)	0.596*** (0.055)	0.585*** (0.057)	0.584*** (0.056)	0.572*** (0.058)	0.638*** (0.052)	0.533*** (0.055)	0.519*** (0.060)
Population density (log)	0.073 (0.068)	0.199*** (0.065)	0.179*** (0.063)	0.153** (0.071)	0.169*** (0.061)	0.169*** (0.061)	0.153** (0.061)	0.148** (0.064)	0.181*** (0.069)	0.164** (0.062)	0.191*** (0.061)
Concentration	-0.882** (0.438)										
Registry coverage		-0.002 (0.003)									
KYC requirements			0.039 (0.038)								
KYC exceptions				0.196 (0.161)							
Low-fee accounts					0.096 (0.192)						
Tax incentives						0.103 (0.158)					
Agents (savings)							0.299 (0.180)				
Postal system (private operator)								0.236 (0.160)			
Credit legal rights									0.066* (0.036)		
Credit rank										-0.004** (0.002)	
Credit information index											0.103** (0.047)
Constant	2.216*** (0.650)	-0.210 (0.620)	0.475 (0.718)	0.775 (0.710)	0.765 (0.575)	0.838 (0.581)	0.878 (0.581)	1.002 (0.606)	-0.078 (0.575)	1.604** (0.644)	0.951* (0.548)
N	86	99	88	68	88	88	87	88	99	88	88
Adjusted R ²	0.636	0.670	0.640	0.621	0.637	0.637	0.642	0.643	0.682	0.658	0.660
Robust standard errors in parentheses											
*** p<0.01, ** p<0.05, * p<0.1											

Table 7: Cross-country covariates associated with deposit volume

The results of OLS regressions of the natural logarithm of value of deposit accounts in commercial banks over GDP on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GDP per capita (log)	0.219*** (0.029)	0.178*** (0.049)	0.177*** (0.052)	0.231*** (0.047)	0.179*** (0.036)	0.241*** (0.032)	0.135 (0.100)	0.153** (0.072)	0.189*** (0.045)	0.199*** (0.029)	0.200*** (0.045)
Population density (log)	0.158*** (0.040)	0.148*** (0.040)	0.067 (0.079)	0.120** (0.056)	0.102* (0.056)	0.161*** (0.038)	0.177*** (0.045)	0.210*** (0.045)	0.173*** (0.040)	0.117*** (0.034)	0.165*** (0.044)
Branches per adult (log)		0.104 (0.067)									
Branches per km ² (log)			0.090 (0.064)								
Expected real economic growth				0.053 (0.131)							
Inflation					-0.025*** (0.008)						
Deposit insurance						-0.148 (0.118)					
Electricity consumption							0.068 (0.097)				
Land line and cell phone users								0.128 (0.128)			
Absence of violence									0.066 (0.083)		
Offshore financial center										0.824*** (0.245)	
Interest spread											-0.031** (0.014)
Constant	-3.326*** (0.309)	-1.981* (1.014)	-2.122** (1.037)	-3.352*** (0.437)	-2.514*** (0.394)	-3.433*** (0.312)	-3.187*** (0.355)	-3.612*** (0.363)	-3.135*** (0.420)	-3.025*** (0.287)	-2.932*** (0.510)
N	118	113	109	119	113	116	99	84	113	118	77
Adjusted R ²	0.349	0.388	0.381	0.191	0.266	0.351	0.294	0.410	0.343	0.417	0.394
Robust standard errors in brackets											
*** p<0.01, ** p<0.05, * p<0.1											

Table 7 (continued)

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
GDP per capita (log)	0.218*** (0.031)	0.191*** (0.059)	0.221*** (0.032)	0.221*** (0.034)	0.219*** (0.030)	0.204*** (0.034)	0.209*** (0.031)	0.213*** (0.032)	0.214*** (0.030)	0.226*** (0.035)	0.531*** (0.060)
Population density (log)	0.166*** (0.043)	0.126** (0.055)	0.170*** (0.041)	0.144*** (0.045)	0.168*** (0.041)	0.172*** (0.041)	0.168*** (0.042)	0.167*** (0.043)	0.154*** (0.041)	0.170*** (0.042)	0.134* (0.080)
Concentration	0.176 (0.268)										
Registry coverage		0.003 (0.002)									
KYC requirements			0.016 (0.028)								
KYC exceptions				0.222* (0.132)							
Low-fee accounts					-0.068 (0.150)						
Tax incentives						0.105 (0.120)					
Agents (savings)							0.145 (0.128)				
Postal system (private operator)								0.025 (0.117)			
Credit legal rights									0.007 (0.022)		
Credit rank										0.001 (0.001)	
Credit information index											0.103** (0.049)
Constant	-3.477*** (0.402)	-3.074*** (0.465)	-3.458*** (0.377)	-3.349*** (0.358)	-3.359*** (0.319)	-3.298*** (0.333)	-3.322*** (0.324)	-3.327*** (0.334)	-3.302*** (0.314)	-3.480*** (0.412)	1.093* (0.614)
N	110	120	114	90	114	114	112	114	117	114	86
Adjusted R ²	0.329	0.199	0.341	0.358	0.340	0.344	0.338	0.339	0.335	0.340	0.636
Robust standard errors in brackets											
*** p<0.01, ** p<0.05, * p<0.1											

Table 8: Cross-country covariates associated with changes in deposit accounts penetration

The results of OLS regressions of the changes in the natural logarithm of number of deposit accounts per 1,000 adults in commercial banks on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita (log)	0.024*** (0.007)	0.023*** (0.007)	0.024*** (0.007)		0.002 (0.011)		-0.020* (0.011)			
Population density (log)		-0.009 (0.007)	-0.012* (0.007)	-0.007 (0.006)	-0.004 (0.007)					
Expected real economic growth			0.043* (0.024)	0.040** (0.016)		0.046*** (0.011)		0.048*** (0.017)	0.064*** (0.023)	0.065*** (0.024)
# commercial bank deposit accounts in 2008 (log)				0.040*** (0.012)	-0.043** (0.018)	0.053*** (0.013)	-0.039** (0.018)	0.047*** (0.012)	0.045*** (0.013)	0.045*** (0.014)
Deposit insurance								0.029 (0.022)		
East Asia & Pacific									-0.008 (0.040)	-0.007 (0.041)
Europe & Central Asia									-0.020 (0.041)	-0.021 (0.041)
High income									0.054 (0.046)	0.052 (0.046)
Latin America & Caribbean									0.042 (0.034)	0.044 (0.035)
Middle East & North Africa									-0.017 (0.040)	-0.016 (0.041)
South Asia									-0.029 (0.042)	-0.030 (0.042)
Offshore financial center										-0.018 (0.025)
Constant	0.256*** (0.063)	0.288*** (0.072)	0.266*** (0.072)	0.305*** (0.088)	0.333** (0.082)	0.247*** (0.081)	0.332** (0.069)	0.295*** (0.085)	0.277*** (0.089)	0.272*** (0.091)
N	74	74	73	73	74	73	73	73	73	73
Adjusted R ²	0.108	0.108	0.146	0.233	0.197	0.315	0.331	0.241	0.250	0.240

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8 (continued)

