

Banking Services for Everyone?

Barriers to Bank Access and Use Around the World

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Abstract:

Using information from 209 banks in 62 countries, we develop new indicators of barriers to banking services around the world, show their correlation with existing measures of outreach, and explore their association with other bank and country characteristics suggested by theory as potential determinants. Barriers such as minimum account and loan balances, account fees and documentation requirements are negatively correlated with outreach and these barriers exclude a large percentage of the population from using banking services in many countries. Factors associated with financial depth such as the effectiveness of credit information sharing, creditor rights and contract enforcement are highly correlated with barriers, but so are non-financial factors such as the development of the infrastructure and the extent of media freedom. More competitive banking systems and market-based supervisory policies are associated with lower barriers. Contrary to conventional wisdom, government banks are not associated with lower access barriers. Instead, bank customers face higher barriers to credit services in banking systems which are predominantly government-owned, while a larger share of foreign bank ownership is associated with lower barriers in deposit services.

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1. Introduction

Over 700 dollars are required to open an account in Cameroon, an amount higher than the GDP per capita of that country. On the other hand, no minimum amounts are required in South Africa or Swaziland. Fees to maintain a checking account exceed 25 percent of GDP per capita in Sierra Leone, while there are no such fees in the Philippines. The fees for transferring 250 dollars internationally are 50 dollars in the Dominican Republic, but only 30 cents in Belgium. While most people in the developed world take access to banking services for granted, price and non-price barriers prevent large parts of the population in developing countries from accessing and using formal banking services. These fees observed in many countries may effectively prevent the poor from using checking or savings accounts. Similarly, the requirement of a physical address or of a formal sector job as eligibility criteria to open an account excludes the majority of people in many developing countries, where a large percentage of the population lives in rural areas and works in the informal sector.

This paper presents new indicators of barriers to bank access and use of banking services around the world, shows their significance for outreach and relates them to bank and country characteristics suggested by theory as potential determinants. First, through surveying the largest banks in 62 countries, we document the extent of barriers to three banking services - deposit, loan and payments - across three dimensions - physical access, affordability, and eligibility. Second, we show that our barrier indicators are negatively correlated with measures of outreach and document that barriers can potentially exclude large percentages of the population from using banking services. Third, we explore which bank and country characteristics are associated with these barriers. Our findings have important implications for policies to broaden access.

Market frictions such as transaction costs and information asymmetries give rise to financial institutions and markets (see Diamond 1984, 1991, Ramakrishnan and Thakor 1984, Boyd and Prescott 1986). These market frictions, however, can also limit the extent to which financial institutions can reach out to clients and provide access to different services. Transaction costs that to a large extent are independent of the size of the financial transaction – deposit, loan or payment – make outreach to clients with demand for small transactions costly. High information asymmetries and the resulting agency problems make outreach to opaque clients again more difficult and costly. Barriers such as high minimum account balances and fees, multiple documentation requirements and high payment fees might reflect high transaction costs and the contractual and business environment in which banks operate. However, they might also reflect the competitive pressures, regulatory framework, and the availability of physical infrastructure in the market where banks offer their services.

Theory suggests that financial market frictions that prevent broad access can be the critical mechanism for generating persistent income inequality or poverty traps (Banerjee and Newman, 1993; Galor and Zeira, 1993). While a large empirical literature has established the importance of banking sector depth for GDP per capita growth, productivity growth, poverty, firm growth and entry rates (Beck, Levine and Loayza, 2000; Demirguc-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998; Beck, Demirguc-Kunt and Levine, 2007; Klapper, Laeven and Rajan, 2007), much less is known about the determinants and implications of access to financial services by individuals and firms. This is because data on who has access to which financial services remain thin and inadequate. This paper contributes to closing this gap in the literature.

Our data show substantial cross-bank and cross-country variation in barriers to banking. While banks in 18 countries do not impose any minimum balances for checking accounts, such balances are higher than 10 percent of GDP per capita in 15 countries. While one document is

needed to open an account in Albania, Czech Republic, Mozambique, Spain and Sweden, at least four documents, including ID, payment slip, proof of domicile and reference letter, are required in Bangladesh, Cameroon, Chile, Nepal, Sierra Leone, Trinidad and Tobago, Uganda and Zambia, effectively preventing large parts of the population from accessing these services. While it is possible to apply for a loan over the phone or the Internet in Australia, Chile, Denmark, Greece, South Africa and Spain, customers can only submit loan applications at bank headquarters or at branches in Armenia, Ethiopia, Sierra Leone and Uganda.

We conduct consistency checks on our data and show that, in general, barriers to banking are lower in economically and financially developed economies. Barriers are also negatively correlated with financial outreach – measured by branches, loans and deposits per capita and an estimate of the share of the adult population with access to financial services – and positively correlated with financing obstacles as reported by firms. However, we also show that some barriers seem to be more constraining than others. Specifically, we find that the fees on consumer and SME loans relative to GDP per capita are not consistently correlated with outreach. Similarly, the fees associated with international wire transfers and the use of ATM cards seem orthogonal to most other outreach indicators. On the other hand, minimum balances for checking and savings accounts, annual fees and documentation requirements associated with these accounts, the number of delivery channels for lending products, minimum loan amounts for SME and consumer loans relative to GDP per capita, and the days to process consumer and SME loans are highly correlated with other outreach measures and thus seem to constitute true hurdles to accessing formal banking services.

While double-digit ratios of minimum balances, fees and minimum loan amounts to GDP per capita already give a first impression of the limited affordability of many of these services for large parts of the population in a number of countries, we offer back-of-the-envelope calculations

using data on income distribution. We find that fees to maintain checking accounts effectively prevent more than 30 percent of the population from using such services in ten of the 62 countries in our sample.

Barriers to banking services could in principle arise as a result of banks' rational business decisions based on their business model, their market position, the macroeconomic, contractual and regulatory environment in which they operate and the level of competition they face. We explore the association between our barrier indicators and several bank and country characteristics that proxy for the business model and macroeconomic, contractual and regulatory frameworks to understand which policies might be more effective at reducing these barriers. We find that bank size and thus economies of scale are an important factor explaining barriers. Factors traditionally associated with the development of the financial sector such as upgrading credit registries and improving the contractual framework are associated with lower barriers mostly in terms of deposit services but, surprisingly, less for lending services. In addition, non-financial factors such as having an efficient infrastructure and free media are also strongly associated with lower barriers. We also find more competitive banking systems and market-based supervisory policies are associated with lower barriers. Finally, contrary to conventional wisdom, government banks are not associated with lower access barriers. Instead, bank customers face higher barriers to credit services in banking systems which are predominantly government-owned, while a larger share of foreign bank ownership is associated with lower barriers in deposit services.

This paper is related to an emerging literature on access to financial services. Most of the existing research and the efforts underway focus on country case studies that aim at measuring and analyzing access to financial services at the household or firm level (see Claessens, 2006; Claessens and Demirguc-Kunt, 2006). Few papers study this issue by focusing directly on

banking services providers. Recently, Beck, Demirguc-Kunt and Martinez Peria (2007) present aggregate cross-country data on banking sector outreach (such as branch and ATM penetration, deposits per capita, and loans per capita) and show that these indicators closely track more difficult and costly to collect micro-level statistics of household and firm use of banking services. More directly related to our paper, Genesis (2005a) examines the costs of using bank accounts in seven countries - Brazil, India, Kenya, Malaysia, Mexico, Nigeria, and South Africa. However, in contrast to our study, this report focuses exclusively on deposit service affordability in a small number of countries.

While our paper is the first systematic effort to document and analyze banking barriers across countries, it has a number of limitations. First, our attempt to compare standard products across a broad sample of countries is limited by differences in financial practices. For example, while in some countries checking accounts are the prevalent form of transaction account, in other countries savings accounts might be preferred. Furthermore, even the same type of financial product, e.g., an SME loan, might have different definitions and features across banks and countries. We therefore assess barriers on somewhat different deposit and loan products. However, to the extent that standardized products are not offered across countries, it is difficult to overcome this problem.¹ Second, fees and charges might differ because of differences in the scope and quality of the services provided rather than because of differences in pricing strategies. Third, we focus on the largest banks, not on the whole banking system. While this seems a restriction, by focusing on the largest banks with the most wide-spread branching structure we capture the barriers encountered by a majority of customers in a country. Finally, our survey focuses exclusively on banks and hence our data cannot reflect the extent of barriers to the use of non-bank financial institutions, such as postal savings banks, finance companies and

¹ We also considered asking questions on standardized loans and deposits, yet decided to collect information on actual barriers as opposed to “hypothetical” ones based on products that might not exist in all countries.

microfinance institutions. While these limitations suggest potential areas of further improvement, we see this paper as an important first step in the effort to create consistent cross-country indicators of barriers that households and firms face in accessing financial services.

The remainder of the paper is organized as follows. Section 2 discusses the survey used to collect bank-level information. Section 3 presents the indicators and discusses their cross-country variation. Section 4 shows that these barriers are correlated with cross-country indicators of outreach and firms' financing obstacles and section 5 offers back-of-the-envelope calculations that show the impact of some of these barriers on access. Section 6 relates our indicators to bank and country characteristics associated with the institutional, contractual and, competitive environment, and section 7 concludes.

2. The survey

The dataset is constructed from a web-based survey with 75 questions that was sent to the five most important banks in 115 countries in 2004 and 2005, identified based on their total asset size or branches.² We chose to focus on the largest banks with wide-spread branching networks since we are interested in the barriers encountered by the average customer in each country. Survey responses were carefully confirmed through extensive follow-up with the banks whenever we had questions about the data provided. While we received a total of 257 responses from banks in 88 countries, to insure representativeness, we limited the analysis in this paper to countries for which the responding banks constitute at least 30 percent of the market in terms of

² Data collected from bank regulators and analyzed by Barth, Caprio, and Levine (2004) indicates that on average the five largest banks in over 100 countries account for 73 percent of bank assets and deposits.

total loans or total deposits, or economies where we received a response from the largest bank.³ This gives us a total sample of 209 banks across 62 countries.

Table 1 presents all the countries in our sample and shows their level of economic and financial development, as measured by GDP per capita in U.S. dollars and private credit to GDP, respectively. Also, the table contains information on the number of banks (out of the top 5 banks) that responded to our survey, along with the market share they represent. Our sample comprises countries across all levels of financial and economic development. Countries range from Ethiopia with a GDP per capita close to 100 dollars to Switzerland, where GDP per capita exceeds 34,000 dollars. With banking sector credit at 2 percent of GDP, Mozambique is the country with the lowest level of financial development in our sample, while Denmark and Switzerland rank at the top with private sector credit exceeding 150 percent of GDP. In terms of regions, our sample coverage is also quite balanced. Our dataset includes 15 countries from Eastern Europe and Central Asia, 14 countries from sub-Saharan Africa, 9 countries in Western Europe, 9 Latin American and Caribbean countries, 5 countries from the Middle East and North Africa, 5 countries in South Asia, 4 countries in East Asia and one non-European developed country (Australia).

In terms of market share, for 60 out of the 62 countries in our sample the share of deposits captured by respondents exceeds 30 percent. Banks from France and Zimbabwe are not included in the calculations for deposit and payment barrier indicators because the market share of bank respondents in these countries is below the 30 percent threshold. When it comes to loans, the share represented by bank respondents exceeds 30 percent in 57 countries. In this case, the countries excluded from the sample are Germany, Nigeria, Romania, Swaziland, and Sweden. In

³ We determined the market share using data from Bankscope. We have data for the largest bank constituting less than 30% of the market in only one country, Swaziland, but this ratio is 29%. In Algeria too, we only have data for the largest bank, but this bank accounts for more than 30% of the market.

32 (28) countries the share of deposits (loans) exceeds 50 percent. On average across countries, the banks that responded to our sample account for 55 percent of the deposits and 52 percent of the loans in the countries in our sample, based on data from Bankscope.

3. The indicators

This section presents our indicators of barriers to banking across countries. Tables 2, 3 and 4 present country-level averages including descriptive statistics and Figures 1 through 16 show the cross-country variation graphically.⁴ Table 5 reports correlations across the different barrier indicators. We separate our indicators based on the type of service: deposit, loan and payments. We report averages for each country calculated by weighing each banks' responses by their share of deposits in total deposits of all sampled banks in the case of indicators for deposit and payment barriers, and by the share of loans for indicators of loan barriers. Also, wherever possible, we try to distinguish between three different service dimensions: physical access, affordability, and eligibility. Physical access refers to the points of service delivery. Greater physical access means services are delivered in multiple and more convenient ways. Affordability refers to the costs in terms of minimum balances and fees that bank clients need to pay to obtain financial services, such as checking or savings accounts, consumer or SME loans, international payment transfers and use of ATM cards. Finally, eligibility refers to the criteria (in terms of documentation or other requirements) that determine who can access financial services and who cannot. In the case of lending, we use the days needed to process a loan application as an eligibility criterion since some potential bank customers might not apply for loans if they need financing urgently and they know it takes a long time to get a decision.

⁴ We do not report and graph the indicators for Swaziland or Algeria, as they represent only one bank. Nevertheless, these banks do enter the subsequent analysis.

3.1. Deposit services

The main deposit products we consider in terms of deposit services are the checking and savings accounts. Across countries, there are differences in the extent to which savings or checking accounts are the dominant transaction account type. We therefore assess barriers to deposit services based on survey questions related to both account types. Potential customers can encounter barriers to the use of deposit services in terms of the need to visit headquarters to open an account instead of doing it at the local bank branch or a non-branch office (physical access), payment of high minimum balances and fees (affordability), and the requirement to present multiple documents to open an account (eligibility). We will discuss each of these barriers in turn. Weighted country-level averages are presented in Table 2.

Physical access

Physical access to banking services can often be hampered by long distances from the next bank outlet (Beck, Demirguc-Kunt and Martinez Peria, 2007). However, even if there is a sufficiently wide network of bank offices, not all of these offices might offer the same services. We measure physical access in deposit services by considering the **locations to open a deposit account**. This indicator takes values from 1 to 3 depending on whether an account can be opened at headquarters only (1), at headquarters or a branch (2) or at headquarters, branches or a non-branch office (3).⁵ While the majority of sampled banks in Greece and Sierra Leone require customers to visit the head office to open a checking account, customers in Moldova can open such an account at headquarters, branches and even branch-like offices. Overall, we find

⁵ We consider only the most local office, i.e. banks that allow customers to open an account at a branch or a non-branch office receive the same rating (3) as banks that allow customers to open an account at headquarters, a branch or a non-branch office.

substantial variation in the locations to open a deposit account (Figure 1). In the median country, customers can open accounts at headquarters or branches but not at non-branch offices.

Affordability

We characterize the affordability of deposit services across countries by looking at the minimum balances required to open checking and savings accounts, along with the fees needed to maintain such accounts. There is substantial variation in the ratio of the **minimum balance needed to open a checking account to GDP per capita** (Figure 2). While in Cameroon and Nigeria, the minimum balance exceeds 100 percent and in Ethiopia, Nepal, Sierra Leone and Uganda, more than 50 percent of per capita income is required to open a checking account, the amount is zero in 18 countries, less than half of which are developed.⁶ The median value for this indicator is 0.98 percent and the average is 12.27 percent. While some of the variation in this indicator might be explained by the denominator – GDP per capita – the correlation between the amount necessary to open an account and GDP per capita is far from perfect (-0.29) and even in dollar terms, there is a significant variation in minimum balances.

The ratio of the **minimum balance needed to open a savings account to GDP per capita** (Figure 3) ranges from zero in nine countries (i.e., Australia, Belgium, Chile, Denmark, Egypt, Israel, Spain, Switzerland and Turkey) to over 40 percent in Cameroon, Kenya, Nepal, Sierra Leone and Uganda. The median value for this indicator is 1.2 percent. The required minimum balance to open a savings account is on average only slightly below the minimum balance in checking accounts, 9 percent for the former compared to 12.3 percent of GDP per capita for the latter.

⁶ Countries for which the minimum balance to open a checking account averages zero include: Australia, Belarus, Belgium, Brazil, Croatia, Denmark, Georgia, Germany, Israel, Lithuania, Malawi, Moldova, South Africa, Spain, Swaziland, Sweden, Switzerland, Turkey, and Zambia.

As reported in Table 2, there is similar variation across countries in the balances that have to be maintained in checking and savings accounts. Thus, the affordability barriers expand beyond the initial stage of opening a checking or savings account. There is a high correlation between the amounts needed to open and to maintain checking and savings accounts, although on average, the amounts are significantly lower to maintain than to open an account, 5 percent and 7.3 percent of GDP per capita for checking and savings accounts, respectively.⁷

Fees associated with maintaining a checking or savings account also vary significantly across countries (Figures 4 and 5). While in Malawi, Sierra Leone, and Uganda checking account fees amount to over 20 percent of GDP per capita, these accounts are free in Bangladesh, Belarus, Ethiopia, India, Jordan, Malta, Pakistan, Philippines, and Sweden. The median value for the fees associated with checking accounts is 0.3 percent and the average is 2.5 percent. Savings accounts fees are significantly lower than those associated with checking accounts, ranging from zero in 28 countries to almost 4 percent of GDP per capita in Malawi and Uganda. The average value across countries for the fees on savings account is 0.5 percent while the median is 0.01 percent.

