Poverty Outreach in Southern and Northern Ghana

Abstract

This paper examines financial sustainability and social outreach determinants of microfinance institutions' (MFIs) performance in the Southern and Northern parts of Ghana using the Seemingly Unrelated Regression (SUR) as the estimation technique. Results suggest that although MFIs in both parts of Ghana are profit-driven, they are expected to improve poverty outreach as they expand their clientele.

Introduction

Ghana's GDP is expected to grow 10 percent in 2012, the fastest growth of any Sub-Saharan economy as predicted by the World Bank. The growth in 2012 follows a decade of substantial growth, and the country in now classified as the lower-middle income economy. Despite the notable progress, there are substantial differences in economic growth and development between the northern and southern provinces. The economy of the predominantly agricultural North consists of small farms, while the southern provinces experience rapid growth of trade and manufacturing in major urban centers.

The uneven development induces migration from the Northern provinces to the South in search of jobs. The migrants are typically young and include both genders. For example, young women migrating from the Northern Region become porters at markets in greater Accra. In casual interviews they indicated they migrate seasonally during the school vacation, but it appears that few return to their homes. Traditionally, women tend to be quite entrepreneurial in Ghana and they, rather than men, are engaged in trading and small scale food processing.

Growing incomes spur the demand for food including the processed foods, and create opportunities for the women-entrepreneurs. Women in Southern and Northern provinces established and operate numerous micro-enterprises characteristic of the cottage industry, while some expand into small-scale commercial operations. The primary source of financing food processing is woman's own funds. For example, a survey of women engaged in peanut processing in the Northern Region revealed that the vast majority of interviewed cottage industry processors (all of whom were women) used only own funds to process. None of the surveyed women used credit (Florkowski, 2010).

Microfinance, as a tool for poverty alleviation, was developed to spur economic development and to promote business engagement of women in remote and least-advantaged areas of developing countries. In Ghana, promoting access to credit through microfinance institutions has potentially broad positive economic and social impacts. Access to credit permits the expansion of the existing activity and converting a micro-enterprise into a sustainable full time small commercial operation. For example, among the surveyed cottage industry processors in the Northern Region, only about 10 percent of women reported processing peanuts on a continuous basis (Florkowski, 2010). Having additional financial resources would allow expansion of processing and increase demand for locally supplied inputs used in processing. In the provinces in the North, where agriculture is the primary sector, such demand for raw commodities improves opportunities for farmers in marketing their crops. Because cash crops are the primary source of cash for rural women, they as suppliers of commodities are a natural match with urban women-entrepreneurs. Opportunities in processing would also contribute to a decrease in migration to the southern provinces from the North of Ghana. Lowering the migration of young women directly enhances their chances of getting education and improves their long term job prospects. Overall, access to microcredit generates economic activity at the local level and contributes to the growth of national economy. Microfinance institutions across the world struggle to supply credit to small borrowers, often lacking credit history or assets that represent a collateral, while remaining economically viable.

The outreach mission and the need to remain profitable to sustain its lending activity to those with limited assets are difficult to balance. This paper provides an overview of microfinance sector in Ghana and performs a comparative analysis of microfinance institutions (MFIs) in southern and northern parts of Ghana with regard to financial sustainability and social

outreach determinants. Specifically, the study analyzes several aspects of MFIs operations, such as average loan balance, loan pricing, staffing strategies, and loan delinquency rates, which are crucial for achieving and maintaining financial sustainability. The latter, in turn, should translate into the expansion of social outreach by MFIs. Knowing what factors can help MFIs to expand poverty outreach in the two sub-regions is necessary for both microfinance providers and policy makers. First, the identification of any differences between the two parts of the country recognizes a need for distinct approach to effectively overcome potential barriers to the expansion of micro-credit supplied by the MFIs. Second, the treatment of women borrowers by the MFIs influences ability to create jobs by women for themselves and other women and directly contributes to a decrease in women outmigration. Third, the different ecological zones in the North and South are reflected in the different importance of rural borrowers, especially small farmers in the North and the treatment of rural borrowers in the two parts is of immediate economic importance. Fourth, the results provide insights about the MFIs mission and help to reformulate policies if there is evidence of mission drift. A mission drift in northern areas is of particular concern.

