

UTILIZATION OF ZARAI TARAQIATI BANK AGRICULTURAL CREDIT IN RURAL AREAS OF TEHSILE RAWALPINDI: AN EMPIRICAL STUDY

Muhammad Waqas Chughtai,

Research Scholar in National Defence
University, Islamabad, Pakistan

ABSTRACT

Agriculture is considered as backbone in the economy of Pakistan contributing 24 percent of GDP. Credit is basic input for any agricultural activity. The financial need of the farmers has been increased to full the requirement of agricultural inputs (seeds, fertilizer, pesticides, labor wages, fuel and transportation expanse etc). This study highlights the utilization of Zarai Taraqiati Bank Limited agricultural credit on purchasing of basic inputs and its impact on per acre wheat production in the study areas. The Cobb Douglas production function was used for the analysis of the data. The findings show that most of the credit was utilized in purchasing of qualitative seeds, fertilizer by the total sample borrowers. The credit with labor and machinery were found positively significant on per acre wheat production with values 0.55, 0.36 and 0.30 respectively. The high value of R^2 is found 84.4% which presents that the credit, labor and machinery are positively affecting the productivity of wheat crop in rural areas of Tehsile Rawalpindi.

Keywords: Agricultural Credit, Wheat Production, Utilization, ZTBL-Pakistan

INTRODUCTION:

In every economy, three factors i.e. agriculture, industry and commerce are considered very important. These factors are positively interrelated with each other as the expansion of one sector leads to the other two. Pakistan is an agricultural country having more than half of the total population lives in rural areas and agriculture is merely their source of income. Agricultural sector is playing the most significant role in economic growth of Pakistan and contributing 24 percent of Gross Domestic Product (GDP). It is certainly the largest employer, absorbing 45 percent of the country's total labor force and they have a linkage directly or indirectly with agriculture for livelihood (Economic Survey of Pakistan. 2010).

It is worldly recognized that agricultural credit is a financial support which is essential for the farmers to fulfill the cash requirements of farm's inputs. In Pakistan, majority of the farmers are poor, living in rural areas and credit is their dire need. They are not in a position to invest or purchase such inputs (seeds, fertilizer, farm machinery etc) and due to scarce financial resources they cannot harvest up to required level which is one of the major causes of low agricultural productivity. The provision of credit is not only the way to enhance productivity but also facilitate for smooth consumption. Availability of credit is very important than the other factor in order to improve the efficiency of agriculture sector (Ayaz and Hussain, 2011). There are two major sources of agricultural credits in Pakistan i.e. informal and formal sources. Informal sources consist on relatives, friends, commission agents, village shopkeepers, these sources charge high interest rate on strict terms and conditions. A large population of farmers is dependent on informal credit institutions i.e. friends, land lords, relatives, merchants etc and local money lenders. Formal credit Institutions has small number of farmers (Tagar and Panhwar, 2010). Formal sources are consisted on Zarai Taraqiati Bank limited former Agricultural Development Bank of Pakistan which is the main source of credit disbursement, Commercial Banks, Domestic Private Banks and Punjab Provincial Cooperative Banks Limited etc. These sources provide agricultural credit to the farmers to fulfill the cash requirement for farm inputs and contributing a major role for the development of agriculture sector.

Zarai Taraqiati Bank Limited (ZTBL) is the first financial institute for the development of agriculture sector through potential contribution of providing finance and technical guidance to the farmers, so that they can increase production capacity of their farms. ZTBL is providing inexpensive, rural and agriculture credit with technical guidance to the farmers community in rural areas of Pakistan, covering 68% of the total population. ZTBL has a large network of branches which are working all the over the country. The Bank is also operating its functions in District Rawalpindi. The Rawalpindi branch is offering Awami Zarai Scheme (AZS) for farm credits under short-term loan in the rural areas of Tehsil Rawalpindi. There are three products of credit under the AZS namely, Agricultural-Farming, Dairy-Farming, and Poultry-Farming respectively. In agricultural farming, wheat crop has chosen to know the utilization impact of ZTBL agricultural credit on per acre production.

HYPOTHESIS:

H₀: Credit has not significant impact on per acre wheat production

H₁: Credit has significant impact on per acre wheat production

REVIEW OF LITERATURE:

Abbas et al (2003) conclude that there is significant and positive relationship found between institutional credit and agricultural GDP because agricultural credit schemes are advancing the production capacity of farm through agricultural inputs e.g. technological change and technical efficiency. Easy access to the loan scheme and crop insurance would overcome farmer's losses. The ZTBL, commercial banks and other financial institutes are providing agricultural credits to expand agricultural loan schemes for productivity enhancement of the small farms.