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Expected real economic growth	0.030* (0.016)	0.036** (0.017)	0.041** (0.015)	0.041** (0.017)	0.037** (0.015)	0.039*** (0.014)	0.040** (0.016)	0.038** (0.016)	0.061** (0.023)
# commercial bank deposit accounts in 2008 (log)	-0.040*** (0.012)	-0.049*** (0.017)	-0.031 (0.021)	-0.041*** (0.013)	-0.045*** (0.012)	-0.045*** (0.014)	-0.042*** (0.012)	-0.044*** (0.013)	-0.041*** (0.013)
# commercial banks in 2008/2009	0.005 (0.052)								
Branches per adults (log)		0.010 (0.015)							
Interest spread			0.005 (0.004)						
Concentration				0.015 (0.058)					
Credit information index					0.004 (0.006)				
Credit rank						-0.000 (0.000)			
Credit legal rights							0.001 (0.005)		
Registry coverage								0.000 (0.000)	
Foreign bank share									0.040 (0.048)
Government bank share									-0.087* (0.046)
Constant	0.277*** (0.104)	0.428* (0.232)	0.177 (0.155)	0.268** (0.107)	0.296*** (0.084)	0.324*** (0.105)	0.281*** (0.085)	0.298*** (0.089)	0.269** (0.103)
N	65	71	48	72	73	73	73	73	49
Adjusted R ²	0.191	0.242	0.156	0.220	0.232	0.233	0.227	0.231	0.265
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Table 9: Cross-country covariates associated with loan penetration

The results of OLS regressions of the natural logarithm of number of outstanding loans per 1,000 adults in commercial banks on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GDP per capita (log)	0.951*** (0.084)	0.954*** (0.083)	0.778*** (0.106)	0.904*** (0.089)	0.959*** (0.090)	0.785*** (0.080)	0.572*** (0.156)	0.428*** (0.131)	0.880*** (0.083)	0.940*** (0.086)	0.980*** (0.100)
Population density (log)		-0.029 (0.055)									
Branches per adult (log)			0.388** (0.162)								
Branches per km ² (log)				0.061 (0.050)							
Expected real economic growth					0.150 (0.377)						
Inflation						-0.049** (0.019)					
Electricity consumption							0.335 (0.225)				
Land line and cell phone users								1.102*** (0.198)			
Absence of violence									0.091 (0.133)		
Offshore financial center										0.309 (0.221)	
Lending rate											0.016 (0.012)
Constant	-2.716*** (0.714)	-2.615*** (0.777)	2.255 (2.137)	-2.006** (0.789)	-2.916*** (0.934)	-0.786 (0.761)	-1.903* (1.000)	-3.191*** (0.638)	-2.080*** (0.692)	-2.649*** (0.726)	-3.137*** (0.885)
N	68	68	67	65	68	63	56	51	66	68	53
Adjusted R ²	0.760	0.757	0.792	0.737	0.757	0.779	0.673	0.858	0.734	0.759	0.722
Robust standard errors in parentheses											
*** p<0.01, ** p<0.05, * p<0.1											

Table 9 (continued)

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
GDP per capita (log)	0.879*** (0.075)	0.947*** (0.080)	0.776*** (0.095)	0.827*** (0.076)	0.874*** (0.082)	0.821*** (0.072)	0.776*** (0.090)	0.899*** (0.090)	0.926*** (0.082)	0.852*** (0.141)	0.787*** (0.127)	0.884*** (0.144)	0.865*** (0.136)
Deposit insurance	0.545*** (0.171)												
Credit legal rights		0.068* (0.038)											
Credit information index			0.156*** (0.048)										
Credit rank				-0.007*** (0.002)									
Concentration					-1.275*** (0.460)								
Government bank share						0.757** (0.313)							
Foreign bank share							0.196 (0.330)						
Registry coverage								0.004 (0.003)					
Agents (credit)									-0.199 (0.411)				
Places to submit loan application										0.089 (0.114)			
Minimum loan amount											-0.003* (0.002)		
Fees - consumer loan												0.024 (0.121)	
Days to process loan application													-0.019 (0.019)
Constant	-2.450*** (0.629)	-3.062*** (0.764)	-1.848** (0.759)	-1.220* (0.651)	-1.196* (0.657)	-1.539** (0.637)	-1.172 (0.761)	-2.411*** (0.732)	-2.451*** (0.731)	-2.107* (1.123)	-1.008 (1.063)	-2.089 (1.316)	-1.796 (1.187)
N	68	68	66	66	65	44	43	68	66	30	28	26	29
Adjusted R ²	0.782	0.767	0.766	0.768	0.758	0.824	0.745	0.760	0.734	0.748	0.771	0.738	0.757

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Cross-country covariates associated with lending volume

The results of OLS regressions of the natural logarithm of value of loans in commercial banks over GDP on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GDP per capita (log)	0.385*** (0.046)	0.283*** (0.051)	0.281*** (0.057)	0.386*** (0.046)	0.347*** (0.040)	0.412*** (0.065)	0.243 (0.148)	0.324*** (0.078)	0.372*** (0.093)	0.368*** (0.045)	0.368*** (0.081)
Population density (log)	0.091* (0.048)	0.086* (0.047)	-0.152 (0.099)	0.091* (0.049)	0.081 (0.050)	0.093** (0.046)	0.090 (0.059)	0.176*** (0.043)	0.096* (0.055)	0.055 (0.050)	0.072 (0.056)
Branches per adult (log)		0.261*** (0.080)									
Branches per km ² (log)			0.239*** (0.070)								
Expected real economic growth				0.026 (0.165)							
Inflation					-0.021*** (0.008)						
Electricity consumption						-0.194 (0.196)					
Land line and cell phone users							0.167 (0.130)				
Road density								0.093 (0.137)			
Absence of violence									0.033 (0.135)		
Offshore financial center										0.726*** (0.177)	
Lending rate											-0.030** (0.012)
Constant	-4.653*** (0.393)	-1.397 (1.079)	-1.518 (1.036)	-4.688*** (0.426)	-4.062*** (0.394)	-4.770*** (0.458)	-4.687*** (0.521)	-4.884*** (0.362)	-4.563*** (0.722)	-4.391*** (0.383)	-4.054*** (0.747)
N	120	113	109	119	112	118	101	83	115	120	84
Adjusted R ²	0.393	0.455	0.438	0.386	0.431	0.393	0.313	0.546	0.372	0.415	0.384
Robust standard errors in parentheses											
*** p<0.01, ** p<0.05, * p<0.1											

Table 10 (continued)

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
GDP per capita (log)	0.387*** (0.050)	0.335*** (0.048)	0.315*** (0.046)	0.379*** (0.060)	0.390*** (0.058)	0.412*** (0.061)	0.372*** (0.059)	0.363*** (0.049)	1.023*** (0.082)	0.226*** (0.035)	0.922*** (0.099)
Population density (log)	0.090* (0.052)	0.138*** (0.038)	0.117** (0.047)	0.093* (0.049)	0.091 (0.056)	0.093* (0.050)	0.093* (0.048)	0.094* (0.050)	-0.069 (0.068)	0.170*** (0.042)	-0.010 (0.071)
Concentration	0.092 (0.293)										
Government bank share		-0.328 (0.330)									
Foreign bank share			-0.220 (0.228)								
Contract enforcement procedures				-0.003 (0.011)							
Contract enforcement time					0.000 (0.000)						
Contract enforcement cost						0.004* (0.002)					
Registry coverage							0.001 (0.002)				
Agents (credit)								0.277* (0.156)			
Credit legal rights									0.082** (0.036)		
Credit rank										0.001 (0.001)	
Credit information index											0.143*** (0.050)
Constant	-4.743*** (0.480)	-4.301*** (0.511)	-4.006*** (0.516)	-4.496*** (0.829)	-4.770*** (0.558)	-5.019*** (0.561)	-4.581*** (0.460)	-4.551*** (0.427)	-3.452*** (0.782)	-3.480*** (0.412)	-2.974*** (0.755)
N	113	80	80	116	116	116	120	114	64	114	64
Adjusted R ²	0.372	0.464	0.390	0.372	0.373	0.379	0.388	0.365	0.780	0.340	0.788

