

IMPACT OF SOCIO-ECONOMIC CHARACTERISTICS OF FARMERS ON ACCESS TO AGRICULTURAL CREDIT

MUHAMMAD NOUMAN^{1*}, MUHAMMAD FAHAD SIDDIQI¹,
SYED MOHAMMAD ASIM² and ZAHID HUSSAIN¹

1 *Institute of Business and Management Sciences, The University of Agriculture, Peshawar - Pakistan.*

2 *Department of Statistics, University of Peshawar, Pakistan.*

*Correspondence author: mnouman@aup.edu.pk

ABSTRACT

This study aims to study impact of socio-economic characteristics of farmers on access to agricultural credit in Pakistan. Data have been collected using a structured questionnaire from a sample of 80 beneficiaries of formal agricultural credit from the district Swabi of Khyber Pakhtunkhwa province. Amount of credit borrowed by the farmers is used as dependent variable whereas, the independent variables are different socio-economic characteristics of the borrowers of the agricultural credit including age, marital status, education, number of dependents, other occupations, farm size, farm status, tenancy status, farming experience, income from farming, and income from other occupations. The dependent variable is a categorical variable; therefore the Ordered Logit Model has been used for analysis of data. Findings suggest that the amount of agricultural credit that can be borrowed by the farmers is significantly affected by their marital status, farm status, farm size, and education level.

Keywords: Agricultural credit, Socio-economic Characteristics, Ordered Logit Model.

Citation: Nouman. M., M. F. Siddiqi., S. M. Asim and Z. Hussain. 2013. Impact of socio-economic characteristics of farmers on access to agricultural credit. Sarhad J. Agric. 29(3): 469-476

INTRODUCTION

Background of the Study

History of modern agriculture has witnessed huge expansion in production. The development of agriculture is mainly due to the extensive use of credit. Agricultural credit is considered as an important factor in the course of modernization of agriculture. It creates and maintains adequate flow of inputs, and thus increases efficiency in farm production. It makes farmers able to use modern technologies and advanced practices. Credit facilities are vital for progress of the rural and agricultural development. In short, agricultural credit plays integral role in boosting up the speed of agricultural modernization and economic development, but only if it is easily and widely available and utilized effectively.

Keeping in view the importance of credit for the agriculture sector, Government of Pakistan is providing low interest rate credit to farmers. Formal credit system has been established in rural areas to help farmer in agriculture production. This formal system is implemented in rural areas through establishment of banks, NGOs and cooperative societies etc. The organizations in Pakistan which lend formal credit are banks especially ZTBL and TACCAVI Loan, and Multi Purpose cooperatives.

The informal lenders are also playing significant role in the rural areas of Pakistan since traditional times. Informal sector have comparative advantage in providing better services at low cost than formal sector. The wealthier families in rural area have better access to formal credit than poorer household. Poorer household mostly depend on the informal lenders.

Various researchers have worked in different regions of the world on access to agriculture credit, obstacles faced by farmers in accessing agriculture credit, and the impact of their socio-economic characteristics on access to agriculture credit. This study is an attempt to study the impact of socio-economic characteristics of farmers on access to agricultural credit.

Limitations of the Study

In this study only those farmers are considered who have borrowed from formal credit sources like Zarai Taraqiyati Bank Limited (ZTBL) and other commercial banks creditors. But in the rural areas of Pakistan there are many farmers who take credit from the informal sources, therefore future researches should consider the informal credits as well.

Various researchers have worked in different regions of the world on access to agriculture credit, obstacles faced by farmers in accessing agriculture credit, and the impact of their socio-economic characteristics on access to agriculture credit for example:

Diagne and Zeller (2001) differentiated between participated in credit market and access to credit. They concluded that farm households have access to credit but do not choose to take part in credit market due to risk and expected rate of return on loan. The authors studied the formal and informal loans in agriculture. They found that formal lenders like to provide a greater percentage of loans to farmers than informal lenders.

Khandker and Faruquee (2003) studied the availability of sufficient formal and informal agricultural credit in Pakistan. They concluded that the major share of formal credit is provided by agriculture development bank of Pakistan (ADBP). But these loans are not cost effective due to covariate risk. They identified that the causes of covariate risk is due to the fact that large holders get huge amount of finances in comparison to the small holders. They recommended that if ADBP contribute to small holders than for large holders, it will reduce its loan default cost.

khalid (2003) studied the factors which affect farmers' access to credit using data collected from 300 farmers selected randomly from few villages of Tanzania, including the villages of Unguja and Pemba. Results indicate that gender, age, level of income, education level, and level awareness regarding credit availability are the key factors which significantly affect the access to credit by small-scale farmers.

