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### Factors Affecting Diversion of Institutional Credit in Border and Non-border Areas of Rural Punjab

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#### Abstract

The present study was undertaken to examine the credit utilization and diversion of agricultural credit availed for investment purposes by the different categories of farmers in border and non-border areas of rural Punjab. The data were collected from farm households of areas adjoining Indo-Pak border in Punjab. In border areas, expenditure on marriage ceremonies, medical treatment and general purposes was higher. While in non border areas expenditure on construction of dwelling houses was more. The analysis showed that non-institutional loan was the main factor affecting positively on diversion of credit where as non-farm income, literacy and farm size affect negatively on diversion in border area of rural Punjab. In non-border areas per capita household expenditure and non-institutional loan were found to be affecting positively on diversion of credit while non-farm income and literacy were affecting negatively on diversion. So, there is need to properly supervise these farm loans.

**Keywords:** *Investment, Agricultural credit, Diversion of loan, Border area.* **JEL Classification**: *Q1, Q14,E02* 

### Introduction

Punjab has recorded spectacular growth in agricultural output and productivity under the impact of technology invasion called 'Green Revolution'. The state has also witnessed an increase in mechanization accompanied by changes in factor proportions. Capital accumulation is of prime importance for any model of growth and development (Sidhu and Gill, 2006). The major role assigned to public sector in development of infrastructure has led to substantial investment in irrigation, power, roads & communication. This along with assured prices and market clearance has paved the way for quick spread and successful exploitation of new technology by the farmers of state. But rate of investment itself is determined by rate of savings. Although rural saving rates have been increasing, these are not sufficient for major innovations (Bhalla *et al* 1990). The possibilities of farmer financing the balanced investment needed to adopt new technology from his current savings are always questionable, because of liquidity constraint (Ray 2007). Thus, adequacy of individual farmers' financial resources is to be augmented from outside. So, credit has become one of the most important input for

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agricultural development and plays a pivotal role in the stage of transformation of agriculture to a commercial enterprise (Kumar et al 2010). At the same time, returns from credit availed depends upon the nature of utilization of the credit. If loan amount is utilized for productive purpose, it may generate its own means of repayment. But diversion of credit creates some major problems and ultimately restricts the repayment. Credit institutions are engaged in providing credit facilities for productive purposes. The philosophy behind such a lending is that the loan amount, if utilized for the prescribed productive purpose will generate income sufficient not only to support the family but also to repay the loan installment.

The state of Punjab has nearly 553 kilometers of international border with Pakistan comprising of six districts. The area along Pakistan border is more hostile as compared border with other countries. The reason can be traced to decade long terrorism in Punjab along with problems like illegal migration, drug trafficking, illegal trade, insurgency and killing of innocent civilians leading to socio economic problems and psychological tensions (Singh and Rangnekar 2012). The border districts were economically more advanced at the time of independence but lagged behind over time. The typical feature of border areas is inaccessibility and insecurity. An indicator of accessibility of farmers to credit can be in terms of their number of accounts and amount outstanding in direct finance disbursed by institutional agencies to them. The proportion of these two indicators in border districts was 27.8 percent and 23.59 percent of total in the state respectively, whereas these districts have 28.72 percent of net sown area and 28.32 percent of net irrigated area of the state (Anonymous, 2012). So, the extent of agricultural credit availed and its utilization pattern is important in this region. The present study is a step in this direction in core border areas of the state.

### **Data Sources and Methodology**

The study was based on primary data which was collected from farm households of areas adjoining Indo-Pak border in the state of Punjab. Multistage random sampling technique was used to select the sample. At first stage out of the six border districts three districts in this area were randomly selected i.e Amritsar, Gurdaspur and Ferozpur. Then, two blocks were randomly selected from each selected district, one from the area defined by Border Development Area Programme (BDAP) and the other from remaining blocks of the district. At third stage two clusters of villages were randomly selected, again one from the villages located within 0-10 kilometers from the international border (as per the guidelines of Department of Border Management, Ministry of Home Affairs, GOI) and the other away from the border area. At final stage, ten farmers were selected from each cluster of villages from three standard categories of operational holdings i.e. small (up to 5 acres), medium (between 5 to 10 acres) and large (> 10 acres) using the probability proportional technique. Thus total sample was comprised of 120 farm households. The data were collected through personal interview method. Simple statistical tools like frequencies, percentages, averages and ratio analysis was undertaken on the primary data to find out the share of borrowed funds in investment, actual utilization of these funds and diversion on various item heads of productive investment as well as some consumption purposes.