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 11: Cross-country covariates associated with changes in loan penetration

The results of OLS regressions of the changes in the natural logarithm of number of loans per 1,000 adults in commercial banks on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GDP per capita (log)	0.008 (0.015)	0.011 (0.017)							
Population density (log)		0.007 (0.023)	0.001 (0.023)						
Expected real economic growth		0.053 (0.043)	0.060* (0.031)	0.060** (0.030)					
Expected GDP (log)			0.026** (0.010)	0.026** (0.010)	0.035*** (0.013)	0.028** (0.014)	0.043*** (0.014)	0.046*** (0.013)	0.049*** (0.012)
# outstanding commercial bank loans in 2008 (log)					-0.033* (0.017)	-0.039** (0.018)	-0.054** (0.020)	-0.049*** (0.013)	-0.055*** (0.013)
Deposit insurance						0.065 (0.058)			
EAP							0.038 (0.104)		
ECA							0.019 (0.102)		
High income							0.022 (0.128)		
LAC							0.084 (0.108)		
MENA							0.155 (0.095)	0.121** (0.046)	0.107** (0.045)
South Asia							-0.216* (0.108)	-0.245*** (0.085)	-0.253*** (0.085)
Offshore financial center									0.104 (0.068)
Constant	-0.065 (0.132)	-0.174 (0.165)	-0.155 (0.109)	-0.151*** (0.049)	0.039 (0.078)	0.058 (0.077)	0.087 (0.055)	0.086 (0.053)	0.098* (0.053)
N	58	58	58	58	58	58	58	58	58
Adjusted R ²	-0.0144	-0.0420	0.0335	0.0510	0.116	0.123	0.238	0.268	0.277
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Table 11 (continued)

	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Expected GDP (log)	0.038** (0.015)	0.035*** (0.013)	0.036*** (0.013)	0.020 (0.018)	0.032** (0.013)	0.039*** (0.013)	0.035*** (0.013)	0.036** (0.016)	0.027 (0.023)
# outstanding commercial bank loans in 2008 (log)	-0.035* (0.020)	-0.047* (0.024)	-0.038** (0.018)	-0.029 (0.033)	-0.029* (0.017)	-0.023 (0.020)	-0.016 (0.018)	-0.033* (0.018)	-0.019 (0.029)
# commercial banks in 2008/2009	-0.059 (0.082)								
Branches per adults (log)		0.026 (0.025)							
Concentration			-0.096 (0.130)						
Interest spread				0.006 (0.004)					
Credit legal rights					-0.011 (0.007)				
Credit information index						-0.013 (0.013)			
Credit rank							0.001* (0.001)		
Registry coverage								-0.000 (0.001)	
Foreign bank share									0.066 (0.117)
Government bank share									0.020 (0.081)
Constant	0.095 (0.151)	0.351 (0.299)	0.125 (0.140)	0.023 (0.176)	0.087 (0.098)	0.024 (0.082)	-0.114 (0.105)	0.038 (0.088)	-0.025 (0.072)
N	53	58	57	42	58	58	58	58	34
Adjusted R ²	0.106	0.111	0.140	0.0499	0.124	0.114	0.150	0.100	-0.0419
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Table 12: Cross-country covariates associated with the demographic penetration of branches

The results of OLS regressions of the natural logarithm of number of commercial bank branches per 100,000 adults on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
GDP per capita (log)	0.526*** (0.027)	0.533*** (0.029)	0.516*** (0.034)	0.516*** (0.033)	0.402*** (0.098)	0.344*** (0.091)	0.484*** (0.052)	0.531*** (0.044)	0.523*** (0.027)	0.504*** (0.032)	0.480*** (0.044)	0.493*** (0.038)	0.519*** (0.041)
Population density (log)	0.053 (0.040)	0.054 (0.041)	0.046 (0.044)	0.050 (0.040)	0.042 (0.045)	0.011 (0.042)	-0.039 (0.074)	0.053 (0.042)	0.048 (0.038)	0.012 (0.055)	0.047 (0.052)	0.108** (0.049)	0.061 (0.045)
Expected real economic growth		0.166 (0.220)											
Number of commercial banks (log)			-0.006 (0.070)										
Inflation				-0.004 (0.006)									
Electricity consumption					0.087 (0.116)								
Land line and cell phone users						0.436** (0.188)							
Road density							0.085 (0.090)						
Absence of violence								-0.039 (0.086)					
Offshore financial center									0.130 (0.215)				
Concentration										-0.240 (0.459)			
Government bank share											-0.304 (0.377)		
Foreign bank share												0.095 (0.211)	
Branch approval													-0.033 (0.162)
Constant	13.87*** (0.316)	14.08*** (0.426)	13.74*** (0.318)	13.74*** (0.379)	13.35*** (0.421)	13.99*** (0.344)	13.40*** (0.496)	13.92*** (0.396)	13.84*** (0.306)	13.32*** (0.629)	13.36*** (0.536)	13.79*** (0.482)	13.81*** (0.474)
N	121	120	110	116	96	88	81	111	121	109	75	75	109
Adjusted R ²	0.645	0.645	0.636	0.638	0.518	0.650	0.659	0.608	0.643	0.572	0.606	0.609	0.593

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 13: Cross-country covariates associated with the geographic penetration of branches

The results of OLS regressions of the natural logarithm of number of commercial bank branches per km² on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
GDP per capita (log)	0.592*** (0.033)	0.599*** (0.034)	0.574*** (0.039)	0.579*** (0.040)	0.426*** (0.102)	0.398*** (0.092)	0.543*** (0.056)	0.608*** (0.046)	0.590*** (0.032)	0.576*** (0.034)	0.558*** (0.047)	0.570*** (0.040)	0.593*** (0.043)
Population density (log)	1.069*** (0.043)	1.072*** (0.045)	1.060*** (0.047)	1.067*** (0.044)	1.060*** (0.047)	1.024*** (0.046)	0.953*** (0.076)	1.067*** (0.043)	1.066*** (0.041)	1.021*** (0.056)	1.058*** (0.053)	1.124*** (0.049)	1.077*** (0.046)
Expected real economic growth		0.212 (0.255)											
Number of commercial banks (log)			0.005 (0.068)										
Inflation				-0.005 (0.006)									
Electricity consumption					0.139 (0.120)								
Land line and cell phone users						0.497** (0.194)							
Road density							0.116 (0.094)						
Absence of violence								-0.046 (0.088)					
Offshore financial center									0.093 (0.220)				
Concentration										-0.347 (0.457)			
Government bank share											-0.226 (0.390)		
Foreign bank share												0.118 (0.219)	
Branch approval													-0.051 (0.165)
Constant	14.82*** (0.379)	15.09*** (0.501)	14.66*** (0.387)	14.66*** (0.463)	14.34*** (0.447)	15.11*** (0.410)	14.29*** (0.523)	14.97*** (0.418)	14.80*** (0.368)	14.23*** (0.643)	14.40*** (0.567)	14.85*** (0.500)	14.83*** (0.502)
N	112	111	101	108	96	84	81	111	112	109	75	75	109
Adjusted R ²	0.873	0.872	0.874	0.872	0.862	0.881	0.871	0.876	0.872	0.860	0.886	0.875	0.866
Robust standard errors in parentheses													
*** p<0.01, ** p<0.05, * p<0.1													

Table 14: Cross-country covariates associated with changes in demographic penetration of branches