Eligibility

Around the world, banks demand proof of identification to open an account for a new client. However, banks in many countries demand a variety of other documents on top of ID cards, including recommendation letters, wage slips, and proof of domicile. To quantify these eligibility requirements, we create indicators of the **number of documents required to open checking and savings accounts**, respectively. While banks in Albania, Czech Republic, Mozambique, Spain and Sweden demand on average only one document to open a checking

⁷ Given the high correlation between minimum balances to open and to maintain accounts, we will focus on the minimum balances to open an account in the subsequent analysis.

account, banks in Bangladesh, Cameroon, Chile, Nepal, Sierra Leone, Trinidad and Tobago, Uganda, and Zambia require at least four documents (Figure 6). On average, a slightly smaller number of documents are required to open a savings account (2.2) relative to a checking account (2.6). In 9 out of 52 countries for which information is available on the number of documents needed to open a savings account, only one type of document is required.⁸ On the other hand, more than three documents are needed in Bangladesh, Cameroon, Ghana, Malta, Nepal, Sierra Leone, South Africa, Trinidad and Tobago, and Zambia (Figure 7).

3.2. Credit services

We collected indicators of physical access, affordability and eligibility for four different loan types – business, SME, consumer, and mortgage loans. However, due to space constraints and because of our interest in products available to individuals and to typically constrained smaller firms, we focus on consumer and SME loans (see Table 3). Nevertheless we report indicators on the other loan types in Appendix Table A.1. Indicators of physical access, affordability and eligibility barriers are highly correlated with each other across the different loan types.

Physical access

To measure physical access for loans, we examine the **locations to submit a loan application**. While customers in Armenia, Ethiopia, Nepal, Sierra Leone, Thailand, and Uganda can only apply for loans at a bank’s headquarters and branches, customers in Australia, Chile, Denmark, Greece, South Africa and Spain not only can use branch and non-branch outlets, but also submit loan applications over the phone and the Internet (Figure 8). In the median and

⁸ These countries include: Albania, Belarus, Czech Republic, Hungary, Lithuania, Mozambique, Spain, Sri Lanka, and Sweden.

average country, bank customers can submit loan application at headquarters, branch and branch-like offices.

Affordability

We measure loan affordability by looking at the minimum balances required for consumer and SME loans and at the fees for these loans. The **minimum amount for consumer loans relative to GDP per capita** ranges from less than 1 percent in Denmark and Switzerland to 1,152 percent of GDP per capita in Nepal (see Figure 9). The median minimum amount for consumer loans is 19.3 percent, while the average is 76.9 percent. While banks in Belarus, Denmark, and Egypt do not specify **minimum amounts for SME loans**, banks in Nepal, Georgia, and Uganda report a minimum of over 2,000 percent of GDP per capita (Figure 10). The average minimum amount for SME loans is 408.4 percent and the median is 58 percent of GDP per capita. Existence of high minimum loan requirements suggests that in those countries banks do not meet the external financing needs of poorer households and smaller enterprises.

Fees on consumer loans expressed as a percentage of GDP per capita range from zero in Belgium, Ethiopia, and Switzerland to over 6 percent in Albania and Cameroon (Figure 11). The median fee on consumer loans is 1.3 percent and the average is 1.6 percent. **Fees on SME loans** also exhibit a significant cross-country variation. Fees vary from zero in Armenia and Switzerland to close to over 80 percent in Cameroon (Figure 12). The average fee on SME loans across countries is 3.5 percent and the median is 1.3 percent.⁹

⁹ We also computed loan fees relative to the minimum loan amount. Comparing loan fees relative to GDP per capita and relative to the minimum loan amount yields a very high rank correlation.

Eligibility

A crucial function of financial intermediaries is to screen borrowers. The **number of days it takes to process a loan application** can be perceived as a de facto eligibility barrier, since some borrowers might be discouraged from applying for bank loans and seek financing elsewhere to avoid long waiting periods. For consumer loans, this indicator ranges from almost one day in Australia, Brazil, Czech Republic, Denmark, Greece, Israel and Spain to over 20 days in Pakistan (see Figure 13). The average number of days to process a consumer loan application is 4 and the median is closer to 3.

SME loan application are processed in less than 2 days in Denmark, Israel, and Spain but take more than one month to process in Bangladesh, Pakistan, Philippines and Uruguay (Figure 14). Across countries, it takes an average of almost 11 days to process an SME loan application. The median number of days is 8.

3.3. Payment services

Our indicators on payment services measure primarily affordability. We examine the costs of transferring a small amount of funds internationally and the fees associated with using ATM cards (see Table 4).¹⁰

The **cost of transferring funds internationally** varies from 0.12 percent in Belgium to 20 percent in the Dominican Republic (Figure 15).¹¹ To compute these ratios and to make them comparable across countries, we focus on a typical transfer of 250 dollars. On average, the cost of transferring funds internationally is 6.3 percent or \$ 15.82.

¹⁰ Though ATM cards can be used for transactions such as transferring funds across accounts, we think of ATMs as primarily facilitating payments by allowing the withdrawal of funds.

¹¹ While we also considered the speed of transfers in terms of days, we found little variation across banks and countries.

We express **the fees associated with ATM transactions** as a percentage of 100 dollars. We find that ATM fees are above 40 cents for Pakistan and Nigeria, and average 10 cents across countries while the use of ATM is free for 50 percent of the sample (Figure 16).

3.4. Correlations

Table 5 shows the pairwise correlations between the different barrier indicators, averaged at the country level. Most of the variables are significantly correlated with each other, although the correlations are stronger among indicators of the same type of service (deposit, loan or payment) than between indicators across the different services.

Among deposit service indicators, we find that banks in countries with high minimum balances for checking accounts also require high minimum balances for savings account, as expected. Similarly, fees and documentation requirements for checking accounts are highly correlated with those for savings account. Also, higher fees are positively correlated with higher minimum checking and savings deposit balances required to open deposit accounts. Finally, in countries with high deposit fees and high minimum balances, prospective depositors are also required to present a larger number of documents to open accounts.

Loan indicators are also correlated with each other but to a lesser extent than is the case among deposit indicators. SME and consumer loan fees are significantly correlated with each other and so are the loan minimum balances and the days to process SME and consumer loan applications. The indicator on the number of locations/ways in which a potential borrower can submit a loan application is negatively correlated with the loan minimum balances and the number of days to process loan applications. Among the payment service indicators, the cost to transfer funds internationally is positively correlated with the fees associated with using ATM cards.

Across the three different types of services, we find that countries with higher minimum loan amounts also tend to have higher minimum deposit amounts and, in the case of consumer loans, also higher checking fees. Further, we observe that higher loan fees are correlated with higher costs of transferring funds internationally.

4. Barriers to banking and outreach

In this section we explore the association between our barrier indicators and existing measures of economic development, financial depth, and banking sector outreach (Table 6). In many ways, examining these correlations represents a consistency check on our indicators and allows us to assess which barriers are actually constraining, in the sense that they are correlated with less banking sector outreach.

As expected, we find that barriers to banking are negatively correlated with economic development. Specifically, minimum balances to open accounts and fees to maintain them, the number of documents to open accounts, minimum amounts of consumer and SME loans, and the days to process consumer and SME loans are negatively and significantly correlated with GDP per capita. In the same way, we find that the number of places to submit loan applications, an indicator of lower barriers to physical loan access, is positively and significantly correlated with GDP per capita.

Further, we find that higher barriers are consistently negatively associated with financial development. Table 6 shows that private credit to GDP – a standard measure of financial intermediary development – is negatively and significantly correlated with the minimum balances to open accounts, the annual fee and the documents to open checking accounts, the minimum amount for consumer and SME loans, and the days to process SME and consumer loans. On the other hand, private credit to GDP is positively and significantly correlated with the

number of locations to submit loan applications. Interestingly, the fees on consumer and SME loans, the cost to transfer internationally, the fee for using the ATM card and the locations to open deposit accounts are not significantly correlated with economic or financial development. One explanation for this lack of significance could be that countries at low levels of economic and financial development are leapfrogging using the same alternative delivery channels and cheaper technology to provide deposit and ATM services as more developed countries.

To gauge the relationship between barriers and aggregate measures of financial sector outreach, we utilize recently compiled data on branch penetration, the number of loan and deposit accounts per capita (Beck, Demirguc-Kunt and Martinez Peria, 2007) and a synthetic indicator of the proportion of adult population with access to a financial account estimated using existing household surveys and information on accounts from banks, cooperatives and MFIs (Honohan, 2007). These are country-level indicators, compiled from regulatory surveys and publicly available information. We would expect countries with banks that impose higher barriers on their customers to have fewer numbers of branches, deposit and loan accounts per capita and an overall lower share of adult population with access to financial accounts.

The correlations in Table 6 suggest that lower barriers are indeed associated with greater outreach. Specifically, banks in countries with a higher demographic branch penetration demand lower minimum balances and fewer documents to open accounts, are more likely to accept loan applications in branch-like offices or over the phone or Internet, set lower minimum SME loan amounts, are quicker at processing loan applications, and charge lower fees for using ATM cards. Similarly, banks in countries with higher loans per capita are more likely to accept these applications outside headquarters, in particular, through non-traditional channels such as phone or Internet, and take fewer days to process SME applications. Banks in countries with more deposits per capita demand lower minimum balances and lower fees, require fewer documents to

open such an account, set lower minimum amounts for consumer and SME loans, charge lower fees for consumer loans, are faster in processing loans, are more likely to accept loan applications through non-traditional channels, and charge lower fees for using ATMs. Finally, barriers to access and use of banking services are correlated with estimates of the share of adults with access to an account (deposit or loan) at a financial institution. We find that the share of adults with access to a financial account is higher in countries where banks demand lower minimum balances and fees on savings and checking accounts, where they demand fewer documents to open such accounts, where the consumer and SME minimum loan amount is lower, where loans are processed more quickly, where loan applicants are more likely to be able to use non-traditional channels, and where ATM fees are lower. Surprisingly, the possibility of using non-branch office to open accounts is negatively correlated with this financial breadth measure, which could indicate that technological advances such as e-finance or m-finance may be substituting for and expanding access despite limitations in physical locations.

Higher barriers are also associated with higher financing obstacles as reported by firms. We use responses to firm-level survey questions on “Is access to financing (e.g. collateral) a problem to the operation and growth of your enterprise?” and “Is cost of financing (e.g. interest rates) a problem to the operation and growth of your enterprise?” from the Investment Climate Assessment (ICA) surveys conducted by the World Bank across 38 (access) and 39 (cost) countries. Responses to these questions are coded between zero (no obstacle) to four (very severe obstacle), with higher values thus indicating more severe financing constraints.¹² We take the average across all firms in a country. We find that firms report higher financing obstacles in countries where banks impose higher minimum amounts to open checking and savings accounts and charge higher fees to maintain these accounts, and where banks do not accept loan

¹² There is a growing literature that shows the importance of financing obstacles for firm growth and financing patterns (Beck, Demirguc-Kunt and Maksimovic, 2005; Ayyagari, Demirguc-Kunt and Maksimovic, 2006).

applications through non-traditional channels. Finally, firms report higher financing obstacles in countries where banks demand a larger number of documents to open bank accounts. It is interesting to note that firms' financing obstacles are more significantly correlated with barriers related to deposit services than with barriers related to payment or loan services. This suggests that firms rely to a large extent not only on credit services, but on a whole array of financial services from financial institutions.

These correlations are simply that – correlations. They do not imply causality. They suggest that barriers to banking go hand in hand with less physical access to banking offices and lower use of deposit and credit services by households and firms. However, they also show that some of our indicators capture barriers more effectively than others. Minimum account balances and account fees, minimum loan amounts, documentation requirements, reduced number of delivery channels for loan products and lengthy loan processing times seem to be significant barriers to access banking services as documented in lower financial sector penetration rates. Loan fees as well as fees for international wire transfers and the use of ATM cards and geographic access barriers to opening deposit accounts are either not significant barriers because they can be circumvented through technological advances and other means or they are not properly measured with our methodology, as they are not correlated with lower financial sector penetration rates.

5. Financial exclusion – the effects of banking barriers

This section provides back-of-the-envelope calculations of the effects of barriers in terms of the percentage of the population in a country that cannot afford banking services. Specifically, we combine income and income distribution data with our information on annual fees to maintain checking and savings accounts to compute the share of the population that does

not earn enough to afford using checking and saving accounts (see methodological explanation in the appendix). Using the latest income distribution data from UNU-WIDER (2005), we utilize information on the Gini coefficient to compute percentiles of income distribution and combine this with income data to compute income per capita data at different percentiles of the income distribution.¹³ If we follow Genesis (2005b) and assume that poor people cannot afford to spend more than 2 percent of their annual household income on financial services, these calculations provide us with a cut-off percentile of a country's income distribution below which the use of checking and saving accounts is not affordable.¹⁴ We adjust income with the average household size for every country.¹⁵

Table 7 shows that while in terms of fees, checking and savings accounts are affordable for almost the entire population in many countries, there are significant outliers. In ten countries at least 30 percent of the population cannot afford checking accounts and in Nepal as well as several African countries, more than 50 percent of the population is priced-out of using these services. Specifically, 54 percent of the population in Cameroon, 81 percent in Kenya, 40 percent in Madagascar, 94 percent in Malawi, 56 percent in Nepal, 89 percent in Sierra Leone and 93 percent in Uganda cannot afford the fees for checking accounts. The fees on savings accounts are in general less restrictive. Approximately, 34 percent of the population in Nepal, 33 percent of the population in Malawi and Uganda, and 17 percent of the Bolivian population cannot afford the fees and charges associated with a savings account.

¹³ Calculations are based on Dollar and Kraay (2002) and Lopez and Serven (2006).

¹⁴ According to Genesis (2005b), the 2% limit is based on unpublished research by the South African Universal Services Agency in the context of mandated rolling-out of telecom service to lower-income families. As both financial transaction accounts and telecom service can be considered network products, similar assumptions on affordability for both services seem reasonable.

¹⁵ Household size is expected to vary with income level within countries. As we do not have data available on household size distribution, we are not able to adjust for this effect. Again, our numbers are indicative and a more detailed analysis would require richer country-level information on the variation of household size distribution with income distribution.

While these computations are rough estimates and the 2 percent cut-off may not necessarily apply, they are still most likely conservative estimates of the share of the population that cannot afford these services, as we do not take into account the costs imposed by minimum balances, restricted locations to access services, and documentation requirements. As detailed by Genesis (2005b), it is especially documentation requirements that prevent the large majority of the population in many Sub-Saharan African countries who do not hold formal sector jobs, live in rural areas without registered addresses and do not have IDs or passports from accessing financial services.

6. What explains banking barriers across banks and countries?

Theory suggests that barriers to banking are the results of banks' rational business decisions based on their business model, their market position, the macroeconomic, contractual and regulatory environment in which they operate and the competitive pressures they face (Berger and Udell, 2006; Beck and de la Torre, 2007). The standard deviation of the barrier indicators is about as large across banks within countries as it is across countries, which suggests that both bank as well as country characteristics drive the variation in barriers. This section therefore explores the empirical association between our barrier indicators and an array of bank and country variables. In particular, we consider whether the size, business orientation and ownership of the banks are associated with barriers and explore the role of physical infrastructure, the contractual and informational frameworks, banking sector market structure, regulatory policies and transparency in the economy in explaining cross-country variation in these barriers. While bank-level data are from Bankscope, country-level variables are drawn from different databases.¹⁶ Appendix Table A.2 shows definitions and sources for the

¹⁶ Bank ownership data are from Micco, Panizza and Yañez (2007), based on Bankscope data.

explanatory variables included in the analysis and Tables A.3 and A.4 present descriptive statistics and correlations for all explanatory variables.

To assess the relationship between barriers and bank- and country-level characteristics, we utilize the following regression model

$$F_{i,k} = \alpha_0 + \alpha_1 B_i + \alpha_2 C_k + \varepsilon_{i,k} , \quad (1)$$

where F is one of the barriers indicators for bank i in country k , B is a matrix of bank-level variables (the log of total assets in U.S. dollars, dummy variables for government and foreign ownership and the loan to asset ratio), and C is a country-level variable. While we include all bank variables in our regressions, we include only one country-level variable at a time given the limited number of countries in our sample and the high correlation between our variables (Appendix Table A.4). Critically, we do not control for GDP per capita because many of our explanatory country-level variables are highly correlated with economic development. Also, we are interested primarily in knowing which components of economic development can explain cross-country variations in barriers, as captured by individual country characteristics. While our analysis is conducted at the bank-level, we confirm our findings using simple correlations between the weighted country-level averages of the barriers and the country characteristics.

We utilize different estimation techniques depending on the nature of the dependent variable. Specifically, for all affordability indicators – constructed as minimum amounts and fees relative to GDP per capita-, we conduct OLS regressions of the log of one plus the variable – to account for the skewed distribution of these variables. Similarly, for the days to process loans and documentation requirements to open an account, we use OLS regressions. For the location variables (both for loans and deposits) capturing physical access, we utilize ordered probit estimations to take account of the polychotomous nature of these variables with natural order. In all cases, we drop the top one percent of the distribution of the dependent variables to

control for outliers. The first four rows of Table 8 report the results of a regression on just the bank-level variables, while all subsequent rows report the results of adding the country-level variables one at a time.

Bank characteristics

Theory provides opposing views on the impact of bank size and ownership types, on barriers. On the one hand, large banks might be better at exploiting scale economies, thus overcoming more easily the problem of smallness faced by financial systems in large parts of the developing world which have clients with demand for small and few transactions and have few customers over which fixed transaction costs can be spread (Beck and de la Torre, 2007). On the other hand, by virtue of their size, small banks might be closer and better able to serve “smaller” and riskier clients (Berger, Hasan and Klapper, 2004).