Jehan and Mohsin (2008) state that there is a significant impact of credit advanced by ZTBL on crop production, if the credit is properly utilize e.g. purchasing of quality seeds and pesticides, advance machinery and techniques etc. Increase in production capacity tends to rise in income of the small farmer that ultimately increases their living standard. They criticize the process of credit disbursement of ZTBL and its high interest rate which is charged from small farmers.

Bashir et al (2010) analyze that agricultural credit is a strategic source to enhance the production capacity of wheat that ultimately leads to increase that living standard of rural farming community. Better utilization of agricultural credit by the farmers has positive impact on production while other factors (availability of water, energy, technology and labor force) were taken into account.

Nawaz (2011) investigates the significant role of credit and land is a basic input of agricultural sector. A farmer wants to cultivate the land which needs some basic inputs i.e. seeds, pesticides, fertilizer etc for maximum

production. Credit always helps to the poor farmers to buy such inputs in order to get maximum production. He also conclude that three major inputs tractors, tube wells and quality seeds can enhance production capacity of farm, labor and availability of water both are also highly significant and having positive impact on production. **Farzand and Amjad (2011)** state that credit has significant impact on agricultural production; its proper utilization in purchasing of agricultural inputs (Seeds, pesticides, fertilizer etc) increase production capacity of crop which ultimately increases agricultural GDP. Credit is a support to poor farmers to adopt new technology so that they can enhance farm production capacity. They also empirically analyze that there is 1% increase in disbursement of agricultural credit for agricultural input (seeds, pesticides, fertilizer etc) increase 1.5% agricultural GDP.

OBJECTIVE OF THE STUDY:

- To estimate the impact of utilization of agricultural credit on per acre wheat production in the study area.

MATERIAL AND METHODS:

For the purpose of collecting primary data, random sampling technique is used. There were 285 respondents selected randomly from the study area of Rawalpindi Tehsil those who borrowed credit from ZTBL in the year 2010 to cultivate wheat crop. A structured questionnaire was prepared to collect the relevant information. The collected data was analyzed by using *Cobb Douglas Production Function* as following;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu$$

Where,

Y=(production per acre cultivated area) in Kgs

X₁=Credit amount

X₂= (Labor for per acre production) in hours

X₃= (Machinery for per acre production) in hours

μ= Error term and,

β₀=Constant

β₁, β₂, and β₃= Coefficients or slopes of independent variables

When it was asked to the sample borrowers that on which items they utilized the credit borrowed from ZTBL? They replied that the borrowed amount was utilized in purchasing of agricultural inputs e.g. seeds, fertilizer, pesticides other expenses. Following four categories were found regarding utilization of credit borrowed by the respondents.

Table No 1.1: Percentage of Credit Utilized on Items

Categories	Frequency of Sample Borrowers	Percentage of credit amount utilized on different items				Total
		Seed	Fertilizer	Pesticides	Others	
Category-I	92	38	42	13	7	100%
Category-II	87	53	21	17	9	100%
Category-III	62	47	29	13	11	100%
Category-IV	44	34	37	11	8	100%
Total	285					

Source: Researchers' own Calculation

There were 92 borrowers out of 285 said that they utilized 38% of credit on seed, 42% on fertilizer, 13% on pesticide and rest of 7% was utilized on other expense (other includes transportation, fuel, marketing and labor wages etc). There were 87 borrowers from the total sample borrowers stated that they utilized the credit on seed, fertilizer, pesticide and others with percentage of 53%, 21%, 17% and 9% respectively. Other 62 borrowers said that the utilized 47% of credit on seed, 29% on fertilizer and 13% on pesticide while the rest of 11% on other expense. Similarly, 44 borrowers described that the utilized 34% of borrowed amount on seed, 37% on fertilizer, 11% on pesticides and 8% on other expense.

Credit is considered an essential element for agricultural inputs. It is important to get maximum productivity from the crop; there is always a need of qualitative agricultural inputs. All selected borrowers said that they were unable to purchase qualitative seeds, fertilizer or pesticides without the support of credit which resulted low production.

EMPIRICAL ANALYSIS:

The objective of the study was to know the utilization impact of ZTBL agricultural credit on per acre wheat production in rural areas of Tehsile Rawalpindi. The descriptive statistics are shown in Table No 1.2. The average per acre wheat production of selected respondents was 42 mounds with a minimum production of 35 mounds and maximum production per acre of 60 mounds. The average working hours of labor utilized on per acre production was 42 hours while the minimum and maximum hours were found 40 and 50 hours respectively. The working hours of machinery utilized on per acre wheat production were found 8 hours and minimum and maximum hours were found 8 hours and 18 hours respectively. The average amount of credit borrowed by a sample respondent was 175 thousand with minimum amount of 100 thousand and maximum of 250 thousand.

