

Banking Services for Everyone?

Barriers to Bank Access and Use Around the World

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Abstract:

Using information from 193 banks in 58 countries, we develop and analyze indicators of physical access, affordability and eligibility barriers to deposit, loan and payment services. We find substantial cross-country variation in barriers to banking and show that in many countries these barriers can potentially exclude a significant share of the population from using banking services. Correlations with bank- and country-level variables show that bank size and the availability of physical infrastructure are the most robust predictors of barriers. Further, we find evidence that in more competitive, open and transparent economies, and in countries with better contractual and informational frameworks banks impose lower barriers. Finally, though foreign banks themselves seem to charge higher fees than other banks, in foreign dominated banking systems fees are lower and it is easier to open bank accounts and to apply for loans. On the other hand, in systems that are predominantly government-owned, customers pay lower fees but also face greater restrictions in terms of where to apply for loans and how long it takes to have applications processed. These findings have important implications for policy reforms to broaden access.

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1. Introduction

To open a checking account in Cameroon, you need over 700 dollars, an amount higher than the GDP per capita of that country, while 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. If we follow previous estimates (Genesis, 2005b) that poor people cannot afford to spend more than 2 percent of their household income on bank charges, the fees observed in many countries effectively prevent them from using such 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. First, through surveying the largest banks in 58 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 the importance of these barriers for access to and use of financial services. Third, we explore which bank and country characteristics are associated with these barriers, with findings that 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. 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 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 framework and the availability of physical infrastructure in the market where banks offer their services.

Financial exclusion can retard economic growth and increase poverty and inequality. Theoretical models have shown 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). A large empirical literature has established the importance of banking sector depth for economic development and poverty alleviation. Based on extensive cross-country databases, researchers have explored the relation between indicators of financial sector depth and GDP per capita growth, productivity growth, poverty, firm growth and entry rates (see King and Levine, 1993; Beck, Levine and Loayza, 2000; Demirguc-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998; Beck, Demirguc-Kunt and Levine, 2004; Klapper, Laeven and Rajan, 2006). Much less is known, however, 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 19 countries do not impose any minimum balances for checking accounts, such

balances are higher than 10 percent of GDP per capita in 14 countries. While one document is needed to open an account in five countries, four documents, including ID, payment slip, proof of domicile and reference letter, are required in six countries, 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 six countries, customers can only submit loan applications at bank headquarters or at branches in five countries.

We conduct consistency checks on our data and show that, in general, banks in more economically and financially developed economies impose lower barriers. Also, we show that barriers are negatively correlated with financial outreach – measured by branches, loans and deposits per capita – and with lower financing obstacles as reported by firms. Our indicators thus capture an important aspect of banking sector outreach across countries.

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, for example, that fees to maintain checking accounts effectively prevent more than 30 percent of the population from using such services in ten of the 58 countries in our sample.

We also explore which bank- and country-level characteristics are associated with barriers to banking. Consistent with the argument of scale economies in banking, we find that larger banks consistently impose lower barriers. Better physical infrastructure is also robustly associated with lower barriers. In more competitive, open and transparent economies bank customers also face lower barriers. Further, we find evidence that banks in countries with a more efficient contractual and informational framework impose lower barriers on customers. Finally, the relationship between barriers and bank ownership is not a simple one. Though foreign banks

themselves seem to charge higher fees than other banks, in foreign dominated banking systems, fees are lower and it is easier to open bank accounts and to apply for loans. On the other hand, in systems that are predominantly government-owned, customers pay lower fees but face greater restrictions in terms of where to apply for loans and how long it takes to have applications processed.

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 and 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 checking accounts might not be widely used and 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 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 we capture the barriers encountered by a majority of customers in a country. Finally, the nature of our survey is such that we are not able to capture non-bank financial institutions, such as finance companies and microfinance institutions. In spite of these shortcomings, 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 2005.² We chose to focus on the largest

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.

² We defined importance in terms of total assets or branches. 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.

banks since we are interested in the barriers encountered by the average customer in each country. Survey responses were carefully “cleaned” through extensive follow-up with the banks whenever we had questions about the data provided. While we received a total of 253 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% of the market in terms of total loans/total deposits or where we received a response from the largest bank.³ This gives us a total sample of 193 banks across 58 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 that 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, 13 countries from sub-Saharan Africa, 9 countries in Western Europe, 8 Latin American and Caribbean countries, 5 countries from the Middle East and North Africa, 4 countries in South Asia, 3 countries in East Asia and one non-European developed country (Australia).

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. In Algeria too, we only have data for the largest bank, but this bank accounts for more than 30% of the market.

In terms of market share, for 56 out of the 58 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 30 percent. When it comes to loans, the share represented by bank respondents exceeds 30 percent in 53 countries. In this case, the countries excluded from the sample are Germany, Nigeria, Romania, Swaziland, and Sweden. In 34 (29) countries the share of deposits (loans) exceeds 50%. On average across countries, the banks that responded to our sample account for 57 percent of the deposits and 53 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 the country-level averages including descriptive statistics and Figures 1 through 16 show the cross-country variation graphically. Table 5 reports correlations across the different barriers. 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 deposit and payment barrier indicators and by the share of loans for loan barrier indicators. 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 documents or other

requirements) that determine who can access financial services and who cannot. Regulatory requirements, e.g. in the context of anti-money laundering legislation, might force banks to impose such eligibility requirements. 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.

3.1. Deposit services

The main 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 in 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).⁴ 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 a 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 % and in Ethiopia, Sierra Leone and Uganda, more than 50% of per capita income is required to open a checking account, the amount is zero in 19 countries, less than half of which are developed.⁵ The median value for this indicator is 0.6 % and the average is 10.9%. 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 (-0.28) 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% in Cameroon, Kenya, Sierra Leone

⁴ 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.

⁵ Countries for which the minimum balance to open a checking account averages zero include: Algeria, Australia, Belarus, Belgium, Brazil, Croatia, Denmark, Georgia, Germany, Israel, Lithuania, Malawi, Moldova, South Africa, Spain, Swaziland, Sweden, Switzerland, and Turkey.

and Uganda. The median value for this indicator is 1.1%. The required minimum balance to open a savings accounts is on average only slightly below the minimum balance in checking accounts, 8.1% for the former compared to 10.9% of GDP per capita for the latter.

As reported in Table 2, there is a 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, 2.9% and 6.2% of GDP per capita for checking and savings accounts, respectively.⁶

Fees associated with maintaining a checking or savings account also vary significantly across countries (Figures 4 and 5). While in Malawi, Uganda and Sierra Leone, checking account fees amount to over 20% 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% and the average is 2.4%. Savings accounts fees are significantly lower than those associated with checking accounts, ranging from zero in 29 countries to almost 4% of GDP per capita in Malawi and Uganda. The average value across countries for the fees on savings account is 0.4% while the median is exactly zero.

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

⁶ 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.

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 account, banks in Bangladesh, Cameroon, Chile, Sierra Leone, Trinidad and Tobago, and Uganda require at least four documents (Figure 6). On average, a slightly smaller number of documents is required to open a savings account (2.1) relative to a checking account (2.5). In 10 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.⁷ On the other hand, more than three documents are needed in Bangladesh, Cameroon, Ghana, Malta, Sierra Leone, South Africa, and Trinidad and Tobago (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 Algeria, Armenia, Ethiopia, Sierra Leone and Uganda can only

⁷ These countries include: Albania, Algeria, Belarus, Czech Republic, Hungary, Lithuania, Mozambique, Spain, Sri Lanka, and Sweden.

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 even submit loan applications over the phone and the Internet (Figure 8). In the median and 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 330 percent of GDP per capita in the Philippines (see Figure 9). The median minimum amount for consumer loans is 18.54 percent, while the average is 52.29 percent.

While banks in Algeria, Belarus, Denmark, and Egypt do not specify **minimum amounts for SME loans**, banks in Bangladesh set a minimum of almost 10,000 percent of GDP per capita and those in Uganda and Georgia report a minimum of over 2,000 percent of GDP per capita (Figure 10). These very high minimum loan requirements suggest that in those countries banks do not meet the external financing needs of smaller enterprises. The average minimum amount for SME loans is 558 percent and the median is 58 percent of GDP per capita.

Fees on consumer loans expressed as a percentage of minimum loan amounts range from zero in Algeria, Belgium, Ethiopia, and Switzerland to over 20 percent of the minimum loan amount in Chile and the Dominican Republic (Figure 11). The median fee on consumer loans is 2 percent and the average is 4 percent.

Fees on SME loans also exhibit a significant cross-country variation. Fees vary from zero in Algeria and Switzerland to close to 30 percent in the Dominican Republic (Figure 12). The average fee on SME loans across countries is 3 percent and the median is 1 percent.⁸

Eligibility

A crucial function of financial intermediaries is to screen borrowers beforehand and to monitor them during the lifetime of a loan. However, the **number of days it takes to process a loan application** can be perceived as a de facto eligibility barrier, since some borrowers might not apply 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 loan application is 4 and the median is closer to 3.

SME loan application are processed in less than 2 days in Denmark and Spain but take more than one month to process in Bangladesh, Pakistan, and Philippines (Figure 14). Across countries, it takes an average of almost 11 days to process a 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).⁹

⁸ We also computed loan fees relative to GDP per capita, as the ratio of loan fees to minimum loan amounts might also represent variation in minimum loan amounts additional to variation in fees. While that ratio gives different rankings of countries, the results reported in sections 4 and 6 do not differ across ratios of fees to minimum loan amounts or GDP per capita.

⁹ Though ATM cards can be used for transactions other than withdrawing cash (e.g., transferring funds across accounts), we think of ATMs as primarily facilitating payments by allowing the withdrawal of funds.

The **cost of transferring funds internationally** varies from 0.12 percent in Belgium to 20 percent in the Dominican Republic (Figure 15).¹⁰ 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 6.5 percent or \$ 16.35.

We express **the fees associated with ATM transactions** as a percentage of 100 dollars. We find that ATM fees are above 0.4 for Pakistan and Nigeria, average 0.1 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 on 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. Also, fees are correlated across account types and higher checking fees are positively correlated with higher minimum checking and savings deposit balances required to open deposit accounts. 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 days to process SME and consumer loan applications. The indicators on the number of days to process loans are also positively correlated with minimum loan balances.

¹⁰ While we also considered the speed of transfers in terms of days, we found little variation across banks and countries.

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. Also, we find a significantly positive correlation between the number of documents required to open accounts and the days to process loan applications. Finally, we observe that higher loan fees are correlated with higher costs of transferring funds internationally and higher fees for using ATM cards are positively associated with more requirements to open deposit accounts.

4. Barriers to banking, financial and economic development, and outreach

In this section we explore the association between our barrier indicators and existing measures of financial and economic development, as well as of financial outreach (Table 6). In many ways, examining these correlations represents a consistency check on our indicators.

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, the minimum amount of consumer loans, the days to process consumer and SME loans, and the fees for using ATM cards 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 loans, the days to process SME and consumer loans, and the fees for using ATM cards. 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 and the locations to open deposit accounts are not significantly correlated with economic or financial development.

To gauge the relationship between barriers and aggregate measures of financial sector outreach, we utilize recently compiled data on branch penetration and the number of loan and deposit accounts (Beck, Demirguc-Kunt and Martinez Peria, 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 invest less in the number of branches and higher barriers to be also reflected in fewer deposit and loan accounts per capita.

The correlations in Table 6 suggest that higher barriers are indeed associated with lower outreach. Specifically, banks in countries with a higher demographic branch penetration demand lower minimum balances to open accounts, require 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 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 have lower minimum loan amounts, are quicker in processing loan applications and are more likely to accept these applications outside headquarters and through non-traditional channels such as phone or Internet. 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 loans, are faster in processing loans and are more likely to accept loan applications through non-traditional channels.

These correlations are simply that – correlations. They do not imply causality. They show, however, that our indicators capture an important dimension of financial sector development: the limited outreach of the banking system implied by higher barriers. 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.

Finally, higher barriers are 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 36 (access) and 37 (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.¹¹ 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, where banks do not accept loan applications through non-traditional channels and take longer to process SME loan applications. 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.