While the public-interest theory (Gerschenkron, 1962) justifies the creation of government-owned banks with the necessity to target small and riskier clients ignored by private financial institutions, a large theoretical and empirical literature suggests a mission drift of these banks (La Porta, Lopez-de-Silanes and Shleifer, 2002), with both views having opposing implications for the barriers imposed by government-owned banks. Similarly, while foreign-owned banks are assumed to be more interested in large corporations and private clients with demand for large transactions due to their limited access to soft local information (Mian, 2006), they might have more efficient technologies, which allows them to lower cost and thus barriers (Berger and Udell, 2006). And even if they may not serve the smaller clients themselves, the competitive pressures they create may provide incentives for the domestic banks to do so, hence leading to lower barriers (Rajan, 2006).

We measure the size of banks with the log of total assets in millions of US dollars, and control for their ownership type with separate dummy variables for majority government- and foreign-owned banks.¹⁷ Finally, we explore the impact of banks' business orientation using the loan-asset ratio as a proxy for the degree to which banks serve retail clients (Laeven and Levine, 2007). We conjecture that banks with a retail orientation will impose lower barriers to attract a larger number of smaller clients, while wholesale or corporate banks might place higher barriers to signal their lack of interest in such type of clients.

Our results suggest that larger banks demand lower minimum balances to open a checking or savings account, charge lower checking and savings fees, require fewer documents to open accounts, impose lower minimum loan amounts for SME and consumer loans, charge lower fees on SME loans, need fewer days to process loans, and are more likely to accept loan applications through non-traditional channels such as phone or Internet.

Focusing on ownership, we find that foreign banks appear to charge higher deposit fees, but foreign ownership is not associated with significantly higher other barriers compared to private domestic banks. It is also interesting that government-owned banks, whose existence (despite efficiency problems) is often justified as providing access to the underserved groups, do not seem to have significantly lower access barriers compared to private banks in our sample. If anything, government banks take longer to screen SME loan applications.

Finally, the correlation between business orientation and barriers is mixed. While, retail, loan-intensive banks – those with a higher ratio of loans to assets - require lower minimum balances to open savings accounts and are more likely to accept loan applications through non-traditional channels, they take longer to process consumer loan applications and require more

¹⁷ We also used the market share of each bank instead of log of total assets, but this variable entered only few regressions significantly, suggesting that it is the absolute size of banks rather than their market share that drives their business decisions on fees and requirements.

documents to open a checking account. Overall, these results suggest that size is the dominating (i.e., most consistently significant) bank characteristic in explaining variation in barriers and that scale economies play an important role in determining the extent of barriers.¹⁸

Physical Infrastructure

While the literature has paid surprisingly little attention to the relationship between infrastructure, input costs and financial depth and breadth, our results suggest that the quality of physical infrastructure, such as electricity networks, which is associated with the costs of doing business for banks, can explain cross-country variation in many barriers to banking. We use electric power transmission and distribution losses as percentage of output (Estache and Goicoechea, 2005) to gauge the association of physical infrastructure with banking barriers. Banks in countries with more power outages require higher minimum balances for savings accounts, require more documents to open accounts, impose higher minimum loan amounts, charge higher fees on consumer loans, take longer to process SME loan applications, and charge higher fees for international wire transfers. We also used the number of telephone subscribers per 1,000 people as an indicator of the communication infrastructure and obtained similar results. However, unlike the energy loss measure, the communication indicator is likely to capture both demand and supply-side constraints.

Contractual and informational framework

Theory suggests that bank barriers will be lower in countries with more effective contractual and informational frameworks. Banks arise to overcome information asymmetries

¹⁸ These results are consistent with the observation that it is the banks in the small financial systems of Sub-Saharan Africa that consistently impose the highest barriers on customers, arguably to recover their relatively high fixed costs.

between lenders and borrowers (Diamond 1984, 1991, Ramakrishnan and Thakor 1984, Boyd and Prescott 1986), which can lead to adverse selection and moral hazard problems. However, the extent to which they are able to overcome these asymmetries depends on the contractual and informational framework within which they operate. Specifically, more efficient systems of credit information sharing allows banks to better assess loan applicants, thus potentially reducing reliance on non-interest screening mechanisms such as minimum loan amounts and fees, while increasing the possibility to use less personal application channels such as phone or Internet and allowing for faster processing of loans. More effective creditor rights protection and more efficient systems of contract enforcement might help banks overcome problems of moral hazard and again allow them to rely less on non-interest barriers and to process loans faster. However, a more efficient contractual and information environment might also allow banks more easily to accept new deposit clients. An extensive empirical literature has shown the importance of effective contractual and informational frameworks for financial sector depth (see for example Beck and Levine, 2005). There is empirical evidence that this relationship also holds for financial sector penetration and access to finance (Beck, Demirguc-Kunt and Martinez Peria, 2007; Beck, Demirguc-Kunt and Levine, 2005; Haselmann, Pistor and Vig, 2005; Visaria, 2006). Here we explore whether the contractual and informational frameworks have a similar importance for bank barriers. We utilize three indicators from the *Doing Business* database (World Bank, 2006a) that measure the efficiency of credit information systems, the rights of creditors in the reorganization and bankruptcy of a corporation, and the cost of contract enforcement relative to GDP per capita.

Our results suggest that higher barriers reflect the higher costs imposed on banks and their customers by an ineffective informational and contractual framework. Banks in countries with more efficient systems of credit information sharing are more likely to accept deposits at

multiple locations, require lower minimum balances and fewer documents to open accounts and allow for loan applications to be submitted through non-traditional channels. On the other hand, banks in countries with better informational environments seem to charge higher fees on international wire transfers. Banks in countries that more effectively protect creditors are more likely to allow opening of bank accounts in non-branch locations, and require lower minimum balances and documents to open a checking account. Banks in countries with poor systems of contract enforcement require higher minimum balances on savings accounts, charge higher fees on deposit accounts, require more documents to open accounts and impose higher minimum loan balances. The significant association between the efficiency of contractual and informational frameworks and lower barriers to banking thus matches the positive relationship between these institutions and aggregate financial development or depth, established by the literature (Beck and Levine, 2005). We note, however, that surprisingly it is mostly the barrier to deposit services that are significantly correlated with the contractual and informational framework rather than barriers to lending services, as one would have expected from the theoretical literature.

Market structure

Theory does not suggest an unambiguous relationship between market structure and barriers to banking. Banks in more concentrated banking systems might either exploit their market power imposing higher barriers or, alternatively, might face higher incentives to lend to smaller, more opaque borrowers such as SMEs as they can recover investment in the relationship in future periods (Petersen and Rajan, 1995). Further, the variation of barriers across countries might be affected by the dominance of government-owned or foreign-owned banks in a banking system; banks might impose higher or lower barriers in banking systems dominated by government-owned or foreign-owned banks, independent of what individual banks' own

ownership structure is. Specifically, competitive pressures or the lack thereof from a predominantly government-owned or foreign-owned banking system can push individual banks towards higher or lower banking barriers. We use data from Barth, Caprio and Levine (2004) to assess the association between bank ownership and market structure and barriers to banking.

We find some evidence of lower barriers to deposit services in banking system with greater foreign bank presence. Although we find that foreign banks themselves seem to charge higher fees than other banks, in foreign dominated banking systems fees on checking accounts are lower. Further, it is easier to open bank accounts, both in terms of the required documents and the geographic access. On the other hand, in systems that are predominantly government-owned, bank customers face greater restrictions in terms of where to apply for loans and the time it takes to have applications processed is longer.

We also find that in less contestable systems, as proxied by a higher share of new bank license application rejected, banks require higher minimum account balances, charge higher deposit fees, require more documents to open accounts, require higher minimum consumer loan balances and take longer to process these applications.¹⁹ However, banks in countries with more concentrated banking systems are less likely to allow customers to open deposit accounts outside headquarters but charge lower ATM fees, impose lower minimum amounts for SME loans, and are faster at processing loan applications. Hence, overall we find that contestability is associated with lower barriers, while there is no consistent relationship between market structure and barriers.

¹⁹ We also used the H Statistics as indicator of competitiveness, following the approach by Claessens and Laeven (2004). However, we do not find any significant relationship of this indicator with barriers. We also tried regulatory indicators of formal bank entry requirements, but did not find consistent correlations with bank barriers.

Regulatory and supervisory framework

Bank regulation and supervision might have both a direct and indirect effect on the barriers that banks impose. Some barriers such as documentation requirements might directly result from regulatory requirements. In other cases, regulatory costs might be passed on by banks to customers. We use three indicators to gauge the association of bank barriers with regulatory and supervisory policies. First, we use the index on Banking Restrictions from the Heritage Foundation, a composite index of whether foreign banks are able to operate freely, how difficult it is to open domestic banks, what degree of regulations there are on financial market activities, the presence of state-owned banks, whether the government influences the allocation of credit, and whether banks are free to provide customers with insurance products and invest in securities. Second, we use two indicators of the supervisory approach, the Official Supervision and Private Monitoring indexes developed by Barth, Caprio and Levine (2007). Official Supervision measures the extent to which bank supervisors can intervene into banks' decisions in normal and distressed times, whereas Private Monitoring measures the degree to which private market participants such as large creditors and depositors have the means and the incentives to monitor and discipline banks.

Banks in countries with less restrictive regulatory framework, less supervisory power and more reliance on private monitoring have fewer barriers. We find that banks in economies with more restrictions to banking freedom are less likely to allow that accounts are opened outside the headquarters, demand higher minimum balances to open a checking or savings account, impose higher fees on checking accounts, require more documentation to open deposit accounts, are less likely to accept loan applications through non-traditional channels, impose higher minimum balances on consumer loans, and are slower at processing loan applications. Banks in countries with more powerful supervisors impose higher checking account fees, require more documents

to open accounts, and impose higher minimum SME loan amounts. Banks in countries where the private sector has a greater role in monitoring and disciplining banks demand lower minimum balances and fees on checking accounts, require lower minimum amounts on consumer and SME loans, and process these loans faster. However, they also demand higher fees for using ATMs. Our findings on the association between barriers, less restrictive regulatory policies and a focus on private monitoring rather than powerful supervisors matches other papers that find it is reliance on private monitoring rather than regulatory restrictions and official supervision that foster financial development and efficiency (Barth, Caprio, and Levine, 2004; La Porta, Lopez-de-Silanes and Shleifer, 2006; Beck, Demirguc-Kunt and Levine, 2006).

Media freedom

More transparent societies might allow for lower barriers to banking, as banks in economies where clients have more access to information might have less leeway to impose high barriers to banking. More transparency might also imply a higher degree of competition, as customers can more easily compare products across banks. To gauge the relationship between transparency and bank barriers, we use an indicator of media freedom, which measures the share of press outlets that are owned by the government. This indicator comes from Djankov et al. (2003) who show a negative association between this and other measures of media freedom with economic and political freedom.

Banks in countries with lower degrees of media freedom (i.e., where a greater share is controlled by the government) restrict the locations where accounts might be opened, impose higher minimum balances to open accounts, require more documents to open checking or savings accounts, need more days to process loan applications, and are less likely to accept loan applications through non-traditional channels.

Overall, although we cannot infer causality from cross-country data, the results presented in this section still have important policy implications for potential reforms to broaden access. They show that traditional financial sector policies such as upgrading of credit information systems and improvements in the contractual environment are likely to be associated with lower barriers, but more on the deposit than on the lending side. However, they also underline the importance of non-financial sector policy reforms such as improving the general infrastructure and securing a free and vibrant media for lowering barriers. While our results stress the importance of a competitive environment, there are no clear correlations of barriers with market structure. Our results also suggest that in contrast to conventional wisdom, government-owned banks do not impose lower access barriers, and to the contrary, in predominantly government-owned systems bank customers face higher barriers, particularly in access to credit services. On the other hand, while foreign-owned banks themselves charge higher fees on deposits, a larger share of foreign ownership is generally associated with lower barriers, particularly in access to deposit services. Regulatory and supervisory policies that are less restrictive and focus on private sector monitoring rather than powerful supervisors are associated with lower barriers. Finally, our results also emphasize the importance of scale economies in enabling lower access barriers.

Many, though not all, of these results are consistent with the literature exploring the determinants of financial depth. As panel data or more in-depth data for individual countries become available, future work should be able to address issues of causality and to offer more informed evidence on the determinants of barriers.

7. Conclusions

This paper is the first effort to systematically document the existence of barriers to banking services. Using surveys of 209 banks in 62 countries, our data show significant variation

in barriers to banking across countries. Though not without limitations, this effort represents an important first step in identifying and understanding the channels through which financial exclusion works. Barriers like high minimum deposit balances, minimum loan amounts and fees can lead to exclusion by making these products unaffordable for large shares of the population. For example, in our sample high fees on checking and savings accounts may effectively exclude more than 30 percent of the population from having a checking account in ten of our 62 countries. Also, strict documentation requirements and long processing times can exclude households and firms who cannot provide these documents or who depend on faster loan decisions. Similarly, geographic centralization of deposit and loan decisions at headquarters reduces physical access and increases the opportunity costs for households and firms in accessing financial services.

Critically, several of our barrier variables are significantly correlated with indicators of outreach and estimates of the adult population with access to financial services. Specifically, minimum account balances and loan amounts, annual account fees, documentation requirements, reduced number of delivery channels for loan products and lengthy loan processing times are all negatively associated with lower banking sector outreach and a lower proportion of the adult population with access to financial sector accounts, suggesting that these are effective barriers to expanding access to and use of banking services in many developing countries.

Since these barriers are likely to result from rational business decisions of financial institutions taking into account their business model and the environment they work in, it is important to understand which bank and country characteristics explain variation in barriers across countries and across banks. We provide suggestive evidence that factors traditionally associated with greater financial depth such as upgrading credit registries and the contractual framework, but also non-financial sector variables such as infrastructure and free media are

important correlates with lower barriers. While more competitive banking systems are associated with lower barriers, there is no clear correlation of barriers with the actual market structure. Contrary to conventional wisdom, government banks are not associated with lower access barriers. In contrast, bank customers face higher barriers to credit services in banking systems which are predominantly government-owned. On the other hand, foreign banks do charge higher deposit fees themselves, although a larger foreign bank share is associated with lower barriers in deposit services overall. Finally, regulatory and supervisory policies that are less restrictive and rely more on private markets rather than on powerful supervisors are also associated with lower barriers.

As a first attempt at capturing quantitative measures of cross-country differences in barriers to banking along the dimensions of physical access, affordability and eligibility, this paper is complementary to other efforts to collect data on access to financial services at the aggregate, firm- and household levels. Research on financial access is very much in its beginning stages and richer data sources and in-depth analysis are needed to improve our measurement and understanding of access and its impact on economic outcomes.

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Table 1. Sample Countries

Country	Private Credit to GDP	GDP per capita in 2000 USD	Deposit market share (respondents share out of total system)	Loan market share (respondents share out of total system)	Number of banks that have responded
	2004	2004	2004	2004	
Albania	8.80%	1463.21	91.42%	64.24%	5
Algeria	10.20%	1991.82	34.43%	37.08%	1
Armenia	6.10%	985.93	59.63%	47.28%	4
Australia	97.60%	22082.67	32.59%	33.59%	2
Bangladesh	27.60%	401.35	56.98%	56.51%	5
Belarus	n.a.	1701.42	74.58%	71.63%	3
Belgium	71.80%	23213.42	72.56%	68.57%	3
Bolivia	42.50%	1039.27	58.04%	58.87%	4
Bosnia Herzegovina	n.a.	1410.06	64.04%	58.96%	4
Brazil	33.80%	3563.52	64.35%	48.61%	4
Bulgaria	30.50%	1958.16	34.87%	31.65%	3
Cameroon	8.90%	736.71	83.83%	81.36%	5
Chile	70.40%	5461.71	35.50%	36.05%	2
Colombia	21.80%	2099.44	50.48%	45.65%	5
Croatia	52.60%	4933.67	63.42%	63.69%	4
Czech Republic	30.30%	6137.49	43.00%	43.00%	2
Denmark	152.00%	30734.76	72.71%	48.81%	2
Dominican Republic	26.40%	2440.57	39.27%	42.61%	2
Egypt, Arab Rep.	54.80%	1614.65	32.05%	32.08%	2
Ethiopia	19.10%	131.69	93.73%	85.37%	4
France	87.60%	23431.63	26.23%	30.08%	2
Georgia	8.30%	879.96	85.71%	80.26%	5
Germany	112.80%	23705.48	31.91%	23.72%	3
Ghana	11.60%	278.46	69.49%	68.72%	4
Greece	71.10%	11960.44	56.92%	58.36%	3
Hungary	43.50%	5453.73	53.09%	42.43%	3
India	32.70%	547.8	36.87%	37.75%	4
Indonesia	21.20%	904.14	44.73%	40.38%	4
Israel	86.40%	17787.76	36.17%	34.75%	2
Jordan	68.10%	2000.12	83.61%	80.36%	3
Kenya	24.50%	426.56	43.82%	47.61%	3

n.a. means not available.

Table 1. Sample Countries (contd.)

