Effect of Access to Credit and Financial Services on Poverty Reduction in Central Region of Ghana

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Abstract

The study sought to determine the effect of access to credit and financial services on poverty reduction in Central Region of Ghana from the perspectives of Micro, Small and Medium Enterprises (MSME's). Micro, Small and Medium Enterprises contribute significantly to the economic growth and poverty reduction strategies of most countries. The importance of the MSME's have long been recognized in many countries across the globe. However, lack of access to credit and financial services has been identified by several studies as the main obstacle to MSME's growth and the reduction of poverty in Ghana. The Specific objective of this study was to establish the effect of access to credit and financial services on poverty reduction. One hypothesis was formulated to cover the specific objective and operationalized into four sub-hypotheses to cover the various indicators of poverty (growth in income, increase in consumption expenditure, acquisition of business assets and ability to educate children). Using cluster sampling techniques, this cross sectional study sampled 370 entrepreneurs of Micro Small and Medium Enterprises. Questionnaire was used as the data collection instrument in an exercise that took place in November and December 2016. SPSS was used to perform cross tabulations and multiple regression analysis. The study found that access to credit and financial services had a fairly weak positive effect on growth in income, increase in consumption expenditure and acquisition of business assets. The study however found access to credit and financial services to have a significant effect on ability to educate children as poverty indicators. Consequently, the study rejected the null hypotheses in question. In view of the findings, the study makes conclusions and recommendations for further studies besides highlighting limitations.

Keywords: Microfinance Interventions, Access to Credit, Financial Services, Poverty Reduction and Growth.

1. Access to Credit and Poverty Reduction

The idea of enabling the poor to have access to credit and financial services is based on recent empirical findings which indicate that basic financial services such as savings, credit, money transfer and insurance can make a substantial positive difference in improving poor people's lives (Mahember, 2011, 2006; Dupas and Robinson 2013).

In the case of micro, small and medium enterprises (MSMEs), lack of access to finance is often the main obstacle to growth (Ahiawodze and Adade, 2012 and Beck et al., 2011). OECD (2010) contends that providing access to credit and financial services will stimulate the independence and self-development of poor households and micro-entrepreneurs. This will improve poor people's economic condition and their quality of life in the face of numerous uncertainties.

Access to finance and financial services determines the capacity of an enterprise in a number of ways, especially in the choice of technology, access to markets, and access to essential resources which in turn greatly influence the viability and success of a business (Wole, 2009). Wole (2009) further states that securing capital for business start-up or business operations is one of the major obstacles every entrepreneur faces particularly those in the MSMEs sector. Within the SMEs sector lack of access to credit is one of the major hinderances affecting growth and expansion of businesses (Dallimore, 2013). According to Maru (2009), the ability of SMEs to grow depends highly on their ability to invest in technology, restructure and innovate. These investments require capital which can only be achieved if entrepreneurs have access to credit and financial services. Given their significant contribution to the development of every nation, he government of Ghana established various programmes to support SME's in the country. These include the business assisted funds (BAF), EMPRETEC, microfinance and small loans scheme (MASLOC), support programmes for enterprise development and the national board for small scale industries (NBSSI) to ensure that micro, small amd medium entreprises has access to credit and financial services (Agbozo & Yeboah, 2012).

The establishment of these institutions notwithstanding access to finance continues to be a major problem SME's are confronted with. According to Sacerdoti (2005), among the reasons for lack of access to credit in Sub-Saharan Africa are SME's inability to provide accurate information on their financial status, lack of collateral, high loan default ratio, high cost of credit, and weak legal and judicial systems. Others include, long physical distance to the nearest financial services provider, lack of infrastructure and socio-economic and demographic characteristics that make them less creditworthy. Indeed most small and mediums entreprises are unable to provide the needed collateral to support any large scale borrowing. Ganbold (2008) argued that the Investment Climate Survey conducted by the IBRD/World Bank (2008) showed that one of the major impediments of nurturing firms is lack of access to financial services which would expand economic growth and employment generation as well as reducing poverty in many developing countries.