The Microfinance Sector in Ghana

Southern provinces of Ghana have been characterized by higher level of economic development for decades. The coastal areas were the deliberate location of administrative centers in the past century and followed the site where the commerce has been practiced for centuries. Ghana was known before gaining independence as the Gold Coast because gold deposits and deposits of other desirable natural resources were found in the Ashanti Province, in relatively close distance from the shore commercial hubs. Also, the conditions for agricultural production are more favorable in southern pat as compared to the northern Ghana. Rainfall amount and

pattern favors production year-round, while farther North, the amount of rain diminishes limiting the number of harvest seasons and crops. The difference in natural endowments reflected in job opportunities encouraged job migration. Migration in search of better economic opportunities is a world-wide phenomenon and has been well documented in migration to the United States (Chiquiar and Hanson, 2002), within Europe from its South to the North (Venturini, 2004) in the past century, or from the East to the West. Today's South Africa is a magnet for migrants from neighboring countries searching job opportunities as it has been for decades (Oucho, 2006). The migration within Ghana is accelerated by the differences in relative speed of development among various regions. For the purpose of the current study, Ghana was divided into southern and northern parts (Figure 1). The division overlaps with the markedly different ecological zones: southern part includes forested area and the transition zone, while the northern part includes dry savannah. Moreover, the southern provinces are more densely populated, have better communication infrastructure, and, on average, households with higher incomes.

Microfinance sector presence and activities are important for job creation contributing to regional economic growth thus increasing incomes and, possibly, slowing job migration. Spreading economic opportunities to underdeveloped regions and supplying micro-loans to entrepreneurs unqualified for commercial credit is the mission of the MFIs. The examination of available information indicates the larger number of the MFIs in the southern part: 33 vs. 9 in the northern part. Although the used data may not account for all financial institutions providing micro-loans, the difference is indicative of the general situation. In the southern part, the largest number of MFIs is located in the national capital of Accra (ten MFIs; Map 1) and in Ashanti region (ten MFIs), a traditionally well developed area, and five in the Western region, including the capital of the region, Takoradi.

The Conceptual Model

The significant amount of literature is devoted to the analysis of possible trade-off between financial sustainability and social outreach. Of particular interest to this study are the recent works of Quayes (2012), Barry and Tacneng (2011), and Ayayi and Sene (2010). Quayes (2012) examined the issue of the trade-off between outreach, measured as the average loan amount per borrower normalized by gross national income, and financial sustainability, approximated with the operational self sufficiency ratio. The results showed that the depth of outreach and financial performance are not only positively correlated but, when account for dynamic interaction, reinforce each other. The author also asserts that financial sustainability positively affects the depth of outreach. Operationally self-sufficient MFIs provide, on average, smaller loans. However, Quayes noted that the breadth of outreach negatively affects the financial performance. Therefore, contrary to the common beliefs, Quayes argues that policy makers should encourage the financial sustainability drive of MFIs.

Sharing the belief that financial sustainability is crucial under the conditions of shrinking and inconsistent donor aid, Ayayi and Sene (2010) investigate the most relevant factors that promote financial self-sufficiency of MFIs. A high quality credit portfolio, adequate interest rates, and effective management are the three most significant components of the MFIs' financial sustainability, while the client outreach and the age of MFIs affect it marginally. Specifically, Ayayi and Sene state that the portfolio quality as a result of solid credit risk management is the determining factor of financial sustainability, as its respective coefficient possessed the highest absolute value in the estimation results. The authors note that the percentage of women borrowers does not seem to have an effect on financial sustainability. They emphasize that the application of adequately high interest rates, as a main source of profit, in combination with

quality management ensuring adequate cost control and information systems, and effective banking practices, are required to achieve and maintain financial sustainability. Moreover, Ayayi and Sene found that the same major findings are true for the geographical region, credit method, and legal status specifications.

Similar to Ayayi and Sene (2010) and Quayes (2012), this study considers financial sustainability of MFIs to be the driving force behind the poverty alleviation objective. Following the methodology, Ayayi and Sene (2010), and Barry and Tacneng (2011), the following hypotheses were specified:

a)   First, profitability, a financial sustainability indicator, is measured with the application of interest rates that directly affect the financial health of MFIs through the generation of adequate profit margins;

b)   Second, poverty outreach, measured as the average loan balance per borrower / GNI per capita, is considered to have a positive impact on the financial sustainability of MFIs. Determining how the described indicators are affected by various external and internal financial (such as socio-economic) forces is crucial for the policy development that, in turn, will enhance MFIs' financial efficiency.

