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Household Financial Access and Risk Sharing in Nigeria

By Stacy Carlson, Era Dabla-Norris, Mika Saito, and Yu Shi

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I N T E R N A T I O N A L M O N E T A R Y F U N D

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Strategy, Policy, and Review and African Departments

Household Financial Access and Risk Sharing in Nigeria

Prepared by Stacy Carlson, Era Dabla-Norris, Mika Saito, and Yu Shi*

Authorized for distribution by David Marston and Ricardo Velloso

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Abstract

We examine the role of household financial access in determining the extent of risk-sharing in Nigeria using household-level panel data. We estimate changes in the response of consumption to shocks for households with formal and informal access to finance and those without, both for the country as a whole and for different regions. Our findings suggest that households with financial access who experience an unexpected negative income shock see consumption fall by 15 percentage points less than those without access. This result is mainly driven by households with informal financial access, and by household savings rather than borrowing. Regional variation in risk sharing tends to be significant, suggesting that financial inclusion efforts going forward should have a more regional focus.

JEL Classification Numbers: O16, O17, O55

Keywords: Financial access; Risk-Sharing; Household Panel Data; Nigeria

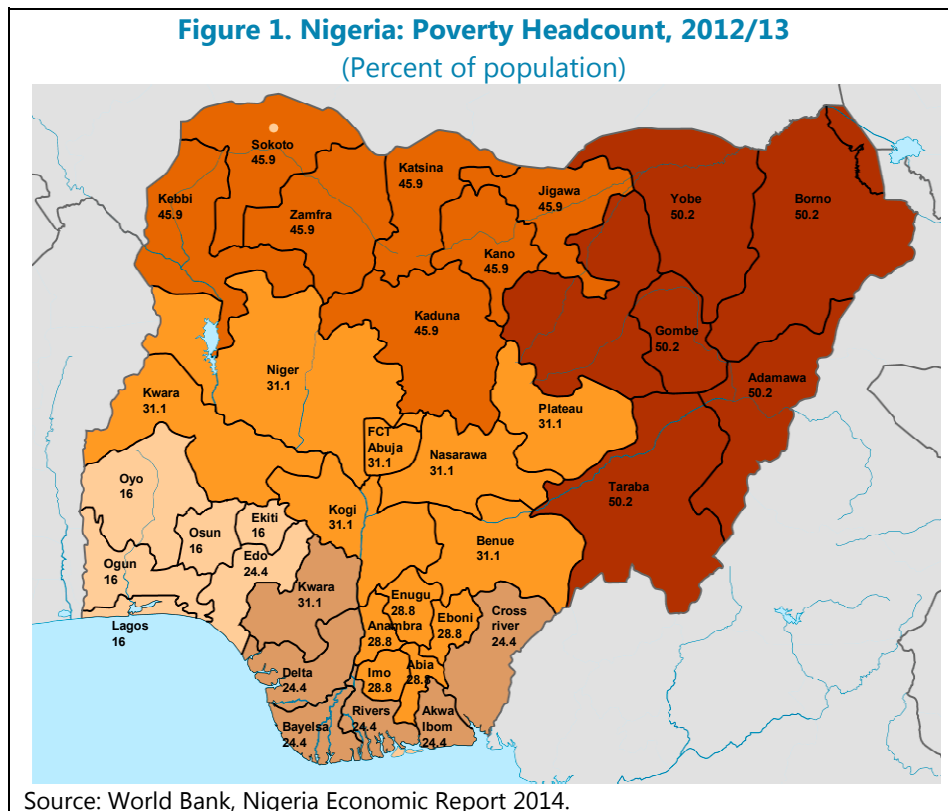
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I. INTRODUCTION

Poverty in Nigeria remains high. Despite non-oil- and consumption-led growth, the country trails Sub-Saharan Africa (SSA) peers in reducing poverty. Estimates suggest that the poverty rate declined slightly from 35.2 percent in 2009/10 to 33.1 percent in 2012/2013, but with significant variation across states (World Bank, 2014). The South West region exhibited the lowest poverty rate (around 16 percent), while the poverty rate in the North East region was over 50 percent (Figure 1).¹ Moreover, vulnerability to poverty remains high, implying that a minimal shock could easily push those living a little above the poverty line back into poverty.²



¹ The North West zone refers to Kaduna, Kano, Katsina, Kebbi, Jigawa, Sokoto, and Zamfara; the North East zone refers to Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe; the North Central zone refers to Benue, Kogi, Kwara, Nasarawa, Niger, Plateau, and Federal Capital Territory (FCT) Abuja; the South East zone refers to Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo; the South East zone refers to Abia, Anambra, Ebonyi, Enugu, and Imo; and the South South zone refers to Akwa Ibom, Bayelsa, Cross River, Delta, Edo, and Rivers.

² In many developing countries, shocks such as unemployment, sickness, death, theft, drought and political strife can create large income and consumption variation over time, and raise the incidence of poverty.

Greater financial inclusion could help poverty alleviation efforts by buffering the impact of unexpected adverse shocks on household consumption and micro-household businesses. Indeed, the government recognizes that particular groups and sectors could be more vulnerable than others to downturns. As such, sector-specific development banks are in place as are microcredit institutions that promote small household businesses. Several government credit enhancement schemes programs attempt to empower micro-, small- and medium-sized enterprises (MSMEs). At the same time, social network, family and membership institutions (or informal risk management channels) are prevalent in Nigeria. The effectiveness of these various schemes depend on the extent of risk sharing they provide and the respective roles that formal and informal financial institutions play in smoothing consumption against negative shocks.

This paper examines the role of household financial access in determining the extent of risk-sharing in Nigeria using household-level panel data. Specifically, we assess the effectiveness of financial systems by examining the degree of consumption risk-sharing within the economy and across different regions. We use a panel *difference-in-difference* specification, in which household fixed effects are included to compare *changes* in the response of consumption to shocks for households with some access to finance (formal and informal) and those without, both for the country as a whole and for different regions (zones). We also examine the role that household access to credit and savings plays in smoothing consumption.

Two features of our data, the Nigerian General Household Survey (GHS), make it particularly suited for this study. First, the GHS is a panel survey that collects detailed consumption measures and includes information on adverse shocks faced. By looking at changes in consumption across individuals with financial access and those without, we allow for all observable individual characteristics to affect risk sharing by controlling for their interactions with income shocks. Second, the GHS collects detailed information on credit and savings from formal (i.e., banks), informal (i.e., access to an informal group, money lender, friends, or family), and semi-formal (i.e., cooperative, savings associations, or microfinance institutions) institutions, allowing us to distinguish between their impact on risk sharing.

Our empirical findings suggest that those households with some financial access are better able to smooth consumption than those without. In particular, households with financial access who experience an unexpected negative income shock see consumption fall by 15 percentage points *less* than those without access. This result is mainly driven by households with *informal* financial access. Moreover, it is household *savings*, in particular via informal institutions, rather than borrowing that accounts for this result.

Region-specific results show that improved financial access in recent years has delivered uneven consumption smoothing benefits. For instance, having access to semi-formal financial institutions was more effective in smoothing negative shocks in the South than in the North. Moreover, informal borrowing was more effective than savings in absorbing shocks in the North East.

The rest of the paper is organized as follows. Section II summarizes the status of financial access and financial inclusion efforts in Nigeria and progress to date. Section III provides a brief review of the literature. Section IV describes the data and defines key concept used in this paper and introduces the empirical model. Section IV presents the empirical results, and Section V concludes.

II. BACKGROUND

Nigeria's financial penetration rate remains low relative to peers. Recent surveys indicate that the financial penetration rate, although improving, is about a third of the adult population. The World Bank Findex survey, for instance, shows that about 30 percent of adult population had an account in the formal banking system in 2011 (Figure 2; Annex Table A.1). This coverage is low compared to 50 percent for the world average, 54 percent in South Africa, 42 percent for Kenya, and only a little above the average of 24 percent for developing countries in SSA. Nigeria-based survey studies (EFinA Access to Financial Services in Nigeria 2014) show slightly higher number at 36 percent for 2014.

A large fraction of population is saving, but not necessarily in banks. About 65 percent of adult population saves in Nigeria. This is much higher than the world average of 36 percent and above peers (40 percent for Kenya; 37 percent for Ghana; 31 percent for South Africa). Savings in financial institutions is comparable to peers but savings using informal means, such as Rotating Saving and Credit Associations (ROSCAs) is particularly high at 45 percent.³ Different data sources show a somewhat varied picture but the importance of savings using ROSCAs appears significant. For example, the 2012-13 GHS (based on 22,000 households across all 36 states including FCT (Abuja) shows that 18 percent of respondents have used informal means to save money within the past 6 months.

Access to credit especially for MSMEs is low. According to Findex survey, only 2 percent of the adult population obtained loans from a financial institution in the past year. This is far below the world average of 9 percent (Kenya and South Africa are at the world average of 9 percent). The 2010 Enterprise Surveys showed that credit to enterprises, on average, is slightly higher: about 14 percent had either line of credit or loans (or both) in 2008. But in terms of financing of working capital for individual firms, bank loans play a small role. A large proportion of working capital is therefore managed by either internal funds or retained earnings (about 70 percent) or credit from suppliers (close to 30 percent).

³ ROSCAs are a group of individuals who come together and make regular cyclical contributions to a common fund, which is then given as a lump sum to one member in each cycle. They vary across the world in terms of membership (e.g., based on ethnic lines or geographical limitations), contributions, the frequency with which contributions have to be made in each cycle, and the mode of selecting the winner of the lump sum (by consensus, bidding, or by lots). The basic advantage of the ROSCA is that it offers an opportunity for members to save, and at the same time keep such savings fairly liquid.



Microfinance banks (MFBs) have not played a major role in providing credit to MSMEs. Many MFBs are legacy community banks facing financial and capacity constraints.⁴ The

⁴ The community bank license was introduced in the early 1990s to promote the growth of banks dedicated to rural areas and lower income groups. By 1995, the national board of community banks issued 1355 licenses. In 2000, the CBN assumed responsibility for regulation and supervision of community banks and by 2002, the number was reduced to 881 banks (CGAP, "Access to Finance in Nigeria: Microfinance, branchless banking, and SME finance," 2009).

Microfinance Policy, Regulatory and Supervisory Framework was developed by the Central Bank in 2005. This framework, however, allowed legacy community banks an opportunity for relicensing under the new NGN 20 million minimum capital requirements. In fact, the GHS shows that MFBs have not played a role in taking deposits or providing credit to the survey respondents.

Nigeria's national financial inclusion strategy has laid out detailed strategies and targets (Central Bank of Nigeria, 2012). It aims to bring the exclusion rate (those with neither formal nor informal financial services) of 46.3 percent of the adult population in 2010 down to 20 percent by 2020. Access to credit is targeted to reach 40 percent of adult population. This strategy was based on findings in the 2010 EFINA Survey, which identified five major barriers to financial inclusion: (i) income, (ii) physical access, (iii) financial literacy, (iv) affordability, and (v) eligibility.

The major elements of the Financial Inclusion Strategy include: transforming the existing *Know-Your-Customer (KYC)* requirements to a simplified risk-based tiered framework that allows individuals lacking required formal identification to enter the banking system; improving *agent banking* by articulating and implementing the regulatory framework; improving *financial literacy* by defining, and implementing a framework to increase awareness and understanding of the population on financial products and services. The strategy also includes implementing a comprehensive *consumer protection* framework to safeguard the interest of clients and sustain confidence in financial services; enhancing *mobile-payment systems* and other *cash-less policy* efforts to lessen the cost of and ease of financial services transactions; and credit enhancement schemes programs to empower MSMEs.

The World Bank identified a number of gaps in the financial architecture that constrain household access to finance.⁵ Lending to MSMEs is considered risky for various reasons, including lack of a functioning personal identification system; verifying and obtaining official documentations are costly; data quality and scope of credit bureaus are limited; and enforcing contracts and collaterals is difficult, typically with long delays in judicial processes. A number of structural reforms were identified to improve financial infrastructure but progress has been slow. For example, enforcing requirements to submit data to credit bureaus would help improve the functioning of credit bureaus. Establishing registries for movable collateral (such as inventory, accounts receivables, crops, and equipment) together with functioning laws regulating secured transactions could improve the basis for free-flowing credit markets, reducing the potential losses lenders face from non-payment. Progress on this account has been slow.

