

# Financial Inclusion and Characteristics of the Unbanked: A Survey Analysis

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*24 August 2016*

## Abstract:

In this paper the Global Financial Inclusion database is used to run regressions on borrowing and emergency funds, on 150 different countries, over two years. In this study, I look into the ability of the unbanked to access financial funds from informal sources. Besides that, I research the ability of the unbanked to raise emergency funds. Ordinary least squares regressions with country-year fixed effects and robust standard errors are used. This study provides confirmatory evidence that having a bank account is beneficial, when money for emergencies is needed. There are signs of substitution of formal financial services. The most convincing evidence is found for the unbanked who use a family member's account. They have higher probability of getting money for emergencies, and in some cases seem more effective than having their own account. Females, poor, and uneducated groups are the most vulnerable. Especially those who are restricted by bureaucracy. Borrowing from friends and family happens mainly in Asia, but mainly by the banked. A possible reason that the unbanked are less likely to borrow from relatives, is lack of reliability. I also find that lack of money is the main barrier for the poor to becoming banked.

# 1. Introduction

For the great majority of people in the world today to have a personal bank account is not as normal as it is in the high income countries. Most of them cannot afford one, others have religious or personal reasons against it. However, it affects the way shocks to personal income and financial health are handled. Countries with higher financial inclusion generally have higher perceived well-being than countries with similar income levels (The Economist, 2016). Therefore financial inclusion is an important tool to reduce poverty (The World Bank, 2015). Receiving wages through bank transfers is not only safer, it could also be beneficial for managing your money. Opening a bank account is a first step for an individual to receive more financial services like saving accounts, credit cards, or borrowing. Savings serve to smoothen consumption and to handle income shocks, while liquidity constraints decrease current and future consumption (Hayashi, 1985). Financial services, therefore, seem to be extremely important, especially for the poor.

In this paper I study the relation between the possession of a bank account and access of informal financial services. In this study the informal financial services consider borrowing from relatives. Do those who are unbanked, and cannot access formal financial services like borrowing, lend from relatives? Furthermore I will focus on the importance of being part of the banked population with respect to emergency fund access. The basis of this thesis is the use of a dataset of 150 different countries, with almost 300.000 respondents over 2 years.

From a policy point of view, access to emergency funds is crucial. Being unable to come up with emergency funds, for example medical costs or informal lenders repayments, has very negative consequences. This can give rise to informal market substitution or self substitution. Mendoza and Thelen (2008) explain the mechanism of market substitution as follows: “In certain cases, non-market institutions can arise, such as when family, friends and neighbours help in times of need and in the absence of insurance markets.” There are many benefits for those who take part in informal financial mechanisms, most obviously having alternative options when there are no formal ways. But the many ways the unbanked self substitute are risky and illiquid, some of these ways include; savingsclubs, moneylenders, saving money at home, or even building your own house as an asset (Duflo & Banerjee, 2012).

Being banked can have far-reaching influences, according to the World Bank (2015) broader access and participation in the financial system can boost job creation, increase investments in education, and directly help poor people manage risk and absorb financial shocks. A working paper by Demirguc-Kunt et al. (2015) also claims that having access to credit not only has positive effects on consumption and employment, but also on mental health, reducing income inequality, and creating economic growth. It appears that the effects of increasing the number of banked around the world reduces poverty on a micro and a macro level. However, financial inclusion is still far from reached. With over 2 billion unbanked there is still a lot to do. In this study, the question under discussion is:

Are people who are not able or willing to open a bank account, nevertheless able to obtain financial funds when needed?

Using this question and ordinary least squares regressions, I attempt to investigate whether the unbanked can acquire a loan from family or friends, since formal financial services are not available to them. Following from the regressions, I study which characteristics make you more likely to borrow from relatives. Furthermore, I will look into access to emergency funds. Are the banked more likely to get enough money in case of emergencies? For both *borrowing* and *emergency funds*, I will run regressions, in which I also research regional differences in the world. For this I use a large dataset of 150 countries worldwide from 2011 and 2014. It is representative country survey data. This survey by Gallup Inc. asks respondents about their use of financial services and other ways in which they might substitute the incomplete financial market.

I extend the prior work on the unbanked, by looking into their ability to raise emergency funds. Next to that, this paper will give further insights into the presence and magnitude of market substitution. I evaluate how the choice to self substitute is affected by regional differences. Besides this, this work uses the large dataset from the Global Financial Inclusion database that has not yet been used for regression analyses. Furthermore it will show the reasons for not having an account and how they are related to key services like borrowing and emergency funds. These key services are helpful for financial health.

My results indicate that having a bank account is beneficial for your ability to get emergency funds. Especially in Sub-Saharan Africa the effect of having a bank account is large. Next to that, vulnerable groups like women, poor, and uneducated people are having the most trouble finding money in case of emergencies. Especially in Latin

America and the Middle East a gender gap occurs. Next to that, I find results pointing towards market substitution for groups who use a family member's account. Those who indirectly use financial services have higher possibilities of getting money for emergencies. Furthermore, lack of money is the main problem for the poor. Borrowing from relatives is very popular in Asia, but it mainly happens among the banked population. Perhaps because of lack of reliability of the unbanked, even towards relatives. Lastly, I find evidence that confirms earlier research by Blanco and Saloga (2013) on unbanked in Latin America. In this region lack of trust in financial institutions is a major problem. This group has found ways to substitute financial services and is more able to find emergency funds without the services of a bank. The magnitude of this effect remains small nevertheless.

This paper is organized as follows. It will start with a literature review in section 2. The data is explained in section 3, in section 4 the research method will be discussed. In section 5 the regression results will be explained, divided over two subsections. In section 5.1 results over the full sample are reported, while in section 5.2 regional regressions are discussed. The results are summarized and analyzed in the conclusion in section 6.

## 2. Literature review

There has been an inconclusive debate about whether being banked has positive effects on a person's welfare and financial health. A paper by Djankov et al. (2008) finds that banked households borrow more than unbanked households. These banked households reported to be more likely to handle income shocks and were able to smooth their consumption when a bad shock hit them. Here the results of having a bank account were proven to be welfare increasing.

Along similar lines, Silvia Prina (2015) argues that there are welfare effects for those who are banked. Her experiment in Nepal offered different savings accounts to unbanked Nepalese citizens and her findings indicate that simpler accounts need to be supplied by the financial sector. Accounts without opening and maintenance fees attracted 84% of the households in the experiment, given that local offices were available. Of those who opened a savings account 80% used it, showing that the poor do save.

In addition to the positive effects on account usage, a study from 2009 finds further welfare increasing effects. A difference-in-difference technique was used to measure the impact on the lives of the poor after the opening of Banco Azteca. This Mexican bank focussed on low income groups. The data gathering in this study concluded that small business ownership increased by 7.6%, as did employment (+1.4%) and incomes (+7%) (Bruhn & Love, 2009).

However, Dupas et al. (2016) puts forward a view that concludes only very weak welfare effects for the banked. This work uses experiments in Malawi, Uganda, and Chile where the first barriers for the unbanked are removed; the costs of opening an account and the administrative worries of the process. The results indicate that there is virtually no effect on savings when people have a bank account. The main reason for people in Uganda and Malawi to not open an account was the lack of money. In Chile mainly the elderly do not have a bank account, which is by choice. Finally, Dupas et al. (2016) found results indicating that instead of lowering the access barrier to basic financial services, the bar should be lowered for every financial service, aiming at all the different needs people have with respect to financial institutions. In practice Prina's results are confirmed. Areas with high coverage of financial inclusion seem to be very successful and wealthy. A report by the Worldbank dedicates part of the success of financial inclusion in

European Union countries to policy. Governments and the financial sectors have worked together to achieve a high percentage of banked population. Certain rules apply such as a Dutch law, that prevents banks from denying anyone from opening a bank account. Or in Finland and Denmark, where everyone has the right to have a bank account (European Commission, 2011). These rules contribute to the very low percentage of unbanked citizens in these countries.