Country	Private Credit to GDP	GDP per capita in 2000 USD	Deposit market share (respondents share out of total system)	Loan market share (respondents share out of total system)	Number of banks that have responded
	2004	2004	2004	2004	
Korea, Rep.	125.40%	12762.22	68.95%	73.54%	6
Lebanon	n.a.	5628.37	38.00%	38.00%	3
Lithuania	22.00%	4481.41	88.87%	86.77%	5
Madagascar	8.50%	229.06	72.44%	74.59%	5
Malawi	7.80%	153.58	82.36%	59.73%	3
Malta	105.70%	9435.9	44.56%	58.34%	4
Mexico	15.80%	6055.92	48.95%	45.74%	3
Moldova	19.20%	399.62	40.16%	48.32%	3
Mozambique	1.90%	275.95	48.78%	40.34%	2
Nepal	n.a.	231.59	37.86%	42.40%	5
Nigeria	15.90%	401.62	32.22%	29.31%	3
Pakistan	24.90%	566.03	47.50%	44.02%	3
Peru	18.60%	2206.33	81.88%	76.40%	4
Philippines	32.50%	1087.92	41.84%	43.17%	4
Romania	8.50%	2164.64	35.01%	24.66%	4
Sierra Leone	3.90%	209.75	100.00%	100.00%	4
Slovak Republic	29.70%	4494.83	58.12%	51.93%	3
Slovenia	42.10%	10964.99	67.48%	70.68%	5
South Africa	132.80%	3346.05	70.09%	69.39%	3
Spain	115.10%	15343.24	63.75%	66.73%	4
Sri Lanka	28.00%	961.61	52.19%	51.10%	3
Swaziland	n.a.	1358.05	43.40%	29.19%	1
Sweden	102.10%	28857.84	39.47%	22.43%	2
Switzerland	157.30%	34340.34	79.57%	59.19%	2
Thailand	96.30%	2355.99	38.36%	36.16%	3
Trinidad and Tobago	38.30%	8501.16	40.15%	50.27%	3
Turkey	16.90%	3196.86	50.14%	38.33%	3
Uganda	6.10%	262.4	59.27%	46.87%	3
Uruguay	34.00%	5925.78	48.52%	59.16%	4
Zambia	6.50%	338.66	46.28%	34.41%	3
Zimbabwe	n.a.	456.69	28.24%	43.45%	4

n.a. means not available.

Table 2: Barriers to deposit services

Country	DEPOSITS								
	<i>Physical access</i>	<i>Affordability</i>						<i>Eligibility</i>	
	Locations to open deposit account (out of 3)	Minimum amount to open checking account (% of GDPPC)	Minimum amount to open savings account (% of GDPPC)	Minimum amount to be maintained in checking account (% of GDPPC)	Minimum amount to be maintained in savings account (% of GDPPC)	Annual fees checking account (% of GDPPC)	Annual fees savings account (% of GDPPC)	No. of docs. to open checking account (out of 5)	No. of docs. to open savings account (out of 5)
Albania	2.73	0.85	6.08	0.85	6.08	0.19	0.39	1.00	1.00
Armenia	1.81	10.97	15.25	10.56	15.25	0.35	0.00	2.85	2.19
Australia	2.59	0.00	0.00	0.00	0.00	0.16	0.10	3.00	3.00
Bangladesh	2.00	2.28	0.89	2.28	0.79	0.00	0.00	4.57	4.57
Belarus	2.71	0.00	0.04	0.00	0.00	0.00	0.00	1.44	1.00
Belgium	2.00	0.00	0.00	0.00	0.00	0.09	0.00	1.80	1.80
Bolivia	2.00	17.40	0.81	25.44	3.93	0.83	1.78	2.53	2.33
Bosnia and Herzegovina	2.60	0.04	0.04	0.19	0.15	0.34	0.35	1.74	1.34
Brazil	2.44	0.00	0.10	0.00	0.00	0.81	0.03	2.67	2.16
Bulgaria	2.02	0.59	0.88	0.59	0.91	0.14	0.00	1.72	1.72
Cameroon	1.88	116.39	68.26	55.88	64.75	7.87	1.22	4.00	3.11
Chile	2.42	4.33	0.00	0.00	0.00	3.38	0.42	4.42	1.58
Colombia	1.93	8.78	1.22	0.00	0.18	0.78	0.56	3.08	2.25
Croatia	2.63	0.00	1.19	0.00	0.00	0.07	0.00	2.16	2.00
Czech Rep.	2.00	0.23	1.41	0.00	1.24	0.26	0.00	1.00	1.00
Denmark	2.32	0.00	0.00	0.00	0.00	0.09	0.00	1.32	1.32
Dominican Rep.	2.67	2.94	0.70	0.58	0.41	0.66	0.00	2.66	1.99
Egypt	2.00	0.35	0.00	0.18	0.18	0.40	0.07		
Ethiopia	1.92	55.41	5.50		5.11	0.00	0.00	3.77	2.14
France									
Georgia	2.56	0.00	33.18	0.00	8.09	0.33	0.33	1.66	1.78
Germany	2.65	0.00	0.01	0.00	0.00	0.26	0.00		
Ghana	2.15	22.69	21.89	0.09	11.99	5.90	0.58	3.62	3.24
Greece	1.21	0.64	1.27	0.64	1.27	0.02	0.02	2.53	2.26
Hungary	2.53	0.14	2.04	0.00	0.82	0.17	0.00	1.55	1.00
India	2.00	8.85	5.02	5.83	5.02	0.00	0.17	2.69	2.55
Indonesia	2.53	9.54	3.03	6.14	0.65	2.80	0.66	3.18	2.66
Israel	2.00	0.00	0.00	0.00	0.00	0.04	0.00	1.22	
Jordan	1.93	16.55	5.34	1.73	0.87	0.00	0.00	2.04	2.04
Kenya	2.78	11.71	44.30	0.00	41.82	12.82	2.07	3.78	2.86
Korea	2.11	3.32	0.01	0.00	0.01	0.06	0.00	1.94	1.20
Lebanon	1.58	4.22	23.98	4.22	23.98	1.96	1.90	2.54	2.36
Lithuania	2.71	0.00	1.45	0.00	1.55	0.01	0.00	1.59	1.00
Madagascar	1.95	38.86	19.35	0.00	17.59	5.15	0.00	2.94	2.71
Malawi	2.00	0.00	17.89	0.00	17.89	21.98	3.63	3.65	2.84
Malta	2.00	0.22	0.71	0.00	0.68	0.00	0.00	3.17	3.07
Mexico	2.18	1.11	0.62	0.90	0.67	0.43	0.18	2.80	2.18
Moldova	3.00	0.00	13.13	0.00	8.26	0.53	0.00	2.31	2.06
Mozambique	2.00	29.61	15.71	14.19	7.20		0.30	1.00	1.00

Table 2: Barriers to deposit services (cont.)

Country	DEPOSITS								
	<i>Physical access</i>	<i>Affordability</i>						<i>Eligibility</i>	
	Locations to open deposit account (out of 3)	Minimum amount to open checking account (% of GDPPC)	Minimum amount to open savings account (% of GDPPC)	Minimum amount to be maintained in checking account (% of GDPPC)	Minimum amount to be maintained in savings account (% of GDPPC)	Annual fees checking account (% of GDPPC)	Annual fees savings account (% of GDPPC)	No. of docs. to open checking account (out of 5)	No. of docs. to open savings account (out of 5)
Nepal	2.34	90.66	65.39	123.77	73.83	8.28	4.97	4.11	3.92
Nigeria	2.44	106.42	22.07	0.00	1.96	0.05	0.00	3.66	1.99
Pakistan	2.00	1.59	1.59	0.33	0.71	0.00	0.00	2.64	2.43
Peru	2.00	1.66	0.53	0.00	0.00	1.44	0.50	2.42	1.87
Philippines	2.00	14.54	11.88	14.54	11.88	0.00	0.00	3.17	2.20
Romania	2.30	0.03	0.71	0.02	0.18	0.40	0.23	1.28	
Sierra Leone	1.42	51.63	44.89	8.81	43.56	26.63	0.00	4.02	3.88
Slovak Rep.	2.08	0.12	0.79	0.10	0.79	0.18	0.01	1.47	1.51
Slovenia	1.50	0.01	0.03	0.01	0.02	0.17	0.00	1.88	1.88
South Africa	2.27	0.00	1.06	0.00	0.28	2.13	0.91	3.45	3.07
Spain	1.53	0.00	0.00	0.00	0.00	0.19	0.04	1.00	1.00
Sri Lanka	1.80	15.76	3.54	4.77	0.84	0.73	0.00	2.62	1.00
Sweden	1.66	0.00	0.01	0.00	0.00	0.00	0.00	1.00	1.00
Switzerland	2.00	0.00	0.00	0.00	0.00	0.08	0.00	1.14	1.14
Thailand	2.48	6.74	0.41	0.31	0.31			1.23	1.23
Trinidad and Tobago	2.00	1.37	0.42	1.28	0.49	0.35	0.00	4.29	3.07
Turkey	2.20	0.00	0.00	0.00	0.00	0.30	0.14	3.20	2.40
Uganda	2.00	51.12	48.62	1.73	29.52	24.88	3.37	4.00	3.00
Uruguay	1.75	1.77	1.48	0.00	2.28	2.05	1.13	3.28	2.91
Zambia	1.80	0.00	7.87	0.00	7.87			4.28	4.00
Zimbabwe									
Minimum	1.21	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
5th percentile	1.53	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
Median	2.00	0.98	1.21	0.00	0.79	0.30	0.01	2.63	2.15
Average	2.14	12.27	9.01	5.02	7.27	2.49	0.47	2.57	2.16
95th percentile	2.71	60.70	45.45	16.72	42.08	15.57	2.40	4.28	3.89
Maximum	3.00	116.39	68.26	123.77	73.83	26.63	4.97	4.57	4.57

n.a. means not available because the banks that responded to the survey account for less than 30 percent of the market

Table 3: Barriers to loan services

Country	LOANS						
	<i>Physical access</i>	<i>Affordability</i>				<i>Eligibility</i>	
	Locations to submit loan applications (out of 5)	Minimum amount consumer loans (% of GDPPC)	Fees consumer loans (% of GDPPC)	Minimum amount SME loans (% of GDPPC)	Fees SME loans (% of GDPPC)	Days to process consumer loan applications	Days to process SME loan applications
Albania	2.03	214.29	7.17	1358.23	7.33	9.64	14.50
Armenia	2.00	14.74	1.98	860.58	0.00	4.83	7.62
Australia	5.00	7.31	0.52	10.06	1.29	1.00	7.19
Bangladesh	2.12	25.70	0.23	174.40	2.62	9.44	43.26
Belarus		3.28	0.89	0.00	1.15	8.06	6.20
Belgium	2.45	5.34	0.00	28.29	2.30	2.70	3.60
Bolivia	2.74	109.00	3.45	795.48	3.61	5.36	9.70
Bosnia and Herzegovina	2.73	18.54	1.47	711.11	1.10	5.36	8.86
Brazil	4.85	1.96	3.44	8.08	2.10	1.00	3.63
Bulgaria	3.42	14.24	1.45	95.79	2.27	4.88	13.38
Cameroon	2.14	78.53	6.21	947.92	81.39	4.87	9.31
Chile	5.00	8.29	0.88	121.70	1.09	3.84	13.87
Colombia	3.47	16.40	0.97	242.96	0.09	2.51	8.22
Croatia	3.43	3.90	1.76	22.58	1.30	2.42	4.65
Czech Rep.	3.13	10.22	0.70	4.96	0.70	1.00	10.84
Denmark	5.00	0.00	2.00	0.00	2.00	0.73	1.00
Dominican Rep.	4.67	13.02	0.82	43.52	1.32	1.84	13.04
Egypt	2.81	5.84	0.01	0.00		5.38	14.43
Ethiopia	2.00	178.16	0.00	878.77	0.64	5.41	14.55
France	4.00					4.87	10.00
Georgia	2.46	34.53	1.40	2480.08	1.10	3.31	5.62
Germany							
Ghana	2.63	111.94	2.04	1448.07	1.54	9.50	29.20
Greece	5.00	11.99	2.30	33.96	2.43	1.00	2.23
Hungary	3.29	4.77	3.71	58.00	1.51	5.66	7.66
India	2.44	28.79	1.19	145.17	0.84	4.17	10.75
Indonesia	3.10	31.68				4.94	9.68
Israel	4.58					1.00	1.79
Jordan	2.05	147.67	1.00	445.26	1.03	2.68	7.91
Kenya	3.27	186.42	1.84	166.44	2.10	2.52	5.66
Korea	3.78	4.19	0.37	16.99	0.29	1.88	2.73
Lebanon	4.60	32.95	1.05	1154.76	4.95	1.58	15.61
Lithuania	4.25	6.31	0.71	17.54	0.67	2.41	8.62
Madagascar	2.16	24.06	2.62	17.27	3.56	8.55	15.46
Malawi	2.12	222.36	1.00			1.72	
Malta	4.20	19.26	0.45	355.91	0.28	1.34	5.69
Mexico	4.20	7.54	1.81	87.80	1.61	5.01	9.86
Moldova	2.54	31.11	2.05	71.78	1.43	1.36	4.31
Mozambique	2.15	30.71		28.61		8.66	25.84

Table 3: Barriers to loan services (cont.)

Country	LOANS						
	<i>Physical access</i>	<i>Affordability</i>				<i>Eligibility</i>	
	Locations to submit loan applications (out of 5)	Minimum amount consumer loans (% of GDPPC)	Fees consumer loans (% of GDPPC)	Minimum amount SME loans (% of GDPPC)	Fees SME loans (% of GDPPC)	Days to process consumer loan applications	Days to process SME loan applications
Nepal	2.00	1153.17	0.94	2970.18	16.86	3.71	10.94
Nigeria							
Pakistan	3.09	146.71	0.14	234.25	0.19	20.71	33.63
Peru	3.21	21.08	1.83	54.35	0.16	1.94	3.71
Philippines	2.36	330.55	1.46	916.66	1.41	10.13	33.29
Romania							
Sierra Leone	1.77	143.55	2.07	243.89	2.07	1.73	9.52
Slovak Rep.	3.64	10.26		57.89	1.13	1.75	3.54
Slovenia	2.13	1.13	1.22	5.21	0.95	1.13	3.89
South Africa	5.00	7.27	0.48	15.98	0.65	1.46	4.13
Spain	5.00	9.95	1.85	19.35	1.10	1.00	1.83
Sri Lanka	2.90	36.10	0.34	20.56	2.09	7.34	10.04
Sweden							
Switzerland	3.12	0.11	0.00	11.28	0.00	1.44	3.24
Thailand	2.00	265.43	1.43	3.21	0.94	15.49	23.74
Trinidad and Tobago	4.62	7.71	1.33	8.30	1.14	1.33	7.32
Turkey	4.15	11.83	0.95	18.57	1.41	2.94	4.61
Uganda	2.00	205.75	2.68	3141.17	2.25	1.38	4.47
Uruguay	2.26	32.62		32.62		8.51	31.45
Zambia	2.00				2.43		8.33
Zimbabwe	2.85	24.08	3.05	240.12	2.54	1.46	3.91
Minimum	1.77	0.00	0.00	0.00	0.00	0.73	1.00
5th percentile	2.00	1.63	0.00	1.61	0.12	1.00	2.11
Median	3.09	19.26	1.33	58.00	1.32	2.70	8.33
Average	3.20	76.84	1.58	408.35	3.53	4.29	10.69
95th percentile	5.00	239.59	3.61	1964.08	6.38	9.79	32.00
Maximum	5.00	1153.17	7.17	3141.17	81.39	20.71	43.26

n.a. means not available because the banks that responded to the survey account for less than 30 percent of the market

Table 4: Barriers to payment services

PAYMENT SERVICES					
<i>Affordability</i>					
Country	Cost to transfer funds internationally (% of 250 dollars)	Amount of fee for using ATM Cards (% of 100 dollars)	Country	Cost to transfer funds internationally (% of 250 dollars)	Amount of fee for using ATM Cards (% of 100 dollars)
Albania	7.70	0.00	Madagascar	4.30	0.00
Armenia	6.14	0.07	Malawi	6.42	0.08
Australia	8.05	0.00	Malta	5.59	0.03
Bangladesh	1.93		Mexico		0.40
Belarus	1.27	0.00	Moldova	11.19	0.00
Belgium	0.12	0.00	Mozambique		
Bolivia	13.47	0.26	Nepal	7.10	0.00
Bosnia and Herzegovina	3.79	0.01	Nigeria		0.50
Brazil	14.85	0.11	Pakistan		0.60
Bulgaria	5.24	0.13	Peru	6.68	0.24
Cameroon	9.15	0.00	Philippines		0.00
Chile		0.00	Romania		
Colombia		0.19	Sierra Leone	6.86	0.00
Croatia	3.57	0.00	Slovak Rep.	4.38	0.19
Czech Rep.	3.99	0.19	Slovenia	2.88	0.00
Denmark	4.09	0.00	South Africa	9.53	0.34
Dominican Rep.	20.00		Spain	6.39	0.00
Egypt	0.76	0.00	Sri Lanka		
Ethiopia	1.87	0.00	Sweden	8.16	0.00
France			Switzerland	3.17	0.00
Georgia	7.03	0.13	Thailand		
Germany			Trinidad and Tobago	3.74	0.05
Ghana	14.70	0.19	Turkey	6.34	0.00
Greece	7.42	0.00	Uganda	0.55	0.19
Hungary	3.60		Uruguay	7.18	0.14
India	6.49	0.00	Zambia	3.24	0.13
Indonesia	2.83	0.00	Zimbabwe		
Israel		0.23			
Jordan	5.37	0.00	Minimum	0.12	0.00
Kenya	8.43	0.15	5th percentile	0.89	0.00
Korea	7.05	0.22	Median	6.37	0.00
Lebanon	9.76	0.00	Average	6.33	0.10
Lithuania	8.72		95th percentile	14.39	0.38
			Maximum	20.00	0.60
			Maximum	0.12	0.00

n.a. means not available because the banks that responded to the survey account for less than 30 percent of the market

Table 5: Correlations between indicators of barriers

* significant at 10%; ** significant at 5%; *** significant at 1%.