#### **Regression analysis**

In order to identify the factors affecting diversion of credit obtained by the farmers, both multi linear and Cobb-Douglas production function analysis were tried for analysis. Finally, the Cobb-Douglas production function was retained on the basis of better coefficient of determination ( $\mathbb{R}^2$ ), logical signs of the parameters and maximum number of parameter being significant.

Linear form Y = a + bx

 $\log Y = \log a + b_1 \log x_1 + b_2 \log x_2 + \dots + b_n$  $\log x_n + u$ 

$$Y = \prod_{i=1}^{n} X_i^{bi} e^{u}$$

Where

Y = Diversion of loan (%) a = Constant term  $x_1$  = Non-farm income (Rs/ farm)  $x_2$  = Share of non- institutional loan in total loan availed  $x_3$ =Literacy level  $x_4$ =Per capita household expenditure (Rs.)  $x_5$ =Farm Size (Acres)

### **Results and Discussion**

The appraisal of some socio-economic characteristics of respondents showed in Table 1 has brought out that the maximum proportion of farmers fall in medium category, followed by small and large categories in border and non border areas. Category wise analysis showed that in border areas majority of the farmers i.e. 55.0 per cent have medium family size i.e. between 6 to 9 members and in non border areas the farmers were having large family size as compared to border areas. The proportion of family labour was more in border areas i.e 17.27 per cent whereas the proportion of permanent labour and casual labour was more in non border areas of Punjab i.e. 2.62 per cent and 82.07 per cent. The respondents in non border areas were more educated than

Table 1. Socio-economic characteristics of	sampled households in bor	der and non-border areas
of Punjab		

Particulars	<b>Border Areas</b>	Non-border Areas
Proportion of medium farmers	50.50	48.30
Average family size (Number)	6.45	7.23
Proportion of family labour	17	15
Proportion of casual labour	80	82
Proportion of illiterates		2215
Average size of holding (Acres)	12.04	12.80
Cropping Pattern (Per cent Area)		
i)Paddy	24.27	21.83
ii)Basmati	4.33	12.07
iii) Wheat	32.15	41.78
Proportion of crop income	90	82
Average value of farm inventory	44918	50098
(Rs/ Farm household)		

border areas. Average size of operational holding was found to be 12.80 acre i.e. larger in non border areas as compared to 12.04 acres in border areas. So far as cropping pattern is concerned, during kharif season paddy was the main kharif crop in both the areas covering 24.27 and 21.83 per cent of cropped area. Area under basmati was more in non border areas. During Rabi season, wheat was the main crop of both the areas with 32.15 per cent and 41.78 per cent of area under it. Area under sugarcane was higher in border areas as compared to non border areas. The proportion of farm income was more in border areas, because the share of crop income was more, while the proportion of non-farm income was more in non border areas. Monthly consumption expenditure per farm household was higher in non border areas as compared to border areas. It was observed that average size and current value of farm inventory in non border areas was higher as compared to border areas.

# Purpose wise loan taken and diversion by sample farmers in border areas

Land is the basic requisite for agriculture production. No investment was found to be undertaken on purchase of land by small farms in border areas as shown in Table 2. The average investment in purchase of land by medium farms was Rs 166666 per farm, in which the borrowed proportion was 33.99 per cent, while 4.70 per cent of loan amount was diverted to other purposes. On large sampled farms, the borrowed funds comprised of 67.30 per cent of this investment. The diversion of loan amount to other purpose was 1.42 per cent.

The analysis of land development brings out that no investment was undertaken on small farms for this purpose in border areas. On the other hand in medium farm category, the average investment was Rs 24000 per farm and the borrowed proportion was 48.61 per cent, out of which 28.57 per cent amount was diverted to other purposes. On large farms, the average investment on development of land in the last five year was Rs 58333 per farm. The borrowed funds comprised to the extent of 88.57 per cent of this investment, out of which 14.51 per cent of the amount was diverted to other purposes.