¹¹ 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).

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.¹² We follow Genesis (2005b) and assume that people cannot afford to spend more than 2% of their annual household income on financial services.¹³ We adjust income with the average household size for every country.¹⁴ 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.

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% of the population cannot afford checking accounts and in several African countries, more than 50% of the population is priced-out of using these services. Specifically, 54% of the population in Cameroon, 81% in Kenya, 40% in Madagascar, 94% in Malawi, 89% in Sierra

¹² Calculations are based on Dollar and Kraay (2002) and Lopez and Serven (2006).

¹³ 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.

¹⁴ 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.

Leone and 93% in Uganda cannot afford the fees for checking accounts, given their annual income and assuming that they cannot spend more than 2% of household income on financial transaction account charges. The fees on savings accounts are in general less restrictive. Approximately, 33% of the population in Malawi and Uganda and 17% of the Bolivian population cannot afford the fees and charges associated with a savings account.

While these computations are rough estimates, they are 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.

6. What explains banking barriers across banks and countries?

This section explores which bank and country-level characteristics can explain the wide variation of barriers across countries. Theory suggests the importance of transaction costs, risk mitigation tools and market structure for the cost of financial services and thus barriers to banking. Theory also suggests that different business strategies, the size of a bank and its ownership structure might impact its cost structure and, thus, the barriers imposed on customers. We therefore consider whether the size, business orientation and ownership of the banks are associated with barriers and explore the role of physical infrastructure, costs of doing business, the contractual and informational frameworks, banking sector market structure, competitiveness, openness, and transparency of the economy in explaining cross-country variation in banks' barriers. While bank-level data are from Bankscope, country-level variables are drawn from different databases.¹⁵ Appendix Table A.2 shows definitions and sources for the explanatory

¹⁵ Bank ownership data are from Micco, Panizza and Yañez (2007), based on cleaned Bankscope data.

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

$$F_{i,k} = \beta_0 + \beta_1 B_i + \beta_2 C_k + \varepsilon_{i,k} , \quad (1)$$

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 which components of economic development can explain cross-country variations in barriers, as captured by individual 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 1% 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.

Theory provides opposing views on the impact of size, business orientation and ownership on barriers. On the one hand, large banks might be better in exploiting scale economies, thus overcoming more easily the triple 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, small banks might be closer to these “smaller” and riskier clients and/or orient themselves more towards them (Berger, Hasan and Klapper, 2004). Banks that are less interested in retail business might impose higher barriers to signal this lack of interest to potential customers. While the public-interest theory 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 hypotheses having opposing implications for the barriers imposed by government-owned banks. Finally, while foreign-owned banks are assumed to be more interested in large corporates 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). We measure the size of banks with the log of total assets in millions of US dollars, the business orientation with the loan-asset ratio (Laeven and Levine, 2006) and their ownership with separate dummy variables for majority government- and foreign-owned banks.

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, need

fewer days to process loans, and are more likely to accept loan applications through non-traditional channels such as phone or Internet. We find that foreign banks appear to charge higher deposit fees and fees on consumer loans, while government-owned banks take longer to screen loan applications. The correlation between business orientation and barriers is mixed. While, retail, loan intensive banks – those with higher ratio of loans to assets - require lower minimum balances to open accounts, they ask for more documents to open accounts and take longer to process loan applications. Overall, these results suggest that size is the dominating bank characteristic in explaining variation in barriers.

While the academic 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 communication and electricity networks, impacts the costs of doing business for banks and can explain cross-country variation in many barriers to banking. We use two indicators to gauge the relationship between physical infrastructure and barriers to banking. Specifically, we utilize telephones lines per capita and electric power transmission and distribution losses as percentage of output (Estache and Goicoechea, 2005). Our regression analysis suggests that banks in countries with better phone networks demand lower minimum amounts to open checking or savings accounts, charge lower account fees, require fewer documents to open accounts, allow loans to be submitted via multiple channels, require lower minimum loan amounts, are faster in processing loan applications and charge lower ATM fees. Banks in countries with more power outages require higher minimum balances for savings accounts, charge higher checking account fees, require more documents to open accounts, impose higher minimum loan amounts, take longer to process loan applications and charge higher fees for international wire transfers.

Theory suggests lower bank barriers in countries with more effective contractual and informational frameworks. Banks arise to overcome asymmetric information between lenders and borrowers (Diamond 1984, 1991, Ramakrishnan and Thakor 1984, Boyd and Prescott 1986), which leads to adverse selection and moral hazard problems, but the efficiency with 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 efficient systems of contract enforcement 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 (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 two indicators from the *Doing Business* database (World Bank, 2006a) that measure the efficiency of credit information systems and the cost of contract enforcement relative to GDP per capita.

Our results suggest that 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, allow for loan applications to be

submitted through non-traditional channels, impose lower minimum balances on consumer loans, and take less time to process SME loan applications. On the other hand, surprisingly banks in countries with better informational environments seem to charge higher fees on consumer loans and on international transfers. 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 relationship 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, established by the literature (Beck and Levine, 2005). We note, however, that 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.

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 relationship between ownership and market structure and barriers to banking.

Though we found that foreign banks themselves seem to charge higher fees than other banks, in foreign dominated banking systems fees are lower (perhaps because of greater competitive pressures) and it is easier to open bank accounts. On the other hand, in systems that are predominantly government-owned, customers face lower fees but also face greater restrictions in terms of where to apply for loans and the time it takes to have applications processed is longer. Finally, banks in countries with more concentrated banking systems are less likely to allow customers to open deposit accounts outside headquarters but impose lower minimum amounts for SME loans, are faster at processing loan applications and charge lower ATM fees.

As recent empirical work has shown that competition is not a linear and unambiguous function of banking sector structure (Claessens and Laeven, 2004), we also explore the relationship between banking barriers and two indicators of an economy's competitiveness. 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 allocation of credit, and whether banks are free to provide customers with insurance products and invest in securities. Second, we use the cost of starting a formal enterprise, as share of income per capita, as an indicator of the ease of entry into the economy (World Bank, 2006a).¹⁶

Less competitive economies have banks that impose higher barriers to banking. 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

¹⁶ We also tried regulatory indicators of bank entry, but these refer to regulatory requirements rather than the cost of setting up banks.

documentation to open these 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 economies where entry into the corporate sector is more costly are less likely to allow customers to open accounts outside headquarters, charge higher fees on checking accounts, require a greater number of documents to open accounts, charge higher fees for SME loans and for using ATM cards, and take longer for processing consumer loans.

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 a bank disclosure index (World Bank, 2006b) that captures how informative banks' balance sheet and income statements are. While this indicator was constructed to assess to what extent banks include information relating to their risk-taking and thus stability, it might indicate the general transparency of banking. We also utilize 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.

Our results suggest that banks in countries with higher disclosure standards require lower minimum balances to open a checking account and charge lower fees on these accounts, require fewer documents to open such an account, are more likely to accept loan applications through non-traditional channels such as phone or Internet, need fewer days to process loan applications, and charge lower fees for using ATMs. 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, we find many country characteristics associated with barriers to banking services. Improvements in physical infrastructure and more efficient credit information and contract enforcement frameworks are associated with lower barriers. Barriers are also lower in countries with greater banking freedoms, greater competition and transparency. Although foreign banks themselves charge higher fees, banking systems with greater foreign entry have lower barriers in general. While government banks themselves do not seem to provide improved access, in banking systems dominated by state banks customers face lower fees but poorer quality of service (fewer locations that accept loan applications, longer loan processing times). These results have important policy implications for potential reforms to broaden access.

7. Conclusions

This paper is the first effort to systematically document the existence of barriers to banking services. Using surveys of 193 banks in 58 countries, our data show significant variation in barriers to banking across countries. Though not without limitations, we think that this effort is important 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 effectively exclude more than 30 percent of the population from having a checking account in ten of our 58 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 to access financial services.

Finally, we conducted a first-cut examination of the bank and country-level factors that explain variation in indicators of bank barriers. We provide suggestive evidence that variation in these barriers is associated with variation in bank size, physical infrastructure, contractual and informational frameworks, ownership structure in banking and the general degree of competitiveness, openness and transparency of economies. While much more research is needed in this area, these results have important implications for policy reforms to broaden access.

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. We are still very much in the beginning of this work and richer data sources and in-depth analysis are needed to improve our understanding of access and its impact on economic outcomes. Going forward, several fruitful approaches can be envisioned. First, the type of analysis conducted in this paper is very useful in identifying outlier countries, i.e. those with high access barriers, as potential case studies to investigate financial access in greater depth. Case studies for individual countries that combine detailed supply and demand data from financial institutions, households and firms would be able to more thoroughly assess access to and use of financial services, barriers faced by different users, and potential policies to reduce these barriers. Compared to cross-country studies, such country-case studies can better take into account idiosyncratic characteristics and better exploit the richness of institutional detail at and below the country level.

Second, while household and firm surveys at the country level are useful instruments, important empirical challenges remain in measuring the causal impact of improved access to

credit and deposit services on economic outcomes. Individuals and firms seeking to borrow or open bank accounts are typically different than non-borrowers, which makes causality inference from cross-sectional data very difficult. However, these identification issues may be circumvented by introducing a random component to the assignment of financial products such as subsidizing account opening fees or random variation in certain terms of the loan contract. Such randomized field experiments are likely to shed light on the impact of removing barriers on real outcomes.

Third, careful cross-country studies focusing on specific standardized banking products, to the extent they exist, such as transaction accounts or consumer and SME loans would also be valuable since they allow for greater uniformity in the analysis across countries. We leave these complementary efforts for future research.

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Table 1. Countries for which we collected barrier indicators

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	8.65%	1,477	91.42%	64.24%	5
Algeria	10.27%	1,982	34.43%	37.08%	1
Armenia	6.26%	952	59.63%	47.28%	4
Australia	100.94%	22,083	32.59%	33.59%	2
Bangladesh	27.41%	402	56.98%	56.51%	5
Belarus	n.a.	1,695	74.58%	71.63%	3
Belgium	72.78%	23,213	72.56%	68.57%	3
Bolivia	42.31%	1,034	58.04%	58.87%	4
Bosnia Herzegovina	n.a.	1,406	64.04%	58.96%	4
Brazil	33.89%	3,564	64.35%	48.61%	4
Bulgaria	30.86%	1,957	34.87%	31.65%	3
Cameroon	8.41%	662	83.83%	81.36%	5
Chile	70.99%	5,462	35.50%	36.05%	2
Colombia	21.80%	2,091	50.48%	45.65%	5
Croatia	54.18%	4,934	63.42%	63.69%	4
Czech Republic	30.66%	6,123	43.00%	43.00%	2
Denmark	154.04%	30,735	72.71%	48.81%	2
Dominican Republic	30.89%	2,476	39.27%	42.61%	2
Egypt, Arab Rep.	54.84%	1,615	32.05%	32.08%	2
Ethiopia	23.00%	113	93.73%	85.37%	4
France	88.19%	23,432	26.23%	30.08%	2
Georgia	8.64%	883	85.71%	80.26%	5
Germany	113.07%	23,705	31.91%	23.72%	3
Ghana	11.98%	278	69.49%	68.72%	4
Greece	72.52%	11,960	56.92%	58.36%	3
Hungary	43.65%	5,413	53.09%	42.43%	3
India	32.78%	538	36.87%	37.75%	4
Indonesia	20.99%	906	44.73%	40.38%	4
Israel	90.04%	17,788	36.17%	34.75%	2
Jordan	68.83%	1,940	83.61%	80.36%	3
Kenya	25.33%	427	43.82%	47.61%	3

n.a. means not available.