Mpuga (2004) conducted a research study in Uganda to investigate the factors which affect demand for agricultural credit. The Logit, Probit, and Multinomial Logit models were used for the analysis. The findings of the study reveal that the demand for agricultural credit is strongly and significantly affected by the age, location, education level, value of the assets held by the household, occupation, and other dwelling characteristics. On the other hand, the availability of the sources of credit has limited affect on the demand for credit.

FAO (2004) reported that in Indonesia commercial banks are issuing agricultural credit but due to their difficult procedure of access to credit and rigid requirements; there credit policy is not working well. The author suggested that government must setup sustainable micro finance institutions, launch land certificate program, and introduce modified conventional banking system for small credit holders.

According to Awoyinka and Adeagbo (2006) annual income from cassava production, farm size cultivated, cost of fund from formal sources, cost of fund from informal sources membership of the state cassava production program, and possession of collateral are the main vital factors that influence farmers demand for credit.

Wittlinger and Tuesta (2006) found that small scale single crops farmers are facing many obstacles in securing credit. These types of farmers require definite conditions, strategic alliances with members, low prices and conditional climate; because only in these conditions these farmers can have access to credit. Most of the farmers only obtained loan from informal sources such as suppliers, traders, processors etc.

Okunade (2007) examined the impact of socio-economic characteristics of famers on access to the agriculture credits in Isoya rural development project of Obafemi Awolowo University. He selected 105 women's from 5 villages. Correlation analysis was used to analyze relationship between the socio-economic characteristics of famers and the access to agriculture credit Findings of the study suggest that accessibility to credit facilities is significantly affected by level of education, tenancy status, and occupation.

Akram et al. (2008) conducted a research to indentify constrains faced by farmers in availing credit. The Logit model was used to identify the borrowing behavior of farmers and the factors which determine the credit constrains. Results reveal that the high markup and need of collateral are the major constraints faced by farmers in acquiring credit. While the level of education, transitory income, are the important determinants of the borrowing behavior of the farmers.

Oboh and Kushwaha (2009) conducted a study in Benue State, Nigeria to identify the socio-economic characteristics which determine the size of loan borrowed by the farmers. Data was collected from randomly selected 300 beneficiaries of the agricultural credit who acquired loan from the NACRD Bank. Their findings suggest that the amount of credit borrowed by the farmers is significantly affected by distance, annual income, previous loan status, and farm size. While the gender, age, household size and farming experience have significant relationship with the amount of credit borrowed.

Sebopetji and Belete (2009) conducted a study in Letaba Local Municipality, South Africa to investigate the factors which affect the decision of the small scale farmers to acquire credit. Data was collected from randomly selected 73 small-scale farmers using a structured questionnaire. Their results suggest that the farmer's decision to acquire credit is positively and significantly affected by farmers' gender, farming experience, and marital

status, while significantly but negatively affected by the farmers' age, formal education, farm size and membership of a farmer to an association.

Fletschner (2009) explained that those household which are more educated, wealthier and have more family labor; can easily approach and access financial institutions. The farmers who have lack of land face many obstacles in accessing credit.

According to Satish and Nirupam (2009) security against loan is the main sources to access credit and lenders utilize collateral to secure the loan. For the large households the land is used as collateral in the agrarian economy. For the small holders land is not used as collateral. Therefore, they have to provide assets other than farm land as collateral such as crops, gold, commitment of future labor and 3rd party as a guarantor. When the smallholders fail to provide the collateral then they cannot access formal credit. Therefore, they depend more on non financial institution.

Saleem et al. (2010) conducted a research study in the district Dera Ismail Khan to investigate the impact of the characteristics of the farm and farmers on access to agricultural credit. Data was collected using a structured questionnaire from randomly selected 320 respondents. The Chi-square test was used as a tool of analysis. Their findings suggest that the decision to get agricultural credit is significantly predicted by the farmers' Age, Marital status, Occupation, Education, Numbers of dependents, Farm type, Farm size, Tenancy status Farm status, and farming experience.

