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Effect of Financial Inclusion on Household Consumption in Nigeria

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ABSTRACT

The recent awareness of the important role of finance in economic growth, development and poverty reduction has stimulated interests of policy makers and other stakeholders in increasing financial access to vast majority of the people. Although there are several studies that investigate the effects of financial inclusion on households both at macro and micro levels, few studies focus on its impact on welfare of the poor and how to move them out of poverty. It is noteworthy that there is evidence of voluntary exclusion from the banking system in Nigeria, with some individuals shunning conventional banking system due to the prohibition of interest in Islam. Based on the data of Living Standards and Demographic survey of 2012-2013, this paper investigates the effect of financial inclusion on the households' welfare through consumption in Nigeria. The study employs the approach of panel data to analyze the effects of financial inclusion on household consumption, controlling for the endogeneity of the financial inclusion itself. The paper finds that access to finance has a positive impact on households' consumption. This has implication for policy makers and practitioners to provide access to finance for poverty reduction in the country. Similarly, in addition to increasing the financial resources available for financing SMEs and households, Islamic finance could be useful in improving access to finance by attracting the voluntarily excluded segment of the population by offering them an alternative form of banking.

Keywords: Islamic Finance; Financial Inclusion; Nigeria; Household Consumption.

1. Introduction

Financial inclusion has continued to assume increasing recognition across the globe among policy makers, researchers and development agencies. Its importance derives from the promise it holds as a tool for economic development, particularly in the areas of poverty reduction, employment generation, wealth creation and improving welfare and general standard of living. There is growing convergence among researchers on the important role of finance in economic growth, development and poverty reduction. This has stimulated interests of policy makers and other stakeholders in increasing financial access to vast majority of the people. The purpose of financial inclusion is to provide individuals, households and businesses, irrespective of their income standard or location, access to relevant financial services at affordable cost to enable them improve their lives. Recent estimate shows that about 2 billion people still lack access to formal financial services globally. South Asia, East Asia and the Pacific, and Sub-Saharan Africa account for most of the unbanked people in the world with about 31%, 24% and 17% of adults without an account, respectively. In contrast, High Income OECD countries account for only 3% of the unbanked, followed by Middle East (4%), Europe and Central Asia (5%), Latin America and Caribbean (10%) and other countries (4%).5 This shows that the vast majority of people (about 46%) having no bank account live developing countries. Access to finance is considered one of the first steps in improving the lives of the poor. Therefore, extending well-functioning and inclusive financial services offer opportunity for the poor to have access to saving, payments, and credits services, which give them the chances to invest in education and small businesses thereby reducing income inequality and poverty. Although several studies that investigate the effects of financial inclusion on households both at macro and micro levels, little has been focused on its impact on welfare of the poor and how to move them out of poverty. This paper contributes to narrow this gap. We use Nigerian data to investigate the effect of financial inclusion on the households' welfare through consumption. Using data from the Living Standards and Demographic Survey, 2012-2013, the paper finds that access to finance has positive impact on households' consumption. The rest of the paper is organized as follows: Section 2 presents stylized facts on financial inclusion in Nigeria, Section 3 reviews the literature and the methodology and data of the research is presented in Section 4. The discussion of the results of the study is given in Section 5, while Section 6 presents the conclusions of the study.

Financial Inclusion in Nigeria: stylized facts

There is apparently a wide gap in terms of financial inclusion in Nigeria, within the country and as compared to the other African countries (Isern, Agbakoba, Flaming, Mantilla, Pellegrini & Tarazi, 2009). With a population of almost 180 million, Nigeria has amongst the highest percentage of financially excluded population in the African continent. This is despite the critical role of financial inclusion in achieving inclusive growth (Migap, Okwanya and Ojeka, 2012). Despite being a mid-level player in the banking sector, the country lags in financial inclusion (CBN, 2012). According to Efina (2010) there are five major barriers to financial inclusion, namely income, physical access, financial literacy, affordability and eligibility. However, other

studies attribute it to voluntary and involuntary factors. Some individuals are voluntarily excluded and this might be due to their belief and cultural attachments. (Muhammad, Omar and Haneef, 2013, Dermirguc-Kunt A., Klapper L. & Randall D., 2013).