Table 1. Countries for which we collected barrier indicators

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.	125.43%	12,752	68.95%	73.54%	6
Lebanon	n.a.	5,606	38.00%	38.00%	3
Lithuania	22.21%	4,402	88.87%	86.77%	5
Madagascar	8.65%	229	72.44%	74.59%	5
Malawi	8.33%	153	82.36%	59.73%	3
Malta	106.72%	9,435	44.56%	58.34%	4
Mexico	15.96%	5,968	48.95%	45.74%	3
Moldova	19.41%	400	40.16%	48.32%	3
Mozambique	2.07%	275	48.78%	40.34%	2
Nigeria	15.47%	402	32.22%	29.31%	3
Pakistan	25.74%	566	47.50%	44.02%	3
Peru	18.85%	2,206	81.88%	76.40%	4
Philippines	33.48%	1,085	41.84%	43.17%	4
Romania	8.78%	2,163	35.01%	24.66%	4
Sierra Leone	3.92%	156	100.00%	100.00%	4
Slovak Republic	30.40%	4,495	58.12%	51.93%	3
Slovenia	42.62%	10,860	67.48%	70.68%	5
South Africa	134.13%	3,312	70.09%	69.39%	3
Spain	115.46%	15,343	63.75%	66.73%	4
Sri Lanka	28.48%	962	52.19%	51.10%	3
Swaziland	14.08%	1,357	43.40%	29.19%	1
Sweden	102.82%	28,858	39.47%	22.43%	2
Switzerland	157.25%	34,340	79.57%	59.19%	2
Trinidad and Tobago	30.26%	8,055	40.15%	50.27%	3
Turkey	17.09%	3,197	50.14%	38.33%	3
Uganda	5.92%	267	59.27%	46.87%	3
Zimbabwe	16.58%	457	28.24%	43.45%	4

n.a. means not available.

Table 2: Indicators of barriers to accessing and using 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
Algeria	2.00	0.00	n.a.	0.00	n.a.	0.12	0.00	3.00	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 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 Republic	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, Arab Rep.	2.00	0.35	0.00	0.18	0.18	0.40	0.07	n.a.	n.a.
Ethiopia	1.92	55.41	5.50	n.a.	5.11	0.00	0.00	3.77	2.14
France	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
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	n.a.	n.a.
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	n.a.
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

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

Table 2: Indicators of barriers to accessing and using 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)
Korea, Rep.	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	n.a.	0.30	1.00	1.00
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	n.a.
Sierra Leone	1.42	51.63	44.89	8.81	43.56	26.63	0.00	4.02	3.88
Slovak Republic	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
Swaziland	2.00	0.00	0.48	0.00	0.48	7.24	1.09	3.00	3.00
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
Trinidad 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
Zimbabwe	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
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	0.62	1.06	0.00	0.71	0.26	0.00	2.63	2.10
Average	2.14	10.93	8.14	2.94	6.15	2.43	0.38	2.54	2.09
Maximum	3.00	116.39	68.26	55.88	64.75	26.63	3.63	4.57	4.57
95th percentile	2.71	52.57	44.48	14.30	33.21	15.56	1.94	4.12	3.17

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

Table 3: Indicators of barriers to accessing and using 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 min. loan amount)	Minimum amount SME loans (% of GDPPC)	Fees SME loans (% of min. loan amount)	Days to process consumer loan applications	Days to process SME loan applications
Albania	2.03	214.29	3.45	1358.23	1.00	9.64	14.50
Algeria	2.00	45.46	0.00	0.00	0.00	8.00	30.00
Armenia	2.00	14.74	9.41	860.58	0.19	4.83	7.62
Australia	5.00	7.31	1.41	10.06	16.66	1.00	7.19
Bangladesh	2.12	25.70	0.51	9696.58	0.15	9.44	43.26
Belarus	n.a.	3.28	n.a.	0.00	n.a.	8.06	6.20
Belgium	2.45	5.34	0.00	28.29	8.95	2.70	3.60
Bolivia	2.74	109.00	3.14	795.48	0.81	5.36	9.70
Bosnia Herzegovina	2.73	18.54	1.47	711.11	1.20	5.36	8.86
Brazil	4.85	1.96	5.87	8.08	2.94	1.00	3.63
Bulgaria	3.42	14.24	1.45	95.79	2.05	4.88	13.38
Cameroon	2.14	78.53	9.71	947.92	4.26	4.87	9.31
Chile	5.00	8.29	24.50	121.70	n.a.	3.84	13.87
Colombia	3.47	16.40	4.51	242.96	0.23	2.51	8.22
Croatia	3.43	3.90	1.76	22.58	0.94	2.42	4.65
Czech Republic	3.13	10.22	0.70	4.96	0.70	1.00	10.84
Denmark	5.00	0.00	2.00	0.00	1.73	0.73	1.00
Dominican Rep.	4.67	13.02	21.05	43.52	29.32	1.84	13.04
Egypt, Arab Rep.	2.81	5.84	1.65	0.00	0.88	5.38	14.43
Ethiopia	2.00	178.16	0.00	878.77	0.64	5.41	14.55
France	4.00	n.a.	n.a.	n.a.	n.a.	4.87	10.00
Georgia	2.46	34.53	1.40	2480.08	0.99	3.31	5.62
Germany	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ghana	2.63	111.94	2.86	1448.07	1.31	9.50	29.20
Greece	5.00	11.99	3.65	33.96	7.08	1.00	2.23
Hungary	3.29	4.77	3.74	58.00	3.31	5.66	7.66
India	2.44	28.79	1.19	145.17	0.93	4.17	10.75
Indonesia	3.10	31.68	n.a.	n.a.	n.a.	4.94	9.68
Israel	4.58	n.a.	n.a.	n.a.	n.a.	1.00	1.79
Jordan	2.05	147.67	1.33	445.26	1.02	2.68	7.91
Kenya	3.27	186.42	1.84	166.44	1.57	2.52	5.66

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

Table 3: Indicators of barriers to accessing and using 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 min. loan amount)	Minimum amount SME loans (% of GDPPC)	Fees SME loans (% of min. loan amount)	Days to process consumer loan applications	Days to process SME loan applications
Korea, Rep.	3.78	4.19	3.05	16.99	1.07	1.88	2.73
Lebanon	4.60	32.95	1.45	1154.76	1.29	1.58	15.61
Lithuania	4.25	6.31	2.77	17.54	0.88	2.41	8.62
Madagascar	2.16	24.06	1.43	17.27	2.46	8.55	15.46
Malawi	2.12	222.36	1.00	n.a.	1.32	1.72	n.a.
Malta	4.20	19.26	3.52	355.91	0.28	1.34	5.69
Mexico	4.20	7.54	1.81	87.80	1.27	5.01	9.86
Moldova	2.54	31.11	3.34	71.78	1.34	1.36	4.31
Mozambique	2.15	30.71	n.a.	28.61	n.a.	8.66	25.84
Nigeria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Pakistan	3.09	146.71	n.a.	234.25	n.a.	20.71	33.63
Peru	3.21	21.08	19.21	54.35	0.16	1.94	3.71
Philippines	2.36	330.55	1.39	916.66	n.a.	10.13	33.29
Romania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sierra Leone	1.77	143.55	2.07	243.89	1.76	1.73	9.52
Slovak Republic	3.64	10.26	n.a.	57.89	1.23	1.75	3.54
Slovenia	2.13	1.13	1.22	5.21	0.38	1.13	3.89
South Africa	5.00	7.27	4.38	15.98	1.56	1.46	4.13
Spain	5.00	9.95	1.85	19.35	1.06	1.00	1.83
Sri Lanka	2.90	36.10	0.24	20.56	n.a.	7.34	10.04
Swaziland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Switzerland	3.12	0.11	0.00	11.28	0.00	1.44	3.24
Trinidad Tobago	4.62	7.71	1.33	8.30	1.24	1.33	7.32
Turkey	4.15	11.83	4.74	18.57	1.94	2.94	4.61
Uganda	2.00	205.75	2.68	3141.17	1.51	1.38	4.47
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	1.55	0.00	0.00	0.15	1.00	2.05
Median	3.11	18.54	1.84	58	1.24	2.68	8.06
Average	3.26	52.29	3.68	558	2.55	4.08	10.45
Maximum	5.00	330.55	24.50	9696.58	29.32	20.71	43.26
95th percentile	5.00	210.02	16.83	2067.28	8.67	9.56	31.48

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

Table 4: Indicators of 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	Korea, Rep.	7.05	0.22
Algeria	n.a.	0.21	Lebanon	9.76	0.00
Armenia	6.14	0.07	Lithuania	8.72	
Australia	8.05	0.00	Madagascar	4.30	0.00
Bangladesh	1.93	n.a.	Malawi	6.42	0.08
Belarus	1.27	0.00	Malta	5.59	0.03
Belgium	0.12	0.00	Mexico	n.a.	0.40
Bolivia	13.47	0.26	Moldova	11.19	0.00
Bosnia Herzegovina	3.79	0.01	Mozambique	n.a.	n.a.
Brazil	14.85	0.11	Nigeria	n.a.	0.50
Bulgaria	5.24	0.13	Pakistan	n.a.	0.60
Cameroon	9.15	0.00	Peru	6.68	0.24
Chile	n.a.	0.00	Philippines	n.a.	0.00
Colombia	n.a.	0.19	Romania	n.a.	n.a.
Croatia	3.57	0.00	Sierra Leone	6.86	0.00
Czech Republic	3.99	0.19	Slovak Rep.	4.38	0.19
Denmark	4.09	0.00	Slovenia	2.88	0.00
Dominican Republic	20.00	n.a.	South Africa	9.53	0.34
Egypt, Arab Rep.	0.76	0.00	Spain	6.39	0.00
Ethiopia	1.87	0.00	Sri Lanka	n.a.	n.a.
France	n.a.	n.a.	Swaziland	14.40	n.a.
Georgia	7.03	0.13	Sweden	8.16	0.00
Germany	n.a.	n.a.	Switzerland	3.17	0.00
Ghana	14.70	0.19	Trinidad and Tobago	3.74	0.05
Greece	7.42	0.00	Turkey	6.34	0.00
Hungary	3.60	n.a.	Uganda	0.55	0.19
India	6.49	0.00	Zimbabwe	n.a.	n.a.
Indonesia	2.83	0.00	Minimum	0.12	0.00
Israel	n.a.	0.23	5th percentile	0.83	0.00
Jordan	5.37	0.00	Median	6.36	0.00
Kenya	8.43	0.15	Average	6.54	0.10
			Maximum	20.00	0.60
			95th percentile	14.66	0.38

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 GDPPC)	Open Checking Account (% of GDPPC)	Annual Checking Fees (% of GDPPC)	Annual Savings Fees (% of GDPPC)	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 GDPPC)	Minimum Amount SME Loans (% of GDPPC)	Fees Consumer Loans (% of Minimum Loan)	Fees SME Loans (% of Minimum Loan)	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 GDPPC)	-0.013														
Minimum Balance to Open Savings Account (% of GDPPC)	-0.054	0.748***													
Annual Checking Fees (% of GDPPC)	-0.134*	0.242***	0.361***												
Annual Savings Fees (% of GDPPC)	-0.06	0.011	0.056	0.315***											
Number of Documents to Open Checking Account (Out of 5)	-0.118	0.196***	0.163**	0.283***	0.187**										
Number of Documents to Open Savings Account (Out of 5)	-0.109	0.217***	0.205***	0.272***	0.266***	0.779***									
Locations to Submit Loan Applications (out of 5)	0.149**	-0.148**	-0.153**	-0.217***	-0.046	-0.085	-0.13*								
Minimum Amount Consumer Loans (% of GDPPC)	-0.052	0.246***	0.391***	0.226***	0.085	0.157**	0.159**	-0.231***							
Minimum Amount SME Loans (% of GDPPC)	0.005	0.072	0.13*	0.03	0.023	0.063	0.09	-0.113	0.098						
Fees Consumer Loan (% of Minimum Loan Amount)	0.033	-0.059	-0.043	-0.014	-0.019	0.027	-0.14*	0.028	-0.107	-0.064					
Fees SME Loan (% of Minimum Loan Amount)	0.064	-0.037	-0.031	0.023	0.006	-0.002	-0.025	0.215***	-0.085	-0.061	0.265***				
Days to Process Consumer Loan Applications	-0.119	0.095	0.067	-0.048	-0.108	0.124*	0.122	-0.252***	0.404***	0.095	-0.041	-0.077			
Days to Process SME Loan Applications	-0.12	0.021	0.065	0.06	-0.073	0.214***	0.223***	-0.282***	0.301***	0.387***	-0.087	-0.066	0.65***		
Cost to Transfer Funds Internationally (% of 250)	0.069	-0.094	0.027	0.059	0.037	-0.008	-0.008	0.134*	-0.016	-0.068	0.219***	0.214***	-0.023	-0.033	
Fees for Using ATM Card	-0.026	0.039	-0.011	0.069	0.076	0.168**	0.182**	-0.019	-0.017	-0.025	-0.025	-0.067	-0.039	-0.056	0.267***