The results of OLS regressions of the changes in natural logarithm of number of commercial bank branches per 100,000 adults on different country characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita (log)	-0.018** (0.008)	-0.018** (0.008)	-0.020*** (0.007)	-0.025** (0.012)	-0.023** (0.009)					
Population density (log)		-0.001 (0.006)								
Expected real economic growth			-0.092 (0.079)							
Branches per adult in 2008 (log)				0.014 (0.015)	0.008 (0.015)	-0.017* (0.010)	-0.002 (0.012)	-0.015 (0.010)	-0.016 (0.011)	-0.018 (0.012)
% change in number of banks					0.336* (0.170)	0.384** (0.163)	0.353** (0.158)	0.392** (0.166)	0.411** (0.168)	0.267 (0.194)
East Asia & Pacific							-0.069* (0.036)			
Europe & Central Asia							-0.061 (0.038)			
High income							-0.071** (0.031)			
Latin America & Caribbean							-0.056** (0.026)			
Middle East & North Africa							-0.041 (0.025)			
South Asia							0.036 (0.059)			
Offshore financial center								-0.074** (0.028)		
Concentration									-0.034 (0.054)	
Foreign bank share										0.013 (0.040)
Government bank share										-0.034 (0.062)
Constant	0.190*** (0.069)	0.201*** (0.072)	0.289*** (0.093)	0.376* (0.216)	0.294 (0.207)	-0.132 (0.092)	0.054 (0.120)	-0.107 (0.093)	-0.098 (0.084)	-0.140 (0.105)
N	104	103	103	104	87	87	87	87	84	55
Adjusted R ²	0.0535	0.0475	0.0924	0.0511	0.214	0.164	0.188	0.183	0.150	0.0477
Robust standard errors in parentheses										
*** p<0.01, ** p<0.05, * p<0.1										

Table 15: Deposit penetration and financial inclusion agenda

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GDP per capita (log)	0.643*** (0.061)	0.653*** (0.057)	0.681*** (0.056)	0.660*** (0.057)	0.673*** (0.056)	0.675*** (0.055)	0.692*** (0.056)	0.664*** (0.055)	0.619*** (0.061)
FI index	-0.077* (0.044)								
FI index (effective)		-0.075 (0.046)							
Resource gap			-0.031 (0.058)						
FI deposits index				-0.091 (0.059)					
FI deposits index (effective)					-0.075 (0.060)				
Responsible for consumer protection						-0.430*** (0.154)			
Responsible for financial literacy							0.141 (0.166)		
Responsible for promoting savings								-0.243 (0.159)	
Responsible for promoting rural access to finance									-0.424** (0.179)
Constant	1.298** (0.584)	1.140** (0.533)	0.774 (0.496)	1.116** (0.541)	0.925* (0.518)	1.114** (0.499)	0.574 (0.522)	0.998** (0.485)	1.450** (0.560)
N	100	100	100	100	100	96	96	96	96
Adjusted R ²	0.640	0.637	0.627	0.635	0.631	0.654	0.636	0.641	0.651

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
 Dependent variable: # commercial bank deposits/1000 adults (log)

Table 16: Access to deposit and loan services and financial inclusion agenda

	(1) FI effective index	(2) FI index
GDP per capita (log)	-0.268** (0.119)	-0.251* (0.143)
Population density (log)	-0.049 (0.053)	-0.067 (0.069)
Expected GDP (log)	0.124** (0.054)	0.126** (0.058)
# deposit accounts/1,000 adults (log, lagged)	-0.008 (0.097)	-0.085 (0.127)
# loans/1,000 adults (log, lagged)	0.195** (0.095)	0.133 (0.136)
Deposit insurance	-0.308* (0.154)	-0.358* (0.181)
Credit rank	0.001 (0.002)	-0.001 (0.002)
Constant	1.370** (0.537)	2.432*** (0.652)
σ	0.439*** (0.064)	0.521*** (0.077)
Number of observations	61	61
Log-likelihood	-44.33	-51.07
Pseudo R ²	0.116	0.120

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
Results of Tobit estimation, dependent variable is between 0 and 1.

Table 17: Financial inclusion reforms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GDP per capita (log)	-0.119*	-0.014	-0.018	-0.061	-0.005	-0.011					
	(0.067)	(0.059)	(0.055)	(0.058)	(0.040)	(0.040)					
Population density (log)	0.006	0.033	0.037**	0.021	0.036*	0.040**					
	(0.031)	(0.021)	(0.018)	(0.029)	(0.018)	(0.016)					
Expected GDP (log)	0.059*	0.008	0.006								
	(0.031)	(0.029)	(0.027)								
# deposit accounts/1,000 adults (log, lagged)	0.003	0.005	0.024	-0.012	0.003	0.022	-0.032	0.012	0.035		
	(0.056)	(0.046)	(0.046)	(0.058)	(0.046)	(0.046)	(0.057)	(0.050)	(0.049)		
# loans/1,000 adults (log, lagged)	0.005	-0.068	-0.041	-0.016	-0.072	-0.044	-0.011	-0.035	-0.027		
	(0.067)	(0.056)	(0.054)	(0.069)	(0.050)	(0.050)	(0.049)	(0.038)	(0.038)		
Deposit insurance	0.020	0.134	0.151*	0.114	0.147**	0.163**					
	(0.105)	(0.095)	(0.088)	(0.087)	(0.072)	(0.065)					
Credit rank	-0.001	-0.001	-0.000	-0.001	-0.001	-0.000					
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)					
FI effective index		0.560***			0.573***			0.554***		0.548***	
		(0.119)			(0.107)			(0.106)		(0.083)	
FI index			0.559***			0.569***			0.554***		0.523***
			(0.100)			(0.092)			(0.093)		(0.071)
Constant	1.030***	0.382	0.030	0.857***	0.347	-0.003	0.552**	0.220	-0.020	0.092**	0.037
	(0.306)	(0.307)	(0.301)	(0.302)	(0.274)	(0.257)	(0.229)	(0.215)	(0.208)	(0.039)	(0.041)
σ	0.294***	0.242***	0.227***	0.305***	0.243***	0.228***	0.322***	0.261***	0.246***	0.287***	0.277***
	(0.034)	(0.027)	(0.024)	(0.036)	(0.028)	(0.024)	(0.038)	(0.028)	(0.026)	(0.019)	(0.019)
Number of observations	61	61	61	61	61	61	62	62	62	146	146
Log-likelihood	-22.14	-11.55	-7.960	-24.19	-11.60	-7.996	-28.10	-16.88	-13.25	-52.05	-46.83
Pseudo R ²	0.184	0.574	0.706	0.108	0.572	0.705	0.0271	0.415	0.541	0.300	0.370

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Dependent variable: Reform index. Results of Tobit estimation, dependent variable is between 0 and 1.