Gaining access to credit and financial services is therefore a critical step in connecting the poor to a broader economic life and in building the confidence for them to play a role in the larger community (Dzisi, & Obeng 2013, Hulme and Mosley, 1996). It is assumed that credit will be used for productive purposes and would generate additional income for borrowers. Thus, the provision of credit came to be perceived as an important mechanism for reducing poverty (Stewart *et. al.* 2012). However as to whether availability of credit and financial services reduces poverty remains to be proven. This is because it is difficult to isolate the impact of credit and financial services out of the many factors in a microfinance intervention that can potentially affect poverty (Duvendack *et. al.*, 2011).

1.1 Statement of the Problem

The Ghana Poverty and Inequality Report (2016) indicates that out of the 2.2 million people living in the Central Region of Ghana, 18.8 percent were found to be living below the poverty line (Cooke, Hague & Mckay, 2016). The study also found that between 1992 and 2013 Ghana's national level of poverty fell by more than half (from 56.5% to 24.2%), thereby achieving the MDG1 target. While the atainment of the MDG1 target represent substantial improvement in poverty levels, the gap between rural and urban poverty widdened. To address the poverty gap, the Government of Ghana implemented several interventions ranging from livelihood enhancement programs to support program for enterprise development and the setting up of microfinance institutions under the Ghana Poverty Reduction Strategy (GPRS) II to provide loans to the marginalized productive poor as a tool for reducing poverty and creating jobs (BOG, 2015).

Despite these interventions the number of people living with poverty continues to rise in rural Ghana (GSS, 2014). Rural poverty is now 4 times higher than urban poverty (Cookie *et. al.,* 2016). While several factors may be responsible for the widened poverty gap, this study concentrates on the role of access to credit and financial services in the poverty reduction strategy of Ghana.

Leading advocates of microfinance have argued that gaining access to credit and financial services is a critical step in connecting the poor to a broader economic life and in building confidence for them to play a role in the larger community (Hulme and Mosley, 1996; Yeboah, 2010 and Stewart *et.al.* 2012).

However, as to whether having access to credit and financial services reduces poverty remains to be proven. For instance Arhin-Sam (2013), Roodman and Morduch (2013) and Awaworyi (2014) have all found statistically insignificant association between acess to credit and poverty reduction. Given the findings of the above studies and the lapse of time, the notional view that access to credit reduces poverty needed to be revisited. This study therefore sought to investigate whether new evidence has emerged to support the ability of access to credit and financial services to eradicate poverty or otherwise from entrepreneurs who own micro, small and medium enterprises in Central Region of Ghana. The choice of the central region was based on the availability of MSME's, microfinance institutions, the availability of data and the diverse characteristics of the region.

1.2 Objective of the study

The specific objective of the study was to establish the effect of access to credit and financial services on poverty reduction in Central Region of Ghana.

1.3 Hypothesis

The study tested the following null hypothesis:
Acess to credit and financial services does not have a significant effect on poverty reduction in Central Region of Ghana.

1.4 Literature Review

This study was underpinned by the financial intermediation theory. According to OECD (2015) financial intermediation as pioneered by Gurley and Shaw (1961) is a productive activity in which an institutional unit incurs liabilities on its own account for the purpose of acquiring financial assets by engaging in financial transactions on the market; the role of financial intermediaries is to channel funds from surplus spending units to deficit spending units by intermediating between them. Microfinance institutions exist to intermediate between surplus spending units and deficit spending units by not only channelling credit to deficit spending units, but also train their clients on the proper use of the funds acquired (Ledgerwood, 2013).

The intermediation theory is built on the models of resource allocation based on perfect and complete markets by suggesting that it is frictions such as transaction costs and asymmetric information that are important in understanding intermediation (Carter, 2013). Intermediaries assist in the efficient functioning of the financial markets, and any factors that affect the amount of credit channeled through financial intermediaries can have significant macroeconomic effects. Although the presence of financial intermediaries improves investment in the economy and expands the market equilibrium, profit-seeking banks nonetheless leave certain market niches unfilled (Carter, 2013). Banks and micrfinance institutions avoid borrowers who have no collateral. Claus and Grimes (2003) asserts further that to reduce agency costs, banks prefer borrowers with assets that can be used as collateral in the unlikely events of the project's failure, meaning that poor people who do not have credit ratings are excluded from access to finance in the formal banking set up.