Even in some areas with a high percentage of banked population, there are still people who are unbanked. Of those that are unbanked in the high income countries, most of them are minorities. This was researched in Canada and the United States by Gómez-Barroso et al. (2013). The results indicated that minorities have significantly higher percentages of unbanked. In the United States, almost 22% of black households, 19% of Hispanic households, and 16% of American Indian households are unbanked. Language barriers and financial illiteracy are main reasons for minorities to be unbanked (Gómez-Barroso & Marbán-Flores, 2013). Next to that, lack of trust in the financial system is a well known problem for minorities too, especially for Hispanics. This lack of trust might be inherited from distrust in institutions in their homeland (Blanco & Saloga, 2013).

Similar to what Dupas et al. (2016) found in their paper on unbanked, in Mexico the costs of opening a bank account are extremely high, as are the maintenance costs associated with it. Research found that in Mexico 75% of the population could not afford opening a bank account (Solo, 2008). Not only are costs preventing the unbanked from receiving financial services, lack of documentation may also be preventative. Research in Colombia concludes that more than half of the population was ruled out of getting a bank account as they lacked documentation (Solo & Manroth, 2006). This shows that lack of documentation is a serious shortcoming in Colombia and perhaps other similar Latin American countries. What may be most alarming is that the aftermath of the global financial crisis in 2008 has only increased the amount of documentation needed (Solo, 2008).

Besides lack of documentation, another problem the poor face is the lack of collateral. In an experiment in Indonesia, from 2008, the creditworthiness of households was tested. It appeared that of those who met the collateral requirements, less than 10% chose to get microcredit. Formal financial institutions ask for collateral before giving out a loan, however microfinance institutions have a more flexible meaning of collateral. Lending against future income, instead of collateral valued against loan size, has been proven to work for both the poor and the lender. The authors suggest making a distinction between

the poor who have no creditworthiness, no collateral, or who are debt averse. Many of those who are creditworthy did not know they qualified. However, effort on the side of the banks is not expected to happen, as the poor mainly ask for loans too small to be profitable even for microfinance institutions (Johnston Jr. & Morduch, 2008).

Another reason for not owning a bank account, that will be discussed in this paper, is the high expenses that come with ownership of a bank account. In Duflo and Banerjee's book, "Poor Economics" (2012) a lot of attention is given to reasons why the poor pay higher interest rates than the rich. A main reason is informal, rather than formal, usage of financial services. The extremely poor mainly rely on informal sources, while the less poor do use the cheaper formal sources. The logic behind this is that monitoring the poor is costly and enforcing them to repay a loan is difficult. In addition there is the multiplier effect; when interest rates increase, one is less likely to repay the debt. Microcredit seems to be the outcome, as it is moneylending with a social purpose. Usually microcredit is given to a group of people who hold each other accountable and make weekly repayments. Microcredit works because enforcement is not conducted with physical threats but the shame of not repaying and damaging the group's credibility.

Gender also seems to play an important role in financial inclusion. We learn from research in India on financial inclusion, that even though women are better savers, in many areas in India they are not allowed to travel on their own (Agrawal, 2008). This limits their ability to use formal financial services. This explains why many savingclubs are focussed on women, who are said to be better savers (Duflo & Banerjee, 2012). In contrast, a critical article from 2015 places questionmarks on the improvement of women's quality of life after becomming banked. The author concludes that microfinance is not helping poor women in India, as giving them loans will not help close the gender gap or make any changes in the caste system. Microfinance has increased the ownership of televisions among the poor but leaves their houses without running water (Antoniello, 2015). It becomes clear that the question of whether banking the unbanked increases welfare has caused much debate in economics over the past 10 years.

Like mentioned before, financial literacy is an important determinant for financial inclusion. In a paper by Lyons and Scherpf (2004) on unbanked in the United States, the importance of financial literacy is researched. A crucial step in getting the unbanked banked is teaching them the skills necessary to make financial decisions. The importance of financial literacy is confirmed in a paper by Lusardi and De Bassa Scheresberg (2013). Those in the United States who have admitted to engage in informal

high-cost borrowing, like pawn shop loans, appear to have very low levels of financial literacy. Besides the shock to the financial system, after the crisis in 2008, financial literacy is an important determinant for informal borrowing in the United States.



### 3. Data

In this section the data will be discussed and descriptive statistics will be presented. The dataset is available for 2011 and 2014. This survey is done by Gallup Inc. as part of the Gallup World Poll, which has been doing surveys all over the world for over 10 years. It uses over a hundred indicators to measure the use of financial services across countries. The questionnaire from 2014 covers more questions than 2011. However, for a large number of variables, data for both years is available. The survey's pick for respondents is random and nationally representing more than 97% of the population (The World Bank, 2014). Surveys that were conducted in economies by a face-to-face method had one or more stages of sampling. This was done by selection based on probabilities proportional to population size. If this information was not available, simple random selection for sampling was done. In these cases, random routes were drawn to select sample households. The interviewers tried up to three times to visit this selected household, unless refusal of participation was the case. The Kish grid method was used to select respondents within a household, which is a random selection method. Gender matching between interviewer and respondents was conducted in countries with cultural restrictions.

Interviews over the telephone were conducted by random digit dialing or nationally representative lists of numbers. The Kish grid or the latest birthday method was used when the call was answered. Like in the face-to-face interviews, three attempts were made to reach a specific number and person in a household.

Looking at the data a few characteristics are interesting to mention. Firstly the percentages of respondents with a bank account are represented in table 1. The large differences in the world can be seen here. The first thing to be noticed, from looking at table 1, is that High Income countries have a very large percentage of respondents with a bank account. More than 91% of the respondents of 15 years and older have a bank account. In comparison, the Sub-Saharan Africa has the lowest percentage of respondents with a bank account, less than 31%. The other regions have slightly higher percentages, than Sub-Saharan Africa, but none come close to the high percentages of the high income region.

**Table 1: Percentages of respondents having a bank account per region**

Region	South- East Asia & Pacific	Europe & Central Asia	High Income	Latin America & Caribbean	Middle East & North Africa	Sub Saharan Africa
Has an account	53.39%	49.23%	91.83%	38.99%	32.96%	30.56%
Women with an account	50.50%	47.21%	90.83%	36.15%	24.09%	27.74%
Men with an account	56.76%	51.96%	93%	42.82%	41.72%	33.28%

Over the full dataset there are more female respondents than male, with a percentage of 53.5 being female. Almost 56% of the males in the dataset have a bank account. For females this is 52%. However, the percentages per region show that the regional differences for women are even larger. In the second row of table 1 the percentage of women with an account is reported. There is a relatively equal distribution of account ownership between men and women in most regions. Interestingly, in the Middle East and North Africa, less than a quarter of the women have a bank account, compared to more than 41% of men.

Ages in the dataset range from 15 to 99. The average age among all respondents is 40 years old. The youngest respondents of 20 and under have the lowest percentage of banked people. The highest coverage rate belongs to the age group of 50-65 year old respondents. In this group 63.8% has a bank account.

**Table 2: Age and bank account coverage**

Age group	Percentage respondents	Has an account
< 20	12.2%	26.4%
20-35	32.7%	51.8%
35-50	26.2%	60.2%
50-65	18.6%	63.8%
65+	10.5%	55.7%

Education is clearly positive for financial inclusion. This study shows that those who have received more education are more likely to belong to the banked population. Even the difference between secondary and tertiary education is large; those with a university degree are 25% more likely to have a bank account, than those with only a high school diploma.

**Table 3: Education and bank account coverage**

Education level	Has an account
Completed primary or less	30.5%
Completed secondary education	60.3%
Completed tertiary or more	84.7%

For incomes it is clear that those with higher incomes are more likely to have a bank account. The largest difference in account coverage can be found between the fourth 20% and the richest 20% quintiles. Data generated on incomes is reported in table 4.

**Table 4: Income and bank account coverage**

Income quintile	Has an account
Poorest 20%	43.7%
Second 20%	47.4%
Middle 20%	51.1%
Fourth 20%	56.6%
Richest 20%	65.6%

There are seven different reasons why respondents may not own a bank account. The ratios in table 5 were created by dividing the amount of respondents with a specific reason over the total amount of unbanked respondents. By far most respondents chose lack of money as a reason they do not own a personal bank account. Followed by a bank account being too expensive. Religious reasons seem to matter the least.