Table 6. Correlations between barriers indicators and measures of financial and economic development and financial outreach

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

Indicator	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	Business constraint: access to finance	Business constraint: cost of finance
Locations to Open a Deposit Account (Out of 3)	-0.106	-0.077	-0.199	-0.394*	-0.245	0.011	0.033
Minimum Balance to Open Checking Account (% of GDPPC)	-0.283**	-0.319**	-0.291**	-0.342	-0.467***	0.371**	0.381**
Minimum Balance to Open Savings Account (% of GDPPC)	-0.33**	-0.446***	-0.292**	-0.315	-0.432**	0.403**	0.482***
Annual Checking Fees (% of GDPPC)	-0.248*	-0.297**	-0.213	-0.202	-0.317*	0.368**	0.513***
Annual Savings Fees (% of GDPPC)	-0.255*	-0.219	-0.231	-0.264	-0.405**	0.285*	0.415**
Number of Documents to Open Checking Account (Out of 5)	-0.438***	-0.289**	-0.392***	-0.181	-0.411**	0.4**	0.272
Number of Documents to Open Savings Account (Out of 5)	-0.306**	-0.201	-0.273*	-0.168	-0.346*	0.36**	0.319*
Locations to Submit a Loan Application (Out of 5)	0.433***	0.564***	0.421***	0.67***	0.466***	-0.378**	-0.378**
Minimum SME Loan Amount (% of GDPPC)	-0.203	-0.193	-0.187	-0.224	-0.28	0.263	0.212
Minimum Consumer Loan Amount (% of GDPPC)	-0.348**	-0.325**	-0.29*	-0.387*	-0.452**	0.203	0.253
Fees for SME Loan (% of Minimum Loan Amount)	0.159	0.088	0.111	-0.016	0.115	-0.091	-0.034
Fees for Consumer Loan (% of Minimum Loan Amount)	-0.157	-0.052	-0.129	0.077	-0.132	0.015	-0.048
Days to Process Consumer Loan Application	-0.355***	-0.369**	-0.301**	-0.413*	-0.418**	0.226	0.19
Days to Process SME Loan Application	-0.372***	-0.394***	-0.313**	-0.412*	-0.405**	0.318*	0.313*
Cost to Transfer Funds Internationally (% of 250)	-0.192	-0.103	-0.116	-0.091	-0.278	-0.002	0.127
Fees for using ATM cards	-0.279**	-0.32**	-0.3**	-0.263	-0.305	0.109	0.171

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
Algeria	4.85	2.56	0.00	2134.54	0.35	1	0
Armenia	4.12	3.23	0.00	924.23	0.36	1	0
Australia	3.84	42.46	26.54	26539.40	0.31	1	1
Bangladesh	4.80	0.00	0.00	380.00	0.32	0	0
Belarus		0.00	0.00	1805.30	0.25		
Belgium	2.56	26.39	0.00	29320.13	0.29	1	0
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	0
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	0
Czech Republic	2.43	23.09	0.00	8880.78	0.23	1	0
Denmark	2.18	35.26	0.00	39181.91	0.35	1	0
Dominican Republic	3.90	12.47	0.00	1889.28	0.48	2	0
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	0	0
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	0
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	0
India	5.31	0.00	0.96	564.32	0.26	0	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	0
Jordan	6.16	0.00	0.00	1978.74	0.36	0	0
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	0

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
Lebanon		111.77	108.35	5702.64	0.60		
Lithuania	2.57	0.54	0.00	5369.39	0.36	1	0
Madagascar	4.89	15.99	0.00	310.57	0.47	40	0
Malawi	4.37	31.43	5.19	143.01	0.49	94	33
Malta							
Mexico	4.38	27.20	11.39	6326.51	0.51	2	1
Moldova		2.48	0.00	468.16	0.44		
Mozambique	4.43		0.75	251.18	0.39		1
Nigeria	4.97	0.23	0.00	462.98	0.50	1	0
Pakistan	6.80	0.00	0.00	554.77	0.31	0	0
Peru		32.23	11.19	2238.11	0.49		
Philippines	5.31	0.00	0.00	1004.02	0.50	0	0
Romania	3.13	10.95	6.30	2736.97	0.29	1	1
Sierra Leone	6.76	51.48	0.00	193.32	0.64	89	0
Slovak Republic		10.93	0.61	6071.99	0.27		
Slovenia	3.07	23.91	0.00	14064.90	0.22	1	0
South Africa	4.00	77.23	33.00	3625.87	0.60	31	12
Spain	3.28	39.85	8.39	20974.39	0.31	1	1
Sri Lanka	3.84	6.92	0.00	947.72	0.47	2	0
Swaziland	5.39	124.85	18.80	1724.49	0.60	61	10
Sweden	2.04	0.00	0.00	33670.48	0.26	0	0
Switzerland	2.42	35.08	0.00	43847.96	0.17	1	0
Trinidad and Tobago	3.68	29.04	0.00	8296.73	0.40	1	0
Turkey	5.05	10.20	4.76	3399.36	0.40	1	1
Uganda	4.86	57.92	7.84	232.79	0.55	93	33
Zimbabwe	4.81			615.20	0.73		

Table 8. Bank-level Regression Results

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 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-level Govt. Ownership Dummy	0.03 [0.255]	0.034 [0.214]	0.002 [0.172]	-0.139 [0.101]	-0.04 [0.058]	0.042 [0.065]	-0.057 [0.063]	-0.275 [0.253]	0.04 [0.377]	-0.584 [0.529]	0.003 [0.197]	0.164 [0.151]	0.543 [0.736]	4.973** [2.427]	-0.162 [0.164]	-0.02 [0.039]
Bank-level Foreign Ownership Dummy	-0.12 [0.225]	-0.088 [0.283]	0.338 [0.262]	0.704*** [0.214]	0.162* [0.095]	0.053 [0.071]	0.06 [0.066]	0.002 [0.219]	0.447 [0.284]	0.018 [0.540]	0.357** [0.147]	0.143 [0.127]	-0.589 [0.758]	-0.217 [1.790]	0.102 [0.164]	0.027 [0.036]
Bank-level Loans / Assets	0.087 [0.589]	-0.752 [0.604]	-1.268** [0.504]	-0.162 [0.364]	-0.117 [0.165]	0.323* [0.176]	0.095 [0.163]	1.113** [0.557]	-0.37 [0.780]	0.843 [1.250]	-0.072 [0.414]	-0.271 [0.310]	3.195* [1.701]	1.329 [4.238]	-0.265 [0.349]	-0.023 [0.093]
Bank-level Log(Total Assets)	-0.012 [0.043]	-0.208*** [0.040]	-0.217*** [0.031]	-0.119*** [0.024]	-0.022** [0.009]	-0.031*** [0.010]	-0.025** [0.010]	0.239*** [0.040]	-0.276*** [0.055]	-0.283*** [0.081]	-0.006 [0.023]	-0.007 [0.021]	-0.408*** [0.114]	-0.818*** [0.229]	0.029 [0.027]	-0.002 [0.005]
Tel. lines per capita	0 [0.001]	-0.004*** [0.001]	-0.002*** [0.000]	-0.002*** [0.000]	-0.000*** [0.000]	-0.001*** [0.000]	-0.000*** [0.000]	0.001* [0.001]	-0.003*** [0.001]	-0.003*** [0.001]	0 [0.000]	0 [0.000]	-0.007*** [0.002]	-0.018*** [0.005]	0 [0.000]	-0.000*** [0.000]
Electric Power Transmission and Distribution Losses (% of output)	0.016 [0.012]	0.015 [0.016]	0.040*** [0.013]	0.014** [0.007]	0 [0.002]	0.012*** [0.003]	0.009*** [0.003]	-0.001 [0.010]	0.055*** [0.018]	0.060** [0.026]	0.020*** [0.008]	0.005 [0.005]	0.097* [0.052]	0.178* [0.107]	0.028*** [0.007]	0.003 [0.002]
Credit Information Index	0.116** [0.057]	-0.102 [0.068]	-0.180*** [0.056]	-0.024 [0.046]	-0.013 [0.019]	-0.036** [0.016]	-0.039** [0.015]	0.141*** [0.052]	-0.126* [0.074]	-0.193 [0.120]	0.075* [0.040]	0.01 [0.029]	-0.261 [0.187]	-0.833* [0.449]	0.101*** [0.037]	0.007 [0.010]
Costs of Enforcing Contracts (% of debt)	-0.001 [0.004]	0.008 [0.008]	0.012** [0.005]	0.012*** [0.004]	0.005** [0.002]	0.004*** [0.001]	0.003*** [0.001]	-0.006 [0.006]	0.012* [0.007]	0.018 [0.015]	-0.002 [0.002]	0 [0.002]	0.004 [0.012]	0.031 [0.050]	0.001 [0.002]	0 [0.000]

Table 8. Bank-level Regression Results

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 GDPPC)	Minimum Balance to Open Savings Account (% of GDPPC)	Checking Account Annual Fee (% of GDPPC)	Savings Account Annual Fee (% 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)	Fee Consumer Loan (% of Minimum Loan Amount)	Fee 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)
Govt. Bank Share	-0.004 [0.005]	-0.004 [0.007]	-0.001 [0.007]	0 [0.001]	-0.003* [0.002]	-0.003* [0.002]	-0.020*** [0.006]	0.012 [0.008]	-0.001 [0.015]	-0.001 [0.015]	0.002 [0.004]	-0.004 [0.003]	0.044* [0.023]	0.063 [0.052]	0.005 [0.004]	-0.001 [0.001]
Foreign Bank Share	0.010* [0.006]	-0.008* [0.004]	-0.007 [0.005]	-0.006** [0.003]	-0.001 [0.001]	-0.004*** [0.001]	0 [0.005]	-0.006 [0.006]	0.013 [0.008]	0.013 [0.008]	0 [0.002]	0.004* [0.002]	0.017 [0.015]	-0.02 [0.033]	-0.003 [0.003]	0 [0.001]
Bank Concentration	-1.541 *** [0.543]	-0.547 [0.710]	-0.353 [0.539]	0.456 [0.373]	-0.119 [0.184]	-0.041 [0.155]	0.013 [0.606]	-1.434 [0.878]	-3.453*** [1.300]	-0.452 [0.387]	-0.452 [0.387]	-0.125 [0.296]	-4.232** [1.845]	-12.207*** [4.322]	-0.297 [0.375]	-0.163** [0.081]
Index of Banking Restrictions	-0.260** [0.101]	0.325** [0.128]	0.364*** [0.099]	0.221*** [0.082]	0.016 [0.034]	0.127*** [0.027]	-0.365*** [0.104]	0.248* [0.148]	-0.033 [0.236]	-0.033 [0.236]	0.015 [0.073]	0.025 [0.064]	0.726* [0.386]	1.811** [0.855]	0.028 [0.072]	0.034 [0.023]
Costs of Starting a Business (% of income per capita)	-0.001** [0.000]	0.001 [0.001]	0.001 [0.001]	0.002*** [0.000]	0 [0.000]	0.000*** [0.000]	0 [0.000]	0.001 [0.001]	0.001 [0.001]	0.001 [0.001]	0 [0.000]	0.000*** [0.000]	-0.002** [0.001]	-0.004 [0.003]	0 [0.000]	0.000*** [0.000]
Bank Disclosure Index (Composite)	0.013 [0.010]	-0.026** [0.010]	-0.01 [0.009]	-0.022*** [0.006]	-0.002 [0.002]	-0.009*** [0.003]	0.021** [0.008]	-0.003 [0.013]	0.016 [0.020]	0.016 [0.020]	-0.005 [0.006]	-0.005 [0.005]	-0.061*** [0.029]	-0.138** [0.059]	0.006 [0.006]	-0.003* [0.002]
Share of Govt. Owned Media	-0.871 *** [0.284]	1.654*** [0.420]	0.581* [0.342]	0.395 [0.252]	0.055 [0.121]	0.165* [0.085]	-0.783*** [0.299]	0.386 [0.552]	0.4 [0.853]	0.4 [0.853]	0.01 [0.238]	-0.068 [0.175]	2.094** [1.056]	5.809** [2.620]	-0.397 [0.240]	-0.062 [0.040]