Bolarinwa and Fakoya (2011) conducted a research in Ogun State, Nigeria to study effect of farm credit on the socio-economic status of farmers. Information was collected from randomly selected 250 farmers. They found that the formal credit institutions do not provide sufficient credit facilities and 80% of the farmers get loan from the informal credit institutions. Their findings suggest that farm productivity has a positive and significant correlation with the use of formal credit, use of new technologies, proper processing methods, and storage & utilization facilities.

MATERIALS AND METHODS

Data and Tools

In this research primary data has been used. Data has been collected from a sample of 80 farmers who were selected from the district Swabi of Khyber Pakhtunkhwa province. The random sampling technique was used for selection of sample. The sample consists of only those farmers who have taken agricultural credit from Zarai Taraqiyati Bank Limited (ZTBL) and other commercial banks.

Data have been collected using modified version of a structured questionnaire adopted from Okunade (2007). The questionnaire contains both open and closed-ended questions.

Variables of the Study

In this study the amount of credit borrowed by farmers is used as a dependent variable whereas, the independent variables are different socio-economic characteristics of the borrowers of the agricultural credit including age, marital status, education, number of dependents, other occupations, farm size, farm status, tenancy status, farming experience, income from farming, and income from other occupation. All these variables are categorical variables except the Farm size which is a continuous variable. Table 1 lists all the variables used in the study, the categories of each variable and their coding schemes.

Statistical Tests and Model

The Ordered Logit Model (also called the Ordinal Logit model) is used to analyze impact of different socio-economic characteristics of the farmers on the amount of agricultural credit borrowed. Ordered Logit Model is used when the dependent variable is a categorical variable with more than two categories, and these categories are ordinal in nature, or in other words the values of each category have meaningful sequential order (Gujarati, 2003).

Analysis has been done using the software STATA version 12 SE.

Table 1. Variables and their coding scheme

VARIABLE	CATEGORIES	CODE	VARIABLE	CATEGORIES	CODE	
Age	Below 40	0	Farm Status	Tractor operated	0	
	Above 40	1		Bullock operated	1	
Education	Illiterate	0	Monthly Farming Income	Below Rs. 10,000	0	
	Primary School	1		10,000 – 25,000	1	
	Secondary School	2		25,001 – 50,000	2	
	Graduation	3		Above 50,000	3	
Marital Status	Single	0	Income from other sources	Below Rs. 10,000	0	
	Married	1		10,000 – 25,000	1	
No. of Dependents	1 - 5	0		25,001 – 50,000	2	
	6 - 10	1		Above 50,000	3	
	Above 10	2	Farming Experience	Below 10 years	0	
Other Occupation	None	0		Above 10 years	1	
	Business	1		Amount of Credit	Below Rs. 50,000	0
	Service	2			50,000 – 100,000	1
	Labor	3	100,001 – 200,000		2	
	Other	4	200,001 – 300,000		3	
Tenancy Status	Owned	0	Above 300,000		4	
	Owner-cum-Tenant	1				

RESULTS AND DISCUSSION

Distribution of Farmers According to Socio-economic Characteristics

Table 2 shows the distribution of the surveyed farmers according to their socio-economic characteristics. About 60% farmers have age above 40 years while the rest 40% of farmers are below 40 years. Majority of the farmers (42.5%) are illiterate, 10% have primary education, 27% have secondary school education while the rest 20% farmers have graduate level education. Most of the farmers (87.5%) are married. 32% farmers rely only on agriculture as they do not have any other occupation, while the rest of the farmers are engaged in some other professions as well such as business, service, labor etc. Majority of the respondents (75%) have the average monthly farming income of Rs.10,000-25,000, 20% have income below Rs.10,000, only 5% have income between Rs.25,000-50,000 while, none of the farmers have income above Rs.50,000 per month. In case of income from other sources, 32.5% farmers have the income below Rs.10,000, 30% farmers' income range is from Rs.10,000 to 25,000 and the same percentage of farmers earn Rs. 25,000 to 50,000, while only 7.5% earns above Rs.50,000 per month. 52.5% farmers own their lands solely while the rest 47.5% have the tenancy status of owner-cum-tenant. A large number of farmers (92.5%) use modern cultivation machinery as tractor operations while few of them (7.5%) use the old cultivation system as cultivation by hand or bullocks system. About 67.5% farmers have farming experience of more than 10 years while the rest 32.5% have less than 10 years experience. Almost 10% of the farmers have taken credit of Rs. 50,000 or below, 30% have taken the amount between Rs.50,000 to 1,00,000, 15% have taken the credit between Rs. 100,000 and 200,000, the 12% farmers have taken the credit between Rs. 200,000 and 300,000, and the rest 32.5% have taken more than Rs.3,00,000 credit.