**Table 5: Reasons for not having a bank account**

<b>Reason for not having a personal bank account</b>	<b>Percentage yes</b>
<b>Too far away</b>	20.2%
<b>Too expensive</b>	26.4%
<b>Lack of documentation</b>	19.5%
<b>Lack of trust</b>	16.8%
<b>Lack of money</b>	66.7%
<b>A family member already has an account</b>	14.8%
<b>Religion</b>	6.3%

All countries are spread over seven different groups, there are 6 geographic groups, and one high income group. Here all the countries that classify as a high income country are grouped together. In the appendix, a full list of every country per group can be found. Every country is only placed into one group. In the group of Europe and Central Asia, for example, many European countries have been removed. This is because they belong to the high income group and would give a biased view of the regional regressions. Overall there are 288.000 observations.

## 4. Methodology

I will run two different ordinary least squares regressions. In regression 1, the dependent variable is “*Borrowed from family and friends*”. Regression 2 has, as dependent variable, the *ability to come up with emergency funds*.

First I will estimate the relationship between the dependent variable “*Borrowed from family or friends*”, the presence of an account, and the different characteristics of the respondents. The regression takes the following form:

$$(1) \quad \text{Borrowed}_{ict} = \alpha + \beta_1 \text{account}_{ict} + \beta_2 \text{female}_{ict} + \beta_3 \text{age}_{ict} + \beta_4 \text{education}_{ict} + \beta_5 \text{income}_{ict} + \text{country\_year}_{ct} + \varepsilon_{ict}$$

Where subscripts *i*, *c* and *t* stand for individual, country and year respectively. The dependent variable “*Borrowed from family or friends*” indicates whether a person has borrowed money from family or friends in the past year. This question can be answered with yes (=1) or no (=0). Similarly, the variable *account* indicates whether the respondent has a bank account (=1) or not (=0). Following are the individual characteristics of the respondents. The variable *female* captures the gender of the respondent. The variable *age* gives every respondents exact age. *Education*, which captures the level of education of the respondent, is categorized into 3 groups. And *income*, which collects the respondent’s income quintile, is grouped into 5 categories. The data is available for 2011 and 2014, making it able to control for year specific effects. Next to that, country dummies are needed to control for country specific effects. I combine both fixed effects to year-country fixed effects. This allows to control for many omitted variables at the country level in the regressions, the events and changes that happen in a country between the 2 years. Finally,  $\varepsilon_{ict}$  represents the error term. There are some known econometric problems with OLS and survey data (Verbeek, 2014). The errors are not randomly distributed, which makes OLS not the best linear unbiased estimator. To solve this I will use robust standard errors.

I will also include the reasons given by respondents for not having a bank account. There are seven different reasons respondents could claim to be most appropriate for their case. These reasons are; *lack of money*, *lack of trust*, *lack of documentation*, the financial institutions are *too far away*, *a family member already has an account*, any religious reasons not to have a bank account, or owning a bank account is *too expensive*. To

prevent multicollinearity from affecting the results, I do not include the variable *religion* in any of the regressions. A final note is that respondents were able to choose more than one option if it applied to them. The beta's represent the sign and magnitude of a variable's relationship with borrowing from relatives. Negative signs indicate that this specific variable makes you less likely to borrow from relatives.

To find the relationship between the ability to get emergency funds and having a bank account, I estimate the following equation:

$$(2) \quad \text{Emergency funds}_{ic} = \alpha + \beta_1 \text{account}_{ic} + \beta_2 \text{female}_{ic} + \beta_3 \text{age}_{ic} + \beta_4 \text{education}_{ic} + \beta_5 \text{income}_{ic} + \text{country}_c + \varepsilon_{ic}$$

Where emergency funds are the respondents answer to the question: "Now, imagine that you have an emergency and you need to pay [insert 1/20 of GNI per capita in local currency]. How possible is it that you could come up with [insert 1/20 of GNI per capita in local currency] within the NEXT MONTH? Is it very possible, somewhat possible, not very possible, or not at all possible?" (The World Bank, 2014). These four options are the answers the respondents could give. Note that since the data for this regression is only available for 2014, I can only add country, but not year, fixed effects.

The possible answers to the question "how possible is it for you to get emergency funds?" are either not at all likely, not very likely, somewhat likely, or very likely. This is coded in Stata as increasing, as the possibility goes up. A positive coefficient for the *account* variable would therefore mean that a person who has a bank account is likely very able to get emergency funds. If being part of the banked population is having further positive influences on your financial health, the coefficient should be indicating a positive relationship; those with an account have a higher possibility of raising emergency funds. To be able to find successful substitution of financial services by the unbanked, the coefficient for the variables indicating a reason, should be positive.

$$\beta_6 \geq 0$$

Where  $\beta_6$  is the coefficient for a specific reason. The larger the coefficient is, the larger someone's ability to get emergency funds. A reason that makes this clear, is the usage of a family member's account. These people do not have their own bank account but somehow are able to take a shock in their income. A negative beta indicates there are

negative effects on someone's ability to get emergency funds, when a family member's account is being used.

Measurement error does not seem to be problematic in this dataset, since errors in the survey data are likely to be random. However, reverse causality and omitted variable bias could be problems the regressions suffer from. Concerning the omitted variable bias, I include all respondent characteristics given by the survey; gender, age, the level of education, and income quintile. This prevents the relationship between the independent variable *account* and the dependent variables from being driven by these respondent's characteristics. As mentioned in the data section, the income quintile you are in affects your likelihood of having a bank account. This likelihood is even more affected by the level of education you have received. Including these characteristics on individual level is crucial for the regressions.

However, there are characteristics the survey takers did not include, like whether the respondent lives in a rural or urban area, and whether he is an employee or self employed. These are crucial characteristics concerning an individual's banking choices. For example, as a business owner you are more likely to have a bank account because you need to borrow large amounts of money to set up your business or expand it. It is unlikely that this amount of money can be borrowed from relatives; the dependent variable is influenced by the omitted variable. Since this information is not available on the individual level, the problem remains.

Reverse causality is a likely problem, whether you borrow from relatives is not only influenced by your choice of having a bank account, it might as well be reversed. If you have the ability to borrow from relatives you might not need a bank account. To reduce the chance of this happening, the variable borrowed only applies to respondents who have borrowed from relatives in the past year. It is unknown when someone has opened a bank account. There might thus still be reverse causality biasing the estimation, but the way the survey was set up has slightly decreased its chance of happening.

## 5.1 Results

All regression results, on the dependent variable “*Borrowed from relatives*”, can be found in table 6. For the emergency fund regressions, the results are presented in table 7. In this section, the regression results are presented and discussed. First, the regressions mentioned in the methodology section will be run for both dependent variables. In 5.1.2 both regressions will add the three most common reasons for not having an account. At the end of this section, in 5.1.3, both regressions will be run on 3 different subsamples.

### 5.1.1. Regression results on both dependent variables

The results discussed in this section can be found in column 1 of tables 6 and 7. The first regression is run with dependent variable “*Borrowed from relatives*”, which indicates whether a person has borrowed money from family or friends in the past year. It is an ordinary least squares estimation with country-year fixed effects and robust standard errors. The results show that the variable *account* is highly significant at a 0.1% significance level. The coefficient is positive, but small. Making abstraction of any endogeneity problems, we can thus say that you are more likely to borrow when you have an account. Furthermore, the gender variable is also highly significant. Women are overall less likely to borrow from relatives, with many possible reasons for this. Social rules, or women’s position in the household, can be reasons they do not borrow from relatives. Older respondents turn to their family and friends more often for a loan than younger people. And as expected, *education* and *income* have negative coefficients. Higher education level as well as higher income levels decrease the chance of taking out a loan from relatives.

The second regression, on *emergency funds*, reports a significant positive coefficient for the variable *account*. A positive relationship indicates that those who have an account are more able to get emergency funds. Furthermore, being a female decreases your chance of raising money for emergencies. Receiving more education and having a higher income both increase your ability to handle emergency costs.