De Mel, McKenzie and Woodruff (2013) conducted an experiment in Sri Lanka using a sample of 1,525 Sri Lankan enterprises for a microfinance project which provided capital, incentives to hire new employees and management training. They found that the treatments largely had temporary effects, suggesting that while they may speed convergence to a steady state, they did not appear to put firms on a different growth path. Awarwoyi (2014) conducted a meta study by reviewing 25 empirical studies with a total of 595 estimates of the impact of microcredit and access to credit on poverty and microenterprises and found no significant association between access to credit and assets. The study also found that access to credit has an insignificant relationship on consumption expenditure as well as business revenue. He however found a positive association between access to credit and income. Chen *et. a.* (2013) on the hand observed that access to credit brought only partial improvement in women's well-being because of the low absorptive capacity in poor communities.

Abor and Biekpe (2006) contends that while access to credit has been identified as a dominant constraint facing the Ghanaian Small and Medium Enterprises (SME) sector, the real issue is with the quantum of credit given to SME's. They argue that although SME's apply for funds good enough to meet their working capital needs, most MFI's are unable to meet the needs of their clients due to lack of securable assets and stringent eligibility criteria.

Cheston, Conde, Bykere, & Rhyne, (2016) has argued that the impact of income poverty depends on borrowing beyond a certain threshold. For example, consumption information from 1072 households in the BRAC found that the largest effect on poverty was evident when moderate poor BRAC microfinance clients borrowed more than 10000 taka ($200) in cumulative loans (Zaman, 2000).   The above view is supported by Coleman (2006) who found that microfinance programs have a positive impact on the richer households but the impact is insignificant to the other poorer households.   The study further noted that it is the size of loans that households were able to acquire that was very important in determining the impact of those loans in household incomes.

1.5 Methodology

The study adopted explanatory research design. Explanatory research design is appropriate where a researcher is attempting to explain how a phenomena operates by identifying the underlying factors that cause change in it in which case there is no manipulation of the independent variable (Kerlinger & Lee, 2000). The study focused on proprietors of MSME's. Accordingly, the target population for this study consisted of 10,000 entrepreneurs of micro, small and medium enterprises in Central Region of Ghana. The study adopted the two-staged cluster sampling method in selecting respondents. Clients of the various microfinance institutions were grouped according to the various sub groups already in existence such as women associations, farmers groups, fishermen association, micro small and medium enterprises and households. A simple random sample was selected within each of these groups which formed the cluster. According to Cooper and Schindler (2003), cluster sampling techniques is appropriate when sampling "natural" but relatively heterogeneous groupings of a population.

To ensure that the sample size was representative of the population, the study adopted the formula given by Israel (2009) as follows: $n = N/[1 + N(e^2)]$ where: n is the sample size, N the population and e the alpha level.

Accordingly, the sample size for the study was 370 given a population of 10,000 at a 5% confidence interval. The study utilized multiple regression analysis to analyse data. The statistical package for services solution (SPSS) was used to analyse the data. Where the p value was found to be less than the significant value of 0.05, the null hypothesis was rejected.

1.6 Results, Findings and Discussions

The specific objective of the study was to determine the effect of access to credit on poverty reduction in Central Region of Ghana. Four sub hypotheses were formulated for each of the four outcome variables of poverty reduction (Growth in income, increase in consumption expenditure, acquisition of business assets and ability to educate children) to test the effect. The regression analysis focused on predictor variables which were significant. Variables which were found to be insignificant were eliminated from further analysis.

1.7 Access to Credit and and Financial Services and Growth in Income (H0$_{1a}$)

Table 1a to 1c presents the results of the above sub hypothesis. The regression function is modelled by taking access to credit as the predictor variable and growth in income as the outcome variable.

Table 1a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.392a	0.153	0.145	0.71652	0.153	17.820	3	295	0.000

Source: Study data, 2016;
Significance Level = 0.05
Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan
Dependent Variable: Growth in income

From table 1a above, a weak positive correlation is observed between access to credit and financial services and growth in income (R =0.392). The results further indicate that the R^2 which is a measure of the amount of variability in one variable that is shared by the other variables is 15.3 percent of growth in income ($R^2 = 0.153$). The adjusted R^2 tells us how much variance in Y would be accounted for if the model had been derived from the population. The adjusted R^2 is 14.5% indicating that the cross-variability of this model is relatively good.