Table 18: Promoting savings

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GDP per capita (log)	-0.152*	-0.143	-0.132	-0.119			
	(0.082)	(0.089)	(0.088)	(0.088)			
Population density (log)	-0.037						
	(0.035)						
Expected GDP (log)	0.097**	0.091**	0.090**	0.080*	0.066	0.036	
	(0.042)	(0.039)	(0.041)	(0.041)	(0.040)	(0.027)	
# deposit accounts/1,000 adults (log, lagged) (commercial banks)	-0.046	-0.068	-0.076	-0.080	-0.098	-0.131***	-0.099***
	(0.070)	(0.073)	(0.072)	(0.073)	(0.067)	(0.043)	(0.038)
# loans/1,000 adults (log, lagged) (commercial banks)	0.069	0.078	0.063	0.046	-0.021		
	(0.078)	(0.079)	(0.069)	(0.066)	(0.049)		
Deposit insurance	-0.111	-0.103	-0.096				
	(0.114)	(0.113)	(0.109)				
Credit rank	0.001	0.001					
	(0.001)	(0.001)					
Number of observations	58	58	58	58	58	79	80
Log-likelihood	-25.74	-26.05	-26.23	-26.47	-27.38	-36.69	-39.43
Pseudo R ²	0.166	0.156	0.150	0.142	0.113	0.108	0.0755

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Dependent variable: FI Savings (effective) - equals 1 if the financial regulator oversees promoting savings and has a dedicated team, equals 0 otherwise. Table reports marginal effects of probit estimation.

Table 19: Promoting access to finance in rural areas

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GDP per capita (log)	-0.363*** (0.119)	-0.357*** (0.112)	-0.351*** (0.114)	-0.279*** (0.065)	-0.254*** (0.040)	-0.218*** (0.051)	-0.218*** (0.053)	-0.201*** (0.036)	-0.251*** (0.045)
Population density (log)	-0.081 (0.055)	-0.079 (0.056)	-0.082 (0.055)	-0.070 (0.043)	-0.050 (0.031)	-0.043 (0.029)	-0.065 (0.055)	-0.028 (0.031)	
Expected GDP (log)	0.147*** (0.047)	0.147*** (0.048)	0.140*** (0.048)	0.101*** (0.033)	0.092*** (0.027)	0.078*** (0.026)	0.078*** (0.026)	0.083*** (0.028)	0.085*** (0.029)
# deposit accounts/1,000 adults (log, lagged) (commercial banks)	0.098 (0.082)	0.091 (0.080)	0.090 (0.080)	0.061 (0.060)					
# loans/1,000 adults (log, lagged) (commercial banks)	0.061 (0.081)	0.050 (0.071)	0.039 (0.069)						
Deposit insurance	-0.068 (0.138)	-0.064 (0.140)							
Credit rank	0.001 (0.001)								
# branches/100,000 adults (log, lagged) (commercial banks)						0.025 (0.044)			
# branches/km ² (log, lagged) (commercial banks)							0.022 (0.043)		
# commercial banks								-0.000 (0.000)	
Number of Observations	58	58	58	79	126	108	108	97	126
Log-likelihood	-23.29	-23.38	-23.47	-31.92	-46.74	-38.90	-38.93	-35.41	-47.94
Pseudo R ²	0.318	0.316	0.313	0.302	0.380	0.334	0.334	0.318	0.364

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Dependent variable: FI Rural (effective) - equals 1 if the financial regulator oversees promoting access to finance in rural areas and has a dedicated team, equals 0 otherwise. Table reports marginal effects of probit estimation.

Table 20: Consumer protection and financial literacy

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GDP per capita (log)	-0.190 (0.129)	-0.191 (0.130)	-0.185 (0.125)	-0.114 (0.114)	-0.126 (0.111)		-0.069 (0.118)	-0.069 (0.118)	-0.050 (0.117)		
Population density (log)	-0.010 (0.053)						-0.009 (0.053)				
Expected GDP (log)	0.068 (0.053)	0.066 (0.052)	0.061 (0.047)				0.074 (0.051)	0.072 (0.050)	0.068 (0.052)	0.062 (0.048)	
# deposit accounts/1,000 adults (log, lagged)	-0.073 (0.107)	-0.079 (0.101)	-0.079 (0.101)	-0.088 (0.102)			-0.164 (0.116)	-0.169 (0.110)	-0.166 (0.107)	-0.171 (0.104)	-0.174 (0.107)
# loans/1,000 adults (log, lagged)	0.277** (0.128)	0.282** (0.128)	0.272** (0.118)	0.221** (0.113)	0.180** (0.088)	0.081* (0.042)	0.315** (0.129)	0.318** (0.127)	0.269** (0.121)	0.234** (0.095)	0.255*** (0.099)
Deposit insurance	-0.045 (0.179)	-0.041 (0.176)					-0.400** (0.177)	-0.397** (0.177)	-0.374** (0.187)	-0.367** (0.184)	-0.283* (0.161)
Credit rank	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)				0.002 (0.002)	0.002 (0.002)			
Number of Observations	58	58	58	58	61	61	58	58	58	58	58
Log-likelihood	-36.25	-36.26	-36.30	-37.99	-39.88	-40.51	-34.24	-34.26	-34.77	-34.84	-35.75
Pseudo R ²	0.0953	0.0948	0.0940	0.0518	0.0553	0.0402	0.147	0.147	0.134	0.133	0.110

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Dependent variable: FI CP (effective) for columns (17) - (22) - equals 1 if the financial regulator oversees financial consumer protection and has a dedicated team, equals 0 otherwise. FI FL (effective) for columns (23) - (27) equals 1 if the financial regulator oversees financial capability/education/literacy and has a dedicated team, equals 0 otherwise. Table reports marginal effects of probit estimation.

Table 21: Promoting access to finance for SMEs and regulation of microfinance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
GDP per capita (log)	-0.224** (0.099)	-0.209** (0.096)	-0.210** (0.096)	-0.192* (0.100)	-0.152* (0.088)	0.127*** (0.028)	-0.234* (0.136)	-0.224* (0.133)	-0.208 (0.130)	-0.178** (0.084)	-0.166* (0.085)	0.195*** (0.034)
Population density (log)	-0.016 (0.046)	-0.015 (0.045)					-0.039 (0.058)	-0.038 (0.056)	-0.039 (0.058)	-0.041 (0.049)		
Expected GDP (log)	0.075* (0.045)	0.070 (0.044)	0.069* (0.042)	0.052 (0.043)			0.060 (0.053)	0.059 (0.054)	0.038 (0.049)	0.060 (0.044)	0.054 (0.044)	
# deposit accounts/1,000 adults (log, lagged)	0.020 (0.088)						-0.075 (0.107)	-0.077 (0.107)	-0.072 (0.109)	-0.093 (0.086)	-0.108 (0.082)	
# loans/1,000 adults (log, lagged)	0.113 (0.078)	0.098 (0.078)	0.102 (0.069)	0.074 (0.071)	0.071 (0.071)		0.079 (0.120)	0.061 (0.111)	0.030 (0.110)			
Deposit insurance	-0.136 (0.117)	-0.140 (0.115)	-0.142 (0.112)				-0.175 (0.172)	-0.168 (0.167)				
Credit rank	-0.000 (0.001)	-0.000 (0.001)					0.001 (0.002)					
Number of Observations	58	61	61	61	61	127	58	58	58	79	79	127
Log-likelihood	-28.56	-30.47	-30.54	-31.00	-32.19	-63.27	-32.42	-32.51	-32.97	-43.73	-44.04	-67.35
Pseudo R ²	0.109	0.104	0.102	0.0888	0.0540	0.164	0.187	0.185	0.174	0.197	0.191	0.227

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Dependent variable: FI SME (effective) for columns (28) - (33) - equals 1 if the financial regulator oversees promotion of SME A2F and has a dedicated team, equals 0 otherwise. FI MF (effective) for columns (34) - (39) equals 1 if the financial regulator oversees regulation of microfinance and has a dedicated team, equals 0 otherwise. Table reports marginal effects of probit estimation.