**Table 6: Regression results for the dependent variable Borrowed from relatives**

Borrowed from relatives					
	(1)	(2)	(3)	(4)	(5)
Subsample	Full	Full	Money related reasons	Bureaucracy	Lack of Trust
Account	0.022*** [0.0038]	0.0777*** [0.0048]			
Too far away		0.0132* [0.0060]			
Too expensive		0.0408*** [0.0056]			
Lack of documentation		0.0039 [0.0060]			
Lack of money		0.0610*** [0.0044]			
Lack of trust		0.0200*** [0.0050]			
Family member already has an account		0.0139** [0.0053]			
Female	-0.0192*** [0.0022]	-0.0187*** [0.0022]	-0.0247*** [0.0036]	-0.0296*** [0.0068]	-0.0184** [0.0065]
Age	-0.0022*** [0.0001]	-0.0022*** [0.0001]	-0.0007*** [0.0002]	-0.0005** [0.0002]	-0.0012*** [0.0002]
Education	-0.0119*** [0.0023]	-0.0103*** [0.0023]	0.0010 [0.0041]	0.0060 [0.0048]	0.0006 [0.0065]
Income quintile	-0.0129*** [0.0012]	-0.0117*** [0.0012]	-0.0066*** [0.0018]	-0.0084*** [0.0022]	-0.0077* [0.0031]
Constant	0.4084*** [0.0102]	0.3436*** [0.0109]	0.3938*** [0.0124]	0.3828*** [0.0144]	0.3954*** [0.0223]
Observations	288177	288177	96422	55223	22202
Number of groups	285	285	282	282	273
FE	Country-year	Country-year	Country-year	Country-year	Country-year
R-squared	0.0107	0.0148	0.0019	0.0022	0.0033

*Standard errors are in parentheses, the stars behind the coefficients indicate levels of significance. \*  $p < 0.1$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . The first column shows the baseline regression with dependent variable borrowed from family or friends. The second column shows the results with all reasons added. In column 3 a subsample of reasons related to money can be found. In column 4 a subsample of reasons related to bureaucracy are reported. In the final column the dataset has been limited to a subsample of those who lack trust. Country-year fixed effects are used.*

**Table 7: Regression results for the dependent variable Emergency Funds**

Subsample	Emergency Funds				
	(1)	(2)	(3)	(4)	(5)
	Full	Full	Money related reason	Bureaucracy	Lack of trust
Account	0.443*** [0.0166]	0.335*** [0.0211]			
Too far away		0.0107 [0.0151]			
Too expensive		-0.0790*** [0.0161]			
Lack of documentation		-0.069*** [0.0180]			
Lack of money		-0.218*** [0.0158]			
Lack of trust		0.0349* [0.0158]			
Family member already has an account		0.217*** [0.0197]			
Female	-0.129*** [0.00972]	-0.131*** [0.00959]	-0.0438* [0.0188]	-0.0324* [0.0155]	-0.0385 [0.0238]
Age	-0.00114* [0.000527]	-0.00100* [0.00052]	-0.0013 [0.0005]	-0.0002 [0.0006]	0.0002 [0.0008]
Education	0.272*** [0.0115]	0.267*** [0.0115]	0.0614* [0.0259]	0.0794** [0.0279]	0.0856* [0.0353]
Income	0.163*** [0.00511]	0.159*** [0.00493]	0.0391*** [0.0083]	0.0412*** [0.0065]	0.0257* [0.0102]
Constant	1.671*** [0.0368]	1.810*** [0.0389]	0.8037*** [0.0625]	0.8640*** [0.0575]	0.8374*** [0.0840]
Observations	141205	141205	26672	54712	22004
Number of groups	142	142	142	142	142
FE	Country	Country	Country	Country	Country
R-squared	0.1729	0.1580	0.0037	0.0037	0.0027

*Standard errors are in parentheses, the stars behind the coefficients indicate levels of significance. \*  $p < 0.1$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Regressions on dependent variable Emergency Funds. In column 1, the regression results on the full sample are reported. The reasons are added in column 2. In column 3 a subsample of reasons related to money can be found. In column 4 a subsample of reasons related to bureaucracy are reported. In the final column the dataset has been limited to a subsample of those who lack trust. The regressions have country fixed effects.*

### 5.1.2. Reasons not to have a bank account

The results that are discussed in this section can be found in columns 2 of tables 6 and 7. It is interesting to keep in mind the reasons why people do not have an account. One can imagine a difference in the willingness to borrow from family between those who are not able to open an account and those not willing to. For example, because the reason you do not have an account affects your ability to borrow. The variables for all the different reasons are added to each of the regressions, to see how they relate to the dependent variables. In column 2 of table 6 the regressions results on “*Borrowed from relatives*” are presented. Concerning the coefficient for the variable *account*, it is significantly positive. This indicates that those with an account are more likely to borrow from relatives. Those who live too far away from a financial institution are also more likely to borrow from relatives. As are those who find maintaining a bank account too expensive, and those who simply lack the money to open an account. The coefficient for the variable *lack of trust* tells us that when you lack trust to open an account at the bank, you are more likely to borrow from relatives. These reasons indicate market substitution, since the unbanked substitute formal financial services for informal lending from relatives. However, they are less likely to borrow than the banked. When we consider coefficient magnitude, the variable indicating that you *lack money* to open an account is almost as large as the coefficient for the variable *account*. This means, when you lack money, you are almost as likely to borrow from relatives as someone who owns an account. This seems to support the results of Dupas et al. (2016) who found that having an account does not increase your welfare, as you might not use the services provided. Substitution of formal lending happens among the banked and unbanked.

For the second regression on *emergency funds*, the results can be found in column 2 of table 7. The variable *account* is positive in this regression: those with a bank account have more ability to come up with money for emergencies. Next to that, the reason that financial institutions are *too far away* is insignificant. This means that distance to financial institutions does not seem to play a role for the unbanked when it comes to getting access to emergency funds. The variables for *too expensive* and *lack of money* both have negative coefficients. When a respondent finds bank accounts too expensive, or does not have enough money, he is likely unable to get enough money in the case of an emergency. What is interesting to mention is the negative coefficient for the variable *lack of documentation*. This signals that the unbanked, who cannot get a bank account because they do not have the right paperwork, are less likely to find enough financial

funding. A positive sign is the coefficient for “*a family member already has an account*”. When using a family member’s account, the unbanked are able to cover emergency costs. The coefficient for *lack of money* is quite large in magnitude considering the size of the other variables in the regression. This is alarming, as it shows that the poor cannot find funding for urgent problems like medical costs. Those that have an account, are higher educated or belong to higher income quintiles are able to cover their urgent costs.

### *5.1.3. Money, bureaucracy, and trust*

Finally, I group the different reasons for not having a bank account together. The first group of reasons is money related and consists of; *lack of money* and *too expensive*. These two reasons indicate that money is restricting someone from opening a bank account. The second subsample is named bureaucracy and consists of; *lack of documentation*, banks are *too far away*, and a *family member already has an account*. Problems like these indicate that administrative concerns, regulations, and rules can be preventative for getting a bank account. One reason, that is a subsample on itself, is *lack of trust*. Reviewing the results on these different issues might be informative for policymakers, as it shows where the problems for the unbanked lay with respect to emergency funds.

In column 3, 4, and 5 of table 6 the regression results for each subsample are presented. Considering gender; females are less likely to borrow from relatives, no matter what reason they give for not having an account. The largest decrease is for the females who are facing bureaucracy related barriers. In all subsamples the coefficient for *income quintile* is negative, indicating that richer unbanked are less likely to borrow from family and friends.

