

Household Use of Financial Services

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Abstract: Access to financial services is increasingly recognized as critically important to understand the micro foundations of economic development. However, data on access to financial services remains very scarce. This paper provides an initial set of correlations between financial use and household attributes using household data across 12 surveys. Paucity of good quality data illustrates the need to prioritize and invest in systematic data generation. Rigorous research on measuring and evaluating the impact of access to financial services requires detailed data at the micro level.

JEL Codes:

Key Words: Financial Systems, Income Distribution, Economic Development, Poverty Alleviation

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1. Introduction:

Access to financial services is increasingly recognized as critically important to the micro foundations of economic development. Support for the importance of financial access comes from both economic theory and empirical work. Theoretical models of financial markets have shown how information asymmetries can cause credit market failures, leading to endemic poverty traps (Banerjee and Newman (1993)). While a wide-ranging empirical literature has found a significant and robust relationship between financial deepening and economic growth (Beck, Levine and Loayza (2000), Rajan and Zingales (1998), Demirguc-Kunt and Maksimovic (1998)) and poverty alleviation (Honohan, 2004; Beck, Demirguc-Kunt and Levine, 2007), systematic evidence linking individual household welfare to access to financial services is much less developed. This gap can be explained by the lack of consistent cross-country household-level data on access to and use of financial services. While recent data compilation efforts have made progress on aggregate and supplier-level indicators of access to and use of financial services, consistent household-level indicators of financial services do not exist.

This paper uses a set of existing traditional household surveys to (i) assess the quality and coverage of financial variables in these surveys and (ii) to explore household characteristics associated with the use of deposit and lending services. Specifically, we first go through a new dataset based on 111 household surveys from 45 developing countries to identify 12 household surveys with financial variables. Then we use these surveys to explore what household level characteristics, such as education, employment status, and consumption, are correlated with households' use of formal credit, and use of bank accounts. Our work presents an initial, instructive analysis of which household level attributes are more likely to be correlated with households' engagement with formal financial service providers. Given the quality of the data

and lack of time series information, it is not possible to address important econometric concerns such as endogeneity of regressors and omitted variable bias and hence it is not possible to address causality. However, we feel that providing simple correlations between financial access and household attributes is an important first step towards improving our understanding of financial access at the household level. Moreover, we believe the most important contribution of this work is to illustrate the weaknesses of the existing household surveys in enabling a thorough description and analysis of financial services use. Indeed, although household surveys are often the only way to get detailed information on who uses which services from which types of institutions, household surveys focusing on financial services are few. This paper illustrates that efforts to collect this data systematically around the world should be a priority given the lack of currently available information.

The remainder of the paper is organized as follows. Section 2 presents the dataset and section 3 discusses bi-variate correlations. Section 4 presents the main results and section 5 concludes.

2. Data Description

Although the full dataset includes 111 household surveys, the variables we are interested in are only available for 12 household surveys across 7 countries. These surveys are mostly but not exclusively the World Bank's Living Standard Measurement Surveys (LSMS). Gasparini et al. (2006) discuss how these surveys were made consistent across each other. This section discusses the structure of the surveys, the variables we will be utilizing in our empirical analysis and presents descriptive statistics and correlations. Table 1 presents summary statistics for

individual country surveys, and Table 2 presents pair-wise correlations for household level variables in individual country surveys.

The underlying surveys were conducted in the context of the LSMS, but their structure and content varies widely across the countries and even within countries over time. A standardization process was therefore applied to make the data comparable and consistent across countries as detailed in Gasparini et al., 2005. While some of the variables are easily comparable across countries, such as gender, household size and urban vs. rural dwellings, variables such as household income and consumption are much harder to make comparable across countries. In some countries the surveys only contain information about food and non-durable goods, while other surveys include information about durable goods and housing. Further, the recall periods vary across countries and surveys.

Even more troubling for our purposes, the exact definition of the deposit and lending variables varies across countries. Sometimes, they include microfinance and informal providers, in others only formal banking institutions. Some surveys, finally focus only on products, but not the providers. Due to these statistical issues, we present results for individual countries separately, and in the case where we present pooled results, we include individual country dummies to account for differences in reporting styles.

3. The variables and bi-variate correlations

We focus on two variables to explore household characteristics correlated with the use of financial services. HACCOUNT is a dummy variable that takes on the value one if at least one member of the household has a bank account. HLOAN is a dummy variable that takes on the value one if at least one member of the household has received a loan over the past 12 months.

The mean of HACCOUNT and HLOAN varies greatly across the countries in our sample. As reported in Table 1, on average only 1.6% of households in Nicaragua had a bank account in 2001, whereas 34% had bank accounts in Ghana in 1999. Similarly, while only 4.5% of households in Armenia in 1996 had received a bank loan, more than 86% had received such a loan in Guatemala in 2000. We dropped surveys, where 100% of households had access to deposit or loan services, as this raises doubts about the accuracy of the information or the question asked.