Figure 1: Correlation between actual and predicted values

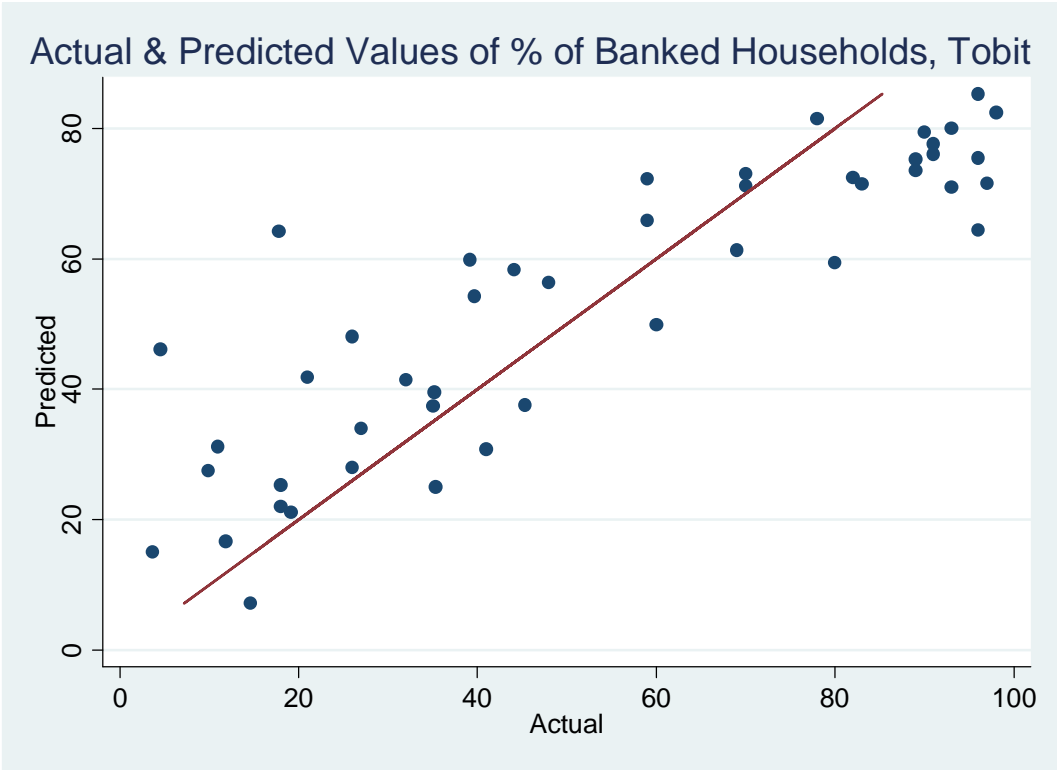
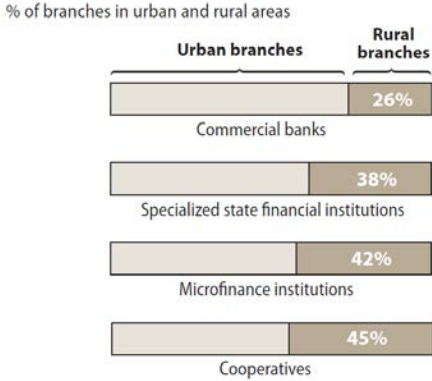
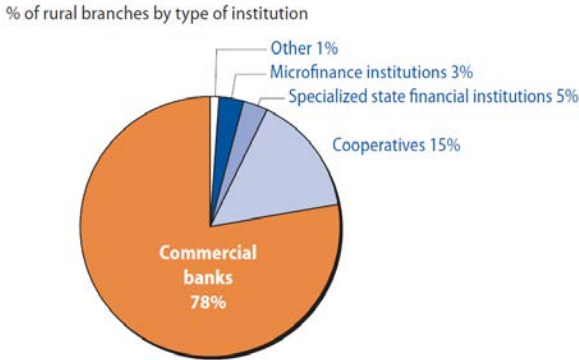


Figure 2: Breakdown of branches

Nonbanks are more focused on rural areas...



...but commercial banks are still the most prevalent financial institution in rural areas



Source: Financial Access database.

Appendix 1: Variables

Variable	Description	Source
Inflation	Maximum rate of inflation in the last five years	IFS
Expected real economic growth	An indicator variable for negative real GDP growth in 2008 and positive expected real GDP growth in 2009	WEO
Capital account openness	The extent of openness in capital account transactions (Chinn-Ito financial openness measure)	Chinn and Ito (2008)
Deposit insurance	An indicator variable for explicit deposit insurance in 2003	Demirguc-Kunt, Karacaovali and Laeven (2005)
Electricity consumption	Kilowatts per hour consumption per capita in 2006	WDI
Land line and cell phone users	Number of land line and cell phone users per 100 people in 2008	WDI
Absence of violence	Sub-index of political stability / No violence, 2008	WB Governance Indicators
Offshore financial center	An indicator variable for offshore financial centers. See source for definition.	Errico and Musalem
Deposit rate	Deposit interest rate (%) in 2008	WDI
GDP per capita	Gross domestic product per capita in current dollars in 2008	WDI
Population density	Total population in 2008 divided by land area (in km ²)	WDI
Branches per adult	Number of branches in 2009 per 100,000 adults (15+)	<i>Financial Access</i> database
Branches per km ²	Number of branches in 2009 divided by land area (in km ²)	<i>Financial Access</i> database
Concentration	Share of deposits in the five largest banks	Barth, Caprio and Levine (2004)
Registry coverage	max of public registry coverage (% adults) and private registry coverage (% adults) in 2008	DB
KYC requirements	An index aggregating the documentation required to open a checking account. See Kendall et al. (2010) for details.	<i>Financial Access</i> database
KYC exceptions	An indicator variable for having exceptions in KYC requirements for low income individuals as of 2008	<i>Financial Access</i> database
Low-fee accounts	An indicator variable for regulatory requirements for banks to offer a basic or low fee account to promote access to finance as of 2008	<i>Financial Access</i> database
Tax incentives	An indicator variable for tax incentive schemes to promote financial access as of 2008	<i>Financial Access</i> database
Agents (savings)	An index of agent operations allowed in terms of deposit accounts. See Kendall et al. (2010) for details.	<i>Financial Access</i> database
Postal system (private operator)	An indicator variable for financial services offered by post offices that are provided by private operators as of 2008	<i>Financial Access</i> database
Credit legal rights	Index of creditor rights in 2009	DB
Credit rank	Ranking of countries in terms of the ease of getting credit	DB
Credit information index	On a zero to six increasing scale measuring the access to, and scope & quality of credit information in 2009	DB
Road density	Km of roads per 100 sq. km of land area, 5-year averages	WDI

Appendix 1 (continued)

Variable	Description	Source
Lending rate	Lending interest rate (%) in 2008	WDI
Agents (credit)	An index of agent operations allowed in terms of loans. See Kendall et al. (2010) for details.	<i>Financial Access</i> database
Places to submit loan application	Locations to submit loan applications (out of 5)	Beck, Demirguc-Kunt, and Martinez Peria (2008)
Minimum loan amount	Lowest amount of consumer loan banks make expressed as a percent of GDP per capita in 2004	Beck, Demirguc-Kunt, and Martinez Peria (2008)
Fees - consumer loan	Fee banks charge on consumer loans expressed as percent of GDP per capita in 2004	Beck, Demirguc-Kunt, and Martinez Peria (2008)
Days to process loan application	Number of days banks take to process a typical consumer loan application in 2004	Beck, Demirguc-Kunt, and Martinez Peria (2008)
Branch approval	Equals one if the Supervisor/Regulator approval is required to open each bank branch and zero otherwise in 2008	<i>Financial Access</i> database
Interest spread	Lending rate minus deposit rate (%) in 2008	WDI
Contract enforcement procedures	Number of procedures in enforcing a contract	DB
Contract enforcement time	Length of time to enforce contracts (days) in 2008	DB
Contract enforcement cost	Total enforcement cost, including legal fees, assessment and court fees expressed as percentage of total debt in 2008	DB
Documents required	The average number of documents (in the 5 largest banks) required to open a checking account in 2008.	Banking the Poor (2008)
Min. balance to open checking	Minimum balance required to open a checking account expressed as a percent of GDP. It combines two databases. When data were available in both data sets, the variable takes the latest value.	Banking the Poor (2008); Beck, Demirguc-Kunt, and Martinez Peria (2008)
Fees - checking account	Fees associated with maintaining a checking account expressed as percent of GDP per capita in 2004	Beck, Demirguc-Kunt, and Martinez Peria (2008)
Government bank share	Percentage of banking system assets in banks 50% + owned by government	Barth, Caprio, and Levine (2004)
Foreign bank share	Percentage of banking system assets in banks 50% + owned by foreign entities	Barth, Caprio, and Levine (2004)

