

Impact of Institutional Credit on Wheat Productivity: Evidence from Northern Sindh, Pakistan

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Introduction



- Institutional credit
- Development of agricultural sector is linked
- External and internal factors
 - Human resources
 - Availability of water
 - Farmers' skills
 - Formal education
 - Adoption of modern technology
 - Agricultural credit (Most Important)

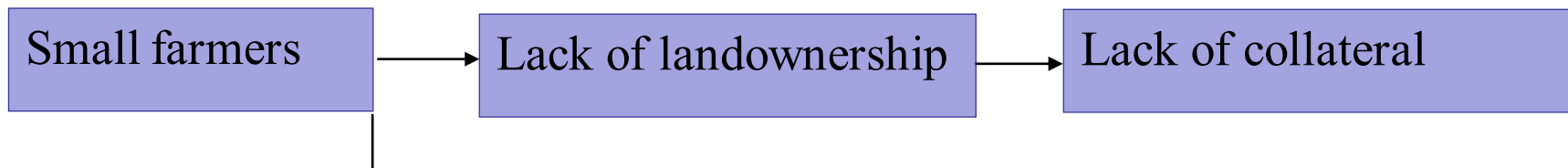


- Credit is an important tool in farming sector
- ↑ Farm productivity
- ↑ Farmers income

- Easy access
- Timely available
- Proper utilization

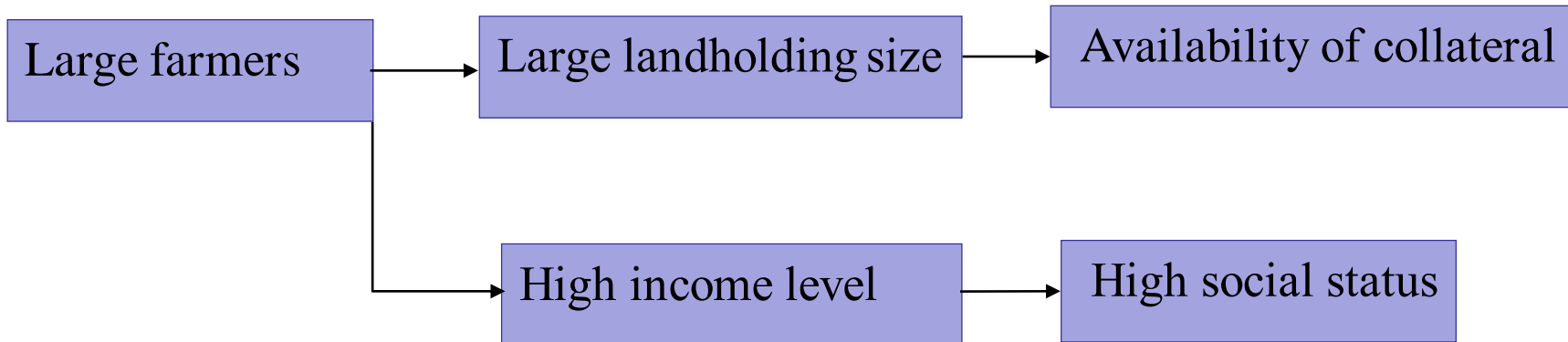
(Nouman et al.,2013; Faridi et al.,2015; Chandio et al., 2016; Saqib et al.,2016).