⁵ More details can be found in [Nigeria MSME Project](#) (December 2012).

The effectiveness of these schemes and improved financial infrastructure depend on the sensitivity of consumption to changes in income and the roles that formal and informal financial institutions play at the micro level. The rest of the paper examines the link between household financial access and the extent of risk-sharing observed in Nigeria.

III. LITERATURE REVIEW

Our paper is related to a number of studies in the literature. Townsend (1994, 1995) and Udry (1994) made early contributions documenting the methods and extent to which households in developing countries are able to insure themselves against risk, through mechanisms such as informal inter-household transfers, state-contingent loan repayments, marriage and precautionary savings.⁶ In an ideal world, income risks should be shared among households, implying that household consumption would co-move among a risk sharing unit (e.g., village, kinship group, among members/customers in a financial institution). Townsend (1994) found that in the absence of formal banks, households in India did indeed utilize informal financial arrangements. In Thailand, however, households at the regional level did not seem to share risks as effectively, suggesting less satisfactory intra-regional financial arrangements (Townsend, 1995).

A number of papers have build on this work to provide further evidence that households engage in risk-spreading trades in different contexts. Suri (2012) provides evidence for rural Kenya prior to M-PESA and finds that food consumption is well smoothed. Gertler and Gruber (2002) observe that informal insurance helps finance the expenditure needs of individuals who suffer negative health shocks. Using a household-level panel data set on Indonesian families, Gertler et al. (2006) found that consumption declines less after a negative health shock for those with closer ties to their community.

Our paper is also related to studies that assess the effectiveness of financial institutions in allowing individuals and households to smooth consumption and self-insure themselves against shocks. Alem and Townsend (2014) develop a model and quantify the consumption and investment smoothing impact of financial institutions on households in Thailand, including rural households. They found evidence that while one government development bank was helpful in smoothing consumption and investment, in part through credit provision, other such institutions were less effective. Commercial banks, however, were found to smooth investment, largely through formal savings accounts.

A number of studies have attempted to explain the market failure of limited risk sharing observed in developing countries by examining specific obstacles in the financial system. Jack and Suri (2013) examine the impact of reduced transactions cost on risk sharing by

⁶ These studies examined whether households consumption allocations replicate the Pareto-efficient full risk pooling outcomes.

estimating the impact on consumption of MPESA users vs. nonusers. They found evidence that while negative income shocks reduced consumption by 7 percent for nonusers, the consumption of users was largely unaffected due to remittances received. Sripakdeevong and Townsend (2012) find that use of borrowing products is associated with lower coefficients of relative risk aversion in Thai villages. However, this relationship is limited to the subset of borrowers who do not roll over their loans. Other borrowers defer repayment when circumstances are bad by refinancing across lenders (typically informal lenders and the semi-formal village fund).

There has also been interest in understanding the ways in which insurance networks, such as the varied informal arrangements that exist in developing countries, form and their role in providing insurance. Fafchamps and Gubert (2007) study the formation of insurance networks in the Philippines, while Chiappori et al. (2014) find that households with family members in the same village are able to spread risk better. Kinnan and Townsend (2012) find that an indirect connection to a financial institution (e.g., through kinship) can be as effective for consumption-smoothing purposes as a direct connection, suggesting that borrowing and lending among households serves to distribute liquidity and capital from formal financial institutions.

IV. EMPIRICAL APPROACH

A. Data Source and Definitions

The analytical approach uses a micro-level dataset that includes information on households with and without access to different types of financial institutions to assess if risk-sharing in consumption is improved through financial access. In particular, we focus on the degree of risk-sharing enabled by access to formal vs. informal sources of finance. We use the Nigeria GHS Panel data of 5,000 households, which are visited twice in a year (post-planting visit in August-October and post-harvest visit in February-April) every other year. Two survey rounds have been conducted, in 2010-11 and 2012-13. The GHS-Panel covers all 36 states, plus the FCT (Abuja), and is representative at both the national and zonal (rural/urban) levels (National Bureau of Statistics (NBS), 2012; NBS, 2014).⁷ The GHS contains a detailed questionnaire on household borrowing, saving, consumption, net worth, and the nature and type of negative shocks faced.

In the analysis presented below, we compiled information on the following:

- **Borrowing.** We distinguish between three types of borrowing. *Formal borrowing* is borrowing from a bank within the past six months. *Informal borrowing* is borrowing from an informal group (i.e., ROSCA, money lender, friends, or family) in the past six months. *Semi-formal borrowing* is defined as borrowing from a cooperative, savings association, or microfinance institution in the past six months.

⁷ This is a subset of the broader GHS survey, which is a cross-section of 22,000 households, visited once per year after harvest.

- **Saving.** *Formal saving* is defined as having used a bank to save in the past six months. *Informal saving* is having used an informal group (i.e., ROSCA, money lender, friends, or family) to save in the past six months. *Semi-formal saving* is having used a cooperative, savings association, or microfinance institution to save in the past six months.
- **Access.** We treat households as having *formal financial access*, if the household has either engaged in formal borrowing or formal saving, or reports either having a bank account or having indirect access to a bank account through a family member or close friend. We treat households as having *informal financial access*, if the household has either informal borrowing or informal saving. Similarly, we treat households as having *semi-formal financial access*, if the household has either semiformal borrowing or semi-formal saving.
- **Household Consumption.** Household consumption is calculated as the annualized consumption of food and non-food goods. In the GHS Panel Survey, the length of the period over which consumption patterns are measured varies by goods, ranging from the past seven days to the past 12 months. In addition, consumption modules are included in both the post-planting and post-harvest surveys in each wave. We annualize the consumption figure for each good and sum over all goods to get a measure of annualized consumption in a given survey round. We then average across the post-planting and post-harvest surveys in each wave in order to control for seasonality.
- **Household Net Worth.** We calculate household net worth as the total value of all reported household assets plus the reported value of housing (if the household owns their home or can use it as collateral). We do not include the value of assets used in agriculture or any entrepreneurial endeavors.

The GHS panel also includes information both about self-reported individual and aggregate income shocks (at the community-level) faced by households. In particular, the household survey gathers retrospective data on whether or not the household was affected by a shock within the past year, the nature of the most significant shocks faced, and whether or not the household received assistance (e.g., from informal channels, took a loan from a financial institution, or was covered by insurance). In general rural households tend to be more vulnerable to weather shocks (e.g., drought, variability of rainfall or food) and need support to cope with fluctuations in food production, the urban poor are more vulnerable to income shocks (e.g., unemployment, loss of productive day due to illness or loss of income due to death of breadwinner) and need support to cope with fluctuations in food prices.

B. Summary Statistics

Table 1 presents the number of households in each category of financial access for each GHS wave. Note that these categories are not mutually exclusive. That is, a household can simultaneously make use of formal, informal, and semiformal financial institutions. Indeed, many appear to do so in Nigeria. Unsurprisingly, informal access is the most important source of finance, with about half of the sample reporting either borrowing or saving from an informal source over the past six months.

Table 1. Nigeria: Financial Access, 2010/11 and 2012/13

		Number		Percent of Total	
		Wave 1	Wave 2	Wave 1	Wave 2
Access	Formal	1,626	1,589	33	34
	Informal	2,386	2,303	48	49
	Semiformal	418	496	8	11
Borrow	Formal	22	17	0	0
	Informal	1,647	1,618	33	34
	Semiformal	137	246	3	5
Save	Formal	0	6	0	0
	Informal	1,623	1,673	33	36
	Semiformal	373	413	8	9
Total		4,961	4,707	100	100

Sources: NBS (2012); NBS (2014); and authors' calculations.

About one-third of households report having access to the formal financial system. However, it is important to clarify that access and usage are distinct concepts. Most of the reported formal financial access is due to ownership of a bank account, while very few households report either borrowing from or saving with a bank. In other words, many households appear to have direct or indirect access to a bank account but rarely use it. Semiformal financial access is quite low in Nigeria, mainly reflecting the limited presence of micro financial institutions (MFIs).

Financial access varies across different zones (Table 2). Access to banks is the highest in South West (almost 50 percent of population have access to banks) and is lowest in the North West zone (12 percent of the population). Access to informal finance is similar across zones while access to semiformal finance is almost negligible in the Northern zones.

Table 2. Nigeria: Financial Access by Zone, 2010/11 and 2012/13

Zone		(Percent of total)											
		North Central		North East		North West		South East		South South		South West	
		Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Access	Formal	31	32	19	16	14	12	31	35	43	45	45	49
	Informal	57	54	48	39	47	40	42	52	49	54	49	52
	Semiformal	9	10	4	3	3	2	3	11	7	12	17	19
Borrow	Formal	0	0	0	0	1	0	0	0	1	0	0	1
	Informal	42	41	38	33	42	36	27	42	36	34	24	27
	Semiformal	3	5	2	2	1	1	1	5	3	6	5	9
Save	Formal	0	0	0	0	0	0	0	0	0	0	0	0
	Informal	40	37	27	23	21	25	31	37	33	41	40	43
	Semiformal	8	9	3	2	2	1	3	8	6	8	15	17
Total		100	100	100	100	100	100	100	100	100	100	100	100

Sources: NBS (2012); NBS (2014); and authors' calculations.

Table 3 presents summary statistics for key variables in each wave of the survey according to the degree of household financial access. The results are intuitive. Those with formal financial access tend to be richer (i.e., have higher net worth), consume more, are more educated, and located closer to a bank. They also are more likely to be workers (i.e., have

some reported labor income), more likely to receive remittances from afar, and have household heads that are, on average, somewhat younger. Along most dimensions, households with semiformal access are close to those with formal access, while average values for households with informal access tend to differ. Households with no reported financial access tend to be much poorer, consume less, less well educated, and are located farthest from a bank. Interestingly, households that report running a business (and thus are designated as “entrepreneurs”) are most likely to make use of semiformal financial institutions, which fits with the mission statements of most MFIs.

Table 3. Nigeria: Summary Statistics of Key Variables, 2010/11

Degree of Financial Access	All	Formal Access	Informal Access	Semi-formal Access	No Access
Household Consumption (1,000 Naira)	343	516	366	502	230
Household Net Worth (million Naira)	1.7	3.8	1.5	2.6	0.9
Household Size (number of people)	5.5	5.5	5.8	5.6	5.2
Household Religion (1: Christian; 2: Islam)	1.48	1.34	1.44	1.42	1.58
Age of HoH (years)	49.6	48.4	48.1	48.6	51.9
Education of HoH (level - higher = more edu)	26.3	28.7	25.2	27.8	25.8
HoH is Worker (dummy)	0.65	0.78	0.70	0.78	0.52
HoH is Farmer (dummy)	0.65	0.44	0.68	0.48	0.74
HoH is Entrepreneur (dummy)	0.56	0.60	0.63	0.65	0.47
Received Remittances (dummy)	0.22	0.28	0.25	0.24	0.16
Distance to Nearest Bank (hours to reach)	0.83	0.62	0.81	0.66	0.94
Negative Shock in Current or Previous Year (dummy)	0.18	0.18	0.19	0.14	0.18
Number of Observations	4,961	1,626	2,386	418	1,742

Sources: NBS (2012); NBS (2014); and authors' calculations.

Cross-regional comparisons also show similar patterns (Table 4). Regions with relatively higher formal financial access (i.e., the South South and South West) have households that are located closer to a bank, have a higher net worth, and consume more. They also are more likely to have some reported labor income and be an entrepreneur rather than be a farmer (Figure 3), and are less likely to receive remittances. Household heads are, on average, somewhat older (above 50 rather than mid 40s).