	Locations to Open Deposit Account (Out of 3)	Minimum Balance to Open Checking Account (% of GDPCC)	Open Checking Account to Minimum Balance (% of GDPCC)	Minimum Balance to Open Savings Account (% of GDPCC)	Open Savings Account to Minimum Balance (% of GDPCC)	Annual Checking Fees (% of GDPCC)	Annual Savings Fees (% of GDPCC)	Number of Documents to Open Checking Account (Out of 5)	Number of Documents to Open Savings Account (Out of 5)	Locations to Submit Loan Applications (out of 5)	Minimum Amount Consumer Loans (% of GDPCC)	Minimum Amount SME Loans (% of GDPCC)	Fees Consumer Loan (% of GDPCC)	Fees SME Loan (% of GDPCC)	Days to Process Consumer Loans Applications	Days to Process SME Loans Applications	Cost to Transfer Funds Internationally (% of 250)
Minimum Balance to Open Checking Account (% of GDPCC)	-0.093																
Minimum Balance to Open Savings Account (% of GDPCC)	-0.036	0.758***															
Annual Checking Fees (% of GDPCC)	-0.151	0.381***	0.658***														
Annual Savings Fees (% of GDPCC)	0.004	0.377***	0.632***	0.619***													
Number of Documents to Open Checking Account (Out of 5)	-0.114	0.426***	0.432***	0.474***	0.403***												
Number of Documents to Open Savings Account (Out of 5)	-0.189	0.31**	0.434***	0.482***	0.435***	0.823***											
Locations to Submit Loan Applications (out of 5)	0.121	-0.42***	-0.419***	-0.338**	-0.237*	-0.135	-0.175										
Minimum Amount Consumer Loans (% of GDPCC)	0.068	0.56***	0.578***	0.338**	0.717***	0.281**	0.337**	-0.365***									
Minimum Amount SME Loans (% of GDPCC)	0.045	0.526***	0.683***	0.438***	0.719***	0.261*	0.311**	-0.371***	0.626***								
Fees Consumer Loan (% of GDPCC)	0.121	0.339**	0.348**	0.177	0.127	-0.075	-0.003	-0.146	0.048	0.255*							
Fees SME Loan (% of GDPCC)	-0.079	0.728***	0.597***	0.191	0.279*	0.23	0.22	-0.181	0.181	0.222	0.521***						
Days to Process Consumer Loan Applications	0.062	0.069	-0.038	-0.139	-0.101	0.007	-0.037	-0.435***	0.18	0.03	0.03	0.027					
Days to Process SME Loan Applications	-0.093	0.07	0.02	-0.044	-0.011	0.26*	0.207	-0.398***	0.173	0.042	-0.153	-0.009	0.78***				
Cost to Transfer Funds Internationally (% of 250)	0.172	0.01	0.08	0.014	0.104	0.075	0.09	0.324**	0.047	0.028	0.266*	0.121	-0.085	0.074			
Fees for Using ATM Card	0.047	0.075	-0.056	-0.039	0.014	0.092	0.033	0.098	-0.065	-0.016	-0.119	-0.153	0.374***	0.257*			0.318**

Table 6. Barriers, financial and economic development, and financial outreach

* significant at 10%, ** significant at 5%, *** significant at 1%.

	GDP per capita	Private Credit / GDP	Number of branches per 100,000 people	Number of Loans Per 1000 People	Number of Deposits per 1000 People	Penetration (% of adults with access to a financial institution)	Business constraint: access to finance	Business constraint: cost of finance
Number of Places to Open Deposit Account (Out of 3)	-0.105	-0.015	-0.181	-0.375*	-0.223	-0.266**	-0.051	-0.048
Minimum Balance to Open Checking Account (% of GDPPC)	-0.288**	-0.318**	-0.286**	-0.341	-0.464***	-0.373***	0.332**	0.32**
Minimum Balance to Open Savings Account (% of GDPPC)	-0.329**	-0.43***	-0.284**	-0.318	-0.437**	-0.433***	0.399**	0.46***
Checking Account Annual Fee (% of GDPPC)	-0.26*	-0.302**	-0.231	-0.202	-0.318*	-0.341**	0.368**	0.513***
Savings Account Annual Fee (% of GDPPC)	-0.254*	-0.232*	-0.24*	-0.264	-0.405**	-0.256*	0.285*	0.415**
Number of Documents Needed to Open Checking Account (Out of 5)	-0.422***	-0.349**	-0.401***	-0.187	-0.42**	-0.462***	0.464***	0.37**
Number of Documents Needed to Open Savings Account (Out of 5)	-0.308**	-0.265*	-0.299**	-0.181	-0.357*	-0.438***	0.435***	0.43***
Number of Places to Submit Loan Application (out of 5)	0.468***	0.539***	0.445***	0.633***	0.427**	0.475***	-0.362**	-0.369**
Minimum Amount Consumer Loan (% of GDPPC)	-0.239*	-0.24*	-0.211	-0.273	-0.367**	-0.284**	0.117	0.161
Minimum Amount SME Loan (% of GDPPC)	-0.284**	-0.336**	-0.268*	-0.329	-0.412**	-0.369***	0.153	0.112
Fee Consumer Loan (% of GDPPC)	-0.208	-0.29*	-0.075	-0.126	-0.358**	-0.196	0.076	0.16
Fee SME Loan (% of GDPPC)s	-0.113	-0.156	-0.128	-0.204	-0.242	-0.13	0.108	0.225
Days to Process Consumer Loan Applications	-0.348***	-0.266*	-0.299**	-0.342	-0.331*	-0.327**	0.129	0.098
Days to Process SME Loan Applications	-0.356***	-0.331**	-0.313**	-0.383*	-0.37**	-0.292**	0.246	0.226
Cost to Transfer Funds Internationally (% of 250)	-0.164	-0.088	-0.107	-0.091	-0.278	-0.164	-0.038	0.062
Fee for Using ATM Card	-0.214	-0.16	-0.292*	-0.225	-0.376*	-0.257*	0.203	0.183

Table 7. Back-of-the envelope calculations of the share of the population that cannot afford deposit accounts

	Average HH Size	Checking Account Annual Fee (in 2003 USD)	Savings Account Annual Fee (in 2003 USD)	GDP per capita (in 2003 USD)	Gini Coefficient (latest available year)	Lowest percentile for which fee is more than 2% of HH income	
						Checking Account Fee	Savings Account Fee
Albania	4.24	3.44	7.06	1811.11	0.28	1	1
Armenia	4.12	3.23	0.00	924.23	0.36	1	1
Australia	3.84	42.46	26.54	26539.40	0.31	1	1
Bangladesh	4.80	0.00	0.00	380.00	0.32	1	1
Belarus		0.00	0.00	1805.30	0.25		
Belgium	2.56	26.39	0.00	29320.13	0.29	1	1
Bolivia	4.18	7.60	16.30	915.90	0.53	5	17
Bosnia and Herzegovina		6.16	6.34	1811.88	0.26		
Brazil	3.79	22.58	0.84	2787.90	0.61	12	1
Bulgaria	2.71	3.57	0.00	2548.76	0.37	1	1
Cameroon	5.17	68.32	10.59	868.16	0.44	54	3
Chile	3.44	156.16	19.40	4620.02	0.57	48	4
Colombia	4.78	14.01	10.06	1795.65	0.57	6	4
Croatia	3.00	4.54	0.00	6484.10	0.31	1	1
Czech Republic	2.43	23.09	0.00	8880.78	0.23	1	1
Denmark	2.18	35.26	0.00	39181.91	0.35	1	1
Dominican Republic	3.90	12.47	0.00	1889.28	0.48	2	1
Egypt, Arab Rep.	4.67	4.65	0.81	1163.56	0.38	1	1
Ethiopia	4.83	0.00	0.00	115.75	0.30	1	1
France	2.53			29805.15	0.27		
Georgia	3.52	2.89	2.89	874.42	0.45	1	1
Germany	2.29	76.97	0.00	29602.50	0.28	1	1
Ghana	5.11	21.21	2.08	359.43	0.41	37	1
Greece	2.99	3.14	3.14	15700.09	0.32	1	1
Hungary	2.67	13.95	0.00	8208.52	0.27	1	1
India	5.31	0.00	0.96	564.32	0.26	1	1
Indonesia	3.97	30.97	7.30	1105.94	0.34	10	1
Israel	3.50	6.60	0.00	16493.07	0.37	1	1
Jordan	6.16	0.00	0.00	1978.74	0.36	1	1
Kenya	4.55	58.89	9.51	459.35	0.45	81	10
Korea, Rep.	4.41	7.63	0.00	12709.67	0.37	1	1
Lebanon		111.77	108.35	5702.64	0.60		
Lithuania	2.57	0.54	0.00	5369.39	0.36	1	1

Table 7. Back-of-the envelope calculations of the share of the population that cannot afford deposit accounts (cont.)

	Average HH Size	Checking Account Annual Fee (in 2003 USD)	Savings Account Annual Fee (in 2003 USD)	GDP per capita (in 2003 USD)	Gini Coefficient (latest available year)	Lowest percentile for which fee is more than 2% of HH income	
						Checking Account Fee	Savings Account Fee
Madagascar	4.89	15.99	0.00	310.57	0.47	40	1
Malawi	4.37	31.43	5.19	143.01	0.49	94	33
Malta	4.38	27.20	11.39	6326.51	0.51	2	1
Mexico	4.43	2.48	0.00	468.16	0.44		
Moldova	4.43	18.66	0.75	251.18	0.39		1
Mozambique	5.44	0.23	11.20	225.31	0.47	56	34
Nepal	4.97	0.00	0.00	462.98	0.50	1	1
Nigeria	6.80	0.00	0.00	554.77	0.31	1	1
Pakistan	5.31	32.23	11.19	2238.11	0.49		
Peru	3.13	0.00	0.00	1004.02	0.50	1	1
Philippines	3.13	10.95	6.30	2736.97	0.29	1	1
Romania	6.76	51.48	0.00	193.32	0.64	89	1
Sierra Leone	3.07	10.93	0.61	6071.99	0.27		
Slovak Republic	4.00	23.91	0.00	14064.90	0.22	1	1
Slovenia	3.28	77.23	33.00	3625.87	0.60	31	12
South Africa	3.84	39.85	8.39	20974.39	0.31	1	1
Spain	2.04	6.92	0.00	947.72	0.47	2	1
Sri Lanka	2.42	0.00	0.00	33670.48	0.26	1	1
Sweden	3.84	35.08	0.00	43847.96	0.17	1	1
Switzerland	3.68	29.04	0.00	2263.38	0.43		
Thailand	5.05	10.20	4.76	8296.73	0.40	1	1
Trinidad and Tobago	4.86	57.92	7.84	3399.36	0.40	1	1
Turkey	3.26	67.12	37.00	232.79	0.55	93	33
Uganda	5.26			3274.14	0.45	18	6
Uruguay	4.81			383.18	0.57		
Zambia				615.20	0.73		
Zimbabwe							

Table 8. What Explains Barriers?

Table shows results of regressing each indicator against the four bank-level variables (two ownership dummies, loan to assets and log of assets) along with one country level variable at a time. Regressions are estimated via OLS in all cases except for regressions on the *number of places to open a deposit account* and the *number of places to submit a loan application* where ordered Probit models are estimated. Robust standard errors in brackets. * significant at 10%; ** significant at 5%, *** significant at 1%.

	Locations to Open Deposit Account (Out of 3)	Minimum Balance to Open Checking Account (% of GDP)	Minimum Balance to Open Savings Account (% of GDP)	Annual Checking Account Fees (% of GDP)	Annual Savings Account Fees (% of GDP)	Number of Documents Needed to Open Checking Account (Out of 5)	Number of Documents Needed to Open Savings Account (Out of 5)	Locations to Submit Loan Application (out of 5)	Minimum Amount Consumer Loan (% of GDP)	Minimum Amount SME Loan (% of GDP)	Fees Consumer Loans (% of Minimum Loan Amount)	Fees SME Loan (% of Minimum Loan Amount)	Days to Process Consumer Loan Applications	Days to Process SME Loan Applications	Cost to Transfer Funds Internationally (% of 250)	Fee for Using ATM Card (% of 100)
Bank-Level Public Ownership Dummy	-0.049 [0.242]	-0.077 [0.162]	-0.102 [0.102]	-0.037 [0.047]	0.051 [0.062]	-0.046 [0.061]	-0.313 [0.235]	0.032 [0.390]	-0.731 [0.502]	-0.157 [0.127]	0.054 [0.164]	0.135 [0.141]	0.364** [0.169]	-0.037 [0.156]	-0.037 [0.156]	0.028 [0.047]
Bank-Level Foreign Ownership Dummy	-0.237 [0.226]	0.162 [0.250]	0.793*** [0.208]	0.226** [0.109]	0.081 [0.067]	0.097 [0.064]	-0.044 [0.225]	0.361 [0.305]	-0.151 [0.532]	0.056 [0.099]	0.058 [0.132]	-0.155 [0.114]	-0.126 [0.140]	0.183 [0.162]	0.183 [0.162]	0.025 [0.033]
Bank-Level Loans / Assets	0.005 [0.552]	-1.318*** [0.486]	-0.127 [0.357]	0.022 [0.196]	0.286* [0.165]	0.089 [0.161]	1.232** [0.552]	0.063 [0.801]	0.826 [1.202]	-0.564** [0.283]	0.009 [0.356]	0.607** [0.268]	0.177 [0.348]	-0.005 [0.343]	-0.005 [0.343]	0.029 [0.094]
Bank-Level Log(Total Assets)	0.024 [0.042]	-0.223*** [0.033]	-0.109*** [0.023]	-0.025** [0.010]	-0.038*** [0.010]	-0.032*** [0.010]	0.250*** [0.040]	-0.286*** [0.058]	-0.323*** [0.079]	-0.033 [0.021]	-0.049** [0.022]	-0.072*** [0.022]	-0.080*** [0.023]	0.033 [0.026]	0.033 [0.026]	-0.003 [0.005]
Electric Power Transmission And Distribution Losses (% Of Output)	0.022* [0.011]	0.037*** [0.013]	0.012 [0.007]	-0.002 [0.004]	0.009** [0.004]	0.006* [0.003]	0.005 [0.010]	0.051*** [0.019]	0.065** [0.027]	0.013** [0.005]	0.008 [0.007]	0.012 [0.008]	0.016* [0.009]	0.028*** [0.007]	0.028*** [0.007]	0.003 [0.002]
Cost of Enforcing Contracts (% Of Debt)	0 [0.004]	0.012** [0.005]	0.011*** [0.004]	0.006*** [0.002]	0.003*** [0.001]	0.002*** [0.001]	-0.001 [0.005]	0.013* [0.008]	0.018 [0.014]	-0.001 [0.002]	0.003 [0.003]	0.002 [0.002]	0.002 [0.004]	0 [0.002]	0 [0.002]	0 [0.001]
Creditor Rights Index	0.075* [0.042]	0.013 [0.043]	-0.012 [0.028]	-0.002 [0.016]	-0.002 [0.016]	-0.019 [0.014]	-0.06 [0.049]	-0.004 [0.064]	0.065 [0.087]	0.02 [0.024]	0.052 [0.035]	-0.024 [0.024]	-0.042 [0.028]	-0.041 [0.032]	-0.041 [0.032]	0.006 [0.008]
Credit Information Index	0.100* [0.057]	-0.162*** [0.056]	-0.024 [0.046]	-0.005 [0.023]	-0.035** [0.015]	-0.037** [0.015]	0.129** [0.051]	-0.125 [0.078]	-0.138 [0.121]	-0.003 [0.025]	-0.036 [0.028]	-0.037 [0.028]	-0.051 [0.034]	0.098*** [0.036]	0.098*** [0.036]	0.004 [0.010]
Government-Owned Bank Share	-0.003 [0.005]	-0.001 [0.006]	-0.002 [0.002]	0 [0.002]	-0.002 [0.002]	-0.002 [0.002]	-0.014** [0.006]	0.011 [0.008]	-0.003 [0.014]	-0.001 [0.003]	-0.002 [0.003]	0.008*** [0.003]	0.007** [0.003]	0.006 [0.004]	0.006 [0.004]	-0.001 [0.001]
Foreign-Owned Bank Share	0.011** [0.005]	-0.006 [0.004]	-0.006** [0.003]	-0.001 [0.001]	-0.004*** [0.001]	-0.005*** [0.001]	0 [0.005]	-0.010* [0.006]	0.013 [0.008]	0.002 [0.002]	0.001 [0.002]	0.003 [0.002]	0 [0.003]	-0.003 [0.003]	-0.003 [0.003]	0.001 [0.001]

Table 8. What Explains Barriers? (cont.)