Table No 1.2: Descriptive Statistics of Variables

Variables	Minimum	Maximum	Average
Wheat Production (mounds/acre)	35	60	42
Credit Amount (in thousands)	100	250	175
Labor (hours/acre)	40	50	42
Machinery (hours/acre)	8	18	8

Source: Researchers' own Calculation

The results of Cobb Douglas Production function are presented in Table No 1.2. The constant of the model is - 0.360 which represents the production while keeping all other independent variables zero and it is found insignificant at 5 percent level of significance. The coefficient of credit is found 0.551 having t-value 14.999 that is significant at 5% level of significance i.e. 1% increase in the credit will bring 55.1 percent change in per acre production of wheat crop.

Table No 1.3: Result of Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.036	.199		-.179	.858
Credit	.551	.037	.391	14.999	.000
Labor	.366	.018	.597	19.782	.000
Machinery	.300	.040	.213	7.554	.000
Dependent variable: Production					
R-Square: 0.844					
F-Statistics: 505.673					

Source: Researchers' own Calculation

Similarly, the coefficient of labor is 0.366 with t-value of 19.782 that is found significant at 5% level of significance, meaning that 1% increase in labor will bring 36.6 percent change in per acre wheat production. The coefficient of machinery is found 0.300 with t-value of 7.554 which is also significant at 5% level of significance that means 1% increase in machinery will bring 30 percent change in production of per acre wheat crop in the study area.

The value of R^2 is 0.844 which indicates that 84.4 percent change is explained by the independent variables and rest of the other 15.6 percent is based on other factors that were not taken into account in the model. The large value of F is 505.673 which represent the overall significance of the model i.e. all independent variable that are positively significant on per acre wheat crop production in the study area. . The sum of all coefficient value is greater than one ($0.551 + 0.366 + 0.300 = 1.217 > 1$) which shows that after credit utilization, production of wheat crop is found increasing return to scale.

CONCLUSION AND SUGGESTION:

It is concluded that ZTBL agricultural credit has significant impact on the per acre wheat production which has rejected null hypothesis i.e. credit has not significant impact on per acre wheat production because t-test shows that it contribute 55.1% on the productivity of wheat crop in rural areas of Tehsile Rawalpindi. Similarly other variable like labor and machinery are contributing positively on per acre wheat production. It was also identified that most of the credit was utilized in purchasing of seeds and fertilizer by the sample borrowers. These results show that the credit schemes ZTBL in the study area is positively affecting on the production of wheat crop that will ultimately lead to increase the living standard and development of the agriculture sector. Moreover, the problems faced by the farmers were noted during the interview and a few suggestions are discussed below for the improvement credit schemes:

- Credit disbursement process must be simplified and suitable for the borrowers.
- Technical guidance must be provided by the ZTBL for better utilization of the credit.
- Interest rate should be reduced
- Other financial institutes must be encouraged to work in the rural areas.

REFERENCES:

- [1] Abbas, Kalbe., Muhammad, Iqbal., Munir, Ahmed, and (2003).The impact of Institutional credit on agricultural production in Pakistan. MPRA Paper No. 3673.
- [2] Ayaz, Saima.and Hussain, Zakir. (2011). Impact of institutional credit on production efficiency of farming sector: A case study of District Faisalabad. Pakistan Economics and Social Review. Vol. 49, No. 2, pp. 149-162.
- [3] Bashir, K. Muhammad., Mehmood, Yasir. and Hassan, Sarfraz. (2010).Impact of agricultural credit on productivity of wheat crop: Evidence from Lahore, Punjab, Pakistan. Pakistan Journal of Agricultural Science.Vol.41(4), pp 405-409.
- [4] Farzand, Jan. Ali. and Muhammad, Amjad. Saleem. (2011). The impact of agricultural credit on agricultural productivity in Dera Ismail Khan (District) Khyber Pakhtonkhawa Pakistan. European Journal of Business and Management. ISSN 2222-1905, Paper ISSN 2222-2839.
- [5] Jehan, Noor., Muhammad, Mohsin-ud-din. (2008). Raising farm production through agricultural credit (A case study of Zarai Taraqati Bank of Pakistan Limited). Sarhad Journal of Agricultural.Vol.24, No.4.
- [6] Nawaz, Ahmad. (2011). Impact of Institutional credit on agricultural output: a case study of Pakistan. Journal of Theoretical and Applied Economics.Vol XVIII, No10 (563).pp. 99-120.
- [7] Tagar, Khan. Hamzo. And Panhwar, A. Iqbal. (2010). Agricultural Credit in Sindh: Issues and Recommendations. Australian Journal of Basic and Applied Sciences.Vol 4, No. 8.