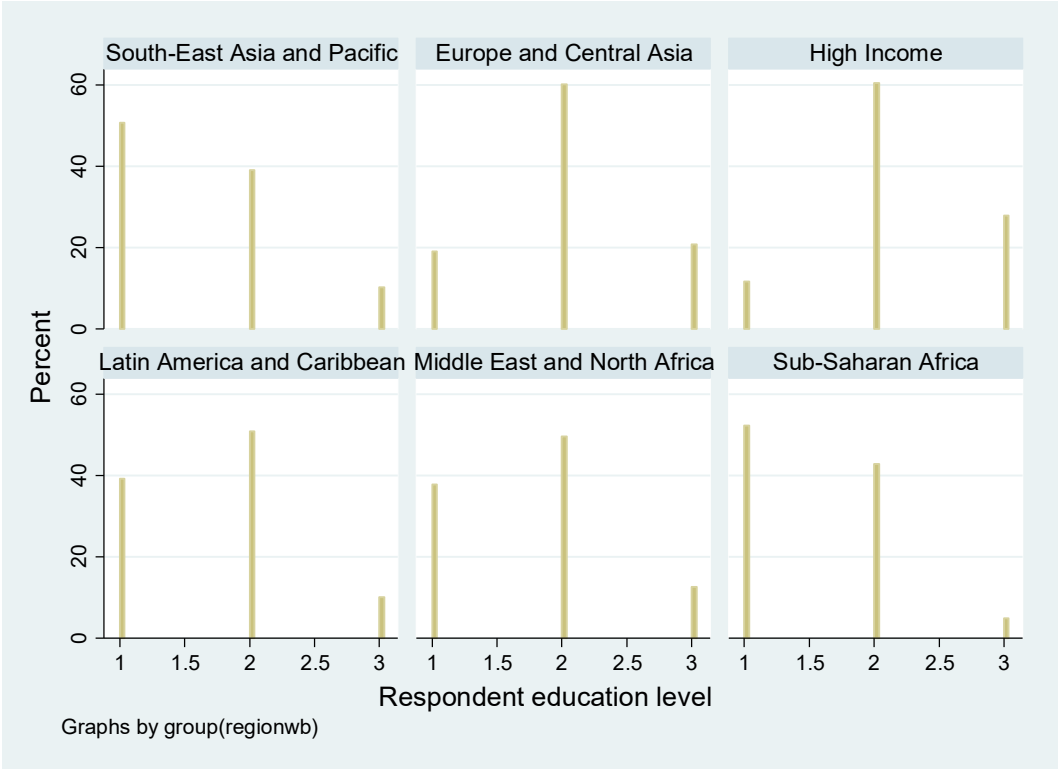
In table 7 the results of the subsamples are given with money, bureaucracy, and trust respectively in columns 3, 4, and 5. From the regression results, it appears that the overall difference between the groups is minor. Differences in gender, however, matter the least with respect to finding emergency funds, when lack of trust is their reason for not owning an account. In every column your educational level and income increase your ability to get emergency funds. The data appears to suggest that those who are having the hardest time finding emergency funds are the poor, lower educated females who are restricted by money related barriers. A woman matching this profile has a score of 0.8604, out of a maximum of 4. Meaning she is not at all likely to find emergency funds.

The highest ability for the unbanked lay with higher educated men, with higher incomes, who cannot get a bank account because of bureaucracy related barriers.

## 5.2 Regional regressions

Per region there are large differences with respect to education, income distribution, and usage of bank accounts. The educational level of the respondents can tell us more about their ability to cope with financial shocks. For example, those who are higher educated are assumed to have higher incomes and are therefore more able to come up with emergency funds, and less likely to borrow from relatives. Educational levels in percentages, per region, are presented in figure 1. The respondents educational level is on the x-axis, from 1 to 3 (completed primary education or less (1), secondary (2), and tertiary or more (3)). In the high income countries, as well as Europe and Central Asia, 60% of respondents have completed secondary education. In Latin America and the Middle East the pattern is similar; the largest percentage of people have completed secondary education. In South-East Asia and the Pacific, as well as Sub-Saharan Africa, the pattern is downward sloping. Many have only completed primary education.

**Figure 1: Respondent’s educational level per region**



There are a variety of educational levels throughout the regions, which relates to regional differences in handling money. What do the different regions tell us about the relationship between borrowing from family and having a bank account? For every region a regression is run, a table with every region and its number of observations can be found in table 8 and 9. The results will be discussed using tables 8 and 9. For a table with regression results, not including the different reasons the respondents do not have an account, I refer to table C and table D in the appendix. For a table of countries, specified per region, I refer to table A in the appendix.

Borrowing happens among those who are banked. The results in all columns of table 8 show positive and significant coefficients for the *account* variable. A possible reason for this outcome could be reliability. Those who are unbanked are less likely to be educated and have lower incomes. This affects the likelihood of paying back a loan, that might even cause relatives to refuse to lend to the unbanked. The first reason that banks are *too far away* is only significant in Europe and Central Asia, and in Sub-Saharan Africa. What is interesting is that the signs differ between the two regions. In Europe those who are *too far away* from a bank are less likely to borrow from relatives. In Sub-Saharan Africa when banks are too far away, the unbanked borrow from relatives. In every region *lack of money* is positive and significant. Those who lack money to open an account are more likely to borrow. In four out of six regions, the unbanked borrow from relatives when a bank account is too expensive. Also for *lack of trust* the coefficient is significant in four out of six regions. This indicates that when you have no bank account, because you lack trust in the financial sector, you substitute by borrowing from relatives. The final reason is that a family member already has a bank account. This variable is only significant in Latin America and the Caribbean. Those who use a family member's account are more likely to borrow from relatives.

In table 9, the regressions on *emergency funds* are reported. Having an account is beneficial for one's ability to find emergency funds. The largest of these effects can be felt in Sub-Saharan Africa. Being a female decreases your ability to raise emergency funds in every region, with the largest decrease in the region of Latin America and the Caribbean. *Age*, however, seems to play no important role with respect to emergency funds. The coefficients are very small and are of different signs per region. *Education* and *income* are positive and significant in every region. This indicates that those with higher education and incomes are more able to cover emergency costs. The first reason, *too far away*, is only significant in Europe and Central Asia. In other regions, distance to

banks does not seem to play a role with respect to finding emergency funds. The second reason indicating that bank accounts are too expensive is only significant in 3 regions. In the high income region, the Middle-East and North Africa, and Sub-Saharan Africa, your ability to raise emergency funds decreases when a bank account is too expensive. To aim at this vulnerable group, lowering maintenance fees for bank accounts could be beneficial; especially for the unbanked in high income countries, where the coefficient is the largest. Lacking documentation for a bank account causes lower ability to raise emergency funds in the regions of Latin America and Sub-Saharan Africa. Like in the regression on *“borrowing from relatives”*, *lack of money* is significant in every region. The ability to raise emergency funds decreases when someone lacks money for a bank account. Those who lack trust are only more able to cover emergency costs in Latin America. The coefficient of the variable indicating a *family member already has a bank account* is significant in every region. The coefficient is the largest for the high income region. The gains from sharing a bank account are the largest in this region.

From the regression results and the descriptive statistics, we learn that women, lower educated, and those with low incomes are least likely to find emergency funding. In addition to that, lack of money is the main reason the unbanked do not have a personal account. When combining these characteristics we can make a profile of the most vulnerable and common group of people to be unbanked. Doing this per region tells us where you are most disadvantaged in the world, with respect to raising emergency funds. These results can be found in table B of the appendix. It appears that as a poor, low educated woman with no bank account you are least able to raise money for emergencies, when you live in the high income region. This result is striking. As more than 90% of the respondents in the high income region have a bank account, this other 10% is a very vulnerable group. Reaching high financial inclusion seems to be very beneficial for the banked, but disproportionately disadvantages the unbanked. Another explanation for this result is that, in many EU countries, banks are not allowed to deny anyone from opening a bank account. Therefore, those who lack money for an account could be the very poorest. This in comparison to Latin America, where maintenance fees are too high for many people.

In the following sections the regression results will be discussed in depth per region.



### 5.2.1. South-East Asia and Pacific

In table 8 the regression with dependent variable “*Borrowed from family or friends*” is given in column 1. The main variable of interest, *account*, is highly significant and adds to the likelihood of borrowing from relatives. This is not as expected; the unbanked could use their family and friends for loans as a way of substitution. In this region it appears not to be the case; the banked also borrow from family and friends. Individuals who find it too expensive to open and maintain a bank account borrow from relatives. This also counts for those who lack money to open a bank account. Here we see that the unbanked, who have these specific reasons for not opening an account, do substitute financial services by borrowing from their relatives. Note that the coefficient for *lack of money* is even slightly larger than the coefficient for *account*.

