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The Effect of Bank Creditson Increasing the Wheat Production

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Abstract— *Financial requirements of the farming sector have increased tremendously over the last few decades due to theextended use of fertilizers, biocides, improved seeds, mechanization etc. this study was performed to evaluation of bank credit effects on increasing the wheat production. Endogenous Switching regression was performed to analysis; it is assumed that farmers have financial constraints. So that increased liquidity, be converted an increase in the funds immediately. The supply function (Gi) to be introduced that it is a function of the amount of the loan and other variables. The first groups of farmers have used credit for their farming activities and the second group of farmers who have not used credit for their farming activities.analysis of variances showed that there were significant differences between groups; groups included those who have not used facilities (G1), Individuals who have used only micro facilities (G2), Individuals who have used only the duty credits (G3), finally, people who have used both types of facilities (G4). G2, G3 and G4 showed higher benefit of production in compare to production benefit of G1. Highest to lowest production benefits were obtained by G4≥G3>G2>G1.*

Keywords— Bank Credit, Regression, Wheat Production.

I. INTRODUCTION

Financial requirements of the farming sector have increased tremendously over the last few decades due to the extended use of fertilizers, biocides, improved seeds, mechanization etc.Agriculture is of particular importance in the economic structure of the country. This section focuses on more than 20% of the active population and it be allocated to 14 percent of GDP. Wheat, the main staple food of the people of Iran, contributes about 17 %to the value added in agriculture and 3.8 % to the GDP. The targets for area and production for the year 2014-15 were set at 8610 thousand hectares and 37 million tons, respectively. It was cultivated on an area of 10563 thousand hectares, showing a 6.8% increase over last year's area of 8550 thousand hectares. The estimated production of the wheat crop was 28.3 million tons which was 13.2% more than that of the last year.Agricultural credit is considered as one of the strategic resources for pushing the crop production to the high horizons consequently raises the living standards of our rural poor farming community. Hence, it plays a pivotal role in development of the economy. It has mainly two sources; informal and formal. Informal sources normally consist of commission agents, input providers, village shop keepers, friends and relatives. Out of these sources, credit from commission agents, shopkeepers and input suppliers has more baneful effects on the rural poor. Evidence suggests that such loans further aggravate rural poverty as the effective rate of interest on informal credits is exorbitantly high (Nasir, 2007). It is a general practice that the small growers obtain loan in the form of cash or inputs like seed, fertilizers and pesticides. These are tied loans in the sense that farmers obtaining them have to deliver their produce to these commission agents who offer the price of their produce much lower than the market price. According to Khalid Bashir et al., (2010), the cost of tied loan in case of cotton is 45 percent and in case of wheat, the cost of borrowing loan from commission agent comes to 47 percent, the cost of urea credit purchase is 76 percent and that of DAP credit purchase is 68 percent. The contribution of credit in output growth was found to be significant by Chand and Kumar (2004). In the phase of declining public investments in agriculture, it was the private investments facilitated by the institutional loans, which did not allow the agriculture sector to slip to the era of negative growth. The private capital investments on irrigation helped raising agricultural production as the impact of irrigation is very strong on agricultural productivity and production (Rao, 1994; Rao et al., 1988;Vaidyanathan, 1991; Dhawan, 1993). Similarly, farm machinery helped raising multiple crops and obtaining higher production on per unit area basis. The represents the case of role of farm mechanisation including tractorisation and private to be well irrigation, which encouraged multiple cropping, precision in farm operations, bringing larger area under high-yielding varieties and higher use of modern production inputs, all of which put agriculture sector of the state on high growth path (Sidhu et

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al., 1998; Bhalla, 1993). The aim of this study was evaluation of bank credit effect on increasing the wheat production.

II. MATERIAL AND METHODS

At this study, Endogenous Switching regression was performed to analysis, it is assumed that farmers have financial constraints. So that increased liquidity, be converted an increase in the funds immediately.The supply function (Gi) to be introduced that it is a function of the amount of the loan and other variables. The first groups of farmers have used credit for their farming activities and the second group of farmers who have not used credit for their farming activities. Due to widespread, simple random sampling was used for population sampling. The questionnaires were distributed randomly. Cochran formula used for determination of sampling volume (373).SAS software was performed to analysis of data,

$$n = \frac{\frac{t^2 pq}{d^2}}{1+\frac{1}{N}(\frac{t^2 pq}{d^2}-1)}$$

$$n = \frac{\frac{t^2 pq}{d^2}}{1+\frac{1}{N}(\frac{t^2 pq}{d^2}-1)} \quad n = \frac{\frac{1.96^2 \times./5\times./5}{\%5^2}}{1+\frac{1}{12000}(\frac{1.96^2 \times./5\times./5}{\%5^2}-1)} = 373$$

III. RESULT AND DISCUSSION

According to table 1 it was founded that means of borrowers frequency and old years were higher in compare to no using of borrow and according to table 2, this deference was significant at p<0.0001. Also, analysis of variances showed that there were significant differences between groups; groups included those who have not used facilities (G1), Individuals who have used only micro facilities (G2), Individuals who have used only the duty credits (G3), finally, people who have used both types of facilities (G4). G2, G3 and G4 showed higher benefit of production in compare to production benefit of G1. Highest to lowest production benefits were obtained by G4≥G3>G2>G1. According to results, it was founded that facilities had significant effect on benefit of production. Correlation showed that age, cultivated area, credit and costs had signification relation with rate of wheat production (table 4) but level of education did not show significant correlation with rate of wheat production, using of regression showed that 5 parameters introduced as independent variables, these variable included cultivated field, Credit, Bank credit and cost.

Totally, at this study some properties were studied such as age, level of education, cultivated field, credit, bank credit and costs in relation to wheat production.All factors had significant correlation with wheat production except education. According to inter regression model, all factors had significant effect on dependent variable (except age), also cultivated field area had negative significant effect.

Table.1:Descriptive Data

	frequency	Profit mean	S.D	Standard error
Borrowers	277	2.09	7099	727
No borrow	96	1.06	5679	580

Table.2: Inferential statistics

	equal variances test		t-test			
	t-value	Significant level	t value	d.f	Significant level	S.D
Withequal variances	18.4	0.000	8107	371	0.000	1281
no equal variances			11.12	345	0.000	929

Table.3: analysis of variances

Source of variation	MS	F value	P value
groups	13.09	11.58	0.000
error	1.13		

Table.4: correlation between studied parameters with rate of wheat production

Independent variable	Depended variable	Test	value	Significant levels

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1	Age	rate of Wheat production	correlation	0.182	0.000
2	Level of education	rate of Wheat production	correlation	-0.704	0.078
3	Cultivated field	rate of Wheat production	correlation	0.722	0.000
4	Credit	rate of Wheat production	correlation	0.659	0.000
5	Bank credit	rate of Wheat production	chi square	27.2	0.000
6	Costs	rate of Wheat production	correlation	0.782	0.000

Table.5: regression coefficient

model	Non-standardized coefficients Beta	Standardized coefficients Beta	The level of significance
Intercept	488.6	-	0.787
Age	462.3	1037	0.224
Cultivated field	108.2	-0.659	0.000
Credit	350.4	0.131	0.000
Bank credit	21.3	0.173	0.000
Costs	68.9	1.324	0.000

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