In its attempt to address the situation, the Central Bank of Nigeria launched the National Financial Inclusion Strategy in 2012. The policy is a concerted attempt to increase access to a range of financial services such as payments, savings, remittances, pension, insurance and credit at an affordable cost to consumers (Sanusi, 2012). Previous efforts include the introduction of the Microfinance policy in 2005 and National Poverty Eradication Programme (NAPEP) in 2001 among others. The recent commitment of NFIS aims at reducing financial exclusion from 39.7 percent in 2012 to 20.0 percent of the population by 2020. The key strategies include a) simplified know-your-customer framework (KYC) Framework b) agent banking regulatory framework c) national financial literacy framework d) consumer protection framework e) mobile-payments and "cash-less" policy initiative f) establishing linkages between government and microfinance institutions etc and g) introduction of credit enhancement schemes and programs such as the Micro, Small and Medium Enterprises Development Fund (**MSMEDF**).

A survey conducted in Nigeria in 2008 by Enhancing Financial Innovation and Access (EFInA) reveals that about 53.0% of adults were excluded from financial services in the country.

Table 1: Financial Access-Geopolitical Zones (2010 and 2012)

North West	2010 (%)	2012 (%)	South West	2010 (%)	2012 (%)
Financially excluded	68.1	63.8	Financially excluded	33.1	24.8
North East	2010	2012	South South	2010	2012
Financially excluded	68.3	59.5	Financially excluded	36.4	30.1
North Central	2010	2012	South East	2010	2012
Financially excluded	44.2	32.4	Financially excluded	31.9	25.6

Source: EFInA Access to Financial Services in Nigeria 2010 and 2012 survey

The table 1 reveals that, in addition to the high level of financial exclusion for adults in Nigeria, access to finance varies from region to region significantly. In the North West the percentage of financially excluded is 68.1 in 2010, 68.3 percent in North East and 44.2 percent in North Central. The corresponding figure is 33.1 percent, 36.4 percent and 31.9 percent in South West, South- South and South East respectively. However, in 2012, the figure reduced in virtually all the regions with the southern regions almost attaining the goal of Financial Inclusion Strategy of 2020 i.e. reducing it to 20.0. In the North, the percentage reduced to 63.9 percent, 59.1 percent and 32.4 percent in Northwest, North East and North Central respectively. In the southern regions however, the percentage is reduced to 24.8. 30.1, and 25.6. In fact, the Central Bank's stated goal is to decrease the percentage of those financially excluded from 46.3 % to 20% by 2020; and increase the percentage of persons that are formally included from 30% in 2010 to 70% by the year 2020.

2. Literature Review

There is no universally accepted definition of financial inclusion. This stem from the fact that inclusion or exclusion depend on the socio-economic and financial development of the given country or region and the priorities put on social concerns (Goyal 2014). Therefore, while financial inclusion in high-income countries falls generally within the context of social exclusion, it is an essential part of the issues of how to address development and poverty reduction through access to basic needs of the people in low-income countries. Financial inclusion generally refers to the ability of individuals and business firms to have sustainable access to relevant financial products and services at affordable costs. It therefore, involves three key elements: access; usage; and quality. This means financial inclusion is more comprehensive than mere access to finance but also include "how frequently clients use products, if the products are effectively meeting their needs, and if they are better off as a result".6

The role of finance in economic growth has for long been recognized in economic theory even though there are divergent opinions among economists on the degree of the relevance. Some leading economists are of the opinion that the role of finance as a determinant of growth has been exaggerated (Meier and Seers, 1984; Lucas, 1988; and Robinson, 1952). On the other hand, some equally prominent economists stressed the important role of finance in economic growth (Schumpeter, 1912; Gurley and Shaw, 1955; Goldsmith, 1969 McKinnon, 1973; Miller, 1998).7 While the debate is far from being conclusive, the recent financial crisis brought back the argument that finance play key role in driving economic growth and poverty reduction.