The cross-country variations in the surveys, although interesting, also raise questions regarding the quality of the data in finance modules of these surveys. According to estimates by Honohan (2007) and reported in World Bank (2007), the share of households with access to a financial account is estimated at 32% in Guatemala and 16% in Ghana. These discrepancies shed doubt on the comparability of household surveys across countries.

We focus on a variety of household characteristics that might be associated with whether a household uses formal financial services. URBAN is a dummy that takes on the value one if a household lives in an urban area. Given the higher population density, urban dwellers have typically closer geographic access to a bank branch. In Table 2, we find a predominantly positive correlation between being an urban dweller and having an account and having a loan. Further, we find that in surveys with a higher share of urban population, there are more people with household accounts and loans.

We control for HHSIZE, the number of people in the household. On the one hand, larger families can be expected to have a greater need for financial services or have a higher probability that someone in the family has an account or has taken out a loan. On the other hand, the size of the family might be a proxy for incidence of poverty, so that there might be a negative

correlation with the use of financial services. According to Table 2, we see both positive and negative correlations across surveys.

We control for the sex of the household head. MALE takes on the value one if the head of household is male, and zero if it is female. Table two again reports variation across surveys, though males are predominantly more likely to receive bank loans.

We introduce an array of age dummies. Specifically, AGE1, AGE2 and AGE3 are dummy variables that take on the value one if the head of household is between 20 and 40, 40 and 60, and over 60, respectively. Household heads below 20 years of age are the omitted category. Age in general is positively correlated with having a bank account, and negatively correlated with having a bank loan.

We include a dummy for being MARRIED, which in general has a positive correlation with use of financial services. Being married might indicate a more formal household and thus higher demand for financial services.

We control for the annual household income. YHTOT is the imputed total household income and the sum of labor come and non-labor-income for all household members. However, household income does not include self-consumption, so income might be a poor proxy for household well-being. We therefore also test for the relationship between total household consumption and the use of deposit and lending services. We use local currency when focusing on individual household surveys and in constant US dollars when combining surveys across countries or within countries over time. On average, there is a strong positive correlation between household income and use of financial services, as expected.

We assess the relationship between labor market status and the use of deposit and lending services. Specifically, we distinguish between employed (omitted category), unemployed

(LABOR1) and inactive (LABOR2) people. There is wide variation across surveys on the correlation for both bank accounts and loans.

We test whether home owners are more likely to have a household account and take out a loan. Surprisingly while home ownership is more or less positively correlated with having a bank account, it is for the most part negatively correlated with having a bank loan.

Finally, we test the relationship between education and use of deposit and lending services. People with a higher level of education are more likely to understand the advantages of formal deposit and lending services and are more likely to have the necessary level of financial literacy to understand these products. We use two variables to proxy for education of the household head. LITERATE is a dummy variable that takes on the value one if the head of household is literate and zero otherwise. YEDU are years of formal education. Both variables on average show positive correlations with use of financial services.

4. Empirical Methodology

We use different methodologies to explore the correlation of household characteristics with the use of deposit and lending services. First, we explore variation within each of the 12 household surveys. Specifically, we run probit regressions of the dummy variable HACCOUNT and HLOAN on the different household characteristics discussed above.

Second, we pool the latest household survey of each country in the sample and run regressions as above, but adding country dummy variables. This allows us to exploit cross-country variation in household characteristics and use of financial services. The shortcoming is that we force the same relationship between a specific household characteristic and the use of financial services across countries. By including country-specific effects, we control for country-

level characteristics that might be correlated with the use of financial services. We also control for differences in reporting styles by exploiting only intra-country variation. We cluster standard errors at the country level, thus presenting very conservative t-stats.

While the methodology described above accounts for many econometric concerns such as omitted variable bias, we cannot address concerns about endogeneity of our regressors. Specifically, it is difficult to establish the direction of causality since having a bank account may itself directly be correlated with better household outcomes, thus biasing our estimates. The lack of panel data or availability of suitable instruments makes it difficult to cleanly identify the direction of causality. Nonetheless, we believe it is useful to report correlations in a regression framework, which can then motivate more careful future work.

5. Results

Tables 3 and 4 present results from individual survey regressions. Table 3 reports results from regressions of HACCOUNT, while Table presents results from regressions of HLOAN. All regressions are weighted using LSMS survey weights.

Urban dwellers are significantly more likely to have an account with a formal financial institution and to have a loan with such an institution. URBAN enters positively and significantly in many of the individual survey regressions; where it enters negatively, it is not significant. Larger families are more likely to receive a loan, though are marginally less likely to have a bank account.