Table 2. Distribution of farmers according to their socio-economic characteristics

Socio-economic characteristics	Frequency	Percentage	Socio-economic characteristics	Frequency	Percentage
Age			Farm Status		
Below 40	32	40.0	Tractor operated	74	92.50
Above 40	48	60.0	Bullock operated	6	7.50
Education			Monthly Farming Income		
Illiterate	34	42.5	Below Rs. 10,000	16	20.00
Primary School	8	10.0	10,000 – 25,000	60	75.00
Secondary School	22	27.5	25,001 – 50,000	4	5.00
Graduation	16	20.0	Above 50,000	0	0
Marital Status			Income from other sources		
Single	10	12.5	Below Rs. 10,000	26	32.50
Married	70	87.5	10,000 – 25,000	24	30.00
No. of Dependents			25,001 – 50,000	24	30.00
1 – 5	24	30.0	Above 50,000	6	7.50
6 – 10	40	50.0	Farming Experience		
Above 10	16	20.0	Below 10 years	54	67.50
Other occupation			Above 10 years	26	32.50
None	26	32.50	Amount of Credit		
Business	12	15.00	Below Rs. 50,000	8	10.00
Service	18	22.50	50,000 – 100,000	24	30.00
Labor	14	17.50	100,001 – 200,000	12	15.00
Other	10	12.50	200,001 – 300,000	10	12.50
Tenancy Status			Above Rs. 300,000	26	32.50
Owned	42	52.50			
Owner-cum-Tenant	38	47.50			

Results of the Ordered Logit Model

Table 3 shows results of the Ordered Logit Model. The model Chi-square value is 62.95 and its p-value is 0.00 which is highly significant. It shows that the considered socio-economic variables have significant effect on the amount of credit borrowed. In other words the overall model is significant. The McFadden R^2 (aka pseudo R^2) is 0.52 which indicates that 52% variation in the amount of credit borrowed is explained by the socio-economic variables under consideration.

P value for the variable marital status is less than 0.05, thus its effect on the amount of credit borrowed is significant at 5% level of confidence. This result is inconformity with the result of Saleem et al. (2010); and Sebopetji and Belete (2009). The negative coefficient of the marital status means that the married farmers are less likely to get larger amount of credit as compared to the unmarried farmers. P value for the variables farm size is 0.005 which is less than 0.05. Thus the effect of Farm size is significant at 5% level of confidence. The result for farm size is matching with the findings of Sebopetji and Belete (2009); Saleem et al. (2010); and Okunade (2007). Similarly, the p-value for the variables farm status is also less than 0.05. Thus its effect is also significant at 5% level of confidence. The result for farm status is matching with the findings of Saleem et al. (2010); and Sidhu et al (2008).

The effect of primary level of education is significant at 10% level of confidence. While the effect of the secondary school level and the graduate level education is significant at 5% level of confidence. The negative coefficient for each category of the variable education shows that the likelihood of the larger amount of credit decreases as the level of farmer's education increases. Thus the illiterate farmers are more likely to get large amount of agricultural credit as compared to the educated ones. The studies done by Sebopetji and Belete (2009); Akram et al. (2008); Okunade (2007); Saleem et al. (2010); and Khalid (2003) have also noted the significant impact of the level of education on the access to credit.