Finance provides important functions through which it stimulates resource allocation and hence economic growth. The main "function of any financial system is to facilitate the allocation and deployment of economic resources, both across borders, and across time in an uncertain environment" 8 by reducing transaction and information costs. Researchers classify the functions of the financial system differently. For instance, Levine (1997 & 2005) classifies the functions into five categories: (i) facilitating risk amelioration, (ii) acquiring information about investment and allocating resources, (iii) monitoring managers and exerting corporate control, (iv) mobilizing savings, and (v) facilitating exchange. Merton and Bodie (1995) classifies them into six, while

Peachey and Roe (2006) categorizes them more concisely into three (i) efficient allocation of resource, (ii) mobilizing savings, and (iii) risk mitigation.

Investment decisions involve a great deal of background analysis to evaluate the firms, managers, and exiting market conditions. These involve collecting, processing and producing all relevant information required before making an investment decision. These processes are usually costly for individual investors. In this regards, high information costs may keep away capital from flowing to projects with best possible returns. Therefore, financial intermediaries emerge due to motivations being created by the costs of information creation (Levine, 1997; Diamond 1998; Boyd and Prescott 1986). Financial intermediaries help in selecting good firms and managers that encourage efficient allocation of capital and thus improve growth (Greenword and Jovanovic 1990; Levine 1997).

The strength of the allocation function of the financial system depends on its ability to mobilize savings. The degree of effectiveness of the financial system to mobilize saving determines the rate of return on new investments and therefore, the rate of economic growth (Peachey and Roe, 2006). Mobilization of savings also enhances resource allocation through diversification of risks, liquidity, and size of feasible firms (Levin, 1997; Sirri abd Tufano 1995). Therefore, weak access to financial services can constrain economic growth because of the deficiency of the system to mobilize and channel resources to the appropriate projects. That is why countries that have financial system with weak mobilization functions are mostly the low-income countries.

Risk mitigation is a key function of the financial system that positively contribute to economic growth. This function helps investors to mitigate the various risks involved in production and trade thereby helping in increasing production and trade, and thus enhancing economic growth. Financial institutions such as banks take deposits from their customers on short maturities and transform them to capital investors on longer maturities. Levine (2005) classifies the risk mitigation function of financial institutions into three: (i) cross-sectional risk diversification, which refers to the ability of the financial system to make people easily diversify risks to projects with high return, which are normally riskier. (ii) intertemporal risk sharing, which focuses on the role of financial intermediaries in easing intertemporal risks, and (ii) liquidity risk, which reflects the cost and ease of converting financial instrument into liquid form. According to Hicks (1969) the industrial revolution in England was caused because of the improvements in the capital market, which facilitated liquidity risk mitigation. In other words, technological innovation did not on itself triggered growth; rather most of the inventions had to wait for the capital market to inject large capital required for long-run growth. Thus capital market liquidity enables savers to hold assets they can easily convert to cash when they wish and at the same time transforms these liquid instrument into investment capital for long-term production (Levine, 1997).

As for the relationship liking financial development with income distribution and poverty reduction, economic theory does not provide a clear prediction about the likely impact. The poor obviously benefits from reduction in information and transaction costs for financial services. Moreover, these credit constraints also impedes the efficiency of capital allocation by restricting the flow of capital to the poor people who have high expected return investments (Beck, Demirguc- Kunt, and Levine 2007; Galor and Zeira, 1993; Aghion and Bolton, 1997; Galor and Moav, 2004; Banerjee and Newman 1993, Banerjee 2004). In contrast, some theorists predict that financial development benefits the rich first at early stages of development (Greenwood and Jovanovic 1990; Adams et al 1984; Braverman and Guasch 1986).