There is a mixed relationship across surveys between the gender of the household head and the probability that the household has an account or a loan with a formal financial institution. In Armenia, households with female heads are more likely to have bank accounts, whereas in

Guatemala the opposite holds. In terms of loans, there are no significant correlations for any of the surveys.

There is a positive relationship between the age of the household head and the likelihood of having an account with a financial institution. Similar results hold for bank loans except for the Guatemala surveys where the coefficients are significantly negative. Married families are more likely to have an account and a loan with.

Households with higher incomes are more likely to have an account with a formal financial institution, while on average there is no significant relationship between household income and the probability of having a loan.

While there is no significant relationship between labor market status and the probability of having an account, households with an unemployed head are less likely to have a loan. There is no significant relationship between the probability of having an account or a loan with a formal financial institution and ownership of the house where the household lives.

While households with more educated heads are more likely to have an account with a formal financial institution, there is not significant relationship between formal education of the household head and the likelihood of having a loan from a formal financial institution. Finally, households that have an account with a financial institution are more likely to have a loan with a formal financial institution.

While Tables 3 and 4 show wide variation in size, significance, and sign of coefficients across different surveys, Table 5 presents average relationships across the most recent surveys for the seven countries in our sample. We control for country-specific effects and impose the same empirical relationship between the characteristics of the households and its probability to have an account or a loan with a formal financial institution. Having an account is positively

correlated with urban dwellings, age of household head, being married, owning a house, and being literate. It is negatively correlated with household size and being male. Having a bank loan is positively correlated with urban dwellings, household size, and being married.

6. Conclusion

We started this research to explore how useful information from existing household surveys is in describing the use of financial services around a world in a systematic fashion. Despite painstaking efforts to compile as many household surveys as possible, and make them as comparable across countries as possible, we find that the available information is still very limited. Few household surveys have good coverage of financial variables, and even when they exist, the data are often not compatible from one country to the next.

Given the increasing attention development economists and policymakers are starting to pay to issues of financial access, the paucity of micro data on access to financial services hampers serious research in this area. Hence, by illustrating how scarce and deficient existing data are, this paper underlines the importance of developing consistent household survey instruments that can be used across countries to measure access to and use of financial services. Such an effort would allow consistent cross-country comparison of finance-related questions and derivation of the share of households that use different financial services from different providers. Resulting data can contribute greatly to a better understanding of the determinants and barriers to access and use. Efforts along these lines are described at <http://econ.worldbank.org/programs/finance>.

Ultimately, however, researchers are interested not only in measuring access to financial services and the barriers that prevent access but also in understanding the welfare impact of

removing these barriers and broadening access. In evaluating the impact of broadening access, randomized field experiments hold promise. These experiments, which use surveys of micro-enterprises and households, introduce a random component to the assignment of financial products, such as subsidized fees for opening accounts or random variation in the terms of loan contracts. On-going research in this area (again see above link for a description) will shed more light on how reduced barriers and improved access affect growth and household welfare. These findings in turn will contribute to efforts to identify access indicators to track over time and inform the design of policy interventions to build more inclusive financial systems.

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Table 1: Summary Statistics

ARM 96				BGR01				GHA99				GTM00			
Variable	N	mean	sd	N	mean	sd	N	mean	sd	N	mean	sd			
haccount?	4920	0.089	0.284	2634	0.002	0.039	3615116	0.339	0.474	2191067	0.187	0.390			
hloan_rec?	4920	0.045	0.208	2634	0.041	0.198	3615116	0.315	0.465	280584	0.868	0.338			
urban?	4920	0.613	0.487	2634	0.667	0.471	3615116	0.367	0.482	2191067	0.434	0.496			
hhsize	4920	4.083	2.036	2634	3.095	1.663	3615116	4.432	2.602	2191067	5.179	2.526			
male?	4920	0.579	0.494	2634	0.757	0.429	3615116	0.681	0.466	2191067	0.816	0.387			
age	4920	47.942	16.294	2634	53.798	15.899	3613199	44.908	15.004	2190484	44.298	15.017			
married?	4866	0.699	0.459	2634	0.711	0.453	3615116	0.675	0.469	2191067	0.806	0.396			
yhtot	4920	484219	802746	2634	2378	4365	3615116	5670011	9973805	2191067	26842	44199			
labor	4920	1.897	0.948	2633	2.085	0.922	163945	1.241	0.651	2189846	1.239	0.643			
own_house?	4914	0.834	0.373	2634	0.889	0.314	3192433	0.336	0.472	2191067	0.751	0.432			
literate?	4920	0.986	0.118	2634	0.985	0.122	3612757	0.423	0.494	2190830	0.681	0.466			
yedu				2634	10.157	3.909				2087381	3.661	4.273			