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 min. loan amount)	Minimum amount mortgage loan (% of GDPPC)	Fee mortgage loan (% of min. loan amount)	Days to process business loan applications	Days to process mortgage loan applications
Albania	2.03	2263.77	1.00	535.19	2.25	16.05	11.69
Algeria	2	38967.05	0.00	1298.9	0.30	14	30
Armenia	2	1042.28	0.19	234.16	2.81	9.94	10.95
Australia	5	10.06	16.66	41.12	1.35	7.19	2.59
Bangladesh	2.12	55.28	0.15	1412.52	0.18	34.55	33.48
Belarus	n.a.	7.12	n.a.	0	n.a.	7.34	8.74
Belgium	2.45	28.29	8.95	86.18	1.36	3.6	5.24
Bolivia	2.74	759.35	0.81	1124.84	0.59	23.26	15.03
Bosnia Herzegovina	2.73	573.97	1.20	484.92	1.49	14.7	16.65
Brazil	4.85	19.19	2.94	n.a.	n.a.	10.32	n.a.
Bulgaria	3.42	130.35	2.05	213.32	11.41	21.38	6.84
Cameroon	2.14	16393.68	4.26	1544.77	0.86	12.91	16.97
Chile	5	n.a.	n.a.	213.2	0.34	n.a.	70.63
Colombia	3.47	2131.83	0.23	n.a.	n.a.	11	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	0	1.73	0	1.59	1	4.56
Dominican Rep.	4.67	89.32	29.32	176.1	3.56	6.67	17.55
Egypt, Arab Rep.	2.81	14.61	0.88	0	0.49	19.29	38.72
Ethiopia	2	981.67	0.64	712.65	0.68	14.55	15
France	4	n.a.	n.a.	n.a.	n.a.	18.22	24.67
Georgia	2.46	2345.59	0.99	290.71	0.73	5.03	4.56
Germany	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ghana	2.63	1044.39	1.31	1320.35	2.01	19.07	n.a.
Greece	5	13.98	2.02	80.86	10.63	4.77	5.43
Hungary	3.29	58	3.31	29	2.78	10.04	19.94
India	2.44	57.77	0.93	145.17	0.74	19.98	9.45
Indonesia	3.1	n.a.	n.a.	n.a.	n.a.	16.59	6.07
Israel	4.58	n.a.	n.a.	n.a.	n.a.	1.79	12.08
Jordan	2.05	354.7	1.02	362.27	0.85	8.16	7.24
Kenya	3.27	193.78	1.57	n.a.	n.a.	5.66	n.a.

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

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 min. loan amount)	Minimum amount mortgage loan (% of GDPPC)	Fee mortgage loan (% of min. loan amount)	Days to process business loan applications	Days to process mortgage loan applications
Korea, Rep.	3.78	16.99	1.07	4.19	5.35	2.73	2.36
Lebanon	4.6	4470.83	1.29	409	2.04	15.61	9.26
Lithuania	4.25	17.54	0.88	65.83	0.80	9.83	8.48
Madagascar	2.16	17.27	2.46	n.a.	n.a.	18.6	n.a.
Malawi	2.12	306.05	1.32	1738.08	1.14	15.39	14.16
Malta	4.2	529	0.28	275.38	0.27	5.64	2.74
Mexico	4.2	101.93	1.27	298.56	1.40	15.7	28.25
Moldova	2.54	64216.77	1.34	428.58	1.09	7.31	3.9
Mozambique	2.15	28.61	n.a.	71.53	n.a.	25.84	34.21
Nigeria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Pakistan	3.09	n.a.	n.a.	954.59	n.a.	31.98	28.44
Peru	3.21	429.43	0.16	410.39	2.58	10.63	3.81
Philippines	2.36	920.23	n.a.	763.35	1.04	44.13	12.21
Romania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sierra Leone	1.77	218.23	1.76	5157.4	1.00	11.53	4.66
Slovak Republic	3.64	50.91	1.23	71.15	n.a.	3.06	4.67
Slovenia	2.13	5.21	0.38	94.9	1.30	4.19	7.6
South Africa	5	15.98	1.56	142.37	1.00	2.73	5.55
Spain	5	19.35	1.06	100.19	0.89	1.83	3.22
Sri Lanka	2.9	20.56	n.a.	51.64	1.00	15.57	20.61
Swaziland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Switzerland	3.12	11.28	0.00	22.57	0.00	3.24	1.56
Trinidad Tobago	4.62	8.3	1.24	93.03	1.02	10.41	7.5
Turkey	4.15	74.26	1.94	n.a.	2.00	13.75	n.a.
Uganda	2	7039.03	1.51	n.a.	n.a.	5.15	n.a.
Zimbabwe	2.85	263.49	2.54	n.a.	n.a.	7.91	n.a.
Minimum	1.77	0	0.00	0	0.00	1	1.56
5th percentile	2	5.88	0.15	0.42	0.27	2.32	2.63
Median	3.11	95.62	1.24	213.2	1.06	10.52	8.61
Average	3.26	3051.43	2.43	505.27	1.82	12.3	13.34
Maximum	5	64216.77	29.32	5157.4	11.41	44.13	70.63
95th percentile	5	13119.55	8.25	1531.55	5.61	28.61	34.02

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	
Tel. lines per capita	Estache and Goicoechea. (2005)
Electric Power Transmission and Distribution Losses (% of output)	
Credit Information Index	World Bank (2006a)
Costs of Enforcing Contracts (% of debt)	
Costs of Starting a Business (% of income per capita)	
Govt. Bank Share	Barth, Caprio, Levine. (2004).
Foreign Bank Share	
Index of Banking Restrictions	Index of Economic Freedom 2006. The Heritage Foundation/The Wall Street Journal
Bank Disclosure Index (Composite)	
Share of Media Outlets Owned by the Government	Djankov et al. (2003)

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

Variables	Obs.	Std. Dev.	Mean	Min	Median	Max
Bank-level Government Ownership Dummy	177	0.40	0.19	0.00	0.00	1.00
Bank-level Foreign Ownership Dummy	177	0.41	0.21	0.00	0.00	1.00
Bank-level Loans / Assets	185	0.16	0.46	0.00	0.48	0.80
Bank-level Log of Total Assets	185	2.48	14.72	9.23	14.51	21.06
Tel. lines per capita	58	215.59	223.63	2.35	174.17	745.31
Electric Power Transmission and Distribution Losses (% of output)	53	9.59	14.83	3.06	13.16	49.89
Credit Information Index	55	2.02	3.20	0.00	4.00	6.00
Costs of Enforcing Contracts (% of debt)	55	23.74	23.42	5.20	16.20	136.50
Govt. Bank Share	47	23.97	18.60	0.00	11.00	96.00
Foreign Bank Share	43	29.63	38.42	0.00	30.00	90.00
Bank Concentration	57	0.17	0.66	0.34	0.64	1.00
Index of Banking Restrictions	58	1.02	2.66	1.00	3.00	5.00
Costs of Starting a Business (% of income per capita)	55	220.01	78.65	0.00	22.40	1442.50
Bank Disclosure Index (Composite)	58	12.49	63.72	28.00	63.00	89.00
Share of Media Outlets Owned by the Government	46	0.34	0.20	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%.

	Tel. lines per capita	Electric Power Transmission and Distribution Losses (% of output)	Credit Information Index	Costs of Enforcing Contracts (% of debt)	Govt. Bank Share	Foreign Bank Share	Bank Concentration	Index of Banking Restrictions	Costs of Starting a Business (% of income per capita)	Bank Disclosure Index (Composite)	Share of Media Outlets Owned by the Government	Bank-level Government Ownership Dummy	Bank-level Foreign Ownership Dummy	Bank-level Loans / Assets
Electric Power Transmission and Distribution Losses (% of output)	-0.568***													
Credit Information Index	0.469***	-0.482***												
Costs of Enforcing Contracts (% of debt)	-0.438***	0.292***	-0.25***											
Govt. Bank Share	-0.08	0.195**	-0.157*	0.253***										
Foreign Bank Share	-0.116	0.072	-0.109	-0.236***	-0.372***									
Bank Concentration	0.054	-0.368***	-0.198***	0.054	-0.319***	0.179**								
Index of Banking Restrictions	-0.478***	0.398***	-0.463***	0.426***	0.567***	-0.4***	-0.079							
Costs of Starting a Business (% of income per capita)	-0.291***	0.142*	-0.363***	0.076	-0.098	-0.082	0.243***	0.443***						
Bank Disclosure Index (Composite)	0.577***	-0.482***	0.404***	-0.184**	0.062	-0.297***	-0.124*	-0.382***	-0.37***					
Share of Media Outlets Owned by the Government	-0.422***	0.207**	-0.569***	-0.037	0.161*	0.052	0.284***	0.312***	0.282***	-0.463***				
Bank-level Government Ownership Dummy	-0.082	0.09	-0.039	0.058	0.561***	-0.272***	-0.214***	0.364***	-0.002	0.036	-0.025			
Bank-level Foreign Ownership Dummy	-0.1	-0.086	-0.026	0.056	-0.244***	0.471***	0.23***	-0.213***	0.066	-0.123	0.067	-0.251***		
Bank-level Loans / Assets	0.101	-0.164**	0.204***	-0.2***	-0.053	-0.059	-0.164**	-0.031	-0.165**	0.071	0.004	-0.131*	-0.136*	
Bank-level Log of Total Assets	0.606***	-0.475***	0.542***	-0.202***	0.154*	-0.467***	-0.275***	-0.134*	-0.263***	0.589***	-0.404***	0.223***	-0.171**	0.051

Figure 1. Locations to Open a Deposit Accounts

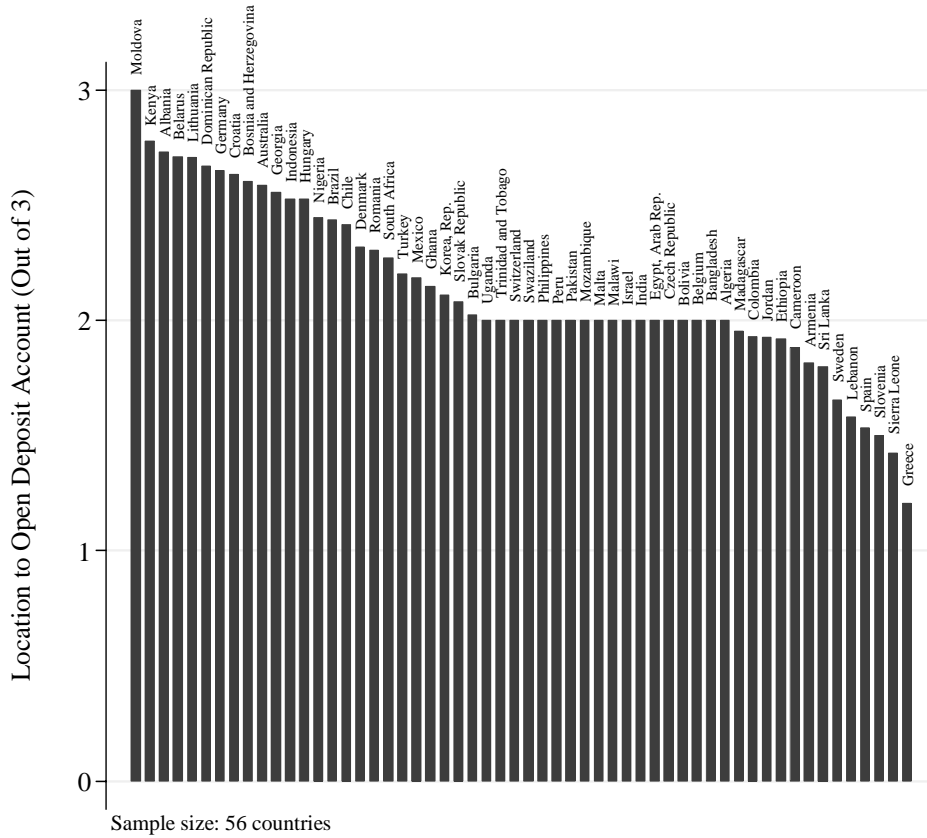


Figure 2. Minimum Balance to Open Checking Account (% of GDPPC)