3.2- Empirical studies

Availability of more disaggregated data sets has allowed for a wave of empirical studies over the last two decades to support the theoretical assertions about the link between finance and economic growth starting with country-level data (cross-section and time series data), “to using industry-and firm-level data, to more recently using the household-level data (Beck 2009; Demirguc-Kunt, 2008; Levine 1997, 2005). Various studies have established that the differences

in economic growth performance of the developed and developing countries could be explained partly by the degree of financial development among them (Levine and Zervos, 1998).

Since the pioneering work of Goldsmith (1969) researchers have taken steps to address the various weaknesses that arose from the study. Some studies assess the sample size (King and Levine, 1993; Rioja and Valev, 2004), while Gelb (1989); Gertler and Rose (1994); Roubibi and Sala-i-Martin (1992); and Easterly (1993) assess the impact of the size of the financial system on economic growth. Other studies use micro data at firm level (Demirguc-Kunt and Maksimovic, 1998), industry level data (Rajan and Zingales,1998) to estimate how financial development help firms/industries grow. There are also considerable number of studies that address estimation issues related to identification such as measurement errors, heterogeneity across countries, omittingrelevant variables, non-linearity, and endogeneity (King and Levine 1993; Demirguc-Kunt and Maksimovic, 1998; Rajan and Zingales 1998). Christopher and Tsionas, (2004) and Levine, Loazya and Beck, (2000) use panel estimation to establish that more developed financial markets and banks help in accelerating growth. Studies that examine the direction of the relationship between financial development and economic growth are also substantial (King and Levine 1993b). Unlike the finance-growth studies, cross-country research on the relationship between financial development and poverty have been limited (Honohan 2003). Using a cross-section of 70 developing countries Honohan (2003) shows that "deep financial systems appear to be associated with lower poverty". In addition, Beck, Demirguc-Kunt, and Levine (2007) examine the impact of financial development on the poor. They estimate the relationship between finance and changes in both income distribution and poverty levels. They establish that financial development affects the poor through both the aggregate growth and the distribution channels.

Burgess (2005) finds that reductions in rural poverty in India were linked to increased savings mobilization and credit provision in rural areas due to the government policy that helped increased rural bank branches in the country. They conclude that their "findings suggest that the central bank's licensing policy enabled the development of an extensive rural branch network, and that this, in turn, allowed rural households to better accumulate capital and to obtain loans for longer term productive investments."

Park, C. and Mercado, Jr. (2015), examine the link between financial inclusion, poverty and income distribution in 37 Asian countries. They find that "per capita income, rule of law, and demographic characteristics significantly affect financial inclusion in developing Asia". In addition, they establish that financial inclusion significantly reduces poverty and lowers income inequality.

Both economic theory and empirical evidences show that financial depth or in general, financial development has direct and indirect effects on small firms and poor households by making them take advantages of having greater investment opportunities, smoothing their consumption, and insuring themselves from risks (Demirguc-Kunt 2008). This paper contributes to the literature on the impact of financial inclusion on household consumption.

3. Methodology

(a) Nature of Data

Basically there are two types of measuring financial inclusion data vis-à-vis demand- and supply- side. According to the World Bank (2012), financial inclusion is measured through indicators that summarize information provided by users of financial products and services (through demand-side surveys to individuals, households, or micro, small, and medium enterprises – MSMEs) or information obtained from financial providers (through supply-side surveys to financial institutions or through reporting to financial regulators). However, data should not necessarily substitute each other. The data for this study is sourced from National Survey conducted by National Bureau of Statistics.

(b) Model Description and Estimation Methods

The model employed in estimating the effect of financial inclusion on consumption is the following:

Where $lnpcexp_{it} = \boldsymbol{X}'_{it}\boldsymbol{\beta}_1 + D_{it}\,\delta + c_i + \varepsilon_{it}$ (1)

- c_{it} is the dependent variable measured for household i at time t,
- $\boldsymbol{\beta}_1$ is a k by one vector of parameters,
- $\boldsymbol{X}_{it}$ is a k by one vector of exogenous time varying household characteristics (dummy variable for the 6 zones identified in the survey, dummy variable for rural versus urban with drururb1 equal to 1 for rural households, 0 for urban households, drururb2 a dummy variable equal to 1 for urban households, and zero otherwise, gender of the head of household, annual average of rainfall, and an interaction of annual average rainfall and the rural dummy drururb1),
- D_{it} is the endogenous variable indicator of financial inclusion,
- δ the corresponding parameter,
- c_i the unobserved heterogeneity and ε_{it} is the idiosyncratic disturbance associated with household i's consumption at time t.