Table 4. Nigeria: Summary Statistics of Key Variables by Zone, 2010/11

	North Central	North East	North West
Household Consumption (1,000 Naira)	339	343	323
Household Net Worth (million Naira)	1.4	0.8	0.7
Household Size (number of people)	5.8	7.1	6.6
Household Religion (1: Christian; 2: Islam)	1.44	1.88	1.93
Age of HoH (years)	47.8	46.5	46.8
Education of HoH (level - higher = more edu)	26.1	28.3	34.9
HoH is Worker (dummy)	0.41	0.53	0.66
HoH is Farmer (dummy)	0.68	0.86	0.79
HoH is Entrepreneur (dummy)	0.53	0.52	0.62
Received Remittances (dummy)	0.18	0.12	0.11
Distance to Nearest Bank (hours to reach)	0.84	1.05	0.73
Negative Shock in Current or Previous Year (dummy)	0.15	0.21	0.26
Number of Observations	797	759	885
	South East	South South	South West
Household Consumption (1,000 Naira)	319	452	381
Household Net Worth (million Naira)	2.4	4.9	3.7
Household Size (number of people)	4.4	5.0	4.1
Household Religion (1: Christian; 2: Islam)	1.00	1.01	1.37
Age of HoH (years)	55.9	49.1	50.7
Education of HoH (level - higher = more edu)	21.6	24.5	25.6
HoH is Worker (dummy)	0.77	0.71	0.75
HoH is Farmer (dummy)	0.69	0.38	0.24
HoH is Entrepreneur (dummy)	0.47	0.59	0.66
Received Remittances (dummy)	0.33	0.26	0.34
Distance to Nearest Bank (hours to reach)	1.28	0.44	0.63
Negative Shock in Current or Previous Year (dummy)	0.21	0.23	0.07
Number of Observations	796	792	882

Sources: NBS (2012); NBS (2014); and authors' calculations.

Figure 3. Nigeria: Household by Type, 2010/11

Sources: NBS (2012); and authors' calculations. Note that shares do not need to add up to 1.

C. Empirical Model

We adopt a reduced-form model of households' abilities to insure consumption against negative shocks faced. The basic idea is that households with access to finance should be better able to weather idiosyncratic and aggregate shocks, and thus should see consumption respond less to a given shock than otherwise similar households without access. Here we use an indicator for a reported shock rather than a measure of the change in income. This is preferable if there are worries about measurement error in income, which often tend to be more severe than for consumption data in many developing countries. We also quantify the magnitude of consumption smoothing provided by access to finance, which is critical for assessing the importance of our findings for welfare and for considering policy implications.

We test for the impact of access to different sources of finance on consumption smoothing using the following difference-in-difference specification⁸:

$$C_{ijt} = \alpha + \mu_i + \beta \cdot Shock_{ijt} + \gamma \cdot FinUse_{ijt} + \delta \cdot (Shock \cdot FinUse)_{ijt} + \eta \cdot X_{ijt} + \xi \cdot (Shock \cdot X)_{ijt} + \theta_{jt} + \varepsilon_{ijt}$$

Note that the specification uses information at the "location" level, which can be interpreted as some geographical region larger than a village. Here, C_{ijt} is the log monthly per capita consumption for household i in location j and period t , μ_i are household fixed effects, $Shock_{ijt}$ is a binary indicator of whether a household reports experiencing a negative shock in the current or preceding year, $FinUse_{ijt}$ is a binary indicator of whether household i in location j and period t reports using a given source of finance, X_{ijt} is a vector of controls, and θ_{jt} are location-time fixed effects. Household fixed effects control for any unobserved but fixed household characteristics that may impact consumption (e.g., religion), while location-time fixed effects control for location-wide aggregate shocks (e.g., proximity to a bank). The household fixed effects allow us to compare changes in the response of consumption to shocks across those with some financial access and those without.

Control variables included in X_{ijt} are household size, years of education, age of the household head, household net worth, household occupation, and a dummy for whether or not the household received remittances within the past year. The interaction term between the indicator of negative shocks and the set of control variables takes into account the possibility that these controls have an impact on a household's ability to smooth consumption.

The term β indicates the impact of negative income shocks on consumption for those who do not use a given source of finance, while γ measures the effect of finance on consumption

⁸ Equation (1) is a straightforward generalization of existing econometric models of consumption insurance in the literature (see Jack and Suri, 2013; Gertler and Gruber, 2002; and Gertler, Levine, and Moretti, 2006, 2009).

conditional on not experiencing a shock. The term δ indicates the impact of financial access on consumption smoothing. We would expect, *a priori*, that $\beta < 0$ and $\delta > 0$. In words, households are imperfectly able to smooth against income shocks, but that use of a given source of finance at least partially mitigates this problem.

Identification requires that the interaction term, $(Shock \cdot FinUse)_{ijt}$, is exogenous, conditional on the direct effects of shocks and usage of the relevant financial institution (i.e., formal, informal, or semiformal), household and location-time fixed effects, the set of controls, and the interaction of shocks with the set of controls. As noted by Jack and Suri (2014), this will hold as long as negative shocks are actually exogenous. Given that the relevant survey questions in the Nigerian data are specifically designed to pick up only unexpected shocks, such as unemployment, loss of income due to death or illness, this seems a reasonable assumption. It is also important to note that this specification allows for unobservable household characteristics to be correlated with financial institution usage, as long as these unobservables are not correlated with risk-smoothing.

V. EMPIRICAL RESULTS

Table 5 presents results from the preferred specification, which is estimated as a panel and includes a full set of controls, household fixed effects, time fixed effects, and time-location fixed effects. The dependent variable in all cases is the natural log of annualized household consumption. As expected, a negative shock is associated with lower household consumption, independent of the degree of financial access. In most cases, households with financial access consume more on average, as reflected in the positive coefficients for the financial access regressor. The coefficients on the interaction term, which indicate the impact of financial access on consumption smoothing, vary widely.

A number of conclusions emerge. Those with some financial access (Column 1) are better able to smooth consumption when hit with a negative income shock than those without. The coefficient on the interaction term is positive and statistically significant at the 1 percent level, and it is of an economically meaningful magnitude. Specifically, those with financial access who experience a negative income shock see consumption fall by 15 percentage points less than those without access experiencing a shock. This result is mainly driven by households with informal access to finance. In particular, the sign of the interaction coefficient is actually negative and insignificant for both formal and semiformal access (Columns 2 and 4), while it is larger and significant at the 1 percent level for those with informal access.

This result is also mainly driven by savings, rather than borrowing. Households that report saving via any means or specifically via informal institutions (Columns 9 and 11) are much better able to smooth consumption in the face of negative income shocks. Note that this is

Table 5. Nigeria: Difference-in-Difference Estimation Results for Full Sample and by Zone, 2010/11-2012/13

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
All												
Negative Shock	-0.341 (0.165)**	-0.225 (0.161)	-0.368 (0.164)**	-0.235 (0.159)	-0.276 (0.165)*	-0.230 (0.161)	-0.273 (0.164)*	-0.231 (0.160)	-0.295 (0.162)*	-0.232 (0.161)	-0.289 (0.163)*	-0.239 (0.159)
Financial Access	0.016 (0.037)	0.071 (0.039)*	0.020 (0.036)	0.125 (0.052)**	0.021 (0.034)	-0.080 (0.278)	0.032 (0.035)	0.138 (0.077)*	0.053 (0.033)	-1.103 (0.132)***	0.038 (0.035)	0.095 (0.055)*
Neg. Shock * Fin. Access	0.146 (0.053)***	-0.045 (0.070)	0.174 (0.056)***	-0.014 (0.113)	0.086 (0.054)	0.356 (0.331)	0.084 (0.051)*	-0.109 (0.214)	0.133 (0.055)**	0.689 (0.194)***	0.135 (0.057)**	0.097 (0.093)
Zone 1: North Central												
Negative Shock	-0.109 (0.647)	-0.245 (0.543)	-0.396 (0.610)	-0.396 (0.610)	0.118 (0.645)	-0.008 (0.601)	-0.026 (0.598)	0.026 (0.641)	-0.029 (0.598)	-0.010 (0.594)	0.025 (0.615)	-0.188 (0.546)
Financial Access	0.105 (0.111)	-0.083 (0.105)	0.078 (0.129)	0.078 (0.129)	0.111 (0.100)	-0.014 (0.427)	0.127 (0.104)	0.154 (0.166)	0.144 (0.085)*		0.111 (0.093)	0.107 (0.114)
Neg. Shock * Fin. Access	0.221 (0.238)	-0.328 (0.267)	0.506 (0.323)	0.506 (0.323)	-0.130 (0.254)	0.000 (0.254)	0.142 (0.288)	-0.229 (0.827)	0.479 (0.243)**		0.283 (0.247)	0.706 (0.288)**
Zone 2: North East												
Negative Shock	0.050 (0.297)	-0.041 (0.291)	0.016 (0.297)	-0.109 (0.284)	0.107 (0.301)	-0.035 (0.286)	0.092 (0.302)	-0.030 (0.277)	-0.051 (0.294)	-0.033 (0.285)	-0.076 (0.292)	-0.088 (0.293)
Financial Access	0.138 (0.064)**	0.118 (0.093)	0.109 (0.065)*	0.360 (0.132)***	0.160 (0.069)**	-0.207 (0.121)*	0.148 (0.073)**	0.668 (0.195)***	0.055 (0.077)		-0.021 (0.084)	0.243 (0.156)
Neg. Shock * Fin. Access	-0.068 (0.094)	-0.242 (0.119)**	-0.005 (0.096)	-0.357 (0.254)	-0.098 (0.097)		-0.081 (0.097)	-0.888 (0.259)***	0.018 (0.101)		0.124 (0.105)	-0.281 (0.274)
Zone 3: North West												
Negative Shock	-0.665 (0.324)**	-0.309 (0.318)	-0.643 (0.322)**	-0.441 (0.310)	-0.473 (0.319)	-0.421 (0.309)	-0.483 (0.320)	-0.411 (0.308)	-0.501 (0.309)	-0.421 (0.309)	-0.498 (0.310)	-0.441 (0.310)
Financial Access	-0.023 (0.076)	0.031 (0.089)	-0.003 (0.073)	-0.002 (0.186)	0.025 (0.074)	0.000 (0.074)	0.010 (0.074)	0.280 (0.228)	0.049 (0.079)		0.102 (0.080)	-0.012 (0.254)
Neg. Shock * Fin. Access	0.304 (0.120)**	0.294 (0.146)**	0.286 (0.118)**	-0.202 (0.257)	0.094 (0.117)	0.000 (0.117)	0.107 (0.119)	0.000 (0.119)	0.308 (0.136)**		0.272 (0.143)*	-0.194 (0.284)
Zone 4: South East												
Negative Shock	-0.414 (0.483)	-0.192 (0.496)	-0.456 (0.489)	-0.270 (0.493)	-0.345 (0.485)	-0.230 (0.491)	-0.367 (0.486)	-0.355 (0.487)	-0.386 (0.487)	-0.244 (0.485)	-0.386 (0.490)	-0.244 (0.485)
Financial Access	-0.018 (0.063)	0.063 (0.065)	-0.015 (0.060)	-0.015 (0.085)	-0.069 (0.054)	0.557 (0.234)**	-0.069 (0.054)	0.013 (0.153)	0.080 (0.062)		0.070 (0.060)	-0.001 (0.101)
Neg. Shock * Fin. Access	0.210 (0.100)**	0.113 (0.115)	0.230 (0.096)**	-0.069 (0.161)	0.231 (0.092)**	-0.148 (0.332)	0.229 (0.089)***	-0.354 (0.218)	0.025 (0.104)		0.045 (0.113)	0.043 (0.205)
Zone 5: South South												
Negative Shock	-0.451 (0.521)	-0.322 (0.541)	-0.441 (0.524)	-0.249 (0.490)	-0.411 (0.537)	-0.342 (0.524)	-0.364 (0.532)	-0.131 (0.504)	-0.428 (0.513)	-0.297 (0.515)	-0.443 (0.505)	-0.377 (0.494)
Financial Access	-0.045 (0.080)	0.118 (0.093)	-0.015 (0.083)	0.115 (0.126)	0.007 (0.086)	0.323 (0.388)	0.052 (0.086)	0.099 (0.237)	-0.039 (0.076)		-0.066 (0.080)	0.216 (0.140)
Neg. Shock * Fin. Access	0.149 (0.133)	-0.183 (0.190)	0.156 (0.131)	0.340 (0.205)*	0.139 (0.128)	-0.443 (0.464)	0.073 (0.129)	0.443 (0.335)	0.207 (0.140)		0.201 (0.139)	0.268 (0.222)
Zone 6: South West												
Negative Shock	1.276 (1.000)	-0.262 (0.749)	0.580 (0.898)	0.235 (0.703)	-0.247 (0.941)	0.333 (0.683)	0.776 (0.904)	0.086 (0.733)	0.957 (0.893)	0.171 (0.774)	0.705 (0.696)	0.236 (0.701)
Financial Access	-0.377 (0.259)	0.168 (0.163)	-0.057 (0.181)	0.057 (0.149)	-0.185 (0.132)	-1.882 (0.561)***	0.033 (0.111)	-0.347 (0.161)**	0.019 (0.214)	-1.143 (0.152)***	0.041 (0.148)	0.071 (0.125)
Neg. Shock * Fin. Access	-0.145 (0.282)	-0.090 (0.202)	-0.072 (0.274)	0.135 (0.227)	0.073 (0.271)	0.000 (0.271)	-0.251 (0.281)	0.626 (0.312)**	-0.407 (0.355)	0.710 (0.433)	-0.400 (0.382)	0.126 (0.232)

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * $p < 0.1$; ** $p < 0.05$; and *** $p < 0.01$.

technically true for those who report saving with a bank, but with only a limited number of observations, this finding is potentially far from robust. Conversely, only informal borrowing appears to help with consumption smoothing (Column 7), and the interaction coefficient is much smaller in magnitude and only significant at the 10 percent level.