Next the same regression is run with the dependent variable “*ability to come up with emergency funds*”. The results are given in column 1 of table 9. Note that for the dependent variable *emergency funds*, only data from 2014 is available. There will be no country-year fixed effects but only country fixed effects. The values of the dependent variable run from 1 to 4. Where the value 1 means it is not at all possible to come up with emergency funds, 4 meaning it is very possible.

The variable *account* seems to be highly positively correlated with the *emergency funds* variable. It is highly significant too, at 0.1% significance level. The positive relationship means that it becomes more possible to get emergency funds if one has a bank account. The larger the coefficient, the more able a person is to get emergency funds. We can argue that as a female you struggle finding money for emergencies, compared to men. Higher education and higher incomes leads to an increasingly larger ability to gain emergency funds.

### 5.2.2. Europe and Central Asia

The variable *account* is again positive, when you have a bank account you are more likely to also borrow from relatives. The sign for the reason that financial institutions are too far away is negative and thus people with no account are less likely to borrow from family and friends. A possible explanation for this is that relatives are also too far away. For example the citizens in countries like Kazakhstan where almost half of the population lives in rural areas (The World Bank, 2015). The variable *too expensive* is positive and tells us that there is substitution by the unbanked. People who think the

financial institutions are too expensive loan from their own family to (most likely) pay less interest. *Lack of money* is also positive and significant. Those who do not have enough money are more likely to borrow from friends and family.

The data generated for the second regression is reported in the second column of table 9. The *account* variable is positive, which means that when someone has an account, he is more able to get emergency funds. The coefficient is less than half the size of the coefficient in the region of Sub-Saharan Africa. This means that having an account in Europe and Central Asia has a smaller effect on your ability to gain emergency funds, compared to the other regions. Those with an account in the other regions can apparently make better use of financial services with respect of getting money for emergencies. Those who do not have a bank account, because the formal institutions are too far away, are more able to get emergency funds. This in a way, indicates a difference between rural and urban regions. In rural areas there are most likely less formal institutions nearby and people have other ways to come up with emergency funds. Rural communities might be more connected and more able to lend to members of the community. The coefficient for *family members already having a bank account* is positive. If a family member has an account, the other members are more able to get emergency funds. Note that this coefficient for Europe and Central Asia is the smallest, compared to the other regions. Nevertheless, it is almost as large as the coefficient for the variable *account*, meaning that it is almost as important to have a family member who has a bank account, as having one yourself, with respect to getting money for emergencies.

### 5.2.3. High Income

The regression results for this region can be found in columns 3 of tables 8 and 9. The variable *account* is significant and positive. When looking at the results in table C, the variable for *account* is not significant. What seems to drive this, is the high correlation between *account* and *lack of money*. When *lack of money* was omitted, in table C, the variable *account* became insignificant. What is very interesting to see is that *lack of trust* is highly significant. In high income countries, where the financial system is advanced, there seems to be more distrust than in the other regions, where the financial system is most likely less developed. However, both surveys were taken in the financial crisis that started in 2008. Many high income countries were hit by this recession and the trust in the financial sectors was damaged. This finding lends support to the claim that lack of

trust in the financial system has increased informal substitution of financial services. This was also suggested by Lusardi and De Bassa Scheresberg (2013) who found an increase in informal borrowing. In this study, borrowing from relatives has become a popular way of substitution for those who lack trust.

In the third column of table 9, the regression results on the dependent variable *emergency funds* are presented. The sign for the *account* variable is positive, those with an account are more able to get money for emergencies. Furthermore, those who use a family member's account are more able to get emergency funds. The coefficient is only slightly smaller than that of the variable *account*. Those who have a family member who's financial services can indirectly be used, is almost as valuable as having one of your own, with respect to coming up with enough money for emergencies. The data suggests that the gains from education in high income countries are especially large, compared to the coefficients of education in other regions.

#### *5.2.4. Latin America and Caribbean*

In column 4 of tables 8 and 9 the results for this region can be found. In Latin America and the Caribbean, borrowing from family and friends is more likely to occur among the banked. *Family member already having an account* has a positive coefficient, meaning that those who do not have a bank account, because a family member already has one, are more likely to borrow from family or friends. Perhaps people in Latin America share one's ability to get access to financial services or its costs. Costs of a bank account can be shared if maintaining a personal account is too expensive.

For the second regression, the *account* variable is positive, with a size comparable to that of South-East Asia and Pacific. Furthermore, it is the only region where *lack of trust* is significant, and it is highly significant with a significance level of 1%. In this region, lack of trust possibly implies successful substitution of financial services by the unbanked. Those who distrust financial institutions are more able to find enough funding for emergencies. This region has been known for large distrust in the financial sector caused by corruption and financial illiteracy (Solo, 2008) and my results confirm this. This means that they somehow substitute the financial market so that they do not need it to gain money for emergencies. However, the coefficient is small. Whichever substitution those who lack trust use, is not more valuable than getting a bank account. *Lack of documentation* is also significant in this region; those who lack documentation, to open a bank account, are less likely to raise enough money. Another thing that can be seen

when comparing the different regions, is that in Latin America and the Caribbean, being a female decreases your ability to gain emergency funds more than in other regions.

#### *5.2.5. The Middle East and North Africa*

Regression results generated are reported in column 5 of tables 8 and 9. This region has the second highest percentage of unbanked, more than 67%. The variable *account* is again positive and highly significant, those with an account are more likely to borrow from family. The Middle East and North Africa is the only region where *lack of documentation* is significant. It is positive, indicating that those who lack the documentation to open an account are more likely to borrow from family and friends. Lack of money is the only other significant reason for this region. It is positive and thus those who lack money, borrow more from relatives.

Following are the results on emergency funds. Those with an account are more able to get emergency funds. *Too expensive* and *lack of money* are negative, indicating that those people are less able to get enough money for emergencies. For the variable *family member has an account*, the sign is positive. This means that these people have more ability to get money for emergencies. What is also interesting about this variable is that the coefficient is the second largest, compared to the other regions.

#### *5.2.6. Sub-Saharan Africa*

In all of the regional regressions, the variable that indicates whether you have an account is significant for the Sub-Saharan countries. For all the other regions, either one or both of the variables *education* or *income quintiles* was significant, but for Sub-Saharan Africa neither one of those are significant, plus they are of the wrong sign. Apparently being higher educated or richer has no effect on borrowing from family and friends. It happens among all. A part of this can be explained using graph 1 in section 5.2, where the educational levels in Sub-Saharan Africa are almost all primary or secondary.

In column 6 of table 9, the results for regression 2 are reported. The first coefficient belongs to the variable *account*. This coefficient is positive and significant, and is the largest in size of all the other regions. Those who do not have a bank account because it is *too expensive*, they *lack the documentation*, or *lack money* have less ability to come up

with emergency funds. For those who have a family member with an account, the coefficient is positive so that those people are more able to get money for emergencies. The same counts for those who lack trust in the financial institutions. They have found ways to come up with money in case of emergencies without being banked.