Assumptions about the instruments

We make two assumptions in our estimations in relation to our main instruments. First we assume that proximity to large population center and the monetary values of education and health affect per capita household consumption only through their effects on financial inclusion, the so-called exclusion restriction. Second we make the assumption that these three variables are highly correlated with financial inclusion, meaning that it is not a weak instrument. The latter will be tested by examining the results of the first stage regression.

Additional assumption for model estimation

An implicit assumption made in most panel data models is that of strict exogeneity conditional on the unobserved effects c_i. That assumption is violated whenever there is contemporaneous correlation between the error term and one explanatory variable, or in case of intertemporal correlation between past or current shocks to the dependent variable. Moreover it is violated in the case of correlation between the dependent variable and future values of one or many explanatory variables as in the case of the inclusion of a policy variable as an explanatory variable. Since the variable access to finance is potentially endogenous, we have already

established contemporaneous correlation. In identifying a robust estimation method, we only needed to test for intertemporal correlation which we will do using the method described in Wooldridge (2010,
p. 325). The output is available upon request. The results show no evidence of correlation between errors and our explanatory variables across time periods. In addition, we assume that the error term in equation 1 might be correlated with the unobserved heterogeneity ui. Therefore, the parameters of our models can be consistently estimated using Fixed Effect-Instrumental Variable, which we implement using STATA 13 ivreg2.

The model is estimated for each wave, and for the two-year panel to control for time effects. For robust results, we also included two specifications of the indicator of financial inclusion: one as a dummy variable equal to 1 if at least one member of the household has a bank account, 0 otherwise, and the other specification where the financial inclusion variable is continuous measuring the proportion of household members with a bank account.

4. Finding

Descriptive statistics

The descriptive statistics are in table 1. The primary individual survey contains 15303 individuals, belonging to 4565 households.

Table 1: Descriptive Statistics on sample

A- Overall percent of individuals with a bank account

Do you have a bank account?	Frequency	Percent 2010	Percent 2012
Yes	2375	15.52	15.78
No	12928	84.48	84.22

B- Financial inclusion by zone

Percent of people with a bank account by zone and by year

Zone	2010	2012
Zone 1: north central	13.45%	13.86%
Zone 2: north east	7.74%	5.87%
Zone 3: north west	5.27%	4.56%
Zone 4: south east	18.20%	20.52%
Zone 5: south south	22.36%	23.16%
Zone 6: south west	29.13%	28.97%

Among the 15303 individuals surveyed in the post planting period of 2010 about their credit and savings practices, only 15.52% declared having a bank account9 compared to 15.78% in 2012. In 2010, the distribution by zone exhibits high regional disparity between the North and the South, with the South East leading with 29.13% followed by the South South and the south east. The south west has the lowest proportion of people with bank account at 5.27%, followed by the North West. The North Central is around the national average at 13.45%. The picture didn't change much in 2012, apart from a significant decrease for the North West, and the North West, due probably to a worsening of the security situation.

The sample results also show evidence of head of the household's gender effect. A significantly larger proportion of the northern households in our sample are headed by men (about 95%) while that number is lower in the south (around 75%). The results for each year also show that gender

appears to be a factor in financial access, with statistically significant differences in the proportion of households with at least one person with a bank account amongst the two groups of households headed by men and women. In 2010 as well as in 2012, 38% of households headed by a woman have at least one person with a bank account, while that number is at 33% in our sample for households headed by men. We will analyze further this gender effect by isolating its impact when we control for the other factors that are important in determining the level of financial inclusion. There is indeed in the literature evidence of gender gap unfavorable to women, as they are less likely to have access to the financial services that they need to expand their businesses, especially in developing countries (World Bank, 2014). The findings from our model in the model for financial inclusion will help us test if the higher number of households headed by women having access to finance is evidence of a gender gap in favor of women in Nigeria, or simply a manifestation of omitted variables bias.