Regional variations are non-trivial. For instance, semi-formal financial access is more important than informal financial access in the North Central (Column 12), South South (Column 4), and the South West (Column 8). Moreover, the borrowing mechanism is more important in the South East (Column 7). Financial access does not seem to affect the households' ability to smooth consumption in the North East.

Interaction terms between the indicator of negative shocks and the set of control variables show (Annex 2) that being an entrepreneur worsens the household's ability to smooth consumption in the North East (Table A.3). In contrast, being a farmer seems to cushion the household's ability to smooth consumption in the North West (Table A.4) and in the South South (Table A.6) zones. In the South South, being a wage earner also seems to help in smoothing consumption. In the South East, households with the head having a higher education level seem to smooth consumption better (Table A.5). One possible interpretation is that these characteristics of households are indirectly capturing the role of remittances or intra-household transfers, which are widely understood to play an important role in softening adverse shocks.

The results presented here suggest that informal financial access is a more important mechanism for risk-sharing in Nigeria, especially in the North. This reflects, at least in part, the much lower degree of access to more formal forms of finance in most low-income nations, including Nigeria. It also fits with previous findings from Thailand (Kinnan and Townsend, 2012). The effectiveness of the informal channel of risk sharing however seems to be limited to cushioning household-specific shocks (e.g., illnesses) as the results do not hold for community-wide shocks.

The results also suggest that savings are currently much more important for risk-sharing than borrowing, except for in the South East. This fits with a world in which households are borrowing-constrained, and thus must transfer resources over time by accumulating funds (i.e., "buffer stocks"). The importance of informal saving even relative to informal borrowing could also be related to measurement issues regarding the total amount of informal borrowing that occurs, given that many households view transfers to and from friends and family as a sort of reciprocity rather than lending and borrowing.

VI. CONCLUDING REMARKS

This paper examines the role of financial access by households in providing risk-sharing benefits in Nigeria. We find that those households with some financial access are better able to smooth consumption than those without. The differential impact of adverse shocks to

consumption is 15 percentage points on average. This result is mainly driven by households with *informal* financial access and by household *savings*, rather than borrowing.

A number of policy implications can be drawn. First, improved access to formal (i.e., banks) or semi-formal financial institutions (i.e., cooperative, savings association, or microfinance institution) is yet to deliver consumption smoothing benefits for households. As well as addressing lack of capacity and capital in these institutions, better understanding of this disconnect between access and usage is needed.

Second, informal networks provide an important means by which households share risk in Nigeria, though the insurance they provide is often incomplete and limited in scale. Further research is needed to assess in what times and places and for what forms of shocks informal networks better help families in need. Comparing the effect of smoothing household-specific versus community-wide shocks confirms that the informal networks face limitations in smoothing the latter. Given the general ineffectiveness of more formal social safety nets in Nigeria, it remains to be seen if the public sector can create safety nets to complement those provided by informal mechanisms without crowding out what informal assistance already exists.

Finally, financial inclusion efforts going forward could have more regional focus, addressing region-specific needs and bottlenecks. For instance, having access to semi-formal financial institutions was more effective in smoothing negative shocks in the South than in North. Moreover, informal borrowing was more effective than savings in absorbing shocks in North East. A regional focus could potentially be beneficial for increasing financial access and aiding poverty alleviation efforts.

ANNEX 1: GLOBAL FINDEX (WORLD BANK)

2011 or Most Recent Value Available

	Nigeria	Low income	SSA (developing only)	World
Formal Accounts				
Debit Cards				
Debit card (% age 15+)	18.56	7.35	15.46	30.40
Frequency of Access				
0 deposits in a typical month (% with an account, age 15+)	2.80	8.29	6.27	12.82
0 deposits/withdrawals in typical month (% with an account, age 15+)	2.59	5.37	3.78	7.69
0 withdrawals in a typical month (% with an account, age 15+)	8.91	21.10	11.69	13.87
1-2 deposits in a typical month (% with an account, age 15+)	72.95	64.73	69.52	65.37
1-2 withdrawals in a typical month (% with an account, age 15+)	63.57	59.25	63.41	51.72
3+ deposits in a typical month (% with an account, age 15+)	23.97	23.14	21.91	16.02
3+ withdrawals in a typical month (% with an account, age 15+)	27.52	16.03	22.95	27.38
Mode of Access				
ATM is main mode of deposit (% with an account, age 15+)	0.94	4.37	6.61	13.60
ATM is main mode of withdrawal (% with an account, age 15+)	40.82	22.89	41.82	43.25
Bank agent is main mode of deposit (% with an account, age 15+)	1.31	9.10	2.69	3.14
Bank agent is main mode of withdrawal (% with an account, age 15+)	1.02	5.36	2.47	1.87
Bank teller is main mode of deposit, female (% with an account, age 15+)	96.56	79.95	84.77	68.64
Bank teller is main mode of withdrawal (% with an account, age 15+)	58.06	63.01	49.39	47.70
Retail store is main mode of deposit (% with an account, age 15+)	0.32	1.91	2.74	1.13
Retail store is main mode of withdrawal (% with an account, age 15+)	0.10	1.42	2.50	2.00
Penetration				
Account at a formal financial institution (% age 15+)	29.67	23.68	24.03	50.49
Use of Accounts				
Account used for business purposes (% age 15+)	7.45	4.55	5.29	7.92
Account used to receive government payments (% age 15+)	6.30	2.50	5.67	12.88
Account used to receive remittances (% age 15+)	15.70	4.75	9.10	7.23
Account used to receive wages (% age 15+)	11.84	5.86	9.91	20.88
Account used to send remittances (% age 15+)	10.84	2.78	6.31	7.05
Payments				
Mobile Payments				
Mobile phone used to pay bills (% age 15+)	1.38	2.57	3.00	1.99
Mobile phone used to receive money (% age 15+)	11.16	9.11	14.56	3.04
Mobile phone used to send money (% age 15+)	9.92	7.10	11.18	2.16
Mode of Payments from Accounts				
Checks used to make payments (% age 15+)	4.04	4.56	3.27	9.37
Electronic payments used to make payments (% age 15+)	2.42	1.94	3.98	14.48
Savings				
Current Savings				
Saved any money in the past year (% age 15+)	64.39	29.94	40.21	35.90
Mode of Current Savings				
Saved at a financial institution in the past year (% age 15+)	23.59	11.48	14.22	22.43
Saved using a savings club in the past year (% age 15+)	44.48	8.27	19.25	5.29
Purpose of Current Savings				
Saved for emergencies in the past year (% age 15+)	57.17	22.80	31.32	27.22
Saved for future expenses in the past year (% age 15+)	40.12	20.36	26.02	24.04
Credit				
Credit Cards				
Credit card (% age 15+)	0.79	1.86	2.92	14.79
Current Loans				
Loan in the past year (% age 15+)	48.28	44.11	46.76	33.80
Purpose of Current Loans				
Outstanding loan for funerals or weddings (% age 15+)	2.60	5.42	4.55	2.78
Outstanding loan for health or emergencies (% age 15+)	8.39	16.06	15.14	10.96
Outstanding loan for home construction (% age 15+)	1.70	6.30	4.44	5.00
Outstanding loan to pay school fees (% age 15+)	4.70	6.99	9.01	5.38
Outstanding loan to purchase a home (% age 15+)	0.61	2.40	2.01	7.02
Source of Current Loans				
Loan from a financial institution in the past year (% age 15+)	2.06	11.39	4.76	9.05
Loan from a private lender in the past year (% age 15+)	2.43	6.99	5.41	3.44
Loan from an employer in the past year (% age 15+)	2.96	3.36	4.09	3.06
Loan from family or friends in the past year (% age 15+)	44.08	30.30	39.94	22.74
Loan through store credit in the past year (% age 15+)	10.44	8.43	8.31	7.53
Insurance				
Personally paid for health insurance (% age 15+)	0.40	2.22	3.21	17.05
Purchased agriculture insurance (% working in agriculture, age 15+)	2.29	5.11	9.71	6.48

ANNEX 2: EMPIRICAL RESULTS BY ZONE

Table A.1 All Zones (Full Sample)