**Table 8: Regression results on dependent variable Borrowed from relatives per region**

	(1)	(2)	(3)	(4)	(5)	(6)
Region	South-East Asia & Pacific	Europe & Central Asia	High Income	Latin America & Caribbean	Middle-East & North Africa	Sub- Saharan Africa
Dependent Variable	Borrowed from Relatives	Borrowed from Relatives	Borrowed from Relatives	Borrowed from Relatives	Borrowed from Relatives	Borrowed from Relatives
Account	<b>0.072***</b> (0.012)	<b>0.081***</b> (0.012)	<b>0.028*</b> (0.012)	<b>0.047***</b> (0.008)	<b>0.074***</b> (0.015)	<b>0.095***</b> (0.010)
Too far away	0.012 (0.012)	-0.033** (0.011)	-0.027 (0.022)	0.009 (0.013)	0.001 (0.015)	0.036*** (0.010)
Too expensive	0.046** (0.014)	0.044** (0.014)	0.011 (0.017)	0.020* (0.008)	0.039 (0.023)	0.050*** (0.010)
Lack of documentation	0.004 (0.010)	0.001 (0.014)	-0.003 (0.017)	-0.007 (0.008)	<b>0.052*</b> (0.029)	0.009 (0.011)
Lack of money	0.073*** (0.007)	0.076*** (0.012)	0.066*** (0.011)	0.030*** (0.007)	0.102*** (0.019)	0.064*** (0.008)
Lack of trust	0.009 (0.012)	0.020* (0.011)	0.044* (0.019)	0.014* (0.008)	0.002 (0.023)	0.029** (0.009)
Family member already has an account	-0.002 (0.010)	0.011 (0.013)	-0.012 (0.018)	<b>0.041***</b> (0.010)	-0.012 (0.014)	0.013 (0.015)
Female	-0.045*** (0.006)	-0.001 (0.005)	-0.005 (0.003)	-0.023*** (0.005)	-0.023* (0.011)	-0.017*** (0.004)
Age	-0.002*** (0.000)	-0.002*** (0.000)	-0.004*** (0.000)	-0.001*** (0.000)	-0.001 (0.000)	-0.001* (0.000)
Education	-0.021** (0.006)	0.002 (0.005)	-0.025*** (0.003)	0.011* (0.005)	-0.014* (0.007)	0.001 (0.006)
Income quintile	-0.015*** (0.003)	-0.020*** (0.003)	-0.017*** (0.002)	-0.000 (0.003)	-0.021*** (0.003)	0.001 (0.002)
Constant	0.417*** (0.026)	0.329*** (0.027)	0.418*** (0.020)	0.177*** (0.017)	0.346*** (0.030)	0.330*** (0.018)
<i>Observations</i>	45239	45509	72724	36051	19573	67146
<i>Number of groups</i>	35	46	75	40	20	68
<i>FE</i>	Country- year	Country- year	Country- year	Country- year	Country- year	Country- year
<i>R-squared</i>	0.0185	0.0188	0.0521	0.0122	0.0187	0.0085

*Standard errors are in parentheses, the stars behind the coefficients indicate levels of significance.*

*\* p < 0.1, \*\* p < 0.01, \*\*\* p < 0.001. Regression results are reported per region. Fixed effects are used in every regional regression.*

**Table 9: Regression results on dependent variable Emergency funds per region**

	(1)	(2)	(3)	(4)	(5)	(6)
Region	Sout-East Asia & Pacific	Europe & Central Asia	High Income	Latin America & Caribbean	Middle-East & North Africa	Sub- Saharan Africa
Dependent Variable	Emergency Funds	Emergency Funds	Emergency Funds	Emergency Funds	Emergency Funds	Emergency Funds
Account	0.358*** (0.047)	0.199*** (0.040)	0.303*** (0.075)	0.345*** (0.043)	0.297* (0.096)	<b>0.453***</b> (0.035)
Too far away	-0.005 (0.040)	0.057* (0.025)	0.047 (0.086)	-0.019 (0.032)	-0.143 (0.088)	0.027 (0.023)
Too expensive	0.001 (0.037)	-0.108* (0.054)	-0.185** (0.061)	-0.037 (0.025)	-0.138** (0.036)	-0.082** (0.024)
Lack of documentation	-0.058 (0.049)	-0.068 (0.054)	-0.073 (0.055)	-0.069* (0.030)	-0.012 (0.023)	-0.104*** (0.026)
Lack of money	<b>-0.219***</b> (0.029)	<b>-0.220***</b> (0.034)	<b>-0.385***</b> (0.052)	<b>-0.215***</b> (0.035)	<b>-0.265**</b> (0.066)	<b>-0.154***</b> (0.030)
Lack of trust	0.051 (0.037)	-0.039 (0.030)	-0.010 (0.089)	<b>0.111**</b> (0.031)	-0.044 (0.063)	0.049* (0.027)
Family member already has an account	<b>0.199***</b> (0.038)	<b>0.160**</b> (0.054)	<b>0.298***</b> (0.064)	<b>0.242***</b> (0.039)	<b>0.284**</b> (0.073)	<b>0.169***</b> (0.040)
Female	-0.110*** (0.024)	-0.120*** (0.021)	-0.140*** (0.018)	<b>-0.207***</b> (0.016)	-0.166** (0.049)	-0.097*** (0.017)
Age	-0.003* (0.001)	-0.006*** (0.001)	0.002** (0.001)	-0.004*** (0.001)	-0.001 (0.001)	0.003*** (0.001)
Education	0.245*** (0.040)	0.265*** (0.022)	0.332*** (0.018)	0.257*** (0.026)	0.225*** (0.041)	0.224*** (0.025)
Income quintile	0.173*** (0.016)	0.145*** (0.009)	0.164*** (0.006)	0.142*** (0.009)	0.218*** (0.021)	0.146*** (0.010)
Constant	1.857*** (0.068)	2.201*** (0.078)	1.652*** (0.102)	1.932*** (0.079)	1.684*** (0.124)	1.618*** (0.068)
<i>Observations</i>	22539	21557	36001	17369	8912	32975
<i>Number of groups</i>	18	23	37	20	9	34
<i>FE</i>	Country	Country	Country	Country	Country	Country
<i>R-squared</i>	0.1800	0.1439	0.1368	0.1746	0.1995	0.1783

*Standard errors are in parentheses, the stars behind the coefficients indicate levels of significance.*

*\* p<0.1, \*\* p<0.01, \*\*\* p<0.001. Regression results are reported per region. Fixed effects are used in every regional regression.*

## 6. Conclusion

In this study I investigate the ability of borrowing funds by the unbanked, using the data collected by the Global Financial Inclusion database. I study which individual characteristics make you more likely to borrow from relatives. And which groups of unbanked are the most vulnerable concerning their ability to raise money for emergencies. This study has found interesting results for further research on the unbanked. Knowing why the unbanked are not banked, and relating this to their abilities to find emergency funding, is crucial.

The data gathered in this study suggests that having a bank account is beneficial for accessing to financial funds. In every region in the world, you are more able to borrow money from family and friends or find money for emergencies, when you have a bank account. My findings lend support to the claim that having a bank account helps you manage your money and become more financially healthy. The region of Sub-Saharan Africa experiences the largest impact, on the ability to handle financial emergencies, from owning a bank account. Regression results also indicated that for the lower educated, poor, unbanked in the high income countries, it is very hard to find emergency funds. Even compared to those in Latin America and Asia, which consist of countries much less developed than the high income countries. A possible explanation, is the high financial inclusion in high income countries. Those who remain unbanked in high income countries are very likely the poorest. Since barriers to becoming banked are low, especially in the EU.

Considering the results of this study, there is clear evidence for gender inequality relating to financial services. Women have overall lower bank account coverage, compared to men. More alarming is women's inability to come up with emergency funds. This disadvantage is the largest in Latin America but exists in every region of the world. However, the combination of poor, low education, and being a female are providing worrisome results; especially in the Middle East, where this group is closest to not being at all possible to find enough money for emergencies.

Lack of money is the main problem for the poor, the most common reason why they do not have a bank account. It is also positively correlated with borrowing from relatives and the coefficient is of considerable magnitude overall and in every region. Also surprising is lack of money being an existing problem across every income quintile.



Borrowing from friends and family appears to happen not only among the unbanked, but also among those with a bank account. These results point into the direction of Dupas et al. (2016) that owning a bank account does not mean it is being used or that further financial integration happens. In every region those who have a bank account are more likely to borrow from relatives. Furthermore, the lower educated and those with lower incomes are less likely to borrow from relatives. Borrowing seems to be a benefit for the more advantaged people. This might come forth out of reliability; relatives are aware of your financial situation and are less inclined to lend to you when you are likely not paying them back. This leaves very little room for other options for the poor and lower educated people, which is a major concern.

Besides lack of money and the high expenses that come with a bank account, a third interesting variable to discuss is the variable that indicates use of a family member's account. The usage of a family member's account leads to higher ability to get money in case of emergency. These are convincing results pointing towards successful substitution of formal financial services. In line with research in Latin America, my results show that unbanked who face bureaucracy related barriers are the most vulnerable group of unbanked (Solo, 2008).