	Locations to Open Deposit Account (Out of 3)	Minimum Balance to Open Checking Account (% of GDPPC)	Minimum Balance to Open Savings Account (% of GDPPC)	Annual Checking Account Fees (% of GDPPC)	Annual Savings Account Fees (% of GDPPC)	Number of Documents Needed to Open Checking Account (Out of 5)	Number of Documents Needed to Open Savings Account (Out of 5)	Locations to Submit Loan Application (out of 5)	Minimum Amount Consumer Loan (% of GDPPC)	Minimum Amount SME Loan (% of GDPPC)	Fees Consumer Loans (% of Minimum Loan Amount)	Fees SME Loan (% of Minimum Loan Amount)	Days to Process Consumer Loan Applications	Days to Process SME Loan Applications	Cost to Transfer Funds Internationally (% of 250)	Fee for Using ATM Card (% of 100)
Bank Concentration	-1.382*** [0.526]	-0.596 [0.575]	0.422 [0.415]	-0.198 [0.207]	-0.214 [0.156]	-0.214 [0.153]	0.004 [0.597]	0.004 [0.597]	-1.501 [0.976]	-3.352** [1.343]	-0.421 [0.281]	-0.225 [0.393]	-0.868*** [0.312]	-1.018*** [0.389]	-0.239 [0.396]	-0.142* [0.085]
Fraction Of Entry Applications Denied	-0.005 [0.004]	0.009** [0.004]	0.006*** [0.002]	0.003* [0.002]	0.003*** [0.001]	0.003*** [0.001]	-0.004 [0.004]	0.004 [0.004]	0.015*** [0.006]	0.007 [0.008]	-0.003 [0.002]	-0.003 [0.002]	0.005* [0.002]	0.003 [0.003]	0 [0.002]	0.001 [0.001]
Index of Banking Restrictions	0.18 [0.105]	0.393*** [0.127]	0.205** [0.082]	0.029 [0.035]	0.126*** [0.026]	0.089*** [0.028]	-0.365*** [0.110]	0.110 [0.110]	0.344** [0.151]	0.045 [0.231]	0.04 [0.047]	0.110* [0.060]	0.127** [0.052]	0.128** [0.061]	-0.003 [0.069]	0.025 [0.022]
Private Monitoring Index	0.027 [0.119]	-0.262* [0.144]	-0.115* [0.067]	-0.003 [0.036]	0.004 [0.039]	-0.051 [0.038]	-0.056 [0.120]	-0.517** [0.199]	-0.517** [0.199]	-0.731*** [0.273]	-0.022 [0.073]	0.006 [0.083]	-0.123* [0.067]	-0.191** [0.086]	0.025 [0.078]	0.052*** [0.024]
Official Supervisory Power	0.046 [0.294]	0.048 [0.418]	0.025 [0.254]	0.007 [0.131]	0.035*** [0.084]	0.019 [0.085]	0.018 [0.330]	0.069 [0.564]	0.069 [0.564]	0.258*** [0.850]	0.018 [0.138]	-0.001 [0.192]	0.03 [0.151]	-0.011 [0.168]	-0.025 [0.234]	0.011 [0.039]
Fraction of Media Owned by Govt.	-0.910***	1.494***	0.384	0.039	0.268***	0.183**	-0.997***	0.499	0.499	0.317	-0.126	0.035	0.439***	0.531***	-0.419*	-0.06

APPENDIX

Technical appendix for section 5

The use of a lognormal function to model income distribution was first suggested by Gibrat (1931) and widely used in the subsequent literature. Recently, Lopez and Serven (2006) show that the size distribution of income per capita is indeed very well approximated by a lognormal density function. Specifically, they cannot reject the null hypothesis that theoretical income quintiles shares computed from the Gini coefficient are equal to empirically observed quintile shares from income-based household surveys.

Log normality implies the following relationship between the Gini coefficient G , the standard deviation σ of log income and the Lorenz curve $L(p)$:

$$\sigma = \sqrt{2} \Phi^{-1} [(1+G)/2] \quad (1)$$

$$L(p) = \Phi (\Phi^{-1}(p) - \sigma) \quad (2)$$

where $\Phi(\cdot)$ denotes the cumulative normal distribution. The assumption of log-normality thus implies a one-to-one mapping of the Gini coefficient and the Lorenz curve and therefore also a one-to-one mapping between the Gini coefficient and income percentiles. We therefore can use the observed Gini coefficient to calculate theoretical income percentiles P_j $j = 1, \dots, 99$ as follows:

$$P_j = L(.01j) - L(.01(j-1)) \quad j=1, \dots, 99. \quad (3)$$

Substituting in (1) and (2) yields:

$$P_j = \Phi\{\Phi^{-1}(.01j) - \sqrt{2} \Phi^{-1} [(1+G)/2]\} - \Phi\{\Phi^{-1}(.01(j-1)) - \sqrt{2} \Phi^{-1} [(1+G)/2]\} \quad (4)$$

We can then compute income per capita y_j for each percentile j as function of P_j and income per capita y .

$$y_j = yP_j/0.01. \quad (5)$$

We then multiply y_j with household size to get to the average household income h_j for each income distribution percentile. While household size is expected to vary with income level within countries, we do not have data available on household size distribution, and are therefore not able to adjust for this effect. Finally, we compare h_j $j=1, \dots, 99$ with the annual checking and saving account fee to determine j such that $0.02 \cdot h_j < \text{account fee}$ and $.02 \cdot h_{j+1} > \text{account fee}$. Income distribution percentile j thus indicates the percentage of the population that cannot afford checking (saving) account services.

Data on income per capita and household size are from World Development Indicators and Gini data are from UNU-WIDER (2005).

Table A.1: Barriers to accessing and using business and mortgage loans

Country	LOANS						
	<i>Physical access</i>	<i>Affordability</i>				<i>Eligibility</i>	
	No. of places to submit loan applications (out of 5)	Minimum amount business loan (% of GDPPC)	Fee business loan (% of GDPPC)	Minimum amount mortgage loan (% of GDPPC)	Fee mortgage loan (% of GDPPC)	Days to process business loan applications	Days to process mortgage loan applications
Albania	2.03	2263.77	7.33	535.19	7.36	16.05	11.69
Armenia	2.00	1042.28	0.19	234.16	9.19	9.94	10.95
Australia	5.00	10.06	3.03	41.12	0.80	7.19	2.59
Bangladesh	2.12	55.28	6.46	1412.52	0.18	34.55	33.48
Belarus		7.12	1.15	0.00	1.43	7.34	8.74
Belgium	2.45	28.29	2.30	86.18	0.95	3.60	5.24
Bolivia	2.74	759.35	3.48	1124.84	3.48	23.26	15.03
Bosnia and Herzegovina	2.73	573.97	1.20	484.92	1.49	14.70	16.65
Brazil	4.85	19.19	2.10			10.32	
Bulgaria	3.42	130.35	2.05	213.32	1.49	21.38	6.84
Cameroon	2.14	16393.68	81.39	1544.77	5.84	12.91	16.97
Chile	5.00			213.20	1.09		70.63
Colombia	3.47	2131.83	0.23			11.00	5.14
Croatia	3.43	146.24	0.94	183.04	1.17	11.89	4.53
Czech Republic	3.13	4.96	0.70	84.65	0.60	8.05	6.66
Denmark	5.00	0.00	1.73	0.00	1.59	1.00	4.56
Dominican Republic	4.67	89.32	1.25	176.10	6.27	6.67	17.55
Egypt, Arab Rep.	2.81	14.61	0.35	0.00	0.01	19.29	38.72
Ethiopia	2.00	981.67	0.64	712.65	0.68	14.55	15.00
France	4.00					18.22	24.67
Georgia	2.46	2345.59	1.01	290.71	0.73	5.03	4.56
Germany							
Ghana	2.63	1044.39	1.31	1320.35	2.01	19.07	
Greece	5.00	13.98	2.43	80.86	6.70	4.77	5.43
Hungary	3.29	58.00	3.31	29.00	1.59	10.04	19.94
India	2.44	57.77	0.93	145.17	0.74	19.98	9.45
Indonesia	3.10					16.59	6.07
Israel	4.58					1.79	12.08
Jordan	2.05	354.70	1.03	362.27	0.95	8.16	7.24
Kenya	3.27	193.78	1.57			5.66	
Korea, Rep.	3.78	16.99	0.29	4.19	0.37	2.73	2.36
Lebanon	4.60	4470.83	5.40	409.00	1.95	15.61	9.26
Lithuania	4.25	17.54	0.88	65.83	0.67	9.83	8.48

Table A.1: Barriers to accessing and using business and mortgage loans (cont.)

Country	LOANS						
	<i>Physical access</i>	<i>Affordability</i>				<i>Eligibility</i>	
	No. of places to submit loan applications (out of 5)	Minimum amount business loan (% of GDPPC)	Fee business loan (% of GDPPC)	Minimum amount mortgage loan (% of GDPPC)	Fee mortgage loan (% of GDPPC)	Days to process business loan applications	Days to process mortgage loan applications
Madagascar	2.16	17.27	3.56			18.60	
Malawi	2.12	306.05	1.32	1738.08	17.37	15.39	14.16
Malta	4.20	529.00	0.28	275.38	0.27	5.64	2.74
Mexico	4.20	101.93	1.27	298.56	1.40	15.70	28.25
Moldova	2.54	64216.77	1.34	428.58	1.09	7.31	3.90
Mozambique	2.15	28.61		71.53		25.84	34.21
Nepal	2.00		18.57	2147.93	1.00	9.53	9.50
Nigeria							
Pakistan	3.09		0.12	954.59	0.08	31.98	28.44
Peru	3.21	429.43	0.16	410.39	6.50	10.63	3.81
Philippines	2.36	920.23	1.41	763.35	4.37	44.13	12.21
Sierra Leone	1.77	218.23	1.76	5157.40	1.00	11.53	4.66
Slovak Republic	3.64	50.91	1.13	71.15		3.06	4.67
Slovenia	2.13	5.21	0.38	94.90	1.30	4.19	7.60
South Africa	5.00	15.98	0.65	142.37	0.47	2.73	5.55
Spain	5.00	19.35	1.06	100.19	0.89	1.83	3.22
Sri Lanka	2.90	20.56	2.29	51.64	1.83	15.57	20.61
Sweden							
Switzerland	3.12	11.28	0.00	22.57	0.00	3.24	1.56
Thailand	2.00	0.00	0.55	42.74		22.46	24.59
Trinidad and Tobago	4.62	8.30	1.24	93.03	1.02	10.41	7.50
Turkey	4.15	74.26	1.94		2.16	13.75	
Uganda	2.00	7039.03	1.51			5.15	
Uruguay	2.26	32.62				31.52	
Zambia	2.00		2.23			10.67	
Zimbabwe	2.85	263.49	2.54			7.91	

n.a. means not available because the banks that responded to the survey account for less than 30 percent of the market

Table A.2: Definition and sources for explanatory variables in Table 8

Variable	Source
Bank-level Government Ownership Dummy	Micco, Panizza, and Yanez (2007)
Bank-level Foreign Ownership Dummy	
Bank-level Loans / Assets	BankScope Database (August 2006). Fitch Ratings/Bureau van Dijk
Bank-level Total Assets	
Bank Concentration	Estache and Goicoechea. (2005)
Electric Power Transmission and Distribution Losses (% of output)	
Credit Information Index	World Bank (2006a)
Costs of Enforcing Contracts (% of debt)	
Legal Rights Index	Barth, Caprio, Levine. (2004).
Govt. Bank Share	
Foreign Bank Share	Index of Economic Freedom 2006. The Heritage Foundation/The Wall Street Journal
Fraction Of Entry Applications Denied	
Official Supervisory Power	Djankov et al. (2003)
Private Monitoring Index	
Index of Banking Restrictions	Share of Media Outlets Owned by the Government
Share of Media Outlets Owned by the Government	

Table A.3. Summary Statistics for Explanatory Variables in Table 8

	Obs.	Std. Dev.	Mean	Min	Median	Max
Bank-Level Public Ownership Dummy	191	0.40	0.19	0.00	0.00	1.00
Bank-Level Foreign Ownership Dummy	191	0.42	0.22	0.00	0.00	1.00
Bank-Level Loans / Assets	199	0.17	0.46	0.00	0.47	0.80
Bank-Level Log(Total Assets)	199	2.47	14.64	9.23	14.50	21.06
Electric Power Transmission And Distribution Losses (% Of Output)	192	9.10	15.15	2.90	14.61	49.89
Enforcing Contracts - Cost (% Of Debt)	199	22.99	23.98	5.20	18.60	136.50
Getting Credit - Legal Rights Index	199	1.86	5.07	1.00	5.00	9.00
Getting Credit - Credit Information Index	199	2.01	3.08	0.00	3.00	6.00
Bank Concentration	207	0.16	0.64	0.34	0.63	1.00
Government-Owned Banks	153	21.99	19.75	0.00	12.16	95.78
Foreign-Owned Banks	150	27.44	38.71	0.00	36.30	90.00
Fraction Of Entry Applications Denied	133	28.31	24.02	0.00	15.38	100.00
Index of Banking Restrictions	207	0.97	2.74	1.00	3.00	5.00
Private Monitoring Index	120	1.10	7.75	6.00	8.00	10.00
Official Supervisory Power	165	2.22	11.33	6.00	12.00	14.00
Fraction of Media Owned by Govt.	158	0.35	0.21	0.00	0.00	1.00

Table A.4. Correlation between Explanatory Variables in Table 8

* significant at 10%; ** significant at 5%, *** significant at 1%.

	Electric Power Transmission And Distribution Losses (% Of Output)	Enforcing Contracts - Cost (% Of Debt)	Getting Credit - Legal Rights Index	Getting Credit - Credit Information Index	Bank Concentration	Government-Owned Banks	Foreign-Owned Banks	Fraction Of Entry Applications Denied	Index of Banking Restrictions	Private Monitoring Index	Official Supervisory Power	Fraction of Media Owned by Govt.
Electric Power Transmission And Distribution Losses (% Of Output)	1											
Enforcing Contracts - Cost (% Of Debt)	0.312**	1										
Getting Credit - Legal Rights Index	-0.024	0.06	1									
Getting Credit - Credit Information Index	-0.38***	-0.267**	-0.127	1								
Bank Concentration	-0.376***	0.053	0.17	-0.153	1							
Government-Owned Banks	0.163	0.341**	-0.156	-0.232	-0.143	1						
Foreign-Owned Banks	0.102	-0.196	0.092	-0.074	0.062	-0.401***	1					
Fraction Of Entry Applications Denied	0.244	0.438***	-0.212	-0.129	-0.039	0.249	0.031	1				
Index of Banking Restrictions	0.427***	0.444***	-0.116	-0.445***	-0.109	0.625***	-0.353***	0.395***	1			
Private Monitoring Index	-0.426**	-0.218	-0.161	0.55***	-0.075	-0.045	-0.073	0.026	-0.033	1		
Official Supervisory Power	0.288**	0.179	-0.028	-0.251*	-0.065	0.1	0.182	0.196	0.215	-0.201	1	
Fraction of Media Owned by Govt.	0.146	-0.019	-0.169	-0.6***	0.223	0.305*	0.013	0.399**	0.35***	-0.376**	0.233	1

Figure 1. Locations to Open a Deposit Accounts

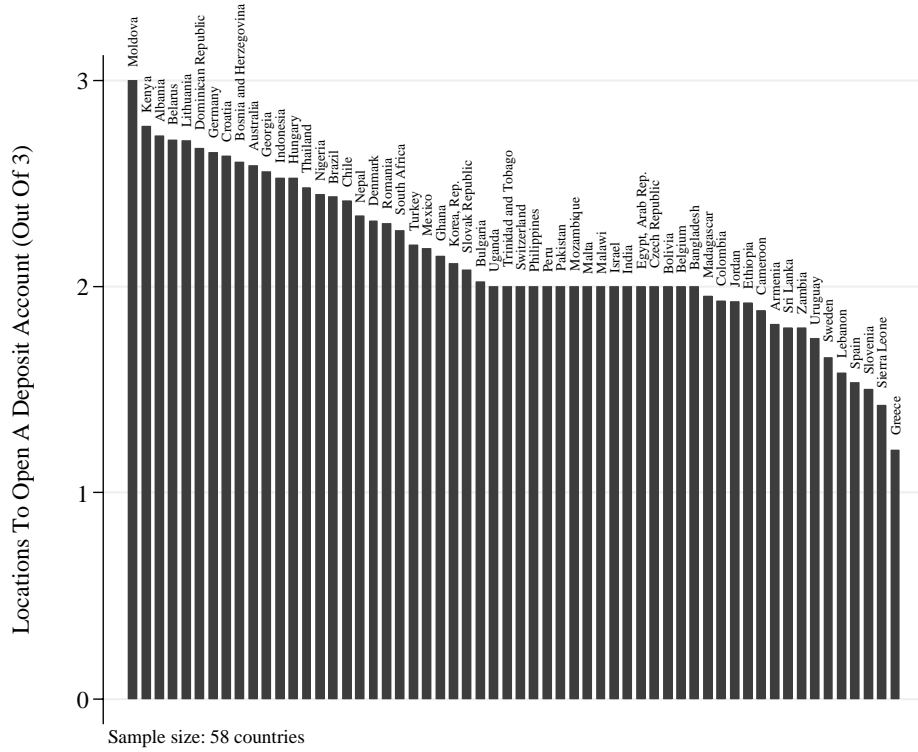


Figure 2. Minimum Balance to Open Checking Account (% of GDPPC)