In order to test the assumption whether the MFIs' in Northern and Southern Ghana operate in similar socio-economic conditions, and, thus, can be treated as a single region's MFIs, each equation in the system is estimated using the Seemingly Unrelated Regression (SUR) technique (Zellner, 1971). Typically, a SUR system of equations involves several estimated equations for different dependent variables that are suspected to have correlated disturbances. This analysis applies the SUR system differently. A common form of an estimated equation for a

variable of interest is used for each system of equations. In every system, each individual equation corresponds to a regional version of the common estimated equation.

An often used specification test for the SUR model is the Breusch-Pagan test of independent errors. The Breusch-Pagan test is used to test the assumption that the errors across equations are contemporaneously correlated. The null hypothesis is the absence of contemporaneous correlation. The alternative hypothesis is contemporaneous correlation. If the BP test suggests independence of the individual regional equations, then OLS procedures are used to separately derive the coefficient estimates. In addition, every equation in the estimation was tested for heteroskedasticity and multicollinearity. While multicollinearity was not detected in the estimation, the existing heteroskedasicity problem was controlled with the robust standard error estimation technique.

For every country/region the following SUR model was specified to account for potentially correlated error terms:

(1) $Y_i = \alpha + \beta X_i + \varepsilon_i,$

where Y is either a profitability or an outreach indicator for i_{th} region, X is a matrix of exogenous MFI-level and Country/Region-level control variables, and ε_i is the error term.

Based on the general model specification above, the final model with two separately estimated equations measuring profitability and outreach was specified as follows:

(2) $Gpyield_i = \beta_0 - \beta_1 Loangni_i + \beta_2 Borstaff_i - \beta_3 lnGlp_i + \beta_4 OELP_i - \beta_5 ROE_i +$
$\beta_6 DEratio_i - \beta_7 Women_i + \beta_8 PortRisk_i + v_i,$

(3) $Loangni_i = \gamma_0 - \gamma_1 Borstaff_i - \gamma_2 lnBor_i - \gamma_3 lnGlp_i + \gamma_4 OELP_i - \gamma_5 ROE_i -$
$\gamma_6 DEratio_i - \gamma_7 Women_i - \gamma_8 PortRisk_i + v_i.$

where $PortRisk_i$ is a ratio of outstanding principal balance of loans past due more than 30 days to outstanding principal balance of all loans; $Loangni_i$ is the average loan balance per borrower/GNI per capita, that along with $Women_i$, the percent of women borrowers in each MFI, represents measures of the depth of outreach; Bor_i, the number of active borrowers, is a measure of the breadth of outreach; $Gpyield_i$, a ratio of financial revenue from loan portfolio to the average gross loan portfolio, a proxy variable for the interest rate, which along with ROE_i, return on equity, represent revenue/profitability measures; $Borstaff_i$, the staff efficiency and productivity indicator, is the number of borrowers per staff member; and $OELP_i$, operating expense over loan portfolio, is used as an indicator of operational efficiency. In addition, Glp_i, the gross loan portfolio, is used to control for the size of MFIs, while $DEratio_i$, debt to equity ratio, is used as an indicator of financial health of MFIs that captures the funding arrangements considered by the MFIs. Similar to Barry and Tacneng (2011), lin-log functional form was applied in both equations.

Data

The study uses the financial data for the period 2007-2008 obtained from the Microfinance Information Exchange (MIX Market) online database (2011). The missing values were approximated with those from previous or more recent periods, based on the assumption that they remained constant throughout the years. The final panel dataset is composed of the financial data from 33 and 9 MFIs, in Southern and in Northern Ghana, respectively, with 8 MFIs being excluded from the data set due to unavailability of data. Because the number of observations for different regions varied, Excel simulation technique was used to generate the equal amount of observations across two regions.

The financial indicators, included in the analysis, are the portfolio at risk beyond 30 days and the borrowers per staff member ratio, the return on equity ratio, the operating expense per loan portfolio and the debt to equity ratios, the average yield on gross portfolio in percent, the average loan balance per borrower / GNI per capita, along with the data on non-ratio-based indicators, such as MFI's gross loan portfolio, the number of active borrowers, as well as the percent of women borrowers, calculated as a fraction of total women borrowers in the total number of active borrowers in each institution. The average yield on gross portfolio is used to approximate the average interest rate, charged by MFIs (Srinivasan, 2009). The variable names, descriptions, and descriptive statistics are presented in Tables 1-2.