Econometric estimation and interpretation

In estimating our model with financial inclusion as an endogenous regressor, we employ the instrumental variable estimator. We assume that distance to a population center is correlated with financial inclusion as financial institutions are more likely to locate in urban areas where the demand for financial services is higher. The same correlation is assumed between the monetary values of education and health as they are indicators of economic status, and there is evidence the rich are less likely to suffer financially exclusion. In summary, we are assuming that these four variables are our instruments, and that are not weak instruments. We will test that assumption by looking at the results of our first stage regressions of financial inclusion variables on these variables, along with other control variables.

Table 2: First stage for access to finance

daccess	**Coef.**	**t-stat**	**p-value**	**Coef.**	**t-stat**	**p=value**
dzone1	0.1254293	5.87	0.068	0180823	8.00	0.000
dzone2	.081826	4.53		0.0546008	3.07	0.002
dzone3	omitted-			omitted		
dzone4	0.145384	4.71	0.04	0.198115	5.93	0.000
dzone5	0.2315387	6.46	0	.2232927	6.17	0.000
dzone6	0.191303	7.56	0	0.2409008	8.84	0.000
drururb1	-0.4035202	-7.86	0	-.3033637	-5.56	0.000
drururb2	Omitted			omitted		
hh_sex_PP	0.033436	1.63	0.069	0.0240767	1.12	0.262
anntot_avg	-0.0000844	-2.04	0.017	-0.0000185	-0.42	0.673
rainrural	0.0001268	3.48	0	0.000064	1.64	0.102
edtexp_dr_PP	8.61E-07	5.33	0	6.46E-07	5.8	0.000
hltexp_dr_PP	2.38E-06	4.13	0	2.98E-06	4.83	0.000
dist_popcenter	-0.0018836	-5.7	0	-0.0026492	-5.85	0.000
_cons	0.4495849	8.4	0	0.3732571	6.69	0.000
	Number of obs	4695		**Number of obs**	4333	
	F(12, 4682)	103.26		**F(12, 4319)**	111.18	
	Prob > F	0		**Prob > F**	0.000	
	R-squared	0.2028		**R-squared**	0.2132	
	Adj R- squared	0.2007		**Adj R-squared**	0.2110	

Note: Dependent variable is daccess, a dummy variable equal to one if at least one household member has a bank account, and zero otherwise.

The results of the first stage show a strong effect of the instruments distance to population center, distance to main road (dist_popcenter), total monetary value of health (hltexp_dr) and education (edtexp_dr). The other regional control variables and the average quantity of rainfall are also significant. Among the variables, the significance of gender is consistent with the gender gap found in the literature [(World Bank (2014), Demirgüç-Kunt, Klapper, and Singer (2013)]. These results mean that our instruments for the endogenous access to finance are not weak, and are meaningful.

The second condition for the validity of instrumental variables estimation, namely that the errors are uncorrelated with the instruments is tested after estimation of the second stage regression. We report the results of our tests of overidentifying restriction following the estimation of the second stage model. The joint null hypothesis is that the instruments are valid instruments (i.e., uncorrelated with the error term) and that the excluded instruments are correctly excluded from the estimated equation". Our J statistic is small and far from the rejection region at any reasonable significance level, with a p-value of 0.47. For robustness, we also tested for endogeneity of the financial inclusion variable without the homoscedasticity assumption with the Woodridge (1995) robust score test which rejected the null hypothesis that our financial inclusion variable is exogenous. Therefore we conclude that our instrument set is appropriate, not correlated with the error term.