Table 1b below presents results of the models overall significance in the form of analysis of variance. The ANOVA tests whether the model is significantly better at predicting the outcome than using the mean as a best guess

Table 1b: ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	27.447	3	9.149	17.820	.000b
Residual	151.452	295	0.513		
Total	178.899	298			

Source: Study data, 2016
Significance Level = 0.05
a. Dependent Variable: Growth in Income

b. Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan

Results from table 1b indicate that the model overall is statistically significant with a P-value less than 5 percent (p=0.000). The F-ratio which represents the ratio of the improvement in prediction that results from fitting the model, relative to the inaccuracy that still exists in the model is 17.820 meaning that the model significantly improved our ability to predict the outcome. From the foregoing, the sub-hypothesis $H0_{1a}$ which states that access to credit does not have a significant effect on growth in income as a poverty indicator is rejected.

Table 1c present results of the regression coefficient (beta values) for access to credit and financial services and growth in income to indicate whether Access to Credit and financial services is significant in explaining growth in income.

Table 1c: Coefficients[a]

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.	Collinearity Statistics Tolerance	VIF
1 (Constant)	1.610	0.233		6.899	0.000		
Ability to repay loan	0.432	0.073	0.338	5.914	0.000	0.878	1.139
Flexibility of Access	-0.262	0.045	-0.331	-5.814	0.000	0.884	1.132
Quantum of credit	0.009	0.047	0.010	0.188	0.851	0.941	1.063

Source: Study data (2016)
a. Dependent Variable: Growth in income

From the results in table 1c above, the study finds that ability to repay loan and flexibility of access have p values less than the significant value of 0.05 and therefore are statistically significant indicators in explaining growth in income as a poverty indicator. The beta values tell us the extent to which each predictor affects the outcome if the effects of all other predictors are held constant. A positive beta coefficient indicates that there is a positive relationship between the predictor and the outcome, whereas a negative beta coefficient represents an inverse relationship between the predictor and the outcome. The implication of the above betas is that as ability to repay loan increases by one unit, growth in income increases by 0.432 units. Similarly as flexibility of access increase by one unit, growth in income decreases by -0.262 units. Quantum of credit is excluded from the regression equation because its P value is greater than the significant value of 0.05 and therefore not significnant. The regression function for the sub-hypothesis $(H0_{1a})$ is therefore extracted as follows: $Y_1 = 1.610 + 0.432X_1 - 0.262X_2$ Where Y_1 = Growth in Income, X_1 = Ability to repay loan and X_2 = Flexibility of access. The significant positive findings above between access to credit and financial services and growth in income is supported by Robinson (2001), Dupas and Robinson (2012) all of whom conducted field experiments in Kenya and found that market women who had access to credit by subscribing to the savings products significantly increased their income.

Other studies by Brannen (2010), Lacalle (2008) and Barnes (2001) using wealth creation as an indicator for growth in income found significant positive effect on wealth creation and poverty reduction. These findings are however contrasted by Nanor (2008) and Lakwo (2006) who both found no effect on wealth creation.

4.1.1 Access to Creditand Increase in Consumption Expenditure $H0_{1b}$

The objective of this hypothesis was to test the effect of access to credit and finanical services on increase in consumption expenditure. Table 2a to 2c presents the results of the above sub hypothesis. In table 2a, the output of the regression function is modelled by taking access to aredit and finacial services (Ability to repay loan, flexibility of access and quantum of credit) as the predictor variable and increase in consumption expenditure as the outcome variable.