Nevertheless, even those who have a bank account have trouble managing their money and the main issue is high banking fees. As explained in an article by the Economist (2015), being poor comes at a high cost. For some sleeping on the street with their life savings seems like the better option, when the drafting fees make up a large part of their savings. My results indicate that some effective suggestions to improve borrowing capabilities include; no fees for those who lack money, more attention to financial services for women, and making the lower educated financially literate. In light of the positive effects of using a family member's account, lower documentation requirements or having household accounts instead of personal accounts are possible ways to reach a higher coverage of banked. Considering these recommendations, this study, like many others, points into the direction of microcredit. Microcredit has made documentation requirements more flexible, introduced programmes focussed on women, and demanded lower interest rates. Considering that the Global Financial Inclusion database is publishing new survey results in 2017, I recommend doing panel regressions to further investigate the role of market substitution on the unbanked. This also brings me to a limitation of this research, which only has data for two years. More research is needed to find out whether market substitution by the unbanked is successful, and which

characteristics of those substitutions the financial market can use to provide better fitting services for the unbanked. In addition, I advise to conduct more in depth analysis on banking the unbanked. In particular those who have no successful way of market substitution. This group is most likely to be trapped in poverty since emergency costs cannot be covered.

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## Appendix:

Table A: Countries per region (Source: World Bank (2015))

South-East Asia + Pacific	Europe and Central Asia	High Income	Latin America + Caribbean	Middle East and North Africa	Sub Saharan Africa
Afghanistan	Albania	Australia	Argentina	Bahrain	Angola
Bangladesh	Armenia	Austria	Belize	Djibouti	Benin
Bhutan	Azerbaijan	Belgium	Bolivia	Egypt, Arab Rep.	Botswana
Cambodia	Belarus	Canada	Brazil	Iraq	Burkina Faso
China	Bosnia & Herz.	Croatia	Chile	Jordan	Burundi
Hong Kong SAR	Bulgaria	Cyprus	Colombia	Lebanon	Cameroon
India	Georgia	Czech Republic	Costa Rica	Morocco	Central African Rep.
Indonesia	Kazakhstan	Denmark	Dominican Republic	Syrian Arab Republic	Chad
Lao PDR	Kosovo	Estonia	Ecuador	Tunisia	Comoros
Malaysia	Kyrgyz Republic	Finland	El Salvador	West Bank and Gaza	Congo, Dem. Rep.
Mongolia	Latvia	France	Guatemala	Yemen, Rep.	Congo, Rep.
Myanmar	Lithuania	Germany	Haiti		Cote d'Ivoire
Nepal	Macedonia, FYR	Greece	Honduras		Ethiopia
Pakistan	Moldova	Hungary	Jamaica		Gabon
Philippines	Montenegro	Ireland	Mexico		Ghana
Sri Lanka	Romania	Israel	Nicaragua		Guinea
Taiwan, China	Russian Fed.	Italy	Panama		Kenya
Thailand	Serbia	Japan	Paraguay		Lesotho
Vietnam	Tajikistan	Korea, Rep.	Peru		Liberia
	Turkey	Kuwait	Puerto Rico		Madagascar
	Turkmenistan	Luxembourg	Uruguay		Malawi
	Ukraine	Malta	Venezuela, RB		Mali
	Uzbekistan	Netherlands			Mauritania
		New Zealand			Mauritius
		Norway			Namibia
		Oman			Niger
		Poland			Nigeria
		Portugal			Rwanda
		Qatar			Senegal
		Saudi Arabia			Sierra Leone
		Singapore			Somalia
		Slovak Republic			South Africa
		Slovenia			Sudan
		Spain			Swaziland
		Sweden			Tanzania
		Switzerland			Togo
		Trinidad & Tobago			Uganda
		United Arab Em.			Zambia
		United Kingdom			Zimbabwe
		United States			

**Table B: Scores per region for poor, low educated women concerning their ability to raise emergency funds**

Region	South-East Asia	Europe & Central Asia	High Income	Latin America	Middle East & North Africa	Sub-Saharan Africa
Score	1.946	2.271	1.623	1.909	1.696	1.737

*Scores calculated using the regression results in table 9.*

**Table C: Regression results on dependent variable Borrowed from Relatives**

Region	(1) South-East Asia & Pacific	(2) Europe & Central Asia	(3) High Income	(4) Latin America & Caribbean	(5) Middle-East & North Africa	(6) Sub-Saharan Africa
<b>Dependent Variable</b>	<b>Borrowed from Relatives</b>	<b>Borrowed from Relatives</b>	<b>Borrowed from Relatives</b>	<b>Borrowed from Relatives</b>	<b>Borrowed from Relatives</b>	<b>Borrowed from Relatives</b>
Account	0.018* (0.009)	0.025** (0.007)	-0.012 (0.008)	0.014* (0.006)	0.008 (0.013)	0.022* (0.010)
Female	-0.047*** (0.006)	-0.002 (0.005)	-0.006* (0.003)	-0.023*** (0.005)	-0.025* (0.011)	-0.018*** (0.004)
Age	-0.002*** (0.000)	-0.002*** (0.000)	-0.004*** (0.000)	-0.001*** (0.000)	-0.001 (0.000)	-0.001* (0.000)
Education	-0.023*** (0.006)	0.002 (0.005)	-0.025*** (0.003)	0.010* (0.005)	-0.018* (0.007)	-0.004 (0.006)
Income quintile	-0.017*** (0.003)	-0.021*** (0.003)	-0.017*** (0.002)	-0.001 (0.003)	-0.024*** (0.004)	-0.000 (0.002)
Constant	0.488*** (0.025)	0.390*** (0.023)	0.457*** (0.018)	0.211*** (0.016)	0.445*** (0.031)	0.426*** (0.014)
<i>Observations</i>	45239	45509	72724	36051	19573	67146
<i>Number of groups</i>	35	46	75	40	20	68
<i>FE</i>	Country-year	Country-year	Country-year	Country-year	Country-year	Country-year
<i>R-squared</i>	0.0134	0.0133	0.0508	0.0085	0.0084	0.0010

*Standard errors are in parentheses, the stars behind the coefficients indicate levels of significance.*

*\* p < 0.1, \*\* p < 0.01, \*\*\* p < 0.001. Regression results are reported per region. Fixed effects are used in every regional regression.*

**Table D: Regression results on dependent variable Emergency funds**

	(1)	(2)	(3)	(4)	(5)	(6)
Region	South-East Asia & Pacific	Europe & Central Asia	High Income	Latin America & Caribbean	Middle-East & North Africa	Sub- Saharan Africa
Dependent Variable	Emergency Funds	Emergency Funds	Emergency Funds	Emergency Funds	Emergency Funds	Emergency Funds
Account	0.423*** (0.034)	0.315*** (0.030)	0.456*** (0.057)	0.418*** (0.025)	0.426*** (0.061)	0.578*** (0.030)
Female	-0.101*** (0.024)	-0.119*** (0.022)	-0.136*** (0.018)	-0.210*** (0.017)	-0.149* (0.050)	-0.098*** (0.017)
Age	-0.003* (0.001)	-0.006*** (0.001)	0.002* (0.001)	-0.004*** (0.001)	-0.001 (0.001)	0.003*** (0.001)
Education	0.252*** (0.041)	0.269*** (0.021)	0.333*** (0.018)	0.268*** (0.027)	0.232*** (0.042)	0.229*** (0.025)
Income quintile	0.178*** (0.016)	0.150*** (0.010)	0.166*** (0.006)	0.149*** (0.010)	0.232*** (0.023)	0.149*** (0.010)
Constant	1.742*** (0.057)	2.067*** (0.080)	1.499*** (0.083)	1.823*** (0.082)	1.447*** (0.110)	1.466*** (0.061)
<i>Observations</i>	22539	21557	36001	17369	8912	32975
<i>Number of groups</i>	18	23	37	20	9	34
<i>FE</i>	Country	Country	Country	Country	Country	Country
<i>R-squared</i>	0.1720	0.1353	0.1324	0.1642	0.1838	0.1723

*Standard errors are in parentheses, the stars behind the coefficients indicate levels of significance.*

*\*  $p < 0.1$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Regression results are reported per region. Fixed effects are used in every regional regression.*