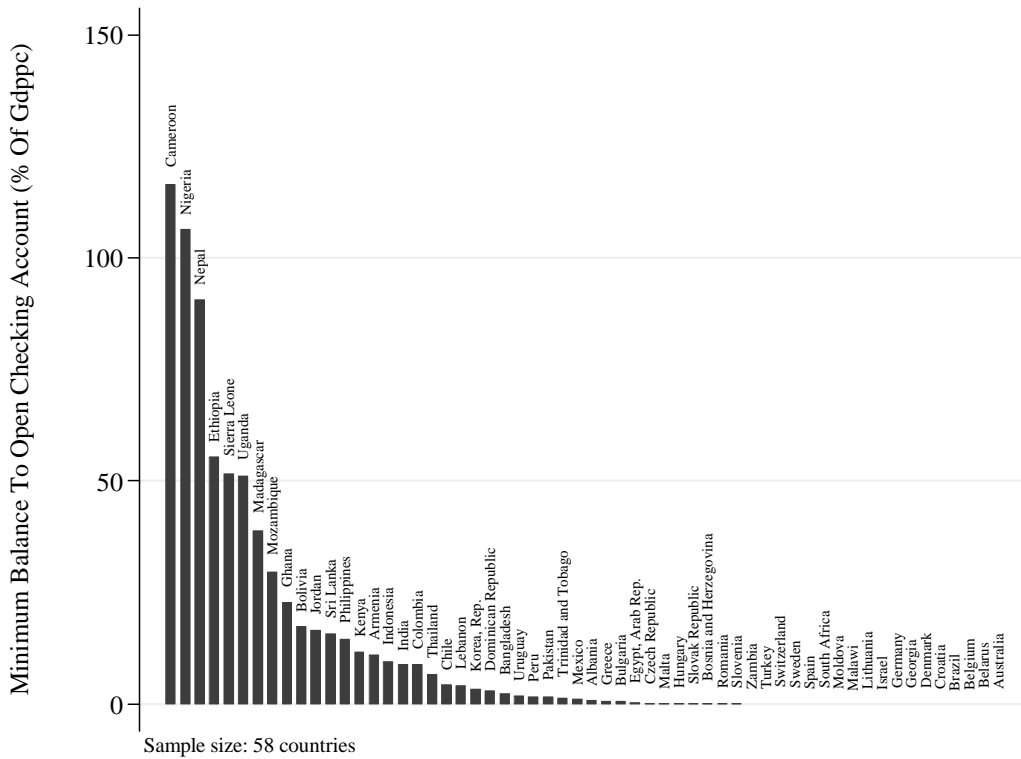


Figure 3. Minimum Balance to Open a Savings Account (% of GDPPC)

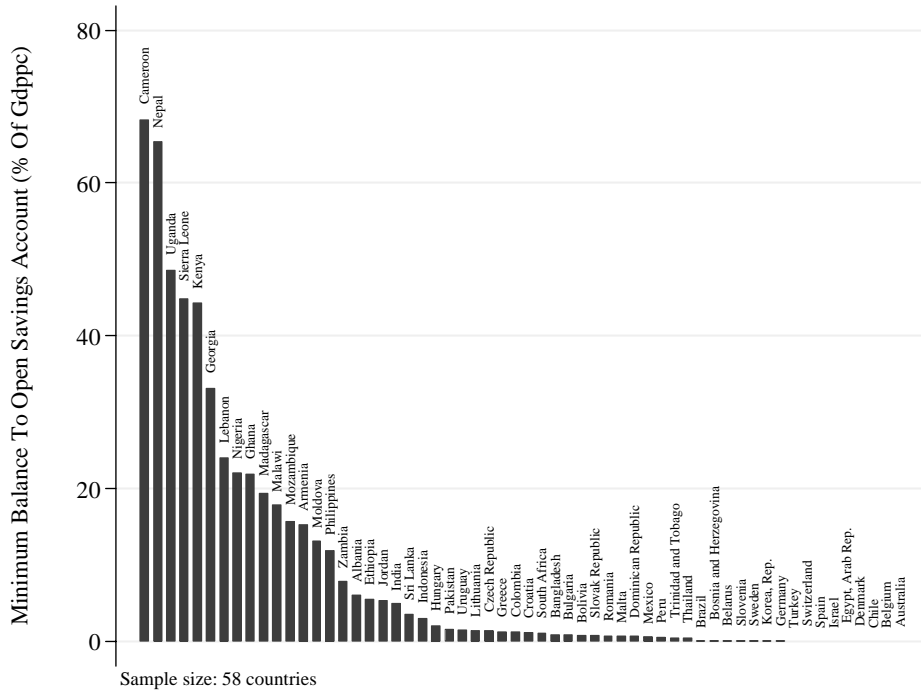


Figure 4. Annual Fees for a Checking Account (% of GDPPC)

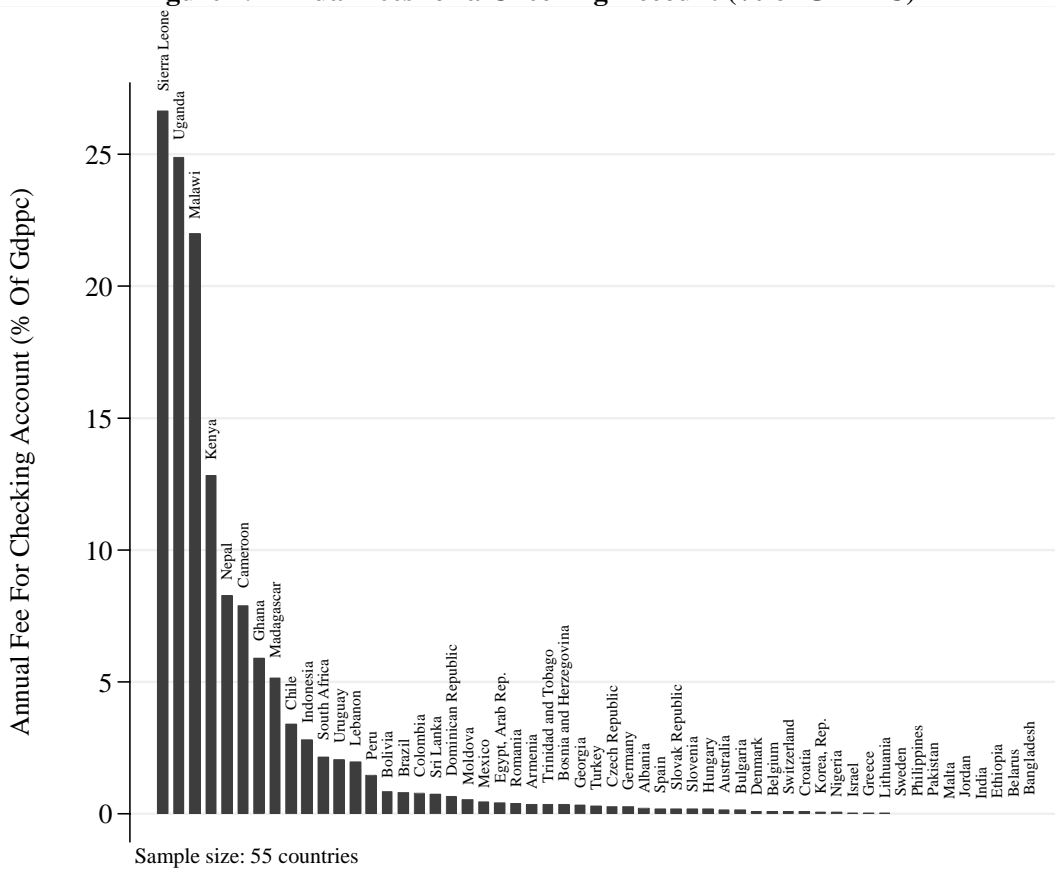


Figure 5. Annual Fees for a Savings Account (% of GDPPC)

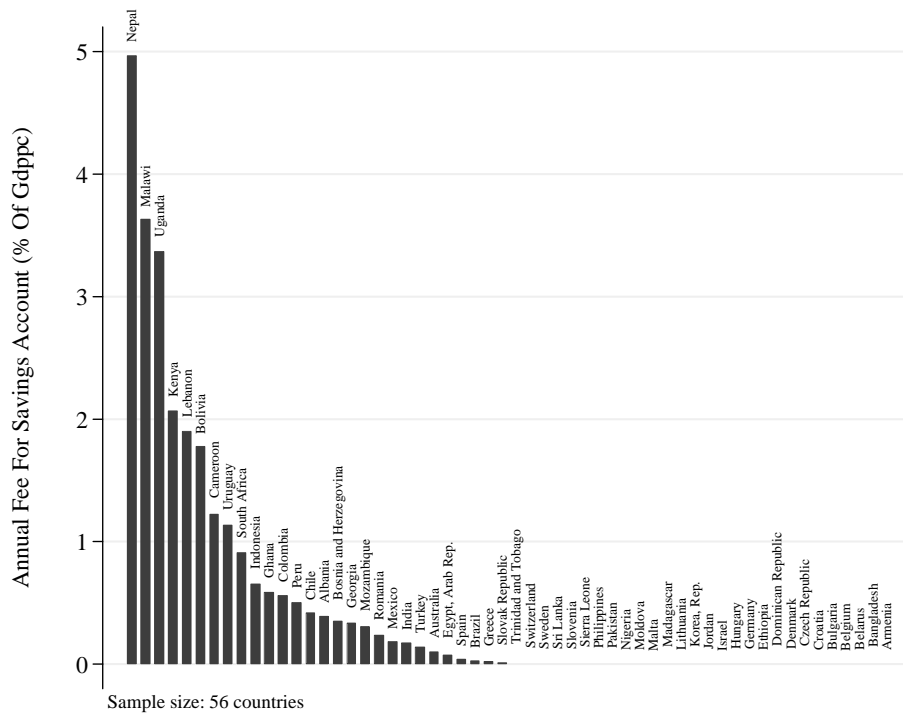


Figure 6. Number of Documents Needed to Open a Checking Account

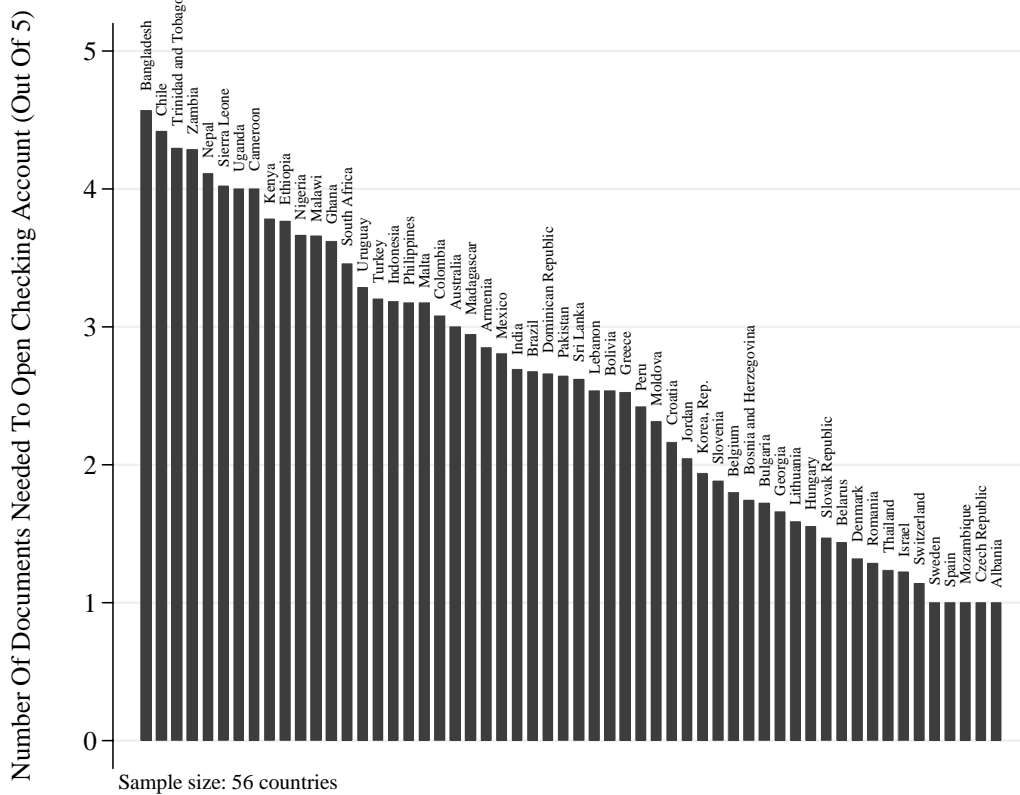


Figure 7. Number of Documents to Open a Savings Account

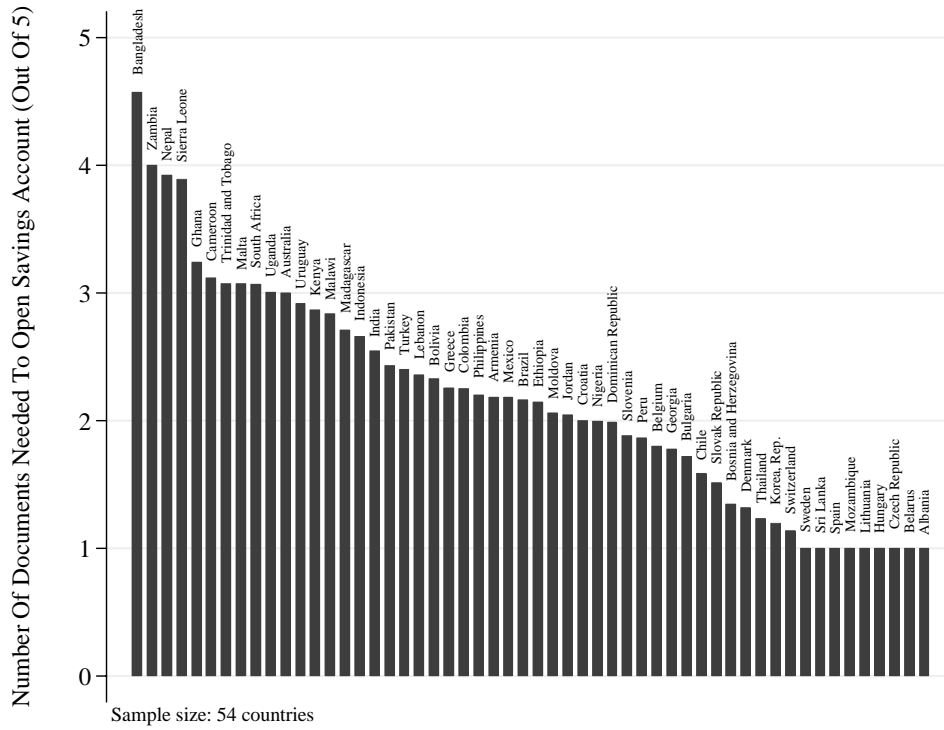


Figure 8. Locations to Submit a Loan Application

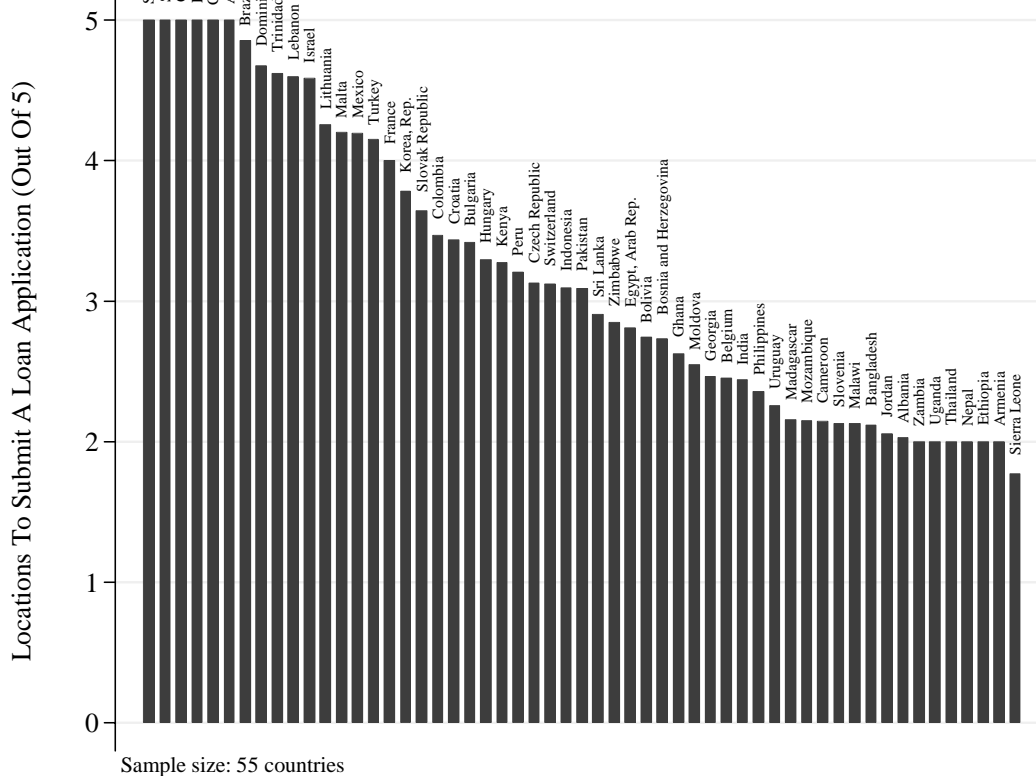


Figure 9. Minimum Amount Required for Consumer Loans (% of GDPPC)