Buildings become a long lived asset and keep on giving flow service over many years. The construction of buildings involve huge investment and it cannot be revoked easily. On an average, Rs 13888 per farm were invested on farm buildings on small farms of border areas. Credit accounted for 56.00 per cent of the investment, whereas, 21.42 per cent of loan amount was diverted to other purposes. In case of medium farms, the average investment for the purpose has been estimated at Rs 35000 per farm, whereas the borrowing in amount it was 58.09 per cent, in which 26.22 per cent amount was reported to be diverted to other purposes. While investment on large farms was Rs 116666 per farm and borrowed amount for this purpose comprised of 71.42 per cent, out of which 15.99 per cent of it was diverted to other purposes. Irrigation is the basic input of agricultural production. So, investment in irrigation structure is an important component of capital formation here. The average investment in electric motors and diesel engines undertaken, in case of small farms was Rs 18055 per farm in border areas. The borrowed proportion of this investment was 49.23 per cent, but 43.74 per cent amount was diverted to some other purpose. In case of medium farms, the average investment on irrigation structures was estimated at Rs 19000 per farm and the borrowed funds comprised

Table 2. Purpose wise loan taken and	se loan tal	-	version by	diversion by sample farmers in border areas	mers in boi	rder areas			(Rs/farm)
Border Area		Small			Medium			Large	
	Invested	Borrowed	Diverted	Invested	Borrowed Diverted	Diverted	Invested	Borrowed	Diverted
Purchase of Land	1			166666.66	56666.66	2666.66	433333.33	291666.66	4166.66
					(33.99)	(4.70)		(67.30)	(1.42)
Development of Land	ı	,	ı	24000	11666.66	3333.33	58333.33	51666.66	7500
					(48.61)	(28.57)		(88.57)	(14.51)
Construction of Farm	13888.88 7777.78	7777.78	1666.66	35000	20333.33	5333.33	116666.66	83333.33	13333.33
Building		(56.00)	(21.42)		(58.09)	(26.22)		(71.42)	(15.99)
Purchase on Irrigation 18055.55	18055.55	8888.88	3888.88	19000	10500	5000	57500	31666.66	15416.66
Structure		(49.23)	(43.74)		(55.26)	(47.61)		(55.07)	(48.68)
Purchase of Tractor,	85833.33	85833.33 43333.33	1250	91666.66	45000	7000	58333.33	19166.66	9166.66
Trolley		(50.48)	(2.88)		(49.09)	(15.55)		(32.85)	(47.82)
Purchase of Other	8888.88	4166.66	1388.88	11666.66	61666.66	1366.66	30833.33	15833.33	4333.33
farm equipment		(46.87)	(33.33)		(52.85)	(22.16)		(51.35)	(2736)
Purchase of Cattle	22055.55	22055.55 10833.33	2388.88	20733.33	10666.66	4666.67	34583.33	20416.66	6666.66
		(49.11)	(22.05)		(51.44)	(43.75)		(59.03)	(32.65)
<b>Purchase of Poultry</b>	ı	·	ı	18333.33	11666.66	2333.33	58333.33	37500	5833.33
					(63.63)	(19.99)		(64.28)	(15.55)
Purchase of Apiary	ı	ı	ı	12666.66	6333.33	2777.77	29444.44	16388.88	6388.88
					(50.00)	(43.85)		(55.66)	(38.98)

Figures in Parentheses are percentages of borrowed and diverted funds from invested

Table 2. Purpose wise loan taken and diversion by sample farmers in border areas

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55.26 per cent of this investment. However, 47.61 per cent of borrowed amount was found to be diverted for other purposes.

The average investment on large farms was reported at Rs 57500 per farm in border areas. The borrowed proportion of this investment was 55.07 per cent, while 48.68 per cent of the borrowed amount was diverted to other purposes. An average investment of Rs 85833 per farm was undertaken on tractor as well as trolley purchase on small farms during the study period. Further 50.48 per cent of this investment was comprised of borrowed funds and 2.88 per cent diversion of borrowed amount was found. While average investment on medium farms was Rs 91666 per farm in border areas for the same, with borrowed funds comprising 49 per cent of investment. However, 15.55 per cent of borrowed funds were utilized for other purposes. In case of large farms, 47.82 per cent diversion of borrowed amount was found.