Table 2a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.431[a]	0.186	0.178	0.34282	0.186	22.560	3	296	0.000

Source: Study data (2016)
Significance Level = 0.05
Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan
Dependent Variable: Increase in consumption expenditure

Results from table 2a indicate a weak positive correlation between access to credit and financial services and increase in consumption expenditure (R=0.431, P=0.000). The results further indicate that access to credit and financial services accounts for only 18.6 percent of increase in consumption expenditure ($R^2 = 0.186$). Field (2013) indicates that the adjusted R^2 gives some idea of how well the model generalizes and should be very close to the value of R^2. The adjusted R^2 of 17.8% is close to the R^2 indicating that the cross-variability of this model is good. This implies that having access to credit does not necessarily mean that a greater part of the credit will be spent on consumption expenditure, rather consumption increases but at a slower pace.

Table 2b below presents results of the models overall significance in the form of analysis of variance (ANOVA). The ANOVA tests whether the model is significantly better at predicting the outcome than using the mean as a best guess.

Table 2b: ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	7.954	3	2.651	22.560	.000b
Residual	34.788	296	0.118		
Total	42.743	299			

Source: Study data, 2017
Significance level = 0.05
a. Dependent Variable: Increase in consumption expenditure

b. Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan

Table 2b shows that the overall model is statistically significant with P< 5 (p=0.000). The F-ratio is 22.560 indicating the model improved our ability to predict the outcome variable better. Therefore the sub-hypothesis, $H0_{1b}$ which states that Access to Credit does not have a significant effect on increase in consumption expenditure is not supported and therefore rejected.

Table 2c below presents results of the regression coefficient (beta values) for access to credit and financial services to indicate whether access to credit is significant in explaining increase in consumption expenditure.

Table 2c: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.928	0.111		17.314	0.000		
Ability to repay loan	-0.055	0.035	-0.088	-1.563	0.119	0.876	1.142
Flexibility of Access	-0.044	0.022	-0.113	-2.022	0.044	0.882	1.134
Quantum of Credit	0.182	0.022	0.441	8.152	0.000	0.939	1.065

Source: Study data, 2017

a. Dependent Variable: Increase in consumption expenditure

Results from table 2c indicate that ability to repay loan is not statistically significant in predicting increase in consumption expenditure and is therefore eliminated from the regression equation. Flexibility of access and Quantum of credit are however significant in explaining increase in consumption expenditure as a poverty indicator. However, flexibility of access with a beta coefficient of -0.044 is inversely related to increase in consumption expenditure, quantum of credit on the other hand with a beta of 0.182 has a direct positive effect on increase in consumption expenditure. The regression function for the sub-hypothesis ($H0_{3b}$) is therefore extracted as follows: $Y_2 = 1.928 - 0.044X_2 + 0.182_3$

Where Y_2 = Increase in consumption expenditure, X_2 = Flexibility of access, x_3 = Quantum of Credit.

The above findings is supported by Augsburg (2015) who found that 'access to credit allowed borrowers to start and expand small-scale businesses but that the impact on consumption and other outcome variables was heterogeneous.

4.1.2 Access to Credit and financial services and Acquisition of business Assets $H0_{1c}$

The objective of this hypothesis was to test the effect of access to credit on acquisition of business assets. Table 3a to 3c presents the results of the above sub hypothesis. In table 3a, the final output of the regression function is modelled by taking access to credit and financial services as the predictor variable and acquisition of business assets as the outcome variable.

Table 3a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.180a	0.032	0.023	0.73420	0.032	3.312	3	296	0.020

Source: Study data, 2016
Significance Level = 0.05

a. Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan

b. Dependent Variable: Acquisition of business assets

Table 3a indicate a weak positive correlation between access to credit and financial services and acquisition of business assets R = 0.180. The results further indicate that the R^2 which is a measure of the amount of variability in one variable that is shared by the other variables is 0.032 which indicates that access to credit and financial services accounts for only 3.2 percent of acquisition of business assets ($R^2 = 0.32$).

According to Field (2013), the adjusted R^2 gives some idea of how well the model generalizes and should be very close to the value of R^2. In this case the adjusted R^2 is 0.23 indicating that the cross validity of the model is good. Table 3b below presents results of the models overall significance in the form of an analysis of variance (ANOVA). The ANOVA tests whether the model is significantly better at predicting the outcome than using the mean as a best guess.