Results

In the first stage, each equation was simultaneously estimated for the two regions of Ghana. The Breusch-Pagan χ^2 statistic was calculated to test the null hypothesis that the error terms are not correlated (Table 3). The results of the tests for the average yield on gross portfolio and the average loan amount per borrower / GNI per capita equations both failed to reject the null hypothesis, thus suggesting that Southern and Northern parts of Ghana are not homogenous and, therefore, cannot be treated as a single region. Apparently, MFIs in both sub-regions apply different lending practices and interest related policies.

In the second stage, each of the two equations was separately estimated for each sub-region with OLS procedure. In case of Southern Ghana, OLS RSE procedure was applied to correct for the detected heteroskedasticity.

Table 4 reports regression results for the average loan amount equation for both sub-regions of Ghana. The explanatory power of the set of applied variables is markedly different between the equations with the equation accounting for the average loan amount in case of

southern Ghana being quite high as measured by the R-squared. Moreover, all explanatory variables are statistically significant in the results obtained for southern Ghana suggesting that the use of the conceptual framework based on studies applied to other parts of the world is relevant in the current study.

Among the specific results, the percentage of women borrowers is positively related to the loan amount. Apparently, MFIs in Southern Ghana consider women reliable borrowers by providing them with larger loans. Already the descriptive statistics indicated the importance of women borrowers to the MFIs in the region and confirms the casual observations that women in larger numbers than men engage in small enterprise in Ghana. Women are also likely feeling a greater pressure to provide for the family, especially because they are responsible for raising small children. Also, a positive relationship between borrowers per staff ratio, gross loan portfolio, return on equity, portfolio and average loan amount suggests that the more efficient and profitable the southern MFIs become, the weaker the poverty outreach. While improved staff efficiency results in larger loan disbursements, the increase in the number of borrowers positively affects the depth of outreach, suggesting that as MFI become more efficient they are able to provide more small loans to a larger number of poor clients. The result is important because it stresses the relevance of sustainability as reflected in the increased efficiency to the outreach: in case of southern MFIs, the efficiency improvement leads to greater outreach. Such lending behavior is highly desirable and, if continued, has a major positive effect on the microenterprise development in that part of the country.

Similarly, the increased debt to equity ratio is associated with greater poverty outreach. Financially healthier MFIs tend to provide more small loans to those who qualify for microloans and, presumably, do not qualify for credit from commercial banking sector. In contrast, an

increased return on equity, i.e., profitability, results in increased loan amounts. Likewise, the increased size of an institution is also associated with larger loan disbursements to the poor.

Results for the Northern Ghana equation (Table 4) indicate that the number of borrowers is statistically significantly and inversely associated with loan amounts. The confirmed relation suggests (as is the case for the southern part of the country) that as MFIs grow larger and reach more clients, they provide more small loans to clients likely unqualified to obtain credit from commercial banks. This is an indication that the MFIs do not abandon their mission as they become financially healthier and rather than attempting to compete with commercial banks, continue to develop their niche in supply of microcredit. The function is essential to stimulate economic activity in northern areas. It is only a pity that the number of the MFIs operating in that part of Ghana is so much smaller than in the southern part. Interestingly, the share of women borrowers is almost identical in the two considered areas, but the portfolio at risk is higher in the North potentially limiting lending. The considerably smaller gross loan portfolio in the northern MFIs suggests the opportunities for expansion. Because the number of borrowers per staff member in the North is more than twice larger than in the South, the staffers have inadequate time to carefully evaluate the borrower credit risk contributing to larger share of portfolio at risk beyond 30 days.

Table 5 reports the estimation results of the yield on gross portfolio for the two sub-regions of Ghana. Overall, the model fits better to the sub-sample of the southern MFIs than to those located in Northern Ghana given the size of the R-squared. In the case of the Southern Ghana' average yield on gross portfolio, the loan size and the interest rate have an inverse relationship suggesting that smaller loans are perceived as riskier by the region's MFIs. Thus, the result indicates that MFIs in the southern part charge a higher interest rate for smaller loans. The

higher interest rate may encourage less borrowing by high risk clients. A highly significant positive relationship between the return on equity and the interest rate provides evidence of the mission drift in Southern Ghana MFIs. The MFIs there compete with the commercial banking sector in a diverse economic environment, where the primary borrowers are unlikely farmers, but urban entrepreneurs although still predominantly women. The average loan is more than twice the size of that in Northern part, which likely alters the credit risk evaluation of a potential borrower. However, given a lower portfolio at risk share among the southern MFIs than among the northern institutions, the southern MFIs could improve their outreach.