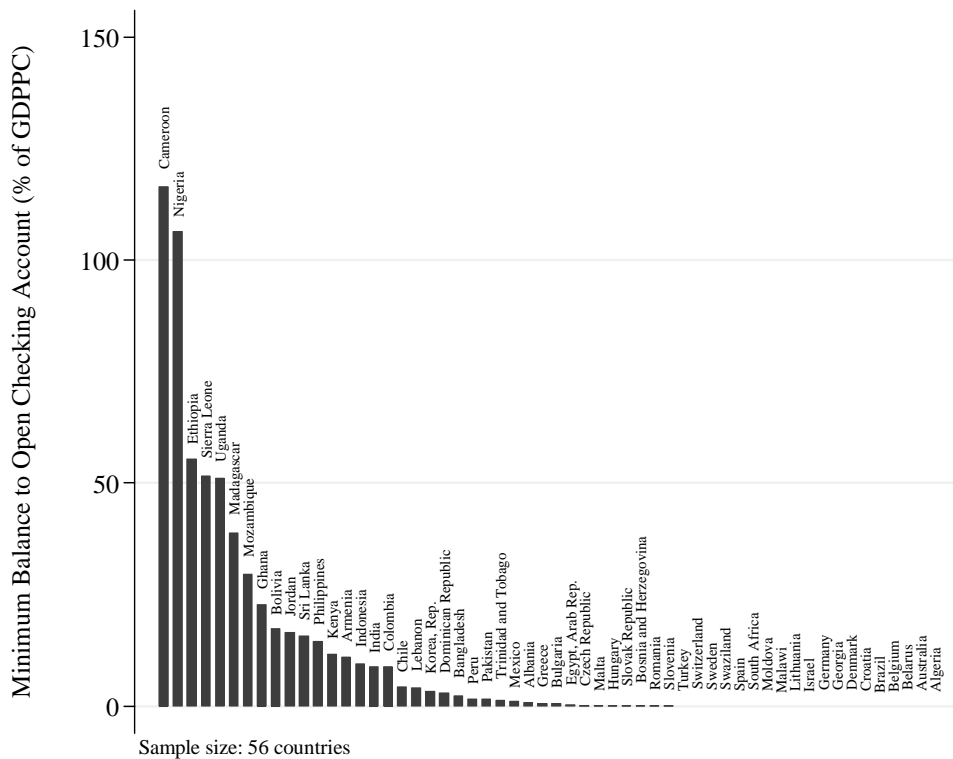


Figure 3. Minimum Balance to Open a Savings Account (% of GDPPC)

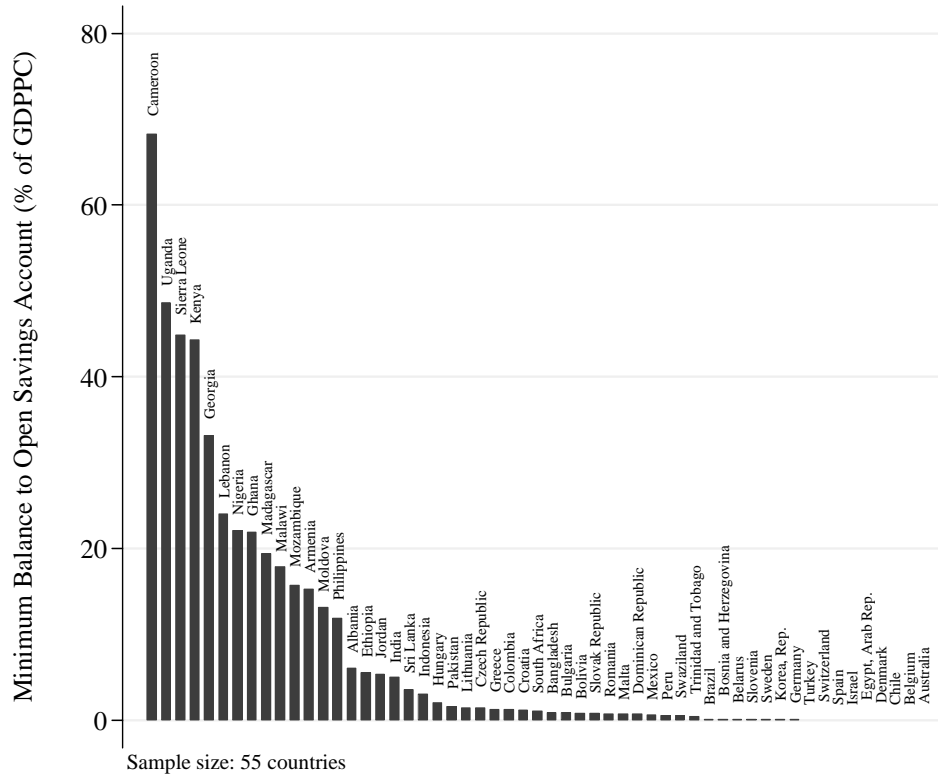


Figure 4. Annual Fees for a Checking Account (% of GDPPC)

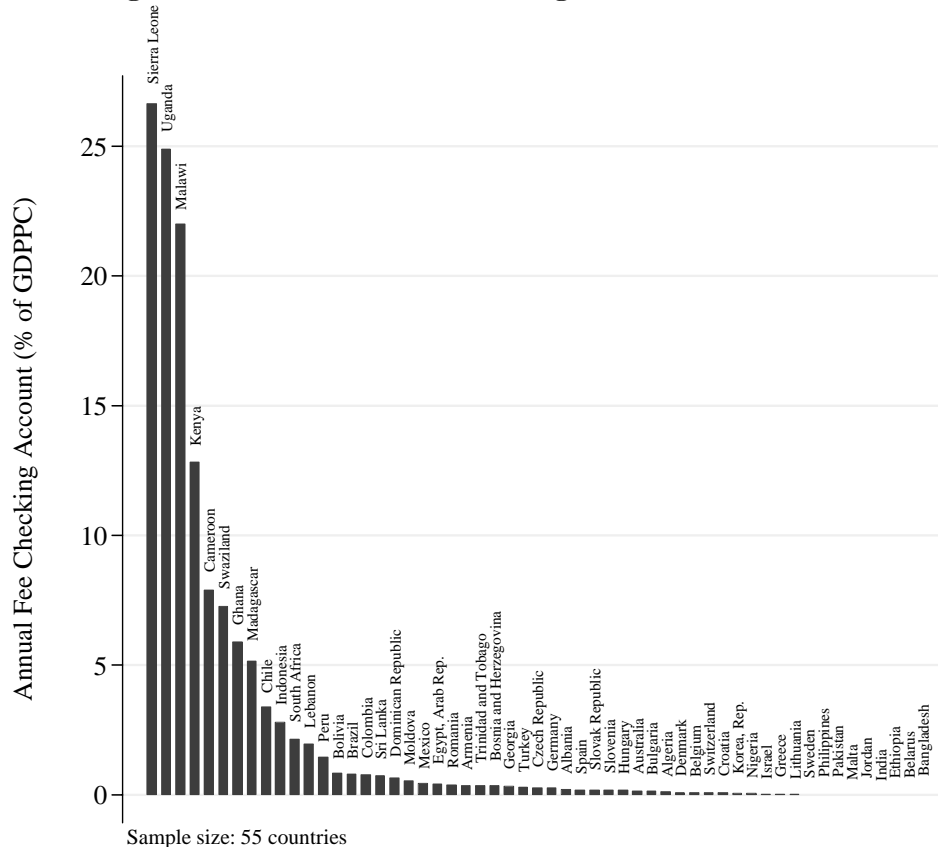


Figure 5. Annual Fees for a Savings Account (% of GDPPC)