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
Key Regressors												
Negative Shock	-0.341 (0.165)**	-0.225 (0.161)	-0.368 (0.164)**	-0.235 (0.159)	-0.276 (0.165)*	-0.230 (0.161)	-0.273 (0.164)*	-0.231 (0.160)	-0.295 (0.162)*	-0.232 (0.161)	-0.289 (0.163)*	-0.239 (0.159)
Financial Access	0.016 (0.037)	0.071 (0.039)*	0.020 (0.036)	0.125 (0.052)**	0.021 (0.034)	-0.080 (0.278)	0.032 (0.035)	0.138 (0.077)*	0.053 (0.033)	-1.103 (0.132)***	0.038 (0.035)	0.095 (0.055)*
Neg. Shock * Fin. Access	0.146 (0.053)***	-0.045 (0.070)	0.174 (0.056)***	-0.014 (0.113)	0.086 (0.054)	0.356 (0.331)	0.084 (0.051)*	-0.109 (0.214)	0.133 (0.055)**	0.689 (0.194)***	0.135 (0.057)**	0.097 (0.093)
Controls												
Dummy for 2nd Wave	0.189 (0.102)*	0.206 (0.119)*	0.194 (0.102)*	0.198 (0.103)*	0.196 (0.102)*	0.186 (0.103)*	0.194 (0.102)*	0.195 (0.102)*	0.190 (0.102)*	0.179 (0.103)*	0.193 (0.102)*	0.183 (0.104)*
Household Size	0.015 (0.017)	0.015 (0.017)	0.014 (0.017)	0.015 (0.017)	0.015 (0.017)	0.015 (0.017)	0.015 (0.017)	0.015 (0.017)	0.016 (0.016)	0.015 (0.017)	0.016 (0.017)	0.014 (0.017)
HoH Education	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
Dummy for HoH is Wage Earner	0.001 (0.044)	-0.003 (0.045)	0.002 (0.044)	0.000 (0.045)	0.001 (0.044)	0.002 (0.044)	0.003 (0.044)	-0.004 (0.045)	0.001 (0.044)	0.001 (0.044)	0.000 (0.044)	0.006 (0.044)
Dummy for HoH is Farmer	0.049 (0.057)	0.039 (0.056)	0.051 (0.057)	0.038 (0.057)	0.044 (0.057)	0.043 (0.057)	0.045 (0.057)	0.040 (0.057)	0.049 (0.057)	0.044 (0.057)	0.049 (0.057)	0.041 (0.057)
Dummy for HoH is Entrepreneur	0.142 (0.054)***	0.136 (0.055)**	0.140 (0.054)***	0.141 (0.054)***	0.142 (0.055)***	0.140 (0.054)**	0.142 (0.054)***	0.145 (0.055)***	0.141 (0.054)***	0.142 (0.054)***	0.139 (0.054)**	0.139 (0.054)**
HoH Age	0.004 (0.003)	0.004 (0.003)	0.004 (0.003)	0.003 (0.003)	0.004 (0.003)	0.004 (0.003)	0.004 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.004 (0.003)	0.003 (0.003)
Dummy for Receiving Remittances	0.021 (0.053)	0.015 (0.053)	0.023 (0.052)	0.007 (0.054)	0.023 (0.052)	0.020 (0.053)	0.025 (0.052)	0.011 (0.053)	0.014 (0.053)	0.022 (0.053)	0.018 (0.053)	0.011 (0.054)
Household Net Worth	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0
Neg. Shock * Household Size	0.006 (0.010)	0.005 (0.010)	0.006 (0.010)	0.006 (0.010)	0.007 (0.010)	0.005 (0.010)	0.007 (0.010)	0.005 (0.010)	0.006 (0.010)	0.005 (0.010)	0.005 (0.010)	0.006 (0.010)
Neg. Shock * HoH Edu.	0.001 (0.002)	0.000 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.000 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.000 (0.002)
Neg. Shock * HoH Wage Earner	0.019 (0.058)	0.043 (0.060)	0.023 (0.058)	0.028 (0.059)	0.018 (0.058)	0.033 (0.059)	0.017 (0.058)	0.043 (0.059)	0.017 (0.059)	0.034 (0.058)	0.025 (0.059)	0.019 (0.059)
Neg. Shock * HoH Farmer	0.100 (0.070)	0.120 (0.072)*	0.093 (0.071)	0.118 (0.070)*	0.105 (0.069)	0.127 (0.070)*	0.105 (0.071)	0.120 (0.069)*	0.107 (0.071)	0.131 (0.070)*	0.107 (0.071)	0.126 (0.070)*
Neg. Shock * HOH Entrepreneur	-0.178 (0.064)***	-0.168 (0.066)**	-0.180 (0.065)***	-0.163 (0.065)**	-0.172 (0.064)***	-0.161 (0.065)**	-0.173 (0.065)***	-0.168 (0.066)**	-0.174 (0.065)***	-0.166 (0.065)**	-0.174 (0.065)***	-0.162 (0.064)**
Neg. Shock * Household Net Worth	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0
Neg. Shock * HoH Age	0.004 (0.002)*	0.003 (0.002)	0.004 (0.002)*	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)
Neg. Shock * Remittances	-0.027 (0.093)	-0.025 (0.093)	-0.026 (0.093)	-0.017 (0.092)	-0.017 (0.092)	-0.027 (0.093)	-0.013 (0.093)	-0.023 (0.091)	-0.026 (0.097)	-0.028 (0.093)	-0.028 (0.096)	-0.019 (0.093)
Constant	12.053 (0.198)***	12.029 (0.213)***	12.040 (0.197)***	12.091 (0.197)***	12.043 (0.199)***	12.070 (0.197)***	12.035 (0.198)***	12.069 (0.197)***	12.045 (0.197)***	12.082 (0.199)***	12.046 (0.198)***	12.090 (0.197)***
R-squared	0.350	0.340	0.350	0.350	0.350	0.340	0.350	0.340	0.350	0.340	0.350	0.350
Number of Observations	3,918	3,918	3,918	3,918	3,918	3,918	3,918	3,918	3,918	3,918	3,918	3,918
Number with Access	2,110	1,414	1,974	380	1,518	15	1,435	166	1,571	2	1,405	314
Time Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Household Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time-Location Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * p<0.1; ** p<0.05; and *** p<0.01.

Table A.2 Empirical Results for the North Central

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
Key Regressors												
Negative Shock	-0.109 (0.647)	-0.245 (0.543)	-0.396 (0.610)	-0.396 (0.610)	0.118 (0.645)	-0.008 (0.601)	-0.026 (0.598)	0.026 (0.641)	-0.029 (0.598)	-0.010 (0.594)	0.025 (0.615)	-0.188 (0.546)
Financial Access	0.105 (0.111)	-0.083 (0.105)	0.078 (0.129)	0.078 (0.129)	0.111 (0.100)	-0.014 (0.427)	0.127 (0.104)	0.154 (0.166)	0.144 (0.085)*		0.111 (0.093)	0.107 (0.114)
Neg. Shock * Fin. Access	0.221 (0.238)	-0.328 (0.267)	0.506 (0.323)	0.506 (0.323)	-0.130 (0.254)	0.000 0	0.142 (0.288)	-0.229 (0.827)	0.479 (0.243)**		0.283 (0.247)	0.706 (0.288)**
Controls												
Dummy for 2nd Wave	0.096 (0.403)	1.063 (0.361)***	0.104 (0.409)	0.104 (0.409)	1.039 (0.378)***	1.117 (0.373)***	0.114 (0.449)	1.091 (0.354)***	-0.010 (0.398)	1.116 (0.370)***	0.018 (0.407)	1.143 (0.368)***
Household Size	0.023 (0.076)	-0.012 (0.086)	0.031 (0.075)	0.031 (0.075)	0.004 (0.081)	0.012 (0.077)	0.013 (0.077)	0.006 (0.080)	0.056 (0.074)	0.012 (0.076)	0.039 (0.076)	0.016 (0.077)
HoH Education	0.012 (0.007)*	0.011 (0.007)*	0.012 (0.007)*	0.012 (0.007)*	0.012 (0.007)*	0.011 (0.007)	0.013 (0.007)*	0.011 (0.006)*	0.011 (0.007)	0.011 (0.007)	0.011 (0.007)*	0.009 (0.007)
Dummy for HoH is Wage Earner	0.098 (0.118)	0.111 (0.125)	0.112 (0.115)	0.112 (0.115)	0.101 (0.122)	0.100 (0.122)	0.125 (0.118)	0.095 (0.122)	0.072 (0.118)	0.099 (0.120)	0.063 (0.121)	0.149 (0.115)
Dummy for HoH is Farmer	-0.113 (0.137)	-0.134 (0.138)	-0.102 (0.139)	-0.102 (0.139)	-0.108 (0.138)	-0.124 (0.139)	-0.110 (0.136)	-0.125 (0.163)	-0.074 (0.137)	-0.123 (0.138)	-0.083 (0.142)	-0.103 (0.134)
Dummy for HoH is Entrepreneur	0.412 (0.257)	0.413 (0.259)	0.419 (0.269)	0.419 (0.269)	0.383 (0.250)	0.393 (0.257)	0.398 (0.265)	0.400 (0.245)	0.401 (0.255)	0.393 (0.257)	0.380 (0.255)	0.429 (0.262)
HoH Age	0.006 (0.006)	0.006 (0.006)	0.006 (0.006)	0.006 (0.006)	0.006 (0.006)	0.007 (0.006)	0.007 (0.006)	0.007 (0.007)	0.004 (0.006)	0.007 (0.006)	0.005 (0.006)	0.003 (0.006)
Dummy for Receiving Remittances	-0.053 (0.177)	-0.058 (0.178)	-0.044 (0.179)	-0.044 (0.179)	-0.044 (0.178)	-0.060 (0.178)	-0.040 (0.177)	-0.056 (0.185)	-0.108 (0.190)	-0.060 (0.178)	-0.088 (0.187)	-0.075 (0.181)
Household Net Worth	0	0	0	0	0	0	0	0	0	0	0	0
Neg. Shock * Household Size	0.095 (0.081)	0.114 (0.074)	0.062 (0.059)	0.062 (0.059)	0.116 (0.083)	0.112 (0.075)	0.097 (0.065)	0.112 (0.060)*	0.082 (0.066)	0.112 (0.074)	0.081 (0.069)	0.143 (0.080)*
Neg. Shock * HoH Edu.	-0.006 (0.013)	0.004 (0.012)	-0.002 (0.013)	-0.002 (0.013)	-0.004 (0.013)	-0.003 (0.013)	-0.005 (0.014)	-0.004 (0.013)	-0.009 (0.013)	-0.003 (0.013)	-0.004 (0.013)	-0.007 (0.013)
Neg. Shock * HoH Wage Earner	-0.223 (0.270)	-0.114 (0.260)	-0.213 (0.279)	-0.213 (0.279)	-0.157 (0.272)	-0.162 (0.270)	-0.264 (0.331)	-0.155 (0.262)	-0.225 (0.281)	-0.162 (0.270)	-0.174 (0.273)	-0.189 (0.262)
Neg. Shock * HoH Farmer	-0.265 (0.296)	-0.157 (0.288)	-0.238 (0.342)	-0.238 (0.342)	-0.147 (0.287)	-0.145 (0.301)	-0.227 (0.364)	-0.157 (0.263)	-0.257 (0.329)	-0.144 (0.295)	-0.199 (0.314)	-0.220 (0.306)
Neg. Shock * HOH Entrepreneur	-0.515 (0.328)	-0.522 (0.316)*	-0.466 (0.293)	-0.466 (0.293)	-0.532 (0.327)	-0.531 (0.326)	-0.525 (0.315)*	-0.524 (0.293)*	-0.473 (0.301)	-0.531 (0.324)	-0.478 (0.312)	-0.671 (0.341)**
Neg. Shock * Household Net Worth	0.000 (0.000)*	0.000 0	0.000 (0.000)**	0.000 (0.000)**	0.000 0	0.000 (0.000)*	0.000 0	0.000 0	0.000 0	0.000 (0.000)*	0.000 (0.000)*	0.000 0
Neg. Shock * HoH Age	-0.003 (0.013)	-0.005 (0.010)	-0.001 (0.011)	-0.001 (0.011)	-0.009 (0.013)	-0.008 (0.011)	-0.004 (0.012)	-0.008 (0.012)	-0.004 (0.012)	-0.008 (0.012)	-0.007 (0.011)	-0.004 (0.011)
Neg. Shock * Remittances	-0.061 (0.364)	0.154 (0.322)	0.017 (0.298)	0.017 (0.298)	0.127 (0.371)	0.130 (0.342)	0.015 (0.310)	0.125 (0.330)	0.000 (0.343)	0.130 (0.341)	0.144 (0.319)	-0.036 (0.368)
Constant	11.561 (0.198)***	11.337 (0.213)***	11.513 (0.197)***	11.513 (0.197)***	11.119 (0.199)***	11.094 (0.197)***	11.592 (0.197)***	11.150 (0.198)***	11.570 (0.197)***	11.095 (0.199)***	11.625 (0.198)***	11.174 (0.197)***
R-squared	0.330	0.330	0.340	0.340	0.330	0.320	0.330	0.320	0.340	0.320	0.330	0.340
Number of Observations	637	637	637	637	637	637	637	637	637	637	637	637
Number with Access	397	250	362	79	307	2	289	36	292	0	248	70
Time Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Household Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time-Location Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * p<0.1; ** p<0.05; and *** p<0.01.