A similar significant positive relationship between the increases in operating expenses the interest rate implies that a higher interest is needed to cover the extra cost of low operational efficiency of MFIs in the region. A number of factors can influence the operational efficiency and it is the task of MFIs management to examine the costs of individual activities to identify the highest cost-inducing tasks.

The estimation results for the average yield on gross portfolio in the Northern Ghana suggest similar to the southern institutions tendency of potentially compromising the outreach mission. The return on equity is positively associated with interest rates, again signifying that more profitable MFIs provide larger loans, thus more likely ignoring their poverty outreach objective. On the other hand, the average loan in the Northern part of Ghana is relatively small as compared to the Southern Ghana and the loan size could be ineffective to assist a borrower in realization the goals stated as the reason for a loan.

Conclusions

The objective of the study was to perform a comparative analysis of the performance of MFIs in Southern and Northern Ghana and to assess and evaluate factors that provide evidence

on the prioritization of social outreach vis-à-vis financial sustainability goals of MFIs in the two sub-regions. The analysis focused on two essential measures of the MFIs' performance: profitability and outreach, measured the average amount of loan per borrower / GNI per capita extended to borrowers and the average yield on gross portfolio, respectively.

The estimation results of the profitability equation indicate that MFIs in Southern Ghana tend to be relatively guarded and conservative in their lending decisions by lending less to clients perceived as representing higher risk. The caution is reflected in smaller loan disbursements and higher interest rates charged to high-risk clients. The diversified economy in the southern part and its dynamic development could make the evaluation of the borrower credit risk difficult because there is a lack of data base, which tracks history of borrowers. On the other hand, the larger than in the North, number of potential borrowers encourages the MFIs to select the least risk borrowers from among the applicants because such selection secures the goal of sustaining the lending. The poverty in the southern part is considerably smaller than in the North and job opportunities sufficiently plentiful to encourage a flow of migrants from the northern part of the country.

The MFIs in both sub-regions tend to weaken their mission. An alarming tendency of the mission drift manifests itself through the realization of increases in profitability by charging clients high interest rates. A high interest rate creates a barrier to borrowing in relation to the expected earnings from the intended activity of a potential entrepreneur. The economic consequence of a mission drift is that it detracts the MFIs from the objective of poverty alleviation, a goal of particular urgency in the northern part of the country.

With respect to outreach, measured by the average loan amount per borrower / GNI per capita, this study's results indicate that women borrowers seem to be associated with larger loan

transactions and could possibly be accounting for most of the lending officers' client loans in the Southern Ghana. This result proves that women are considered more reliable borrowers in Southern Ghana and supports the casual observations of women undertaking entrepreneurial activities in simple processing and trade. Finally, in both parts of the country, the more borrowers the MFIs serve with loans, the more poor borrowers they reach. Such outcome stresses the importance of the capital the MFIs have at their disposal to impact borrowing to clients unqualified for credit from the commercial banking sector.

The results of this analysis provide important implications for the strategies of attaining greater poverty outreach. According to test results on independence between the sub-samples for two parts of the country, the MFIs in two parts of Ghana operate differently. Therefore, when formulating policies intended to improve the efficiency of financial services and effectively address the needs of growing microfinance sector, government policy makers should account for the specific differences affecting MFIs in Southern and Northern Ghana. Specifically, the northern part is less developed predominantly rural region, whereas, the southern part, with Kumasi, Accra, and Takoradi being the three biggest industrial cities in the country, has well functioned and developed regional economy. There are cultural differences between the two parts of Ghana, even though none is a homogenous area in terms of ethnicity or religion that have not been considered, but could be relevant in formulating region specific approach to increase microfinance activity.