The average investment on farm equipments in the small farm category was Rs 8889 per farm in border areas. On medium farm the borrowed funds comprised of 52.85 per cent in this investment. But 22.16 per cent of it was diverted for other purposes. While on large sampled farms 27.36 per cent of loan amount was reported to be diverted for other purposes. The investment on cattle assumes importance in the light of increasing contribution of dairy in farm income. The average investment on cattle on small farms was Rs 22056 per farm in border areas. The borrowing proportion was 49.11 per cent, though 22.05 per cent amount was diverted from this. The medium farms showed investment of Rs 20733 per farm and 51.44 per cent of invested amount was borrowed for this purpose. The diversion of borrowed fund was

43.75 per cent. This led to decrease in utilization of borrowed amount as compared to small farms in border areas. On large sampled farms, an amount of Rs 20416 per farm was borrowed for this purpose and 32.65 per cent amount was diverted for other purposes. Poultry farming has emerged as a major subsidiary occupation on medium and large farms in the border districts, due to accessibility to Jammu and Kashmir market. Medium farms showed that borrowed funds comprised of 63.63 per cent of this investment. and 19.99 per cent of it was diverted for other purposes. In case of large farms, Rs 58333.33 per farm were invested in poultry farming and 64.28 per cent of invested amount was borrowed, however, 15.55 per cent of borrowed funds were utilized for other purposes.

The study found no interest of small farmers in apiculture enterprise. But medium farms showed the average investment of Rs 12666 per farm, 50.00 per cent the amount was borrowed for this purpose and the diversion of borrowed fund was 43.85 per cent on medium farms of border areas. and on large farms borrowed funds comprised 55.66 per cent of this investment. However, 38.98 per cent of borrowed amount was diverted for other purposes.

## Purpose wise loan taken and diversion by sample farmers in non border areas

In non border areas also no investment on purchase of land was found in small category of farms (Table 3). The investment analysis showed that Rs 334482 per farm were spent on purchase of land by medium farms. The borrowed proportion of amount was 65.97 per cent, out of which 2.03 per cent amount was diverted to other purposes. The average investment on this purpose was reported as Rs

Non Dordor Aroa Cmall									
Non Border Area		Small		Meanum		Large			
	Invested	Borrowed	Diverted	Invested	Borrowed	Diverted	Invested	Borrowed	Diverted
Purchase of Land	ı		I	334482.75	220689.65	4482.75	1283333.33 666666.66	666666.66	14166.66
					(65.97)	(2.03)		(51.94)	(2.12)
Development	ı	,	ı	21034.48	11379.31	3793.10	91666.66	66666.66	27500
of Land					(54.09)	(33.33)		(72.72)	(41.25)
Construction of	28947.30	28947.30 11578.94	4684.21	30000	14137.93	5172.41	126666.66	66666.66	14166.66
Farm Building		(40.00)	(40.45)		(47.12)	(36.58)		(52.63)	(21.24)
Purchase on	40000	22894.73	10000	31034.48	21034.48	6896.55	65833.33	42500	17083.33
Irrigation Structure		(57.23)	(43.67)		(67.77)	(32.78)		(64.55)	(40.19)
Purchase of Tractor, 60000	r, 60000	33157.89	7894.73	64827.58	48275.86	6896.55	102500	66666.66	11666.66
Trolley		(55.26)	(23.80)		(74.46)	(14.28)		(65.04)	(17.49)
Purchase of Other 9473.68	9473.68	4736.84	1947.36	20344.82	10344.82	2862.06	37083.33	19583.33	5250
farm equipment		(50.00)		(41.11)			(27.66)	(50.84)	(26.80)
Purchase of Cattle	25736.84	12894.73	3631.57	35172.41	17586.20	5344.82	67083.33	35833.33	8583.33
		(50.10)	(28.16)		(50.00)	(30.39)		(53.41)	(23.95)
Purchase of Poultry	-	,	ı	41379.31	31034.48	8333.33	75000	54166.66	5833.33
					(74.99)	(26.85)		(72.22)	(10.76)
Purchase of Apiary	I	ı	I	15402.29	8505.74	3448.27	34166.66	19444.44	7222.21
					(55.22)	(40.54)		(56.91)	(37.14)