Table A.3 Empirical Results for the North East

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
Key Regressors												
Negative Shock	0.050 (0.297)	-0.041 (0.291)	0.016 (0.297)	-0.109 (0.284)	0.107 (0.301)	-0.035 (0.286)	0.092 (0.302)	-0.030 (0.277)	-0.051 (0.294)	-0.033 (0.285)	-0.076 (0.292)	-0.088 (0.293)
Financial Access	0.138 (0.064)**	0.118 (0.093)	0.109 (0.065)*	0.360 (0.132)***	0.160 (0.069)**	-0.207 (0.121)*	0.148 (0.073)**	0.668 (0.195)***	0.055 (0.077)		-0.021 (0.084)	0.243 (0.156)
Neg. Shock * Fin. Access	-0.068 (0.094)	-0.242 (0.119)**	-0.005 (0.096)	-0.357 (0.254)	-0.098 (0.097)			-0.081 (0.259)***	-0.888 (0.101)	0.018	0.124 (0.105)	-0.281 (0.274)
Controls												
Dummy for 2nd Wave	-0.355 (0.167)**	-0.332 (0.193)*	-0.333 (0.169)**	-0.317 (0.161)**	-0.404 (0.172)**	-0.305 (0.161)*	-0.387 (0.173)**	-0.284 (0.157)*	-0.377 (0.188)**	-0.305 (0.161)*	-0.373 (0.193)*	-0.300 (0.162)*
Household Size	0.016 (0.026)	0.014 (0.028)	0.016 (0.026)	0.019 (0.027)	0.016 (0.026)	0.017 (0.028)	0.015 (0.026)	0.019 (0.027)	0.014 (0.028)	0.016 (0.028)	0.018 (0.028)	0.014 (0.028)
HoH Education	0.000 (0.003)	0.001 (0.003)	0.001 (0.003)	0.000 (0.003)	0.001 (0.003)	0.001 (0.003)	0.002 (0.003)	0.000 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)
Dummy for HoH is Wage Earner	-0.021 (0.079)	-0.029 (0.077)	-0.014 (0.079)	-0.018 (0.075)	-0.003 (0.076)	-0.019 (0.078)	-0.005 (0.078)	-0.032 (0.075)	-0.014 (0.078)	-0.017 (0.077)	-0.004 (0.078)	-0.014 (0.077)
Dummy for HoH is Farmer	-0.011 (0.108)	-0.036 (0.115)	-0.010 (0.110)	-0.052 (0.113)	-0.001 (0.110)	-0.006 (0.109)	-0.004 (0.110)	0.000 (0.109)	-0.006 (0.109)	-0.006 (0.109)	-0.022 (0.112)	-0.042 (0.113)
Dummy for HoH is Entrepreneur	0.238 (0.086)***	0.265 (0.088)***	0.249 (0.087)***	0.233 (0.084)***	0.257 (0.084)***	0.256 (0.089)***	0.259 (0.085)***	0.246 (0.079)***	0.256 (0.089)***	0.256 (0.089)***	0.272 (0.090)***	0.247 (0.091)***
HoH Age	0.005 (0.006)	0.003 (0.006)	0.005 (0.006)	0.003 (0.007)	0.005 (0.006)	0.003 (0.006)	0.003 (0.006)	0.004 (0.006)	0.003 (0.006)	0.003 (0.006)	0.003 (0.006)	0.002 (0.007)
Dummy for Receiving Remittances	-0.013 (0.122)	-0.006 (0.124)	-0.007 (0.122)	-0.044 (0.117)	0.005 (0.121)	-0.009 (0.126)	0.011 (0.123)	-0.058 (0.114)	-0.014 (0.124)	-0.009 (0.126)	-0.002 (0.126)	-0.022 (0.122)
Household Net Worth	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Neg. Shock * Household Size	-0.010 (0.016)	-0.013 (0.016)	-0.012 (0.017)	-0.010 (0.016)	-0.012 (0.016)	-0.015 (0.017)	-0.012 (0.016)	-0.018 (0.017)	-0.013 (0.017)	-0.015 (0.017)	-0.016 (0.017)	-0.011 (0.016)
Neg. Shock * HoH Edu.	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)	0.001 (0.004)	0.002 (0.004)	0.001 (0.004)	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)
Neg. Shock * HoH Wage Earner	0.152 (0.105)	0.204 (0.103)**	0.142 (0.104)	0.165 (0.104)	0.136 (0.104)	0.160 (0.102)	0.137 (0.105)	0.189 (0.098)*	0.149 (0.103)	0.160 (0.102)	0.132 (0.103)	0.166 (0.106)
Neg. Shock * HoH Farmer	0.116 (0.127)	0.131 (0.133)	0.120 (0.128)	0.129 (0.126)	0.104 (0.124)	0.153 (0.125)	0.108 (0.124)	0.139 (0.127)	0.153 (0.128)	0.149 (0.124)	0.164 (0.128)	0.141 (0.132)
Neg. Shock * HOH Entrepreneur	-0.337 (0.112)***	-0.356 (0.110)***	-0.360 (0.113)***	-0.320 (0.106)***	-0.332 (0.113)***	-0.344 (0.111)***	-0.336 (0.113)***	-0.339 (0.107)***	-0.345 (0.111)***	-0.342 (0.111)***	-0.364 (0.110)***	-0.329 (0.110)***
Neg. Shock * Household Net Worth	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0
Neg. Shock * HoH Age	0.001 (0.006)	0.004 (0.006)	0.002 (0.006)	0.003 (0.006)	0.001 (0.006)	0.003 (0.006)	0.001 (0.006)	0.003 (0.005)	0.003 (0.006)	0.003 (0.006)	0.003 (0.005)	0.003 (0.006)
Neg. Shock * Remittances	-0.038 (0.183)	-0.108 (0.182)	-0.035 (0.182)	-0.037 (0.185)	-0.048 (0.182)	-0.074 (0.184)	-0.054 (0.183)	-0.058 (0.174)	-0.061 (0.186)	-0.071 (0.185)	-0.069 (0.188)	-0.066 (0.188)
Constant	12.372 (0.198)***	12.492 (0.213)***	12.371 (0.197)***	12.490 (0.197)***	12.367 (0.199)***	12.453 (0.197)***	12.372 (0.199)***	12.385 (0.198)***	12.486 (0.197)***	12.457 (0.199)***	12.516 (0.198)***	12.530 (0.197)***
R-squared	0.450	0.450	0.450	0.470	0.460	0.440	0.450	0.480	0.450	0.440	0.450	0.450
Number of Observations	693	693	693	693	693	693	693	693	693	693	693	693
Number with Access	358	182	349	38	267	1	263	18	240	0	226	29
Time Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Household Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time-Location Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * p<0.1; ** p<0.05; and *** p<0.01.

Table A.4 Empirical Results for the North West

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
Key Regressors												
Negative Shock	-0.665 (0.324)**	-0.309 (0.318)	-0.643 (0.322)**	-0.441 (0.310)	-0.473 (0.319)	-0.421 (0.309)	-0.483 (0.320)	-0.411 (0.308)	-0.501 (0.309)	-0.421 (0.309)	-0.498 (0.310)	-0.441 (0.310)
Financial Access	-0.023 (0.076)	0.031 (0.089)	-0.003 (0.073)	-0.002 (0.186)	0.025 (0.074)	0.000 (0)	0.010 (0.074)	0.280 (0.228)	0.049 (0.079)		0.102 (0.080)	-0.012 (0.254)
Neg. Shock * Fin. Access	0.304 (0.120)**	0.294 (0.146)**	0.286 (0.118)**	-0.202 (0.257)	0.094 (0.117)	0.000 (0)	0.107 (0.119)	0.000 (0)	0.308 (0.136)**		0.272 (0.143)*	-0.194 (0.284)
Controls												
Dummy for 2nd Wave	-0.535 (0.139)***	0.302 (0.140)**	-0.532 (0.138)***	-0.864 (0.252)***	-0.558 (0.140)***	-0.576 (0.140)***	-0.561 (0.141)***	-0.534 (0.148)***	-0.678 (0.133)***	-0.576 (0.140)***	-0.695 (0.138)***	-0.865 (0.248)***
Household Size	0.048 (0.037)	0.062 (0.038)*	0.048 (0.037)	0.054 (0.037)	0.051 (0.038)	0.054 (0.038)	0.051 (0.038)	0.049 (0.035)	0.052 (0.037)	0.054 (0.038)	0.053 (0.036)	0.054 (0.037)
HoH Education	-0.004 (0.002)	-0.003 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.004 (0.002)
Dummy for HoH is Wage Earner	0.123 (0.073)*	0.154 (0.072)**	0.123 (0.073)*	0.138 (0.075)*	0.133 (0.072)*	0.142 (0.072)**	0.133 (0.073)*	0.133 (0.073)*	0.144 (0.072)**	0.142 (0.072)**	0.142 (0.072)**	0.138 (0.073)*
Dummy for HoH is Farmer	0.008 (0.113)	-0.008 (0.110)	0.008 (0.113)	-0.008 (0.112)	-0.005 (0.113)	-0.004 (0.113)	-0.004 (0.113)	-0.009 (0.109)	0.031 (0.110)	-0.004 (0.113)	0.037 (0.109)	-0.007 (0.112)
Dummy for HoH is Entrepreneur	0.080 (0.071)	0.048 (0.070)	0.082 (0.070)	0.054 (0.070)	0.066 (0.070)	0.055 (0.070)	0.064 (0.070)	0.061 (0.071)	0.075 (0.070)	0.055 (0.070)	0.072 (0.071)	0.054 (0.069)
HoH Age	0.006 (0.005)	0.006 (0.005)	0.006 (0.005)	0.005 (0.005)	0.006 (0.005)	0.005 (0.005)	0.006 (0.005)	0.004 (0.005)	0.005 (0.005)	0.005 (0.005)	0.005 (0.005)	0.005 (0.005)
Dummy for Receiving Remittances	-0.123 (0.149)	-0.154 (0.153)	-0.124 (0.149)	-0.137 (0.148)	-0.126 (0.150)	-0.136 (0.151)	-0.126 (0.150)	-0.137 (0.151)	-0.147 (0.159)	-0.136 (0.151)	-0.158 (0.158)	-0.138 (0.147)
Household Net Worth	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)	0.000 (0)
Neg. Shock * Household Size	0.021 (0.017)	0.003 (0.018)	0.021 (0.017)	0.013 (0.017)	0.016 (0.017)	0.012 (0.018)	0.016 (0.017)	0.013 (0.017)	0.024 (0.019)	0.012 (0.018)	0.024 (0.019)	0.013 (0.017)
Neg. Shock * HoH Edu.	-0.001 (0.004)	-0.003 (0.004)	-0.001 (0.004)	-0.003 (0.004)	-0.002 (0.005)	-0.003 (0.005)	-0.002 (0.004)	-0.002 (0.005)	-0.002 (0.004)	-0.003 (0.004)	-0.002 (0.004)	-0.003 (0.004)
Neg. Shock * HoH Wage Earner	-0.387 (0.125)***	-0.462 (0.129)***	-0.388 (0.125)***	-0.395 (0.131)***	-0.399 (0.128)***	-0.400 (0.129)***	-0.398 (0.128)***	-0.383 (0.130)***	-0.417 (0.125)***	-0.400 (0.129)***	-0.409 (0.124)***	-0.394 (0.130)***
Neg. Shock * HoH Farmer	0.315 (0.146)**	0.369 (0.144)**	0.314 (0.146)**	0.403 (0.144)***	0.375 (0.145)**	0.406 (0.146)***	0.375 (0.146)**	0.381 (0.147)***	0.302 (0.157)**	0.406 (0.146)***	0.313 (0.150)**	0.402 (0.143)***
Neg. Shock * HOH Entrepreneur	0.022 (0.119)	0.188 (0.108)*	0.024 (0.119)	0.141 (0.116)	0.102 (0.118)	0.133 (0.116)	0.103 (0.118)	0.133 (0.114)	0.032 (0.121)	0.133 (0.116)	0.038 (0.121)	0.141 (0.116)
Neg. Shock * Household Net Worth	0.000 (0.000)*	0.000 (0)	0.000 (0.000)*	0.000 (0)	0.000 (0.000)*	0.000 (0)	0.000 (0.000)*	0.000 (0)	0.000 (0.000)*	0.000 (0)	0.000 (0.000)*	0.000 (0)
Neg. Shock * HoH Age	0.006 (0.005)	0.003 (0.005)	0.006 (0.005)	0.004 (0.005)	0.004 (0.005)	0.004 (0.005)	0.004 (0.005)	0.003 (0.005)	0.005 (0.005)	0.004 (0.005)	0.005 (0.005)	0.004 (0.005)
Neg. Shock * Remittances	0.242 (0.228)	0.233 (0.231)	0.245 (0.228)	0.256 (0.218)	0.302 (0.226)	0.260 (0.224)	0.298 (0.226)	0.234 (0.223)	0.185 (0.231)	0.260 (0.224)	0.184 (0.230)	0.258 (0.217)
Constant	12.369 (0.198)***	11.534 (0.213)***	12.354 (0.197)***	12.673 (0.197)***	12.384 (0.199)***	12.410 (0.197)***	12.392 (0.199)***	12.458 (0.198)***	12.445 (0.197)***	12.410 (0.199)***	12.446 (0.198)***	12.671 (0.197)***
R-squared	0.470	0.460	0.470	0.450	0.450	0.450	0.450	0.450	0.470	0.450	0.470	0.450
Number of Observations	860	860	860	860	860	860	860	860	860	860	860	860
Number with Access	350	151	341	34	298	0	292	14	214	0	203	22
Time Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Household Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time-Location Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * $p < 0.1$; ** $p < 0.05$; and *** $p < 0.01$.