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Table 1. Variable Description and Simple Statistics for Southern Ghana

Variable Name	Variable Description	Mean	Standard Deviation	Minimum	Maximum
Loangni	Average loan amount per borrower / GNI per capita (percent)	538.26	2,769.10	5.68	17,315.69
Glp	Gross loan portfolio (dollars)	30,454,755	19,545,012	26,232.12	1,195,267,943
Borstaff	Borrowers per staff member ratio	121.65	133.43	4	778
Deratio	Debt to equity ratio	4.47	3.47	-4.81	12.37
Bor	Number of active borrowers (people)	10,191.48	15,690.52	95	88,220
OELP	Operating expense per loan portfolio (percent)	42.43	20.54	9.1	98.43
Portrisk	Portfolio at risk beyond 30 days (percent)	9.93	9.02	0	42.7
ROE	Return on equity (percent)	20.28	40.44	-123.42	139.41
Women	Women borrowers (percent)	63.20	24.74	13	98.97
Gpyield	Average yield on gross portfolio (percent)	48.78	19.01	9.83	99.46

Source: MIX Market (2011). Note: All dollar values are real, 2005 base.

Table 2. Variable Description and Simple Statistics for Northern Ghana

Variable Name	Variable Description	Mean	Standard Deviation	Minimum	Maximum
Loangni	Average loan amount per borrower / GNI per capita (percent)	34.88	29.23	1.3	83.22
Glp	Gross loan portfolio (dollars)	569,246.7	463,665	83,493.72	1,658,747
Borstaff	Borrowers per staff member ratio	268.78	318.24	18	1,115
Deratio	Debt to equity ratio	7.89	6.94	0	21.83
Bor	Number of active borrowers (people)	7,705.06	12,836.47	311	46,838
OELP	Operating expense per loan portfolio (percent)	39.81	24.23	17.01	95.72
Portrisk	Portfolio at risk beyond 30 days (percent)	14.94	19.71	0	74.35
ROE	Return on equity (percent)	17.81	22.51	-22.29	51.77
Women	Women borrowers (percent)	64.01	27.32	18.64	100
Gpyield	Average yield on gross portfolio (percent)	30.29	11.99	4.81	59.37

Source: MIX Market (2011). Note: All dollar values are real, 2005 base.

Table 3. The Breusch-Pagan Test for Independence for Southern and Northern Ghana

Equation	BP χ^2 statistic	P-value
Average Yield on Gross Portfolio	1.105	0.2933
Average Loan Amount per Borrower / GNI per Capita	0.000	0.9893

Table 4. OLS Regression Results for the Average Loan Amount per Borrower / GNI per Capita

Variable name	Coefficient	RSE	P-value	Coefficient	SE	P-value
	Southern Ghana			Northern Ghana		
borstaff	7.343*	1.6963	0.000	-0.010	0.0130	0.463
lnbor	-1408.064*	261.942	0.000	-6.876**	3.2021	0.036
lnglp	1250.039*	209.242	0.000	4.708	4.5664	0.307
oelp	57.160*	9.4647	0.000	0.049	0.1752	0.783
roe	22.278*	7.3902	0.004	0.113	0.1667	0.501
deratio	-19.020**	8.1081	0.022	0.311	0.5224	0.554
women	9.959**	4.3818	0.027	-0.050	0.1336	0.709
portrisk	26.211*	9.3097	0.007	0.252	0.1769	0.161
constant	-10157.32	1472.428	0.000	25.664	59.495	0.668
R^2	0.8794			0.1597		

Note: Asterisks denote significance at the 10% (***), 5% (**), and 1% (*).

Table 5. OLS Regression Results for the Average Yield on Gross Portfolio

Variable name	Coefficient	RSE	P-value	Coefficient	SE	P-value
	Southern Ghana			Northern Ghana		
loangni	-0.002***	0.0012	0.101	-0.067	0.0539	0.218
borstaff	0.015	0.0195	0.450	-0.000	0.0054	0.978
lnglp	-1.130	1.4611	0.442	-0.076	1.8592	0.968
oelp	0.825*	0.1222	0.000	0.004	0.0704	0.952
roe	0.209*	0.0672	0.003	0.133***	0.0708	0.066
deratio	-0.073**	0.0686	0.290	-0.236	0.2217	0.292
women	0.074	0.1046	0.480	-0.038	0.0560	0.501
portrisk	-0.066	0.1358	0.630	0.076	0.0753	0.315
constant	21.157	26.779	0.433	34.055	24.745	0.174
R^2	0.5789			0.1315		

Note: Asterisks denote significance at the 10% (***), 5% (**), and 1% (*).

Map 1. The Location of Microfinance Institutions in the Northern and Southern Regions of Ghana.