Appendix 2: Correlations (* shows 5 percent significance)

	Accounts per 1,000 adults in commercial banks (logs)	Loans per 1,000 adults in commercial banks (logs)	Value of deposits in 2009 / GDP	Value of loans in 2009 / GDP	Branches per 100,000 adults in commercial banks (logs)	Branches per square km in commercial banks (logs)
# commercial bank deposits in 2009/1,000 Adults (log)	1					
# commercial bank loans in 2009/1,000 Adults (log)	0.8461*	1				
commercial bank deposit volume in 2009/GDP (log)	0.5295*	0.4820*	1			
commercial bank loan volume in 2009/GDP (log)	0.7030*	0.6939*	0.8950*	1		
# commercial bank branches in 2009/100,000 Adults (log)	0.7369*	0.7530*	0.4440*	0.6137*	1	
# commercial bank branches in 2009/square km (log)	0.5955*	0.4870*	0.4264*	0.4816*	0.6468*	1
Δ # commercial bank deposits/1000 Adults (log)	-0.0729	-0.2166	-0.1092	-0.1862	-0.0349	0.0009
Δ # commercial bank loans/1000 Adults (log)	-0.0278	-0.0261	0.1481	-0.0212	-0.062	0.0097
Δ commercial bank deposit volume/GDP (log)	0.0294	-0.0477	0.1089	0.0984	0.008	0.1315
Δ commercial bank loan volume/GDP (log)	0.0816	0.0419	0.5493*	0.4963*	0.1258	0.1333
Δ # commercial bank branches/100,000 Adults (log)	-0.1765	-0.2053	0.0382	-0.0088	0.0087	-0.0624
Δ # commercial bank branches/square km (log)	-0.194	-0.2002	0.0462	-0.0023	-0.0058	-0.0745
# commercial bank deposits in 2008/1,000 Adults (log)	0.9847*	0.8661*	0.4637*	0.6623*	0.6923*	0.6004*
# commercial bank loans in 2008/1,000 Adults (log)	0.8407*	0.9936*	0.5105*	0.6794*	0.7851*	0.4956*
commercial bank deposit volume in 2008/GDP (log)	0.3583*	0.5376*	0.6512*	0.5486*	0.3479*	0.3220*
commercial bank loan volume in 2008/GDP (log)	0.4517*	0.6755*	0.3660*	0.5129*	0.4554*	0.3240*
# commercial bank branches in 2008/100,000 Adults (log)	0.7262*	0.7480*	0.3934*	0.5715*	0.9843*	0.6427*
# commercial bank branches in 2008/square km (log)	0.6094*	0.5091*	0.3972*	0.4610*	0.6339*	0.9955*
GDP per capita (log)	0.7960*	0.8739*	0.4211*	0.6216*	0.7880*	0.5131*
Population density (log)	0.2479*	0.068	0.1940*	0.1315	0.047	0.7984*
Expected real economic growth	-0.1072	-0.2061	-0.0169	-0.0699	-0.0981	-0.013
Inflation	-0.1035	-0.1694	0.0706	-0.0088	-0.3779*	-0.3006*
Gini coefficient	-0.1326	0.2612	0.058	-0.0493	-0.168	-0.3777*
Deposit insurance	0.5657*	0.4827*	0.0708	0.1952*	0.4047*	0.2743*
Electricity consumption	0.6555*	0.7707*	0.3358*	0.5246*	0.6585*	0.3856*
Land line and cell phone users	0.8062*	0.9072*	0.4600*	0.6193*	0.7724*	0.5103*
Road density	0.5337*	0.4726*	0.2508*	0.3706*	0.4501*	0.8088*
Absence of violence	0.4825*	0.5389*	0.2227*	0.4133*	0.4863*	0.2656*
Offshore financial center	0.1758	0.22	0.3464*	0.2928*	0.1427	0.2305*
Credit information index	0.5263*	0.6486*	0.1504	0.3275*	0.5443*	0.3315*
Concentration	-0.3391*	-0.3528*	-0.0532	-0.0993	-0.1707	-0.1952*
Government bank share	-0.165	-0.2013	-0.15	-0.2418*	-0.2720*	-0.1468
Foreign bank share	0.0551	-0.0047	-0.1906	-0.1397	-0.0585	-0.0694
Contract enforcement procedures	-0.3208*	-0.3256*	-0.1788	-0.2694*	-0.3265*	-0.3006*
Contract enforcement time	-0.1102	-0.1233	0.0651	-0.078	-0.1085	0.0223
Contract enforcement cost	-0.3307*	-0.2538*	-0.1146	-0.1897*	-0.3620*	-0.2169*
Registry coverage	0.4931*	0.5954*	0.3249*	0.4241*	0.5391*	0.2776*
KYC requirements	-0.1738	-0.159	-0.0535	-0.1985*	-0.2288*	-0.1664
KYC exceptions	-0.1011	0	0.0721	-0.0167	-0.1229	-0.0314

Appendix 2 (continued)

	Accounts per 1,000 adults in commercial banks (logs)	Loans per 1,000 adults in commercial banks (logs)	Value of deposits in 2009 / GDP	Value of loans in 2009 / GDP	Branches per 100,000 adults in commercial banks (logs)	Branches per squared km in commercial banks (logs)
Low-fee accounts	0.0891	0.0448	0.0684	0.1297	0.2242*	0.1128
documents_~p	-0.4726*	-0.4169*	-0.2488	-0.2892	-0.2728	-0.4013*
deposit_mi~n	-0.4541*	-0.4192*	-0.0914	-0.1334	-0.3377*	-0.1876
deposit_an~e	-0.5103*	-0.4168*	-0.2548	-0.3168*	-0.5768*	-0.3889*
Places to submit loan application	0.4542*	0.6272*	0.2551	0.4411*	0.5317*	0.2418
Minimum loan amount	-0.4297*	-0.5719*	0.0044	-0.0969	-0.3393*	-0.1196
Fees - consumer loan	0.0011	0.07	-0.1063	-0.1617	0.0486	-0.1332
Days to process loan application	-0.2547	-0.2263	-0.221	-0.2364	-0.2544	-0.0826
Lending rate	-0.3806*	-0.2648	-0.4211*	-0.4791*	-0.3973*	-0.3776*
Branch approval	-0.2912*	-0.1121	-0.1186	-0.2785*	-0.2818*	-0.0999
Tax incentives	0.3372*	0.3871*	0.1899*	0.3212*	0.2038*	0.054
Agents (savings)	0.3126*	0.1832	0.1506	0.2047*	0.0727	0.0603
Agents (credit)	0.3041*	0.1986	0.1399	0.2180*	0.1288	0.0656
Postal system (private operator)	0.4027*	0.2007	0.2157*	0.3023*	0.3262*	0.3164*
Capital account openness	0.3785*	0.4541*	0.2809*	0.3787*	0.5462*	0.3814*
Deposit rate	0.1024	-0.1224	-0.4114*	-0.4332*	-0.1179	-0.1591
Credit legal rights	0.3693*	0.1356	0.1367	0.2390*	0.2989*	0.2909*
Credit rank	-0.5196*	-0.5180*	-0.1708	-0.3482*	-0.5166*	-0.4075*