Table A.5 Empirical Results for the South East

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
Key Regressors												
Negative Shock	-0.414 (0.483)	-0.192 (0.496)	-0.456 (0.489)	-0.270 (0.493)	-0.345 (0.485)	-0.230 (0.491)	-0.367 (0.486)	-0.355 (0.487)	-0.386 (0.487)	-0.244 (0.485)	-0.386 (0.490)	-0.244 (0.485)
Financial Access	-0.018 (0.063)	0.063 (0.065)	-0.015 (0.060)	-0.015 (0.085)	-0.069 (0.054)	0.557 (0.234)**	-0.069 (0.054)	0.013 (0.153)	0.080 (0.062)	0.000 0	0.070 (0.060)	-0.001 (0.101)
Neg. Shock * Fin. Access	0.210 (0.100)**	0.113 (0.115)	0.230 (0.096)**	-0.069 (0.161)	0.231 (0.092)**	-0.148 (0.332)	0.229 (0.089)***	-0.354 (0.218)	0.025 (0.104)	0.000 0	0.045 (0.113)	0.043 (0.205)
Controls												
Dummy for 2nd Wave	0.250 (0.161)	0.191 (0.161)	0.240 (0.157)	0.263 (0.175)	0.306 (0.171)*	0.266 (0.162)	0.239 (0.158)	0.239 (0.223)	0.165 (0.156)	0.244 (0.158)	0.247 (0.160)	0.244 (0.182)
Household Size	0.046 (0.047)	0.046 (0.047)	0.046 (0.047)	0.045 (0.048)	0.042 (0.047)	0.046 (0.047)	0.043 (0.047)	0.046 (0.048)	0.050 (0.048)	0.044 (0.048)	0.049 (0.048)	0.044 (0.048)
HoH Education	0.012 (0.007)*	0.013 (0.008)*	0.013 (0.007)*	0.012 (0.007)*	0.013 (0.007)*	0.013 (0.008)*	0.013 (0.007)*	0.013 (0.007)*	0.013 (0.007)*	0.013 (0.007)*	0.013 (0.007)*	0.013 (0.008)*
Dummy for HoH is Wage Earner	0.029 (0.116)	0.021 (0.119)	0.035 (0.116)	0.025 (0.119)	0.027 (0.114)	0.016 (0.118)	0.030 (0.115)	0.022 (0.119)	0.009 (0.119)	0.024 (0.118)	0.013 (0.118)	0.024 (0.119)
Dummy for HoH is Farmer	0.095 (0.111)	0.075 (0.113)	0.086 (0.111)	0.088 (0.112)	0.094 (0.109)	0.063 (0.116)	0.093 (0.109)	0.079 (0.112)	0.076 (0.113)	0.091 (0.111)	0.076 (0.113)	0.091 (0.112)
Dummy for HoH is Entrepreneur	0.076 (0.076)	0.084 (0.076)	0.077 (0.076)	0.084 (0.076)	0.075 (0.075)	0.088 (0.077)	0.077 (0.075)	0.092 (0.075)	0.086 (0.075)	0.083 (0.076)	0.086 (0.075)	0.083 (0.076)
HoH Age	-0.006 (0.007)	-0.003 (0.007)	-0.006 (0.007)	-0.005 (0.007)	-0.006 (0.007)	-0.003 (0.007)	-0.006 (0.007)	-0.004 (0.007)	-0.005 (0.007)	-0.005 (0.007)	-0.005 (0.007)	-0.005 (0.007)
Dummy for Receiving Remittances	0.138 (0.088)	0.138 (0.088)	0.142 (0.088)	0.136 (0.088)	0.133 (0.088)	0.127 (0.088)	0.136 (0.088)	0.140 (0.088)	0.129 (0.086)	0.132 (0.088)	0.135 (0.087)	0.133 (0.088)
Household Net Worth	0.000 (0.000)*	0.000 0	0.000 (0.000)*	0.000 (0.000)*	0.000 (0.000)*	0.000 0	0.000 (0.000)*	0.000 (0.000)*	0.000 0	0.000 (0.000)*	0.000 0	0.000 (0.000)*
Neg. Shock * Household Size	-0.017 (0.026)	-0.023 (0.026)	-0.015 (0.026)	-0.015 (0.027)	-0.020 (0.026)	-0.015 (0.026)	-0.019 (0.026)	-0.016 (0.027)	-0.008 (0.026)	-0.016 (0.027)	-0.008 (0.026)	-0.016 (0.027)
Neg. Shock * HoH Edu.	0.016 (0.007)**	0.012 (0.008)	0.016 (0.007)**	0.015 (0.007)**	0.015 (0.007)**	0.012 (0.008)	0.015 (0.007)**	0.014 (0.007)**	0.015 (0.007)**	0.014 (0.007)**	0.015 (0.007)**	0.014 (0.007)**
Neg. Shock * HoH Wage Earner	-0.110 (0.200)	-0.100 (0.213)	-0.108 (0.201)	-0.071 (0.208)	-0.099 (0.195)	-0.089 (0.209)	-0.099 (0.196)	-0.060 (0.209)	-0.110 (0.216)	-0.084 (0.205)	-0.111 (0.216)	-0.088 (0.207)
Neg. Shock * HoH Farmer	0.019 (0.199)	0.051 (0.193)	0.008 (0.194)	0.043 (0.199)	-0.002 (0.201)	0.021 (0.197)	0.008 (0.199)	0.068 (0.199)	0.063 (0.194)	0.027 (0.196)	0.062 (0.195)	0.025 (0.199)
Neg. Shock * HOH Entrepreneur	-0.043 (0.109)	-0.044 (0.108)	-0.042 (0.109)	-0.064 (0.110)	-0.049 (0.109)	-0.055 (0.109)	-0.050 (0.109)	-0.063 (0.109)	-0.055 (0.110)	-0.061 (0.109)	-0.052 (0.110)	-0.060 (0.109)
Neg. Shock * Household Net Worth	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0
Neg. Shock * HoH Age	0.004 (0.005)	0.003 (0.005)	0.005 (0.005)	0.004 (0.005)	0.005 (0.005)	0.004 (0.005)	0.005 (0.005)	0.005 (0.005)	0.005 (0.005)	0.004 (0.005)	0.005 (0.005)	0.004 (0.005)
Neg. Shock * Remittances	-0.246 (0.199)	-0.198 (0.201)	-0.256 (0.199)	-0.223 (0.195)	-0.212 (0.183)	-0.184 (0.196)	-0.213 (0.183)	-0.211 (0.195)	-0.184 (0.203)	-0.212 (0.194)	-0.186 (0.203)	-0.208 (0.196)
Constant	11.966 (0.198)***	11.811 (0.213)***	11.970 (0.197)***	11.869 (0.197)***	11.959 (0.199)***	11.786 (0.197)***	12.000 (0.199)***	11.839 (0.198)***	11.906 (0.197)***	11.890 (0.199)***	11.888 (0.198)***	11.874 (0.197)***
R-squared	0.380	0.380	0.380	0.370	0.380	0.380	0.380	0.370	0.380	0.370	0.370	0.370
Number of Observations	745	745	745	745	745	745	745	745	745	745	745	745
Number with Access	429	292	404	66	305	4	295	24	343	0	309	52
Time Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Household Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time-Location Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * p<0.1; ** p<0.05; and *** p<0.01.

Table A.6 Empirical Results for the South South

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
Key Regressors												
Negative Shock	-0.451 (0.521)	-0.322 (0.541)	-0.441 (0.524)	-0.249 (0.490)	-0.411 (0.537)	-0.342 (0.524)	-0.364 (0.532)	-0.131 (0.504)	-0.428 (0.513)	-0.297 (0.515)	-0.443 (0.505)	-0.377 (0.494)
Financial Access	-0.045 (0.080)	0.118 (0.093)	-0.015 (0.083)	0.115 (0.126)	0.007 (0.086)	0.323 (0.388)	0.052 (0.086)	0.099 (0.237)	-0.039 (0.076)	0.000 0	-0.066 (0.080)	0.216 (0.140)
Neg. Shock * Fin. Access	0.149 (0.133)	-0.183 (0.190)	0.156 (0.131)	0.340 (0.205)*	0.139 (0.128)	-0.443 (0.464)	0.073 (0.129)	0.443 (0.335)	0.207 (0.140)		0.201 (0.139)	0.268 (0.222)
Controls												
Dummy for 2nd Wave	-0.005 (0.265)	-0.052 (0.257)	-0.007 (0.264)	-0.061 (0.298)	-0.006 (0.261)	-0.045 (0.258)	-0.027 (0.262)	0.050 (0.270)	0.258 (0.254)	-0.020 (0.268)	0.386 (0.260)	-0.128 (0.313)
Household Size	0.011 (0.038)	0.013 (0.038)	0.009 (0.038)	0.013 (0.038)	0.012 (0.038)	0.005 (0.038)	0.008 (0.037)	0.021 (0.038)	0.009 (0.037)	0.008 (0.037)	0.011 (0.037)	0.004 (0.038)
HoH Education	0.013 (0.006)**	0.013 (0.006)**	0.013 (0.006)**	0.013 (0.006)**	0.013 (0.006)**	0.012 (0.006)**	0.013 (0.006)**	0.012 (0.006)**	0.013 (0.006)**	0.013 (0.006)**	0.013 (0.006)**	0.013 (0.006)**
Dummy for HoH is Wage Earner	-0.310 (0.138)**	-0.292 (0.140)**	-0.312 (0.137)**	-0.316 (0.137)**	-0.309 (0.137)**	-0.336 (0.135)**	-0.314 (0.137)**	-0.320 (0.137)**	-0.304 (0.141)**	-0.314 (0.138)**	-0.302 (0.143)**	-0.318 (0.137)**
Dummy for HoH is Farmer	0.022 (0.148)	0.012 (0.147)	0.025 (0.149)	-0.005 (0.142)	0.018 (0.148)	0.011 (0.145)	0.023 (0.147)	-0.008 (0.144)	0.022 (0.147)	0.012 (0.145)	0.019 (0.147)	0.007 (0.143)
Dummy for HoH is Entrepreneur	0.052 (0.087)	0.048 (0.086)	0.048 (0.088)	0.040 (0.084)	0.051 (0.086)	0.061 (0.084)	0.052 (0.085)	0.055 (0.083)	0.048 (0.088)	0.059 (0.085)	0.055 (0.088)	0.028 (0.087)
HoH Age	0.015 (0.016)	0.016 (0.015)	0.016 (0.016)	0.015 (0.015)	0.017 (0.016)	0.015 (0.015)	0.017 (0.016)	0.014 (0.016)	0.015 (0.016)	0.016 (0.016)	0.015 (0.016)	0.015 (0.015)
Dummy for Receiving Remittances	0.033 (0.140)	0.018 (0.145)	0.033 (0.140)	0.033 (0.138)	0.033 (0.142)	0.026 (0.143)	0.031 (0.143)	0.035 (0.142)	0.029 (0.139)	0.026 (0.143)	0.037 (0.141)	0.023 (0.139)
Household Net Worth	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Neg. Shock * Household Size	0.010 (0.039)	0.014 (0.038)	0.009 (0.039)	0.007 (0.036)	0.012 (0.039)	0.015 (0.039)	0.013 (0.039)	0.000 (0.039)	0.007 (0.040)	0.012 (0.038)	0.008 (0.040)	0.013 (0.036)
Neg. Shock * HoH Edu.	-0.012 (0.007)*	-0.009 (0.009)	-0.012 (0.007)*	-0.012 (0.006)*	-0.012 (0.007)*	-0.012 (0.007)*	-0.013 (0.007)*	-0.011 (0.007)*	-0.011 (0.007)*	-0.012 (0.007)*	-0.011 (0.007)*	-0.012 (0.006)*
Neg. Shock * HoH Wage Earner	0.285 (0.149)*	0.307 (0.148)**	0.291 (0.147)**	0.247 (0.149)*	0.259 (0.143)*	0.285 (0.148)*	0.262 (0.144)*	0.248 (0.150)	0.294 (0.153)*	0.271 (0.149)*	0.296 (0.154)*	0.261 (0.146)*
Neg. Shock * HoH Farmer	0.418 (0.143)***	0.437 (0.143)***	0.419 (0.142)***	0.406 (0.143)***	0.418 (0.145)***	0.452 (0.142)***	0.431 (0.143)***	0.435 (0.142)***	0.405 (0.148)***	0.445 (0.143)***	0.411 (0.146)***	0.404 (0.144)***
Neg. Shock * HOH Entrepreneur	-0.067 (0.150)	-0.070 (0.150)	-0.067 (0.150)	0.001 (0.157)	-0.054 (0.151)	-0.089 (0.147)	-0.058 (0.150)	-0.035 (0.149)	-0.067 (0.149)	-0.071 (0.151)	-0.069 (0.148)	0.014 (0.159)
Neg. Shock * Household Net Worth	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0
Neg. Shock * HoH Age	0.004 (0.005)	0.003 (0.005)	0.004 (0.005)	0.002 (0.005)	0.005 (0.006)	0.004 (0.005)	0.004 (0.006)	0.000 (0.005)	0.004 (0.005)	0.003 (0.005)	0.004 (0.005)	0.003 (0.005)
Neg. Shock * Remittances	-0.025 (0.228)	0.009 (0.233)	-0.029 (0.228)	-0.009 (0.206)	-0.038 (0.223)	-0.021 (0.223)	-0.016 (0.224)	-0.049 (0.213)	-0.030 (0.232)	-0.012 (0.225)	-0.048 (0.233)	-0.037 (0.207)
Constant	11.796 (0.198)***	11.667 (0.213)***	11.728 (0.197)***	11.863 (0.197)***	11.692 (0.199)***	11.903 (0.197)***	11.700 (0.199)***	11.743 (0.198)***	11.614 (0.197)***	11.784 (0.199)***	11.518 (0.198)***	11.937 (0.197)***
R-squared	0.390	0.390	0.390	0.410	0.390	0.390	0.390	0.400	0.390	0.380	0.390	0.410
Number of Observations	607	607	607	607	607	607	607	607	607	607	607	607
Number with Access	353	315	326	65	220	5	201	32	277	0	248	51
Time Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Household Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time-Location Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * p<0.1; ** p<0.05; and *** p<0.01.