Table 3b: ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	5.357	3	1.786	3.312	.020b
Residual	159.560	296	0.539		
Total	164.917	299			

Source: Study data, 2016
Significance level = 0.05
a. Dependent Variable: Acquisition of household assets
b. Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan

Results from table 3b above shows that the overall model is statistically significant with P< 0.05 (P=0.020). The F-ratio is 3.312 indicating that the model improved our ability to predict the outcome variable. From the foregoing, the sub-hypothesis, $H0_{1c}$ which states that access to credit and financial services does not have a significant effect on acquisition of business asset is hereby rejected.

Table 3c below presents results of the regression coefficient for access to credit and acquisition of business assets to indicate whether access to credit has a significant effect in explaining acquisition of business assets.

Table 3c: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1 (Constant)	2.153	0.239		9.027	0.000		
Ability to repay loan	0.200	0.075	0.163	2.671	0.008	0.876	1.142
Flexibility of access	-0.056	0.046	-0.074	-1.221	0.223	0.882	1.134
Quantum of credit	-0.090	0.048	-0.112	-1.892	0.059	0.939	1.065

Source: Study data, 2016
a. Dependent Variable: Acquisition of business assets

Results from table 3c indicate that only ability to repay loan with P value of 0.008 is statistically significant access to credit indicator in explaining acquisition of business assets. The beta values tell us about the relationship between increase in consumption expenditure and each predictor. A positive beta indicates that there is a positive relationship between the predictor and the outcome, whereas a negative coefficient represents a negative relationship. Table 3c indicate that ability ot repay loan with a beta of 0.200 have a positive relationship with the outcome variable acquisition of business asset. The implication is that as ability to repay loan increases by one unit, acquisition of business assets increases by 20%. The research hypothesis is however not formulated given that flexibility of access and quantum of credit were found to be insignificant with P values greater than the significant 0.05.

4.1.3 Access to credit and ability to educate children $H0_{1d}$

Table 4a to 4c presents the results of the above sub hypothesis. In table 4a below, the output of the regression function is modelled by taking access to credit (ability to repay loan, flexibility of access and quantum of credits) as the predictor variable and ability to educate children as the outcome variable.

Table 4a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.725a	0.526	0.521	0.51358	0.526	109.453	3	296	0.000

Source: Study data (2016)
Significance Level = 0.05
Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan
Dependent Variable: Ability to educate children

From table 4a, a high positive correlation is observed between access to credit and financial services and ability to educate children (R =0.725). The results indicate further that the R^2 which measures the proportionate reduction in variation of the outcome associated with the predictors is 0.526 indicating that access to credit accounts for 52.6 percent of ability to educate children ($R^2 = 0.526$). The adjusted R^2 which gives us some idea of how well our model generalizes is 52.1 percent and therefore very similar to the outcome predicted by the R^2, indicating that the cross-variability of this model is very good.

Table 4b below presents results of the models overall significance in the form of analysis of variance. The ANOVA tests whether the model is significantly better at predicting the outcome than using the mean as a best guess (Field, 2013)

Table 4b: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	86.610	3	28.870	109.453	.000b
	Residual	78.075	296	0.264		
	Total	164.686	299			

data, 2016
Dependent Variable: Ability to educate children
Predictors: (Constant), Quantum of credit, Flexibility of access, Ability to repay loan

The findings of table 4b above indicate that the model overall is statistically significant with a P-value less than 5 percent (p=0.000). The F-statistic is F=108.453, an indication that the model significantly improved our ability to predict the outcome variable. From the foregoing, the sub-hypothesis, $H0_{1d}$ which states that access to credit and financial services does not have a significant effect on ability to educate children is not supported and therefore rejected.

Table 4c below presents results of the regression coefficient (beta values) for access to credit and ability to educate children.