Figures in Parentheses are percentages of borrowed and diverted funds from invested

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1283333 per farm in large farm category. The borrowed amount was 51.94 per cent of this investment, out of which 2.12 per cent amount was utilized for other purposes. While in non border areas, the total investment in land development by large farms was more than border areas, the analysis showed that there was no investment by small farms for the said purpose. Average investment by medium farmers on this purpose was Rs 21034 per farm. The borrowed proportion of this investment was 54.09 per cent and the amount diverted was 33.33 per cent to other purposes during last five years. Average investment on land development was Rs 91666 per farm on large farms of non border areas. The amount borrowed for this purpose was 72.72 per cent in this category. But 41.25 per cent of this amount was diverted to other purposes. The investment on farm buildings was found to be Rs 28947 per farm by small sampled farms in the last five years. About 40.00 per cent of this investment has been contributed by borrowed funds. However, 40.45 per cent of borrowed funds were utilized for other purposes. In case of medium farms, borrowed funds comprised 47.12 per cent of this investment. However, 36.58 per cent of it was diverted to other purposes. The average investment undertaken in large farm category for the said purpose was calculated to be Rs 126666 per farm in non border areas. The borrowed proportion of this was 52.63 per cent, while 21.24 per cent amount was diverted to other purposes. In non border areas, investment on diesel engine and electric motor was found to be more. The amount invested on electric motors and diesel engines was found to be Rs 40000 per farm by small farmers. The borrowed funds accounted for 57.23 per cent of this investment, whereas 43.67 per cent of diversion of fund was reported on small farms. The average

investment on diesel engines and electric motors in medium farm category was Rs 31034 per farm. The borrowed funds comprised 67.77 per cent of this investment. However, 32.78 per cent amount was diverted to elsewhere. Total investment in motor and diesel engines was Rs 65833 per farm in large sampled farms of non border areas. The amount borrowed for this purpose was 64.55 per cent of invested amount, while 40.19 per cent of loan amount was diverted to other purposes.

In non border areas, the investment as well as borrowing for tractor as well as trolleys was found to be more than that of border areas. The average investment in tractor and trolleys on small farms was Rs 60000 per farm. However 23.80 per cent of borrowed funds were utilized for other purpose, the proportion of borrowed amount in amount invested was worked out to be 55.26 per cent. The average investment on tractor trolleys on medium farms in non border areas was reported at Rs 64827 per farm. The share of loans in this investment was 74.46 per cent. However, 14.28 per cent of loan amount was diverted for other purpose. The analysis of large farms in non border areas showed that the borrowed funds accounted for 65.04 per cent of this investment. However, diversion of borrowed loans was 17.49 per cent.

The average investment on other farm equipment by small farms was Rs 9473 per farm and 50 per cent of invested funds were borrowed, but 41.11 per cent of borrowing was utilized elsewhere. In case of medium sampled households, the average investment was Rs 20344 per farm. The borrowed funds comprised 50.84 per cent of this investment. However, 27.66 per cent amount was diverted to elsewhere. In large sampled farm category; the average investment was Rs 37083 per farm in non border areas. While the borrowed funds for this were at 52.80 per cent, 26.80 per cent of loan amount was diverted from this borrowed fund. In non border areas of Punjab, the investment on purchase of cattle by small farms was Rs 25736 per farm. The borrowed proportion was 50 per cent, but 28 per cent of loan amount was diverted to other purposes. There was no investment under taken on small farms in poultry farming. The average investment on medium farms was Rs 41379 per farm which was more than border areas. The borrowed proportion was 75 per cent. However, 26.85 per cent of the amount was diverted to other purposes. The average investment on large sampled farms was Rs 75000 per farm in non border areas. While the proportion of borrowed funds was 72.22 per cent, 10.76 per cent of this amount was diverted from the said investment. Again, the total investment by small farms was nil in apiary enterprise. In case of medium farm sampled households, the average investment was Rs 15402 per farm. The borrowed funds comprised 55.22 per cent of this investment. However, 40.54 per cent of loan amount was diverted to elsewhere. For large farms, investment in apiculture was calculated at Rs 34166 per farm. The amount borrowed for this purpose was 57 per cent of invested amount. But 37.14 per cent of the borrowed amount was diverted to other purposes.