JAM99				NIC01				ROM00			
Variable	N	mean	sd	N	mean	sd	N	mean	sd		
haccount?	2463473	0.062	0.241	969364	0.016	0.124	2607	0.177	0.382		
hloan_rec?	2463473	0.048	0.214	0			2607	0.132	0.339		
urban?	2463473	0.523	0.499	969364	0.610	0.488	2607	0.474	0.499		
hhsize	2463473	3.401	2.400	969364	5.280	2.645	2607	2.622	1.467		
male?	2463473	0.576	0.494	969364	0.717	0.450	2607	0.736	0.441		
age	2463473	48.232	17.021	969364	46.429	15.484	2606	55.414	15.532		
married?	2413412	0.285	0.452	969364	0.692	0.462	2607	0.641	0.480		
yhtot	2463473	176101	302172	969364	44962	93420	2607	19616154	17216236		
labor	2460011	1.512	0.851	968757	1.393	0.785	2607	2.139	0.961		
own_house?	2225508	0.549	0.498	969364	0.775	0.418	2607	0.960	0.196		
literate?	2463473	0.960	0.197	968781	0.719	0.450	2607	0.970	0.169		
yedu	2290981	8.598	2.921	968781	4.566	4.394	2607	8.952	3.986		

Table 2: Pairwise Correlation Coefficients

	ARM96		BGR01		GHA99		GTM00		JAM99		NIC01		ROM00	
	haccount	hloan_rec	haccount	hloan_rec	haccount	hloan_rec	haccount	hloan_rec	haccount	hloan_rec	haccount	hloan_rec	haccount	hloan_rec
haccount	1	0.0631	1	-0.0081	1	0.2672	1	0.1163	1	0.9495	1	.	1	0.0504
hloan_rec	0.0631	1	-0.0081	1	0.2672	1	0.1163	1	0.9495	1	.	.	0.0504	1
urban	0.0717	0.0059	0.0253	-0.0042	0.0439	0.0133	0.2959	0.0347	0.0927	0.0979	0.0783	.	0.0166	0.1503
hhsz	0.0744	0.0513	-0.0257	0.0942	-0.1156	-0.1152	-0.1472	-0.0277	-0.0298	-0.0189	-0.0353	.	-0.0553	0.0644
male	-0.0079	0.0207	-0.0128	0.0414	0.1086	0.0163	-0.0045	-0.0246	-0.0196	-0.0206	0.0306	.	0.0559	0.0152
age	0.0133	-0.0777	0.0153	-0.1063	0.3226	0.2937	0.0499	-0.0098	0.0056	-0.0163	0.0154	.	0.1132	-0.0575
married	0.0425	0.0506	-0.0245	0.0556	0.1921	0.1688	0.0063	0.0358	0.0609	0.0516	0.0315	.	0.0615	0.0324
yhtot	0.032	0.1276	0.0277	0.0224	0.0352	-0.0024	0.3321	0.0427	0.0495	0.035	0.2752	.	0.1189	0.0531
labor	-0.0574	-0.1013	0.0005	-0.0897	0.0965	0.0574	-0.0219	0.0119	-0.0338	-0.0352	0.0041	.	0.0825	-0.0236
own_house	0.0453	-0.0001	-0.0172	-0.0304	0.0731	-0.0014	-0.0553	-0.0241	0.0137	-0.0121	0.0137	.	0.0431	-0.0592
literate	-0.0054	-0.0157	0.0103	-0.0213	0.1567	0.1046	0.2043	0.0526	0.0286	0.0236	0.0695	.	0.0393	0.0481
yedu	.	.	0.0317	0.0069			0.3309	0.0447	0.1016	0.0982	0.1512	.	0.0573	0.0805

Table 3: Household Bank Account Marginal Effects Probit

[illegible]

Table 4: Household Loan Received Marginal Effects Probit

[illegible]

Table 5: Pooled Marginal Effects Probit

	(1)	(2)
	haccount	hloan_rec
urban	0.032* (0.02)	0.037*** (0.01)
hhsiz	-0.004** (0.00)	0.002*** (0.00)
male	-0.007** (0.00)	-0.015 (0.01)
d_age2	0.042*** (0.01)	-0.02 (0.02)
d_age3	0.040*** (0.01)	-0.023 (0.02)
d_age4	0.038* (0.02)	-0.042** (0.02)
married	0.024*** (0.01)	0.020*** (0.01)
yhtot_usd	0.000* (0.00)	0.000* (0.00)
d_labor2	-0.01 (0.01)	-0.026** (0.01)
d_labor3	-0.003 (0.01)	-0.041** (0.02)
own_house	0.017*** (0.01)	-0.004 (0.01)
literate	0.033*** (0.01)	0.009 (0.02)
hloan_rec	0.373 (0.27)	
haccount		0.548* (0.29)
Survey FEs	YES	YES
Observations	16865	16865

Robust standard errors in parentheses, clustered at the survey level

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