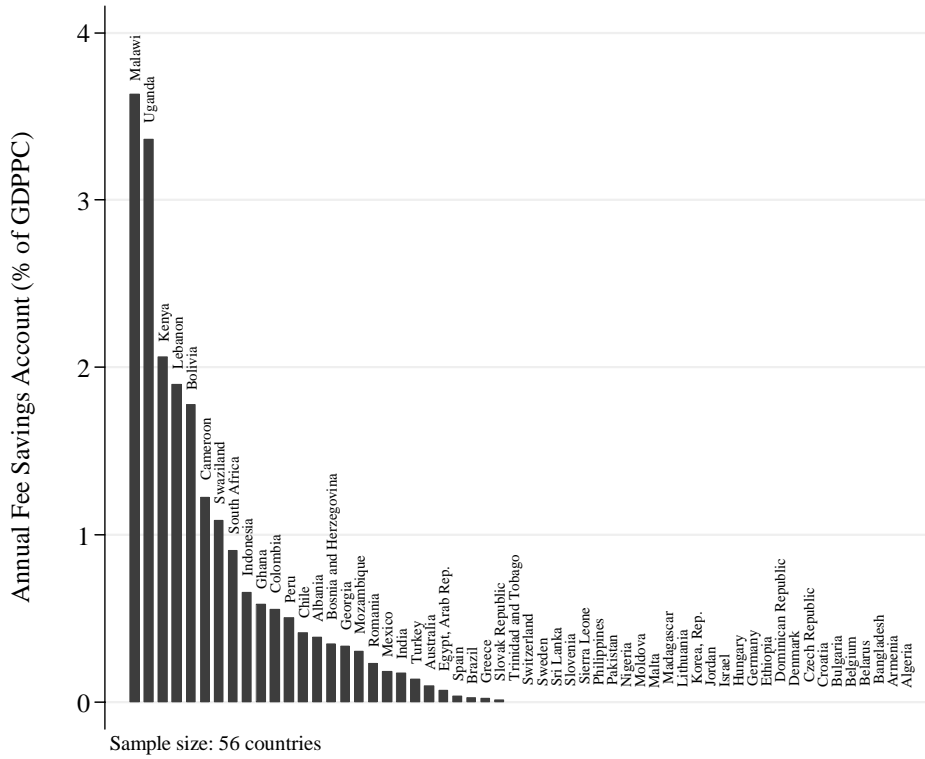


Figure 6. Number of Documents Needed to Open a Checking Account

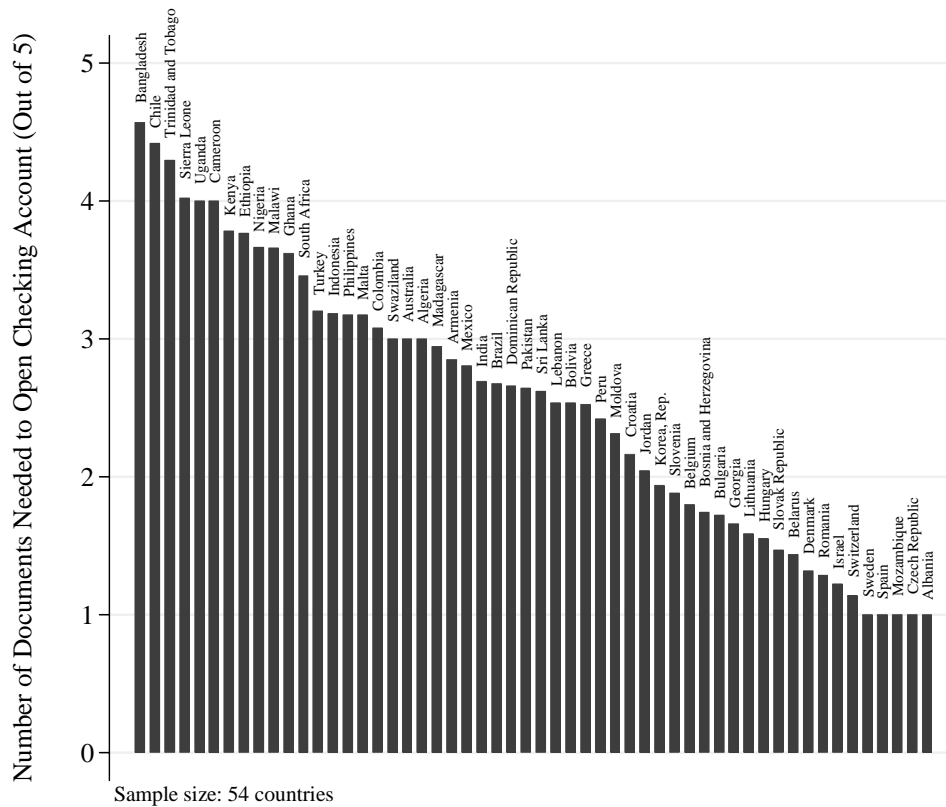


Figure 7. Number of Documents to Open a Savings Account

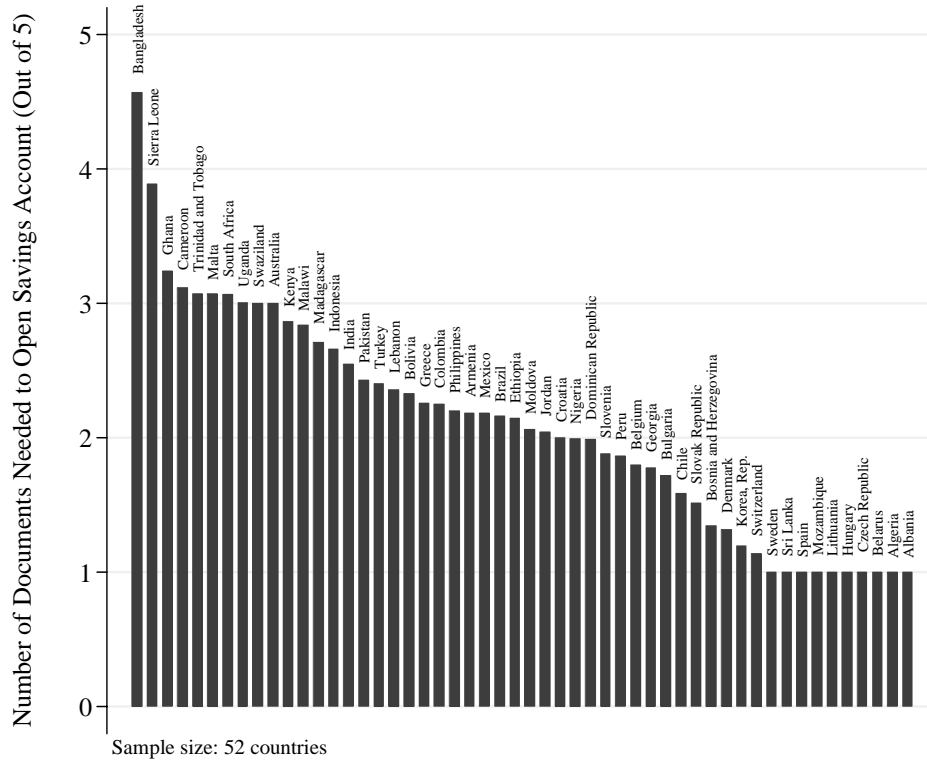


Figure 8. Locations to Submit a Loan Application

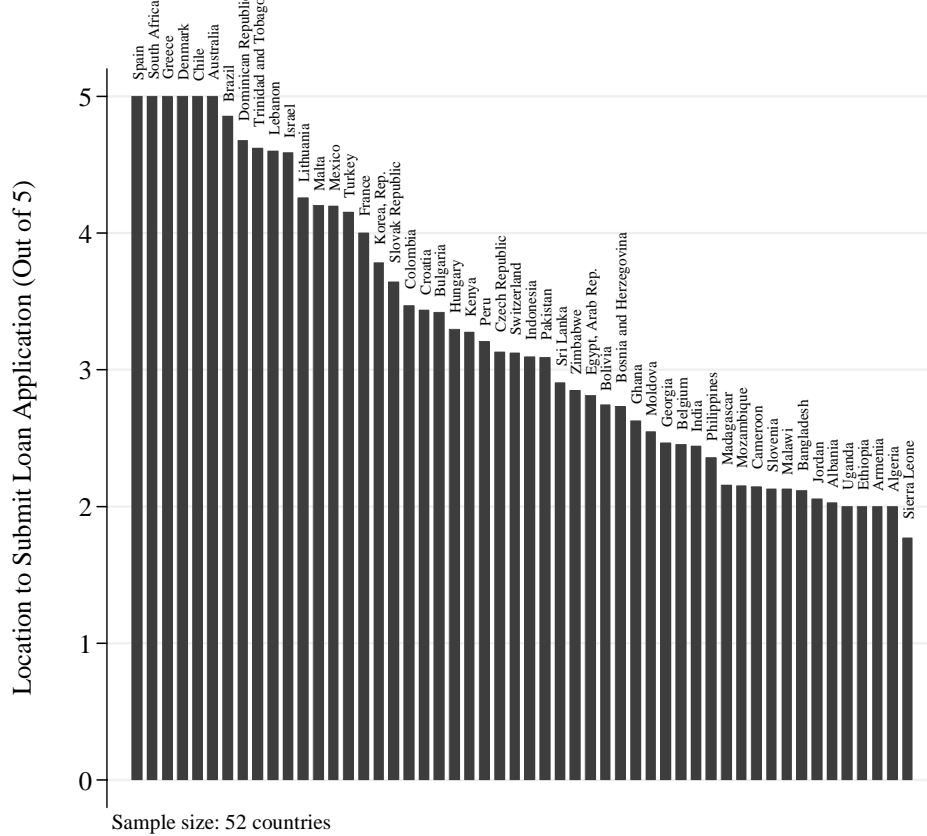


Figure 9. Minimum Amount Required for Consumer Loans

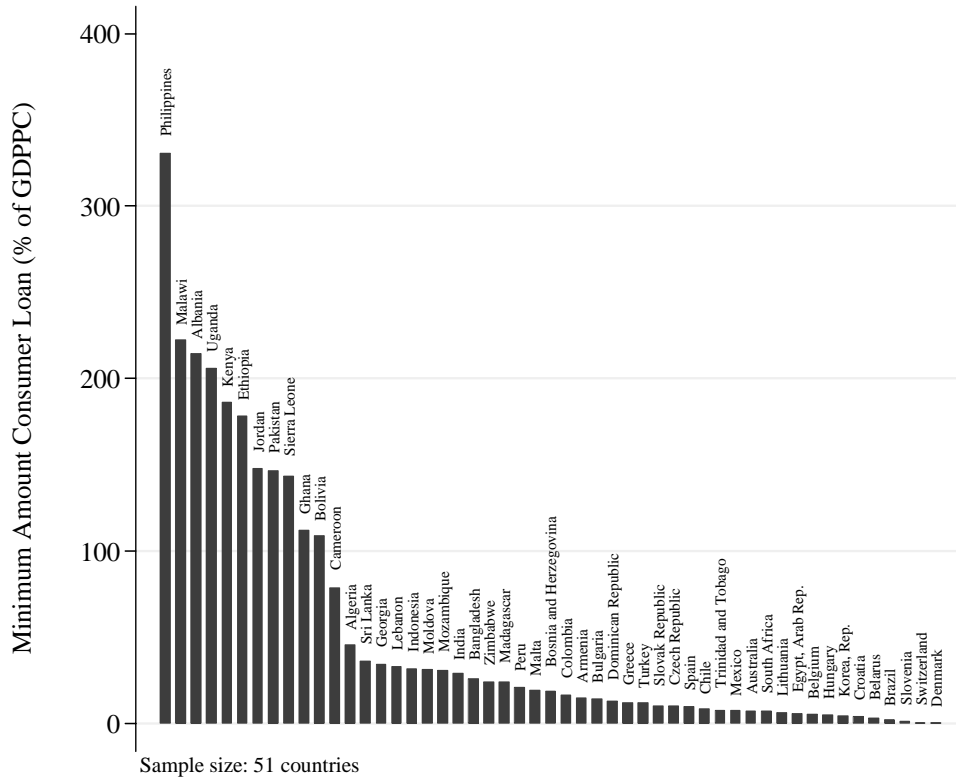


Figure 10. Minimum Amount Required for SME Loans

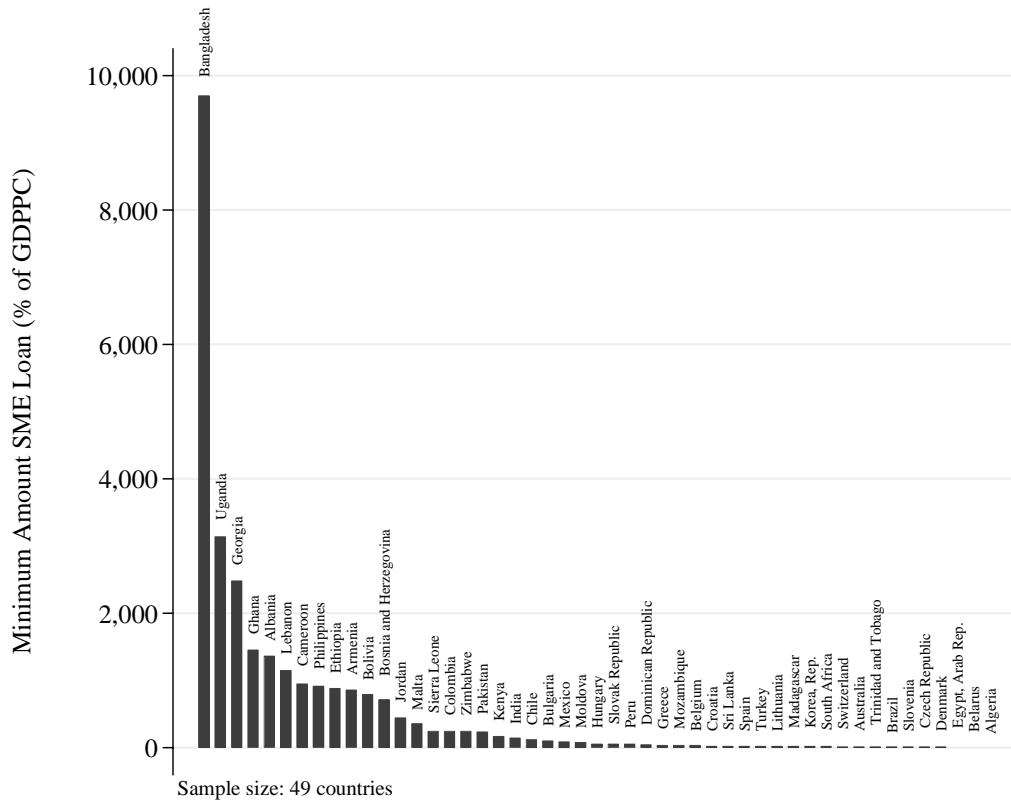