Table A.7 Empirical Results for the South West

Dependent Variable: Log Household Consumption (Annualized)												
Panel Regression												
Financial Access Variable	Access				Borrow				Save			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal	Any	Formal	Informal	Semi-formal
Key Regressors												
Negative Shock	1.276 (1.000)	-0.262 (0.749)	0.580 (0.898)	0.235 (0.703)	-0.247 (0.941)	0.333 (0.683)	0.776 (0.904)	0.086 (0.733)	0.957 (0.893)	0.171 (0.774)	0.705 (0.696)	0.236 (0.701)
Financial Access	-0.377 (0.259)	0.168 (0.163)	-0.057 (0.181)	0.057 (0.149)	-0.185 (0.132)	-1.882 (0.561)***	0.033 (0.111)	-0.347 (0.161)**	0.019 (0.214)	-1.143 (0.152)***	0.041 (0.148)	0.071 (0.125)
Neg. Shock * Fin. Access	-0.145 (0.282)	-0.090 (0.202)	-0.072 (0.274)	0.135 (0.227)	0.073 (0.271)	0.000 0	-0.251 (0.281)	0.626 (0.312)**	-0.407 (0.355)	0.710 (0.433)	-0.400 (0.382)	0.126 (0.232)
Controls												
Dummy for 2nd Wave	-0.849 (0.391)**	-0.468 (0.390)	-0.551 (0.394)	-0.423 (0.387)	-0.453 (0.400)	-0.333 (0.386)	-0.389 (0.391)	-0.278 (0.391)	-0.584 (0.495)	-0.398 (0.393)	-0.555 (0.484)	-0.404 (0.389)
Household Size	-0.028 (0.072)	-0.086 (0.079)	-0.081 (0.081)	-0.083 (0.080)	-0.080 (0.073)	-0.050 (0.075)	-0.095 (0.078)	-0.115 (0.077)	-0.094 (0.080)	-0.081 (0.077)	-0.088 (0.081)	-0.085 (0.078)
HoH Education	-0.018 (0.014)	-0.014 (0.014)	-0.013 (0.014)	-0.014 (0.014)	-0.013 (0.014)	-0.014 (0.014)	-0.014 (0.014)	-0.015 (0.014)	-0.010 (0.016)	-0.015 (0.014)	-0.010 (0.015)	-0.013 (0.014)
Dummy for HoH is Wage Earner	0.141 (0.162)	0.207 (0.178)	0.218 (0.184)	0.229 (0.178)	0.225 (0.176)	0.163 (0.182)	0.230 (0.175)	0.313 (0.185)*	0.245 (0.173)	0.231 (0.179)	0.237 (0.178)	0.239 (0.174)
Dummy for HoH is Farmer	0.071 (0.327)	0.239 (0.287)	0.267 (0.334)	0.287 (0.322)	0.265 (0.319)	0.209 (0.277)	0.320 (0.318)	0.321 (0.325)	0.291 (0.356)	0.317 (0.318)	0.301 (0.328)	0.291 (0.323)
Dummy for HoH is Entrepreneur	-0.264 (0.171)	-0.183 (0.206)	-0.180 (0.190)	-0.194 (0.211)	-0.188 (0.199)	-0.113 (0.196)	-0.141 (0.202)	-0.205 (0.211)	-0.139 (0.196)	-0.162 (0.197)	-0.144 (0.209)	-0.189 (0.210)
HoH Age	0.005 (0.008)	0.006 (0.010)	0.006 (0.010)	0.006 (0.010)	0.003 (0.009)	0.009 (0.009)	0.009 (0.010)	0.007 (0.010)	0.007 (0.009)	0.005 (0.011)	0.007 (0.010)	0.006 (0.010)
Dummy for Receiving Remittances	0.100 (0.203)	0.084 (0.187)	0.077 (0.189)	0.068 (0.197)	0.099 (0.190)	0.121 (0.182)	0.073 (0.187)	0.136 (0.191)	0.060 (0.203)	0.123 (0.184)	0.059 (0.191)	0.060 (0.199)
Household Net Worth	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Neg. Shock * Household Size	-0.010 (0.042)	0.026 (0.040)	0.024 (0.041)	0.022 (0.043)	0.013 (0.041)	0.012 (0.038)	0.022 (0.039)	0.034 (0.041)	0.033 (0.045)	0.025 (0.040)	0.031 (0.042)	0.023 (0.043)
Neg. Shock * HoH Edu.	0.026 (0.014)*	0.020 (0.012)	0.018 (0.013)	0.014 (0.014)	0.020 (0.012)	0.015 (0.011)	0.016 (0.011)	0.012 (0.012)	0.020 (0.015)	0.017 (0.012)	0.017 (0.012)	0.014 (0.014)
Neg. Shock * HoH Wage Earner	0.000 0	0.457 (0.713)	0.000 0	0.000 0	0.297 (0.790)	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0
Neg. Shock * HoH Farmer	0.203 (0.316)	-0.066 (0.264)	-0.040 (0.284)	-0.119 (0.263)	-0.064 (0.261)	-0.202 (0.240)	-0.089 (0.247)	-0.189 (0.243)	-0.002 (0.345)	-0.169 (0.252)	0.057 (0.379)	-0.124 (0.262)
Neg. Shock * HOH Entrepreneur	0.578 (0.291)**	0.377 (0.306)	0.400 (0.299)	0.412 (0.314)	0.497 (0.288)*	0.389 (0.284)	0.333 (0.308)	0.359 (0.291)	0.264 (0.324)	0.376 (0.300)	0.429 (0.306)	0.407 (0.311)
Neg. Shock * Household Net Worth	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0	0.000 0
Neg. Shock * HoH Age	-0.036 (0.014)**	-0.018 (0.010)*	-0.023 (0.013)*	-0.018 (0.010)*	-0.017 (0.011)	-0.016 (0.010)	-0.024 (0.011)**	-0.014 (0.010)	-0.026 (0.015)*	-0.017 (0.011)	-0.025 (0.013)*	-0.018 (0.010)*
Neg. Shock * Remittances	-0.268 (0.357)	-0.152 (0.360)	-0.154 (0.357)	-0.080 (0.360)	-0.146 (0.364)	-0.243 (0.344)	-0.124 (0.361)	-0.070 (0.364)	-0.266 (0.365)	-0.132 (0.356)	-0.230 (0.339)	-0.071 (0.364)
Constant	14.121 (0.198)***	13.519 (0.213)***	13.539 (0.197)***	13.493 (0.197)***	13.744 (0.199)***	13.056 (0.197)***	13.299 (0.197)***	13.527 (0.198)***	13.491 (0.197)***	13.517 (0.199)***	13.456 (0.198)***	13.451 (0.197)***
R-squared	0.570	0.560	0.550	0.550	0.560	0.600	0.550	0.570	0.560	0.580	0.560	0.550
Number of Observations	376	376	376	376	376	376	376	376	376	376	376	376
Number with Access	223	224	192	98	121	3	95	42	205	2	171	90
Time Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Household Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time-Location Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Sources: NBS (2012); NBS (2014); and authors' estimates.

Asterisks indicate the level of statistical significance: * $p < 0.1$; ** $p < 0.05$; and *** $p < 0.01$.

REFERENCES

- Alem, Mauro, and Robert M. Townsend, 2014, “An Evaluation of Financial Institutions: Impact on Consumption and Investment using Panel Data and the Theory of Risk-Bearing.” *Journal of Econometrics*, Vol. 183 (1), pp. 91-103.
- Central Bank of Nigeria, 2012, Financial Inclusion Strategy.
- Chiappori, P., K. Samphantharak, S. Schulhofer-Wohl, and R. M. Townsend, 2014, “Heterogeneity and Risk Sharing in Village Economies,” *Quantitative Economics*, Vol. 5, pp 1–27.
- Gertler, P., and J. Gruber, 2002, “Insuring Consumption Against Illness,” *American Economic Review*, Vol. (1), pp. 51–70.
- Gertler, P., D. Levine, and E. Moretti, 2006, “Is Social Capital the Capital of the Poor? The Role of Family and Community in Helping Insure Living Standards Against Health Shocks,” *CESifo Economic Studies*, Vol. 52(3), pp. 455–499.
- Fafchamps, M., and F. Gubert , 2007, “The Formation of Risk-sharing Networks,” *Journal of Development Economics*, Vol. 83(2), pp. 326–350.
- Kinnan, C., and R. Townsend, 2012, “Kinship and Financial Networks, Formal Financial Access, and Risk Reduction,” *American Economic Review*, Vol. 102(3), pp. 289–93.
- Molini, Vasco, Gbemisola Oseni, and Paul Corral, 2014, “No condition is permanent: The dynamic story of poverty and the emerging middle class in Nigeria”.
- Jack, W., and T.Suri, 2014, Risk Sharing and Transactions Costs: Evidence from Kenya’s Mobile Money Revolution, *American Economic Review*, Vol. 104(1), pp. 183–223.
- Suri, T., 2012, “Estimating the Extent of Risk Sharing Between Households,” MIT Sloan Working Paper.
- Sripakdeevong, Parit, and Robert M. Townsend, 2012, “Informal Networks and Shadow Banking,” project document, MIT.
- Townsend, R., 1994, “Risk and Insurance in Village India,” *Econometrica*, Vol. 62, pp. 539–591.
- Townsend, R., 1995, “Financial Systems in Northern Thai Villages,” *Quarterly Journal of Economics*, Vol. 110, pp. 1011–1046.
- Udry, C. 1994, “Risk and Insurance in a Rural Credit Market: An Empirical Investigation in Northern Nigeria,” *The Review of Economic Studies*, Vol. 61(3), pp. 495–526.
- World Bank, 2014, Nigeria Economic Report.