- In Pakistan

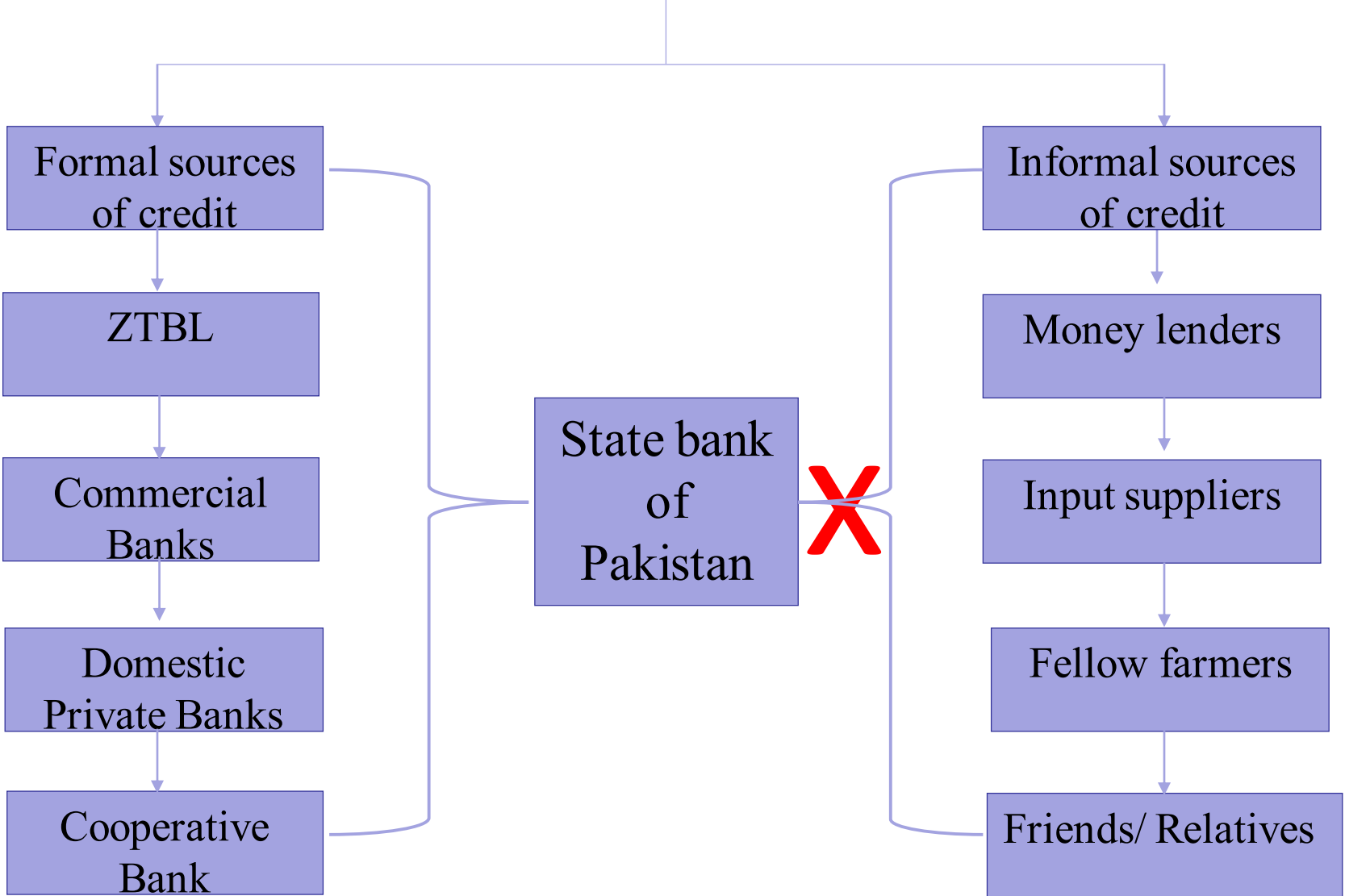


These are the reasons that more than 80% of the small farmers borrowed credit from informal sources.

(Amjad and Hasnu, 2007; Chandio et al., 2017)



Agricultural credit



Objective of this study



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Attempts to evaluate the effects of institutional credit on per acre wheat productivity in northern areas of Sindh province of Pakistan.

Sampling and data collection

- The present study was based on primary data collected in 2016 from eighteen villages in three districts
 - Shikarpur
 - Sukkur
 - Shaheed Benazir Abad
- Six villages
- Ten borrowers
- Therefore, the total sample size was 180 wheat growers.



- A list of credit users was obtained from the regional branches of ZTBL and KBL.
- Primary data were collected by using structured questionnaire for wheat growers in these areas.
- The information collected from the sampled wheat growers regarding cost of farm inputs.
- The collected data were then analyzed using the Cobb Douglas production function.

$$Y = AX_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5} X_6^{\beta_6} X_7^{\beta_7} \quad (1)$$



- The Cobb-Douglas production function method given by following equation was estimated followed by (Bashir et al., 2010; Nadia and Chughtai, 2012; Ahmad et al., 2015).
- Taking the natural log of equation (1) and considering the case of seven explanatory variables, the equation (1) converts to the following form:

$$\ln Y = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + \beta_5 \ln X_5 + \beta_6 \ln X_6 + \beta_7 X_7 + \mu$$

(2)



Where,

β_0 = Natural log of A = Intercept

$\ln Y$ = natural log of per acre yield of wheat (in mnds)

$\ln X_1$ = natural log of seed cost (Rupees/acre)

$\ln X_2$ = natural log of land preparation cost (Rupees/acre)

$\ln X_3$ = natural log of fertilizers cost (Rupees/acre)

$\ln X_4$ = natural log of irrigation cost (Rupees/acre)

$\ln X_5$ = natural log of plant protection cost (Rupees/acre)

$\ln X_6$ = natural log of labour cost (Rupees/acre)

X_7 = dummy variable (1 for short term loan users, 0 for long term loan users)

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ = Parameters of the model to be estimated.

μ = Error term

Results and Discussion



Table 1. Results of Descriptive Statistics Analysis

Variables	Min	Max	Mean
Yield of wheat per acre in (Munds)	16.00	60.00	38.18
Seed used per acre in (Kgs)	50.00	80.00	57.27
Cost of fertilizer per acre in (PKR)	3700.00	13700.00	9871.33
Cost of Plant Protection per acre in (PKR)	600.00	1800.00	1008.88
Cost of irrigation per acre in (PKR)	200.00	5000.00	1650.87
Labour cost per acre in (PKR)	1200.00	5625.00	3205.61
Amount of Loan in (PKR)	20000.00	960000.0	280639.2



Table 2. Results of Regression Analysis

Variables	Coefficient	t- values	Sig.
Constant	-6.933	-8.225	0.000***
Ln X ₁ Per acre seed cost	0.340	2.428	0.016**
Ln X ₂ Per acre land preparation cost	0.313	4.182	0.000***
Ln X ₃ Per acre fertilizer cost	0.324	3.516	0.001***
Ln X ₄ Per acre irrigation cost	0.052	2.930	0.004***
Ln X ₅ Per acre plant protection cost	-0.083	-1.859	0.065*
Ln X ₆ Per acre labour cost	0.475	11.833	0.000***
X ₇ Dummy of short-term loan	0.122	4.120	0.000***

Conclusion



- This study examine the impact of agricultural credit on per acre wheat productivity: evidence from northern Sindh.
- It is found that institutional credit has positive significant impact on per acre wheat productivity.
- Furthermore, it is observed that agricultural credit borrowed from ZTBL and KBL positively affecting the wheat productivity and indirectly becomes a helping hand for wheat growers which may lead to improve their income level and as well as living standards.

Policy Implications



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- Therefore, based on the findings of this study suggested that the procedure of loan disbursement should be simplified.
- The technical guidance may be provided by banks through training workshops and programs related to get maximum wheat productivity.
- Furthermore, improvements of agricultural credit schemes, ZTBL and KBL should supply credit timely during the sowing season of wheat crop and must be ensured proper utilization of the credit.



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Thank you very much for your attention!

Questions and Suggestions are welcome!

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