# Factors affecting diversion of agricultural credit

The Cobb-Douglas production function was applied to the data of border and non border areas to determine the factors affecting diversion of agricultural credit. The regression analysis results of the various farm size categories of border area have been presented in Table 4. The value of coefficient of

Factors	Unit	Small	Medium	Large	Overall
Constant		6.76	6.60	11.99	11.48
		(38.58)	(13.80)	(1.290)	(8.16)
Non-farm income	Rs/farm	-0.61**	-0.72***	-0.12**	-0.23***
		(0.26)	(0.24)	(0.04)	(0.84)
Farm size	Acre	-1.54	-0.84	-1.07**	-3.17***
		(6.69)	(4.82)	(0.37)	(1.01)
Non-institutional loan	Percentage	4.04**	0.49**	0.12	0.24**
		(1.58)	(0.19)	(0.22)	(0.11)
Literacy	Numbers	-0.12	-0.56**	-0.35	-0.39**
		(0.57)	(0.20)	(0.34)	(0.17)
Per capita house	Rs/farm	2.90**	0.10	0.36**	-0.99
hold expenditure		(1.14)	(1.04)	(0.11)	(0.93)
R-square		0.8154	0.8311	0.8855	0.8444

Table 4. Factors affecting diversion of loan in border area of rural Punjab

*Figures in parentheses are calculated t-values* 

\*Significant at 10% level, \*\* significant at 5% level and \*\*\* significant at 1% level

determination ranged between 0.8254 in small farm category to 0.8855 in large farms. Overall, 84.44 per cent of the variation in diversion of loan is explained by the explanatory variables included in the equation.

The regression coefficient of non-farm income came out to be significantly negative in all farm categories as well as overall, which ranged between -0.12522 in large farm to -0.72281 in medium farm category. This indicated that increase in non-farm income would lead towards a decline in diversion of loans, because it adds to the total income of the respondent farmer. An increase in one rupee in non-farm income would lead to decline from 0.12 per cent in large farm to 0.72 per cent in medium and 0.61 per cent in small farm respectively. This highlighted that to check the diversion of loan, non-farm employment should be generated.

The regression coefficient of farm size came out to be non-significant in small and medium farms, but negatively significant in large farms, thus indicating that an increase in farm size would lead towards a decline in diversion of loan. Diversion has nothing to do with farm size in small and medium farms.

The regression coefficient of share of noninstitutional loan in total loan amount came out to be positively significant in all farm categories, which ranged 4.04714 in small farm to 0.49831 in medium farm categories. This indicated that increase in proportion of non-institutional loan in the total loan availed would lead towards increase in diversion of loans.

Literacy level of the borrower emerged negatively significant in medium farm category thus bringing out that higher the level of literacy, lower will be the diversion of borrowed funds. Per capita household expenditure played no role towards increase or decrease in diversion of loan in medium farm category, but it contributed significantly towards increasing diversion of loan in small and large farm categories. The farmers in small and large farm categories may have taken loan for other purposes but used to fulfill their food and non-food requirements.

Farms in non border areas under study as shown in Table 5. Overall, 86.22 per cent of the variation in diversion of loan was explained by the explanatory variables included in the equation in these areas.

The regression coefficient of non-farm income came out to be significantly negative in all farm categories, as well as overall, which ranged between -0.07823 in small farm to -0.2347 in medium farm category in non border area. This indicated that increase in non-farm income would lead towards a decline in diversion of loans. An increase in one rupee in non-farm income would lead to decline from 0.07 per cent on small farms to 0.23 per cent in medium and 0.11 per cent on large farms in diversion of loan. This again highlighted the importance of non-farm employment in the area under study.