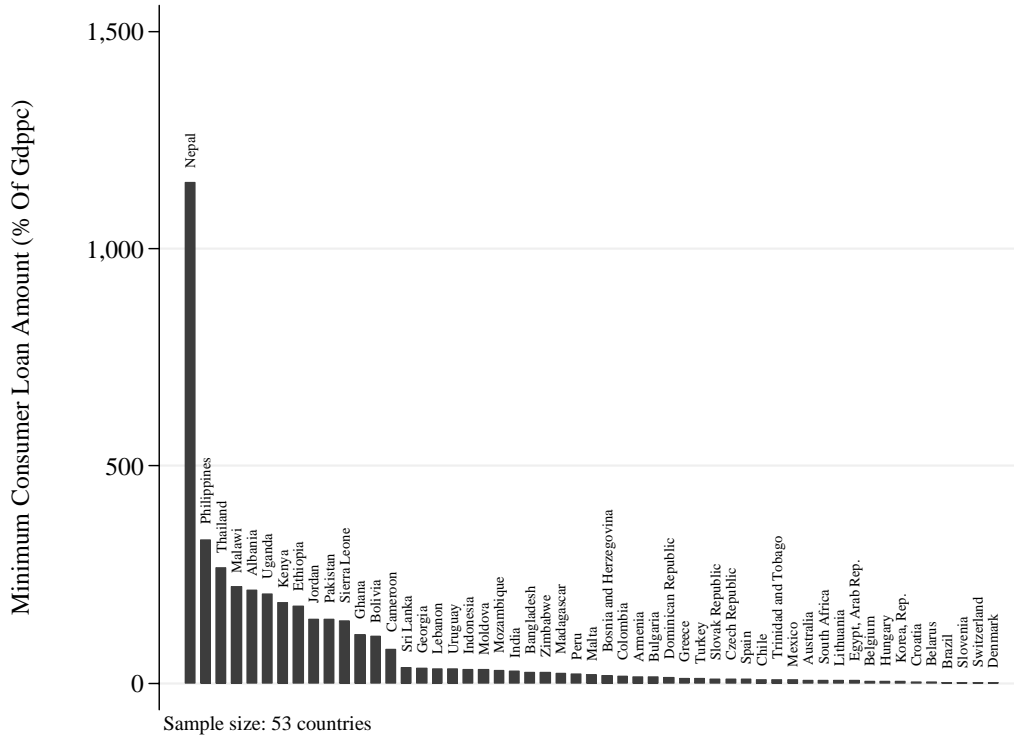


Figure 10. Minimum Amount Required for SME Loans (% of GDPPC)

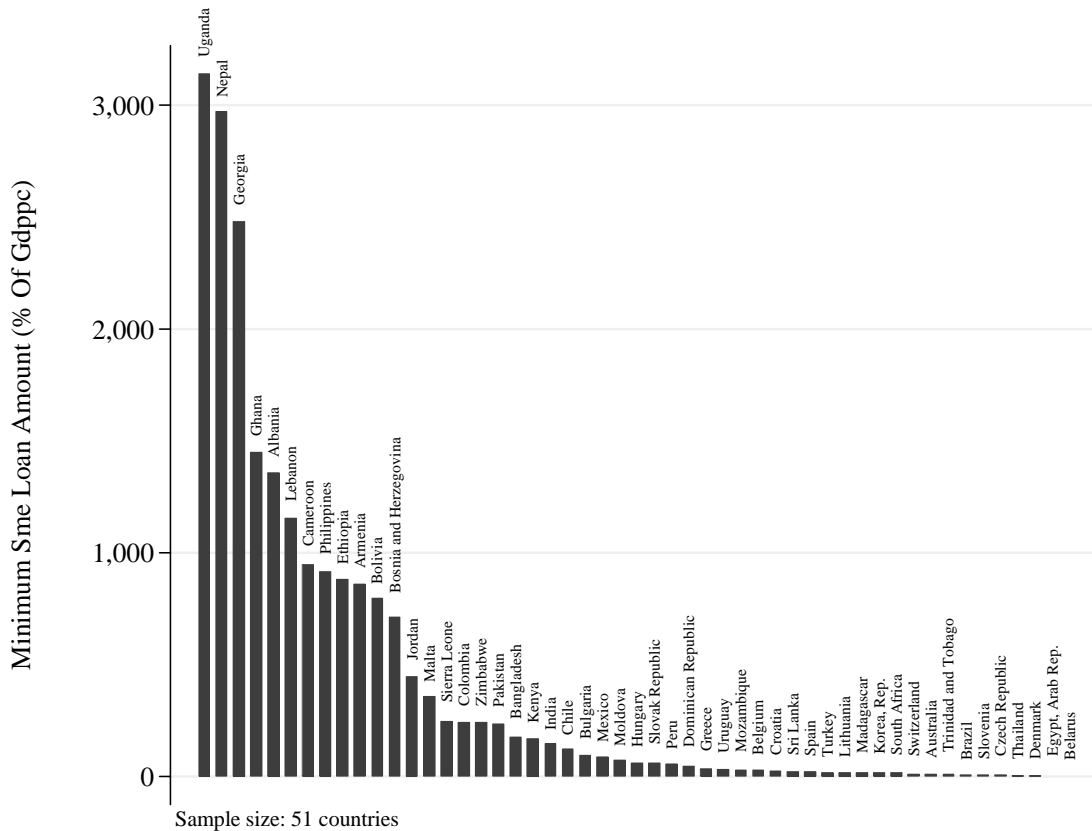


Figure 11. Fees on Consumer Loans (% of GDPPC)

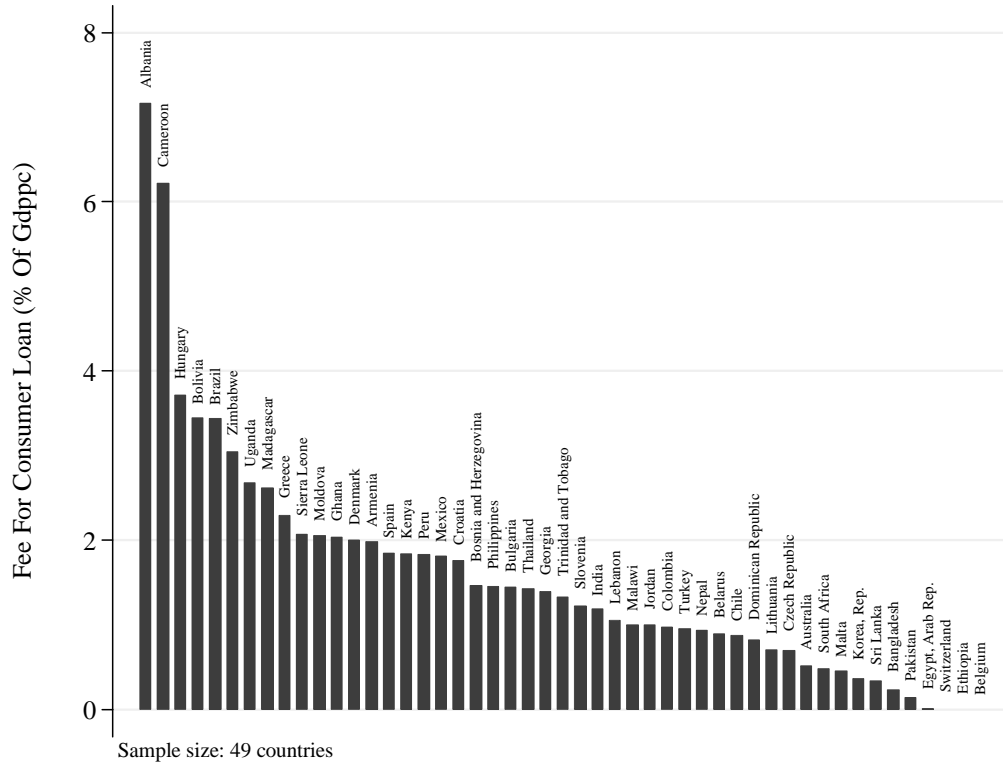


Figure 12. Fees on SME Loans (% of GDPPC)

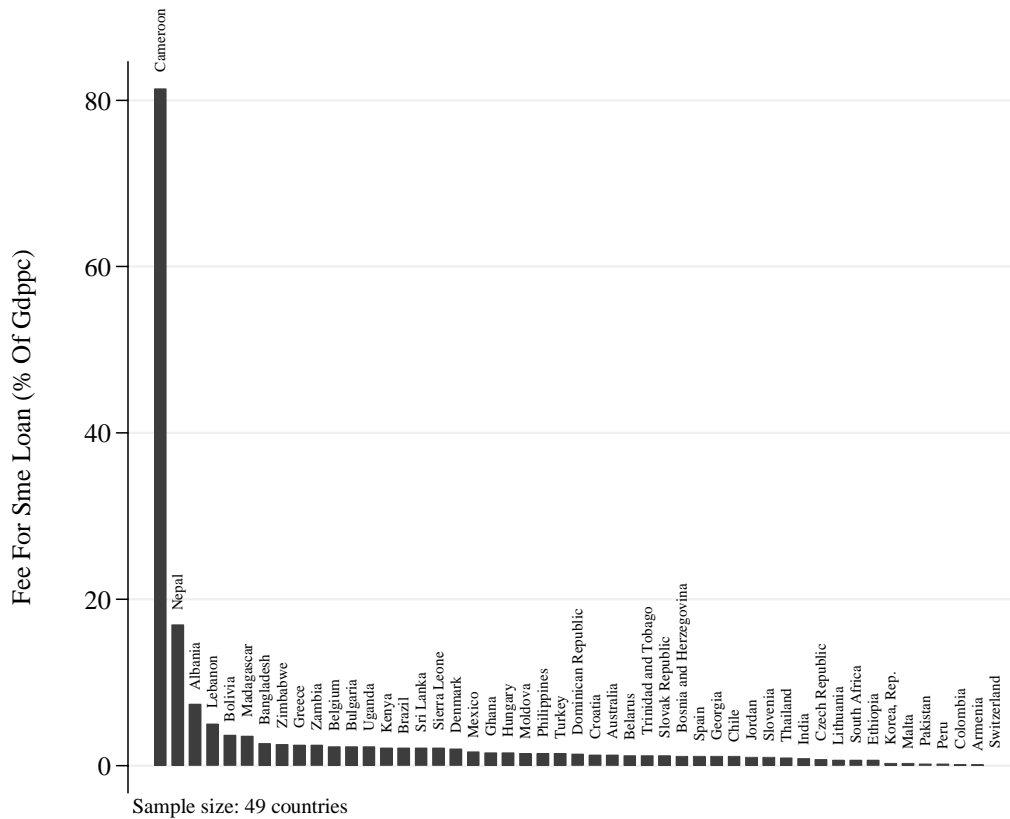


Figure 13. Days to Process a Consumer Loan Application

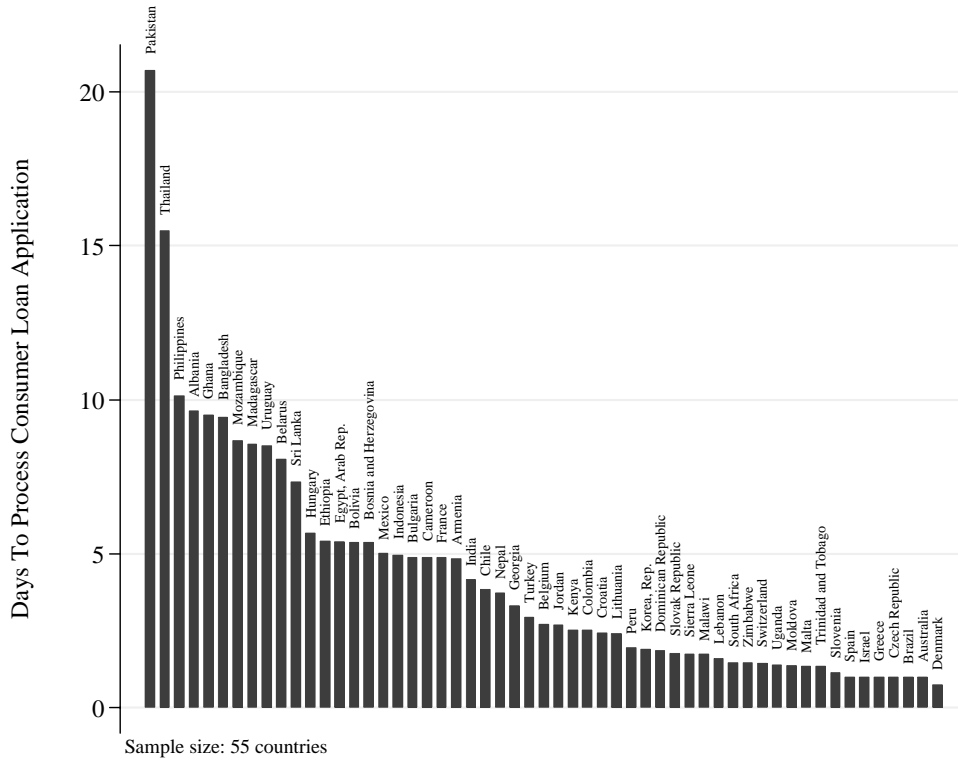


Figure 14. Days to Process a SME Loan Application

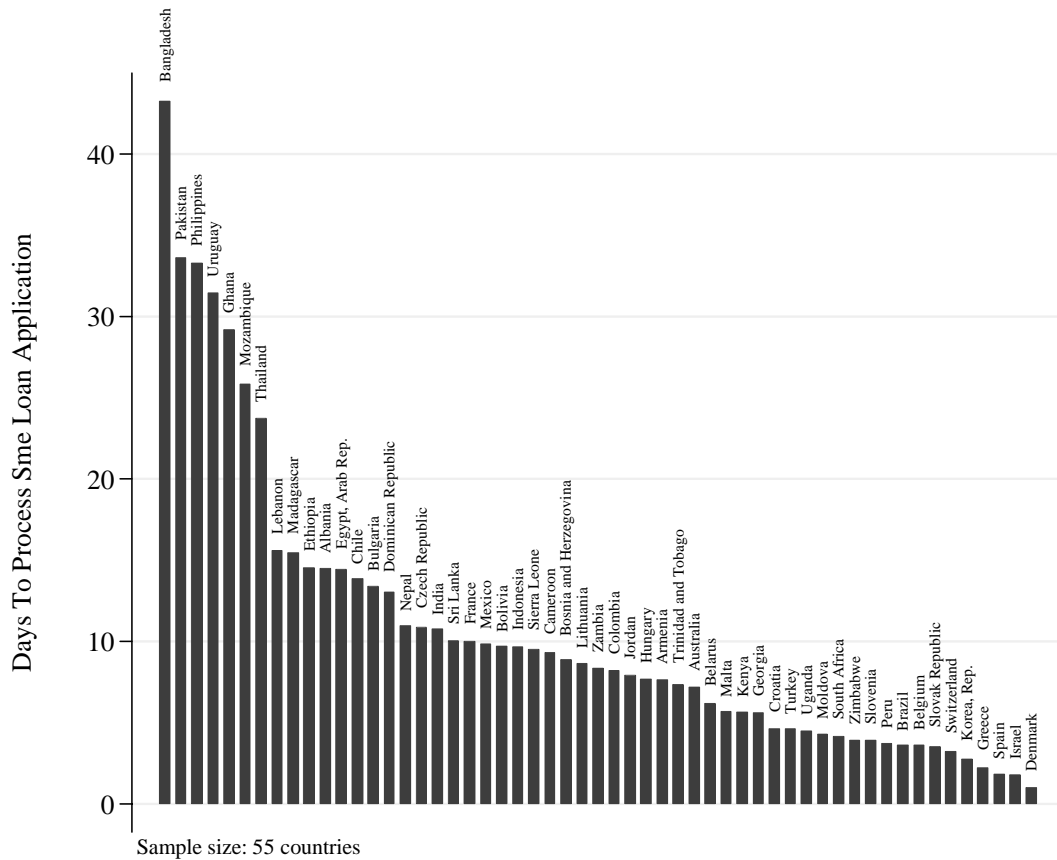


Figure 15. Cost to Transfer Funds Internationally (% of US\$250)

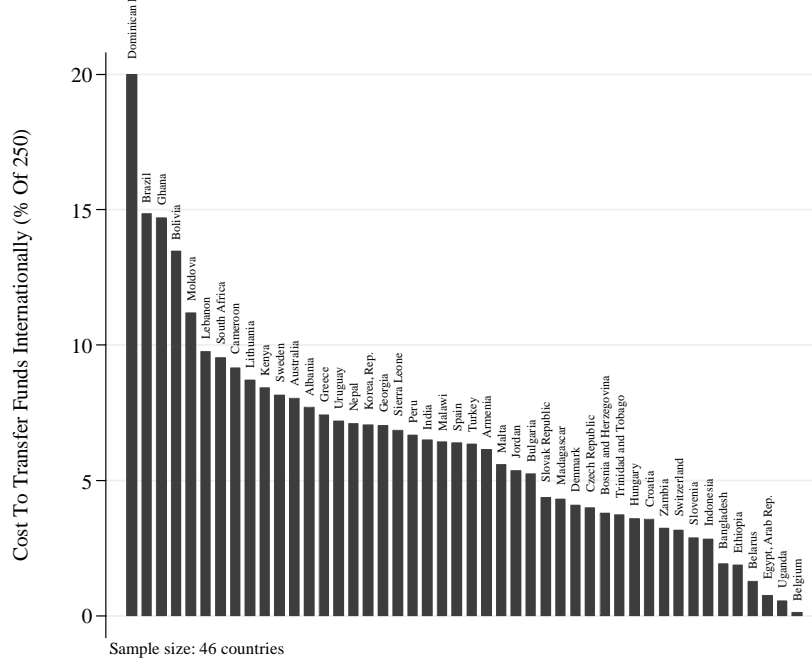


Figure 16. Fees for Using ATM Cards (% of US\$100)