The second stage estimation results are reported in table 3. The overall results show a statistically significant and positive effect of financial inclusion on household per capita consumption. The effect is significant at the 1% threshold for type I error. Regional dummies are also significant but the distinction between rural and urban does not appear to matter when we incorporate regional indicators along with distance to a population area, and the human capital measures of education and health.

The variable gender of the head of the household also appears to be significant, with household headed by women more likely to have a lower level of consumption per capita, even after controlling for financial inclusion, location and human capital. This is evidence in line with a gender dimension in poverty, as per capita expenditure is a ubiquitous indicator of the living conditions of households along with measures such as the World Bank indicator of one US dollar (or 1.9 USD) per person and per day.

Table 3: Results of second stage of log of per capita consumption

lnpcexp_dr	**Coef.**	**t-stat**	**p- value**	**Coef.**	**t-stat**	**p- value**
daccess	1.226517	13.71	0.000	1.461508	12.87	0.000
dzone1	-0.0143079	-0.39	0.694	0.0476265	1.06	0.289
dzone2	0.1213963	3.93	0.000	0.1606232	4.75	0.000
dzone3	omitted			omitted		
dzone4	0.2016025	4.00	0.000	0.1328937	2.10	0.036
dzone5	0.0866729	.062073	1.40	0.189638	2.73	0.006
dzone6	-0.011995	-.26	0.792	0.1968853	3.54	0.000
drururb1	-0.0002409	-0.00	0.998	0.1292575	1.45	0.147
drururb2	omitted			omitted		
hh_sex_PP	-0.0573761	-1.90	0.057	-0.1354592	-3.94	0.000
anntot_avg	-0.0001012	-1.72	0.085	-0.0001558	-2.38	0.018
rainrural	-0.000083	-1.56	0.119	-0.0001192	-2.07	0.038
_cons	11.27032	91.04	0	11.08265	121.13	0.000

Number of obs =	4695	Number of obs =	4333
Wald chi2(10) =	1021.48	Wald chi2(10)=	1088.97
Prob > chi2 =	0	Prob > chi2 =	0.000
Sargan (score) chi2(2)	1.481 (p = 0.4769)	Sargan (score) chi2(2)	2.831 (p = 0.243)
Basmann chi2(2)	1.477 (p = 0.478)	Basmann chi2(2)	2.824 (p = 0.244)
Score chi2(2) =	7.083 (p = 0.03)	Score chi2(2) =	2.18 (p = 0.3360)

Note: Drururb1 is the dummy equal to 1 if household is in a rural area, zero otherwise. Rainrural is an interaction of annual average rainfall and the rural dummy, introduced to check if the effect of annual average rainfall depends on whether the household is in a rural area or not.

5. Discussion & Conclusion

Access to finance offers opportunities for households to have access to financial services, which affects their decisions on consumption, saving, investment etc. This paper investigates the impact of financial inclusion on household consumption and its implication on poverty reduction. Using a sample of 15303 individuals in 4695 households, the paper employs instrumental variable estimation approach to assess the impact of financial inclusion, accounting for the endogeneity of the latter. For our instruments, we use proximity to large population centers, and the monetary values of education and health which are good indicators of economic status. Our results are robust, and show a positive and significant effect of financial inclusion on household per capita consumption. Since the poor spends the larger portion of his income on consumption, access to finance could assist in enhancing their small businesses, support the education of their children, and pay for their medical need thereby reducing the chances of being pushed into poverty. Furthermore, the results show evidence of a gender gap. We find that households headed by women are more likely to have lower level of consumption per capita even after controlling for financial inclusion, and other household characteristics. This support the studies that find that households headed by women are more severely affected by extreme poverty than households headed by men.

Governments, NGOs and other stakeholders should enhance implementing the policy of closing-up the gap between the rich and the poor, urban and rural areas in access to finance, especially in developing countries where these gaps remain wide. In addition, women empowerment especially in the rural areas should be enhanced, and all obstacles inhibiting access to financial services by both sexes should be minimized or eliminated.

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