Table 3. Results of ordered Logit model

MODEL SUMMARY						
Ordered logistic regression	Number of observations = 80					
	LR chi2(19) = 62.95					
	Prob > chi2 = 0.00					
	Pseudo R2 = 0.52					
Log likelihood = -28.573525						
RESULTS OF ORDERED LOGIT						
Amount of credit	Coefficient	Std. Error	Z	P > z	[95% conf. Interval]	
Age	2.85	2.02	1.41	0.158	-1.10	6.81
Marital status	-7.78	2.94	-2.65	0.008*	-13.55	-2.02
Farm size	0.16	0.06	2.79	0.005*	0.048	0.27
Farm status	13.48	4.80	2.81	0.005*	4.06	22.89
Tenancy status	-1.92	1.67	-1.14	0.253	-5.19	1.37
Farming experience	1.67	1.99	0.84	0.403	-2.24	5.58
Education						
Illiterate ***	-	-	-	-	-	-
Primary School	-4.67	2.83	-1.65	0.098**	-10.21	0.87
Secondary School	-4.89	2.18	-2.24	0.025*	-9.16	-0.61
Graduation	-15.05	5.78	-2.61	0.009*	-26.37	-3.73
No. of dependents						
1 - 5 ***	-	-	-	-	-	-
6 - 10	2.95	1.48	2.00	0.046*	0.06	5.84
Above 10	1.98	1.64	1.21	0.228	-1.24	5.19
Other occupation						
None ***	-	-	-	-	-	-
Business	0.16	2.98	0.05	0.957	-5.68	6.00
Service	3.48	3.80	0.92	0.360	-3.97	10.93
Labor	6.69	4.19	1.60	0.110	-1.52	14.89
Other	-2.70	3.44	-0.78	0.433	-9.44	4.043
Monthly farming income						
Below Rs. 10,000 ***	-	-	-	-	-	-
10,000 - 25,000	-1.63	1.76	-0.93	0.353	-5.09	1.82
25,001 - 50,000	19.49	1702.29	0.01	0.991	-3316.94	3355.93
Above 50,000	-	-	-	-	-	-
Income from other sources						
Below Rs. 10,000 ***	-	-	-	-	-	-
10,000 - 25,000	-3.55	2.86	-1.24	0.213	-9.15	2.05
25,001 - 50,000	0.51	2.49	0.20	0.838	-4.36	5.38
Above 50,000 ****	-	-	-	-	-	-
/cut1	-10.99	5.41			-21.59	-0.39
/cut2	-3.02	3.65			-10.18	4.13
/cut3	-1.09	3.65			-8.24	6.07
/cut4	0.47	3.59			-6.56	7.50
* Significant at 0.05						
** Significant at 0.10						
*** Reference category						
**** Omitted because of collinearity						

The effect of number of dependents is significant only for the second category (i.e., 6-10 members). It means that a farmer is more likely to get large amount of credit if he has number of dependents between 6 and 10.

There are four cut-points for this model because there are five levels/categories of the dependent variable. The cut-points cut1, cut2, cut3, and cut4 are ancillary parameters that define the changes among categories. These cut-points can be used to calculate the predicted probabilities of each category of the dependent variable for each case. Table IV provides predicted probabilities for each category of the dependent variable assuming different values of the independent variables. These predicated values have been determined following Hamilton (2006).

Table 4. Predicted probabilities for each category of the dependent variable assuming different values of the independent variables

Age	Education	Marital status	No of dependents	Other Occupation	Monthly farming income	Income from other sources	Tenancy status	Farm size	Farm status	Farming experience	Predicted Probabilities (Amount of credit Borrowed)				
											Below Rs. 50,000	50,000 – 100,000	100,001 – 200,000	200,001 – 300,000	Above Rs. 300,000
											0	0	0	0	0
1	0	1	2	0	1	0	0	15	0	1	0.00003	0.0744	0.2838	0.3676	0.2741
1	0	1	1	0	1	0	1	20	0	1	0.00003	0.08424	0.30557	0.36208	0.24806
1	0	1	2	4	1	2	0	63	0	0	5.75E-07	0.00166	0.00975	0.04049	0.94810
0	2	0	1	3	0	1	1	9	0	0	8.06E-06	0.02278	0.16568	0.29508	0.56555
1	0	1	2	1	0	2	1	8	0	0	0.00031	0.47197	0.38909	0.10582	0.03281
0	0	1	0	3	0	1	0	8	0	0	0.00048	0.58261	0.32354	0.07212	0.02125

The first case in table 4 shows that a farmer is more likely to receive above Rs. 300,000 credit (probability = 0.99) if he has the following characteristics:

Age = 0 (Below 40)

Education = 0 (Illiterate)

Marital status = 0 (Single)

No. of dependents = 0 (1-5)

Other occupation = 0 (None)

Farming Income = 0 (Below Rs.10,000)

Income from other source = 0 (Below Rs.10,000)

Farm size = 37 Kanals

Farm status = 0 (Tractor Operated)