Figure 11. Fees on Consumer Loans

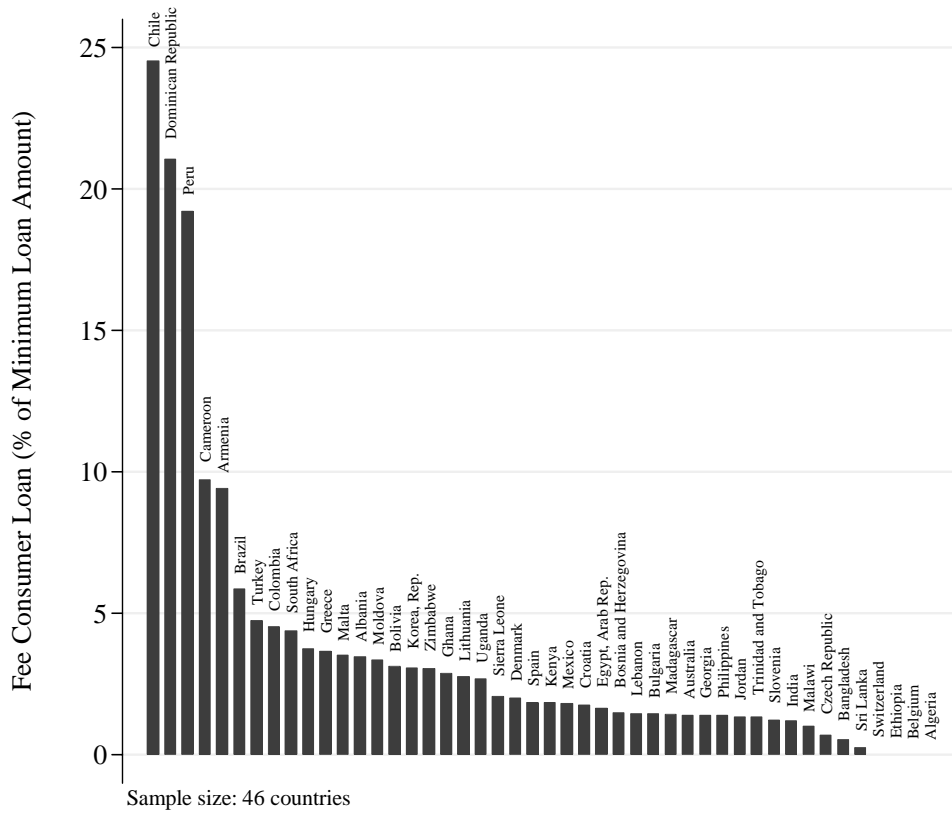


Figure 12. Fees on SME Loans

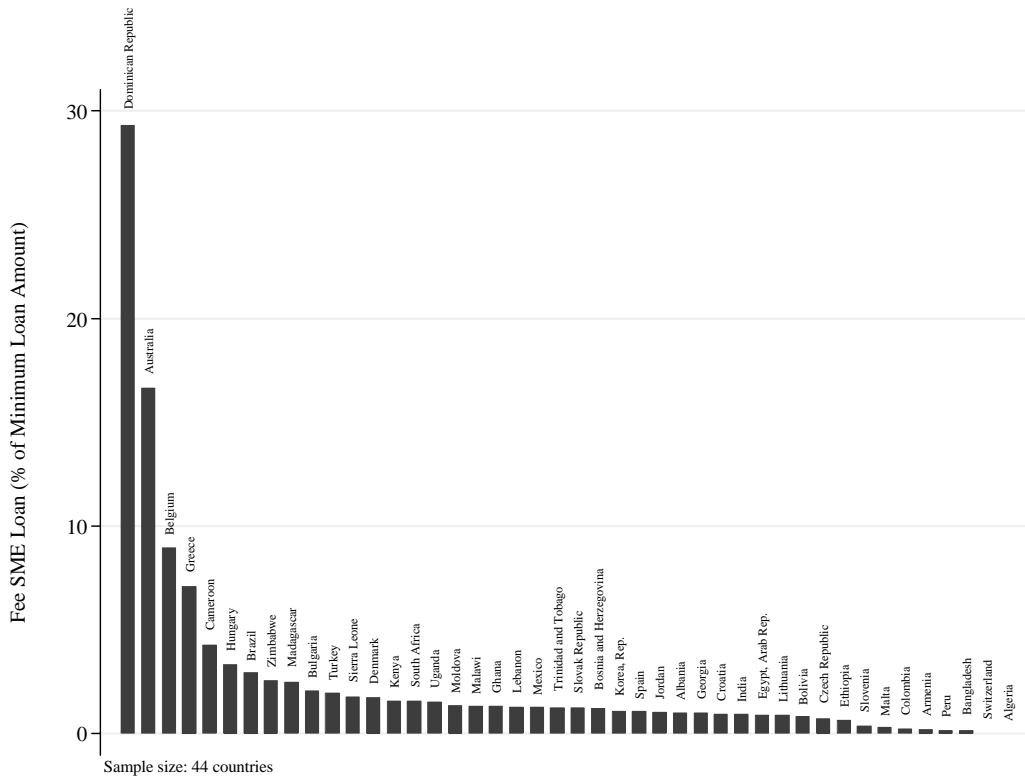


Figure 13. Days to Process a Consumer Loan Application

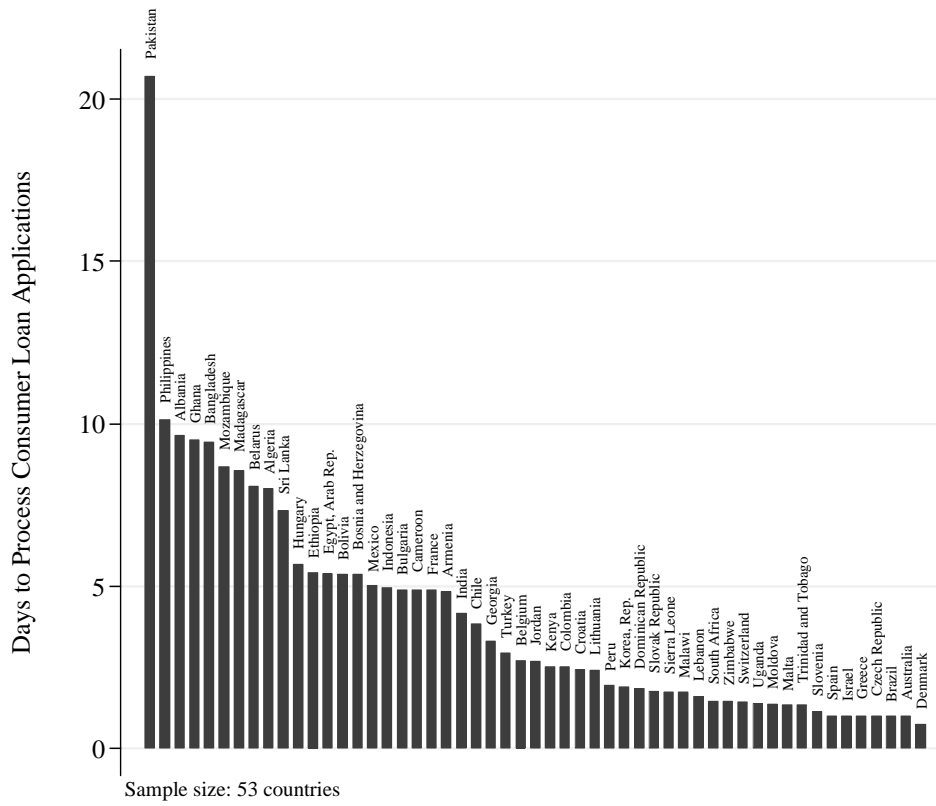


Figure 14. Days to Process a SME Loan Application

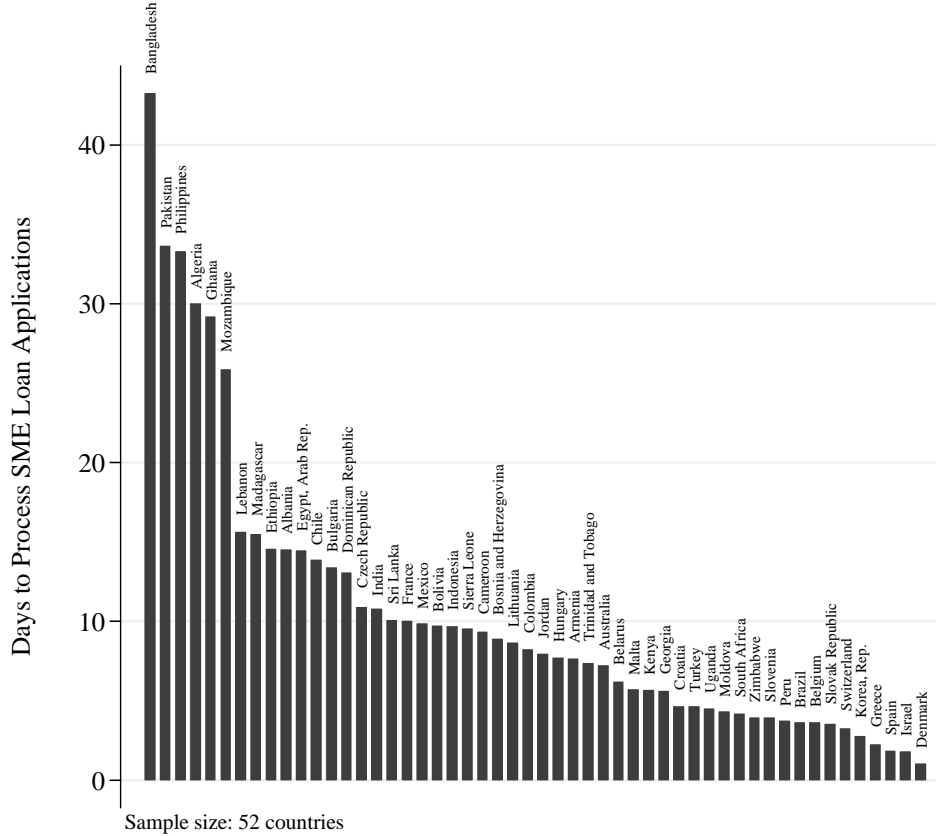


Figure 15. Cost to Transfer Funds Internationally (% of US\$250)

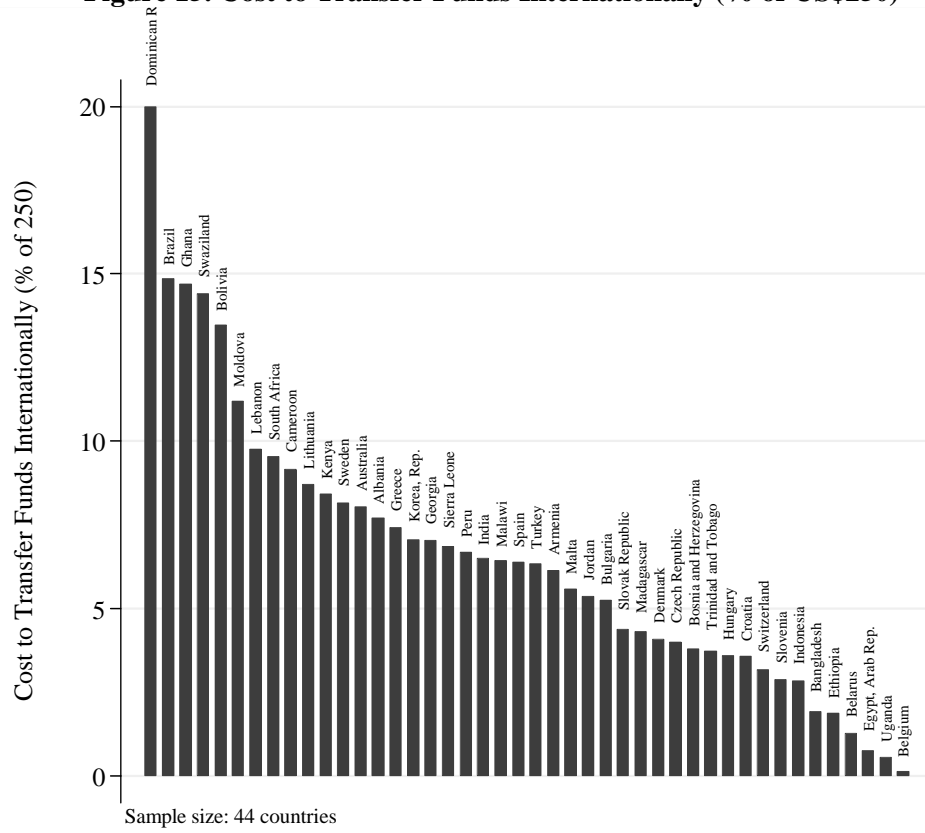


Figure 16. Fees for Using ATM Cards (% of US\$100)