Appendix 3: Correlations (* shows 5 percent significance)

	Δ Accounts per 1,000 adults in commercial banks (logs)	Δ Loans per 1,000 adults in commercial banks (logs)	Δ Value of deposits /GDP (logs)	Δ Value of loans/ GDP (logs)	Δ Branches per 100,000 adults in commercial banks (logs)	Δ Branches per squared km in commercial banks (logs)
Δ # commercial bank deposits/1,000 Adults (log)	1					
Δ # commercial bank loans/1,000 Adults (log)	0.2922*	1				
Δ commercial bank deposit volume/GDP (log)	0.1552	0.0887	1			
Δ commercial bank loan volume/GDP (log)	0.102	0.0612	0.9733*	1		
Δ # commercial bank branches/100,000 Adults (log)	0.056	-0.088	-0.0312	0.0228	1	
Δ # commercial bank branches/square km (log)	0.0501	-0.037	-0.03	0.0136	0.9883*	1
# commercial bank deposits in 2009/1,000 Adults (log)	-0.0729	-0.0278	0.0294	0.0816	-0.1765	-0.194
# commercial bank loans in 2009/1,000 Adults (log)	-0.2166	-0.0261	-0.0477	0.0419	-0.2053	-0.2002
commercial bank deposit volume in 2009/GDP (log)	-0.1092	0.1481	0.1089	0.5493*	0.0382	0.0462
commercial bank loan volume in 2009/GDP (log)	-0.1862	-0.0212	0.0984	0.4963*	-0.0088	-0.0023
# commercial bank branches in 2009/100,000 Adults (log)	-0.0349	-0.062	0.008	0.1258	0.0087	-0.0058
# commercial bank branches in 2009/square km (log)	0.0009	0.0097	0.1315	0.1333	-0.0624	-0.0745
# commercial bank deposits in 2008/1,000 Adults (log)	-0.2456*	-0.1444	0.0135	0.0329	-0.213	-0.2401*
# commercial bank loans in 2008/1,000 Adults (log)	-0.1778	-0.1388	-0.0592	0.0314	-0.0774	-0.0674
commercial bank deposit volume in 2008/GDP (log)	-0.2592*	0.0722	-0.6835*	-0.6153*	0.0725	0.0825
commercial bank loan volume in 2008/GDP (log)	-0.2573*	-0.0576	-0.6255*	-0.4907*	0.0329	0.0385
# commercial bank branches in 2008/100,000 Adults (log)	0.0015	-0.0417	0.0115	0.1172	-0.1679	-0.1801
# commercial bank branches in 2008/square km (log)	-0.0084	0.0136	0.1383	0.131	-0.1553	-0.1683
GDP per capita (log)	-0.1051	0.0579	0.0453	0.1436	-0.1328	-0.1374
Population density (log)	-0.0059	0.0572	0.1584	0.0781	-0.0674	-0.071
Expected real economic growth	-0.2149	0.0538	0.0588	-0.0401	-0.095	-0.0868
Inflation	-0.0234	0.0524	-0.1136	-0.1774	0.0434	0.0462
Gini coefficient	-0.0731	0.2739	0.1753	0.1029	0.3002*	0.3147*
Deposit insurance	0.1076	0.2011	-0.1277	-0.0939	-0.1866	-0.1945*
Electricity consumption	-0.1379	-0.2102	-0.0487	0.1461	-0.1686	-0.1902
Land line and cell phone users	-0.0789	-0.1142	-0.0377	0.0149	-0.087	-0.0999
Road density	-0.1006	-0.24	0.1649	0.1055	-0.2406*	-0.2497*
Absence of violence	-0.1043	-0.111	0.068	0.0377	-0.1348	-0.132
Offshore financial center	-0.0748	0.0636	0.0573	0.0582	0.2822*	0.3132*
Credit information index	-0.1359	-0.0946	0.0276	0.0217	-0.0591	-0.0709
Concentration	-0.0076	-0.2208	-0.0444	-0.0047	0.0369	0.032
Government bank share	-0.113	0.2845	0.0195	-0.0548	0.0292	0.0283
Foreign bank share	0.2151	-0.0523	-0.2742*	-0.1691	0.0581	0.0425
Contract enforcement procedures	0.0396	0.0833	0.1065	0.1028	0.0536	0.0728
Contract enforcement time	-0.1165	0.0879	0.0328	0.1262	0.1836	0.1588
Contract enforcement cost	0.1823	0.0131	0.0458	0.0257	0.0545	0.0746
Registry coverage	-0.2101	0.0103	0.0641	0.1047	-0.0235	-0.0368
KYC requirements	0.1764	0.0834	0.0583	0.0556	0.1865	0.1832
KYC exceptions	0.019	0.0421	0.3401*	0.3250*	0.1179	0.1307

Appendix 3 (continued)

	Δ Accounts per 1,000 adults in commercial banks (logs)	Δ Loans per 1,000 adults in commercial banks (logs)	Δ Value of deposits /GDP (logs)	Δ Value of loans/ GDP (logs)	Δ Branches per 100,000 adults in commercial banks (logs)	Δ Branches per squared km in commercial banks (logs)
Low-fee accounts	-0.0216	-0.0436	0.2267*	0.1989	0.0557	0.0526
documents_~p	0.0254	-0.1167	0.106	-0.0364	0.1745	0.1837
deposit_mi~n	0.0155	-0.0482	0.0876	0.0951	0.2233	0.2365
deposit_an~e	0.1168	0.1718	0.2826	0.2878	0.3715*	0.4051*
Places to submit loan application	-0.1578	0.0747	0.0165	0.1776	-0.2273	-0.2428
Minimum loan amount	0.2346	0.1365	0.2041	0.1135	0.4530*	0.5011*
Fees - consumer loan	0.6231*	0.1646	0.0937	0.0914	0.1335	0.1003
Days to process loan application	0.0683	-0.4355*	-0.0385	-0.0605	0.2523	0.253
Lending rate	0.1348	0.2348	0.0972	-0.0236	0.1061	0.0888
Branch approval	-0.0661	-0.0777	0.0962	-0.0083	0.0583	0.0738
Tax incentives	-0.0996	-0.0679	0.1108	0.1483	-0.056	-0.0644
Agents (savings)	-0.0791	0.0518	-0.0677	0.0017	-0.035	-0.0428
Agents (credit)	-0.0646	0.0658	-0.0779	0.0056	-0.0019	-0.0014
Postal system (private operator)	0.0599	-0.0801	-0.0462	0.0169	-0.0325	-0.0476
Capital account openness	0.0183	0.0912	-0.0999	0.1042	0.039	0.0359
Deposit rate	0.052	0.1461	-0.2516*	-0.212	-0.0007	-0.0247
Credit legal rights	-0.0452	-0.2385	0.0595	0.0285	-0.057	-0.0453
Credit rank	0.1237	0.2646*	-0.0714	-0.0395	0.0734	0.0751