Table 4c: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.419	0.167		-2.509	0.013		
	Ability to repay loan	-0.063	0.033	-0.077	-1.873	0.062	0.939	1.065
	Flexibility of access	0.131	0.032	0.173	4.051	0.000	0.882	1.134
	Quantum of credit	0.814	0.052	0.666	15.570	0.000	0.876	1.142

Source: Study data, 2016
a. Dependent Variable: Ability to educate children

Table 4c above indicate that flexibility of access and quantum of credit with P<0.05 are statistically significant in explaining ability to educate children as a poverty indicator. Ability to repay loan is however insignificant with P=0.62. The b-values tell us about the relationship between increase in ability to educate children and each of the predictors. A positive beta indicates that there is a positive relationship between the predictor and the outcome, whereas a negative coefficient represents an inverse relationship between the predictor and the outcome. Flexibility of access and quantum of credit have positive beta values of 0.131 and 0.814 respectively indicating that there is a positive relationship between the predictors, flexibility of access and quantum of credit and the outcome variable, ability to educate children. The regression function for the sub-hypothesis ($H0_{1d}$) is extracted as follows:

$$Y_4 = -0.419 + 0.131X_2 + 0.814X_3$$

Where Y_4 = Ability to educate children, $X2 =$ Flexibility of access and X_3 is quantum of credit. The above finding is supported by empirical studies by Adjei *et. al.* (2009) and Ssewamala (2010) whose respective studies in Ghana and Uganda found significant positive relationship between access to credit and ability to educate children. Barnes *et. al.* (2001) and Shimamura (2009) however found mixed effect on ability to educate children. While Barnes et.al. (2001) found positive effect among schooling by boys, they also found negative effect among the education of girls especially among continuing clients in Uganda. Shimamura and Lastarria-Cornhiel (2009) Study in Malawi on the other hand found that micro-credit significantly decreases primary school attendance amongst borrowers' children, leading to a repetition of primary grades in young boys and delayed or lack of enrolment for young girls.

1.8 Summary of Key Findings

The specific objective of the study was to determine the effect of access to credit on poverty reduction in Central Region of Ghana. To this end the study hypothesized that access to credit does not have statistically significant effect on poverty reduction in Central Region of Ghana ($H0_2$) and constructed four additional null hypothesis. The four hypothesis measured access to credit against growth in income ($H0_{1a}$), increase in consumption expenditure ($H0_{1b}$), acquisition of business assets ($H0_{1c}$), and ability to educate children ($H0_{1d}$) as indicators of poverty reduction.

The study found weak positive correlations between access to credit and growth in income; access to credit and increase in consumption expenditure and access to credit and acquisition of business asset. The study however found a strong positive correlation between access to credit and ability to educate children. These findings are consistent with the financial intermediation theory which seeks to channel funds from surplus spending units to deficit spending units. The financial intermediation theory is built on the model of resource allocation based on perfect and complete markets by suggesting that it is frictions such as transaction costs and asymmetric information that are important in understanding intermediation.

1.9 Conclusions and Recommendations

In line with the research findings, the study concluded that although access to credit and financial services do have influence on poverty reduction, its effect is not as great as compared to other forms of interventions such as microsavings. Merely having access to credit and financial service and not utilising it for productive purposes does not guarantee growth in income, increase in consumption expenditure or acquisition of business asset. Given that all the four sub hypothesis were statistically significant, the study concludes that access to credit influences poverty levels of entrepreneurs in central region of Ghana.

The study recommends that in order to encourage technology acquisition for MSME expansion, MFIs and banks should categorize their loans into low and high interest loans. The conventional loans to clients for consumption and children's educational support can be maintained as high interest loans, while loans for capital assets or technology acquisition could be classified as low interest loans, which can be secured by a mortgage over the life of the asset. Additionally, microfinance institutions should consider granting moratorium for acquisition of business asset, increase the duration of such loans and spread the repayment over a longer period of time. This will enable MSMEs to have greater use of the loan over a longer period of time.

1.10 Implications of The Study and Areas for Further Research

The study rejected the main hypotheses and the four sub hypotheses. The implication of this is that access to credit and financial services could play a significant role in the fight against poverty if given the needed attention. Access to credti could contribute significantly to growth in income and entrepreneurial development, increase in consumption expenditure, acquisition of business assets and ability to educate children and should therefore be given all the attention it deserves. The research gaps observed out of the study effort provide some basis for further empirical investigations. There is need to consider similar study over a longer period of time using randomised control trials as against the cross sectional design used for this study to capture the time effects of changes in the implementation of the interventions. Also, there is the need to expand the study variables to cover micro leasing, money transfer and micro insurance which are various forms of microfinance interventions to understand how these variables affect poverty reduction.

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