Tenancy status = 0 (Owned)

Farming experience = 0 (Below 10 years)

CONCLUSIONS AND RECOMMENDATIONS

The findings of this study suggest that a strong relationship exists between the access to agricultural credit and the socio-economic characteristics of the borrowers. The amount of agricultural credit that can be borrowed by the farmers is significantly affected by their marital status, education level, farm size, and farm status. The high Chi square value (62.95) and highly significant p-value (0.00) of the Ordinal Logit Model show significant collective impacts of all the considered socio-economic characteristics of farmers on their access to agriculture credit. Hence, it is concluded that the characteristics of the farmers strongly affect the access to agriculture credit. Therefore, the financial institutions should make the specific credit plans and programs by keeping their target customers' characters in mind.

REFERENCES

- Akram, W., Sial, Z., and Ijaz. 2008. Agricultural credit constraints and borrowing behavior of farmers in rural Punjab. Euro. J. Sci. Res. 23(2):294-304.
- Awoyinka, Y.A., and Adeagbo, S.O. 2006. Analysis of demand for informal and formal credit among small scale cassava farmers: In Oyo State, Nigeria. J. Agric. Soc. Sci. 4 (2): 196-202
- Bolarinwa, K.K., and Fakoya, E.O. 2011. Impact of Farm Credit on Farmers Socio-economic Status in Ogun State, Nigeria. J. Soc. Sci. 26(1):67-71.
- Diagne, A and Zeller, M. 2001. Access to credit and its impact on welfare in Malawi. Research report International food policy research institute, Washington D.C. 116.
- FAO 2004. Access to farm credit by small-scale farmers. A country report of Indonesia . Economic Survey of Pakistan, 2005-06. Economic Affairs Division, Islamabad.
- Fletschner, D. 2009. Rural women access to credit: market imperfections and intra household dynamics. W Dev-Elsevier. 37 (3):618.
- Gujarati, D N. 2003. Basic Econometrics. 4th Edition. McGraw-Hill Companies Inc. New York. Pp.623.
- Hamilton, L. 2006. Statistics with Stata (updated for version 9). Thomson Books/Cole.
- Khalid, M. 2003. Access to formal and quasi-formal credit by smallholder farmers and artisanal fishermen: a case of Zanzibar (Repoa research report No. 03.6. Business & Economics, Mkuki na Nyota Publishers.

- Khandker, S. and Faruquee, R.R. 2003. The impact of farm credit in Pakistan. *J. Agric. Econ.* 28(3):197-213.
- Mpuga, P. 2004, March. Demand for credit in Rural Uganda: who cares for the peasants? Presented at the conference on Growth, Poverty Reduction and Human Development, Africa Center for the study of African Economics. The Centre for the Study of African Economies and the Global Poverty Research Group, University of Oxford, St Catherine's College, Oxford.
- Oboh, V.U., and Kushwaha, S. 2009. Socio-economic determinants of farmers' loan size in Benue State, Nigeria. *J. Appl. Sci. Res.* 5(4):354-358.
- Okunade E.O. 2007. Accessibility of agricultural credit and inputs to women farmers of Isoya. *J. Agric. Biol. Sci.*, 3(3):138-142.
- Saleem, M. A., Jan F. A., and Khattak, R. M. 2010. Impact of Landholding and farmers characteristics in Obtaining Credit for Agricultural Productivity in District D.I.Khan. *Abasyn. J. Soc. Sci.* 3(2):177-193.
- Satish, P., and Nirupam M. 2009. Credit markets for small farms: role for institutional innovations European Association of Agricultural Economists 111th Seminar, June 26-27, 2009, Canterbury, UK.
- Sebopetji, T.O. and Belete, A. 2009. An application of profit analysis to factors affecting small-scale farmers' decision to take credit: a case study of the greater Letaba local municipality in South Africa. *Afr. J. Agric. Res.* 4 (8):718-723.
- Sidhu, R.S., Vatta, K., and Kaur, A. 2008. Dynamics of institutional agricultural credit and growth in Punjab: contribution and demand-supply gap. *Agric. Econ. Res. Rev.* 21:407-414.
- Wittlinger, B. and Tuesta, T. M. 2006. Providing cost-effective credit to small-scale single-crop farmers: The case of Financiera El Comercio. *Accion InSight.* 19.