The regression coefficient of farm size came out to be non-significant, which indicated that diversion has nothing to do with the farm size in non border areas. The regression coefficient of share of non-institutional loan in total loan amount came out to be positively significant in all farm categories which ranged from 1.13932 in small farm to 0.53773 in large farm categories. This indicated that increase in noninstitutional loan would lead towards increase in diversion of loans.

Factors	Unit	Small	Medium	Large	Overall
Constant		11.38	-22.05	14.99	-2.18
		(3.00)	(15.98)	(1.90)	(5.72)
Non-farm income	Rs/farm	-0.078***	-0.23**	-0.11**	-0.12***
		(0.02)	(0.11)	(0.04)	(0.04)
Farm size	Acre	0.21	4.87	0.12	0.33
		(0.67)	(4.78)	(0.24)	(0.54)
Non-institutional loan	Percentage	1.13**	0.43**	0.54	0.37***
		(0.42)	(0.16)	(0.20)	(0.10)
Literacy	Numbers	-0.08	-0.09	-0.25***	-0.12**
		(0.04)	(0.18)	(0.06)	(0.09)
Per capita House	Rs/farm	0.38	2.43*	-0.22	1.29*
hold expenditure		(0.36)	(1.34)	(0.19)	(0.67)
R-square		0.8355	0.8572	0.8933	0.8622

 Table 5. Factors affecting diversion of loan in non border area of rural Punjab

Figures in parentheses are calculated t-values

\*\*\* significant at 1% and \*\* significant at 5% percent level \* significant at 10% level

Literacy level of the borrower emerged negatively significant in small and large farm categories, thus indicating that higher the level of literacy, lower will be the diversion of borrowed funds. Per capita household expenditure played no role towards increase or decrease in diversion of loan in small and large farm category but it contributed significantly towards increasing diversion of borrowed funds in medium farm category. The farmers in medium farm category may have taken loan for productive purposes but used to fulfill their other requirements.

### Reasons for diversion of loan in border and non border areas of Punjab

Multiple reasons for diversion of agricultural credit were cited by the respondent farmers in border and non border areas of Punjab as presented in Table 6. In border area, about 37 per cent farmers reported diversion of loan due to lack of consumption credit, 55 per cent divert for the construction of dwelling houses and highest diversion was accounted for social and religious ceremonies. Again, 60 per cent and 75 per cent loan amount diverted in border area was due to medical treatment expenditure and repayment of old debt. Further, 76.66 per cent and 68.33 per cent amount was diverted due to family maintenance expenditure and many other purposes like education, immigration, purchase of plot, vehicle, purchase of animal etc. in border area of Punjab. On the other hand, in non border areas, highest amount was diverted due to social and religious ceremonies i.e. 90 per cent. Diversion due to family maintenance expenditure i.e. 83 per cent was the second main reason in non border areas, and diversion due to repayment of old debt and construction of house was 72 per cent and 63 per cent respectively. Diversion due to lack of

Border Areas			· · · · ·	
Reasons	Small	Medium	Large	Overall
Lack of consumption credit	14	8	0	22
	(77.78)	(26.66)	(0.00)	(36.66)
Construction of houses	8	15	10	33
	(44.44)	(50.00)	(83.33)	(55.00)
Social and religious	16	23	11	50
ceremonies	(88.88)	(76.66)	(91.66)	(83.33)
Medical treatment	15	12	9	36(60.00)
expenditure	(83.33)	(40.00)	(75.00)	
Repayment of old debts	17	21	7	45
	(94.44)	(70.00)	(58.33)	(75.00)
Family maintenance	10	25	11	46
expenditure	(55.55)	(83.33)	(91.66)	(76.66)
Other (education, immigration,	13	18	10	41
purchase of plot, vehicle,	(72.22)	(60.00)	(83.33)	(68.33)
commission of loan,		~ /	. ,	
purchase of animal)				

Table 6. Reasons for diversion of loan by sampled far	mers in border and non border
areas of Punjab	
	(Multiple response)

### Non Border Areas

Reasons	Small	Medium	Large	Overall
Lack of consumption credit	18	10	0	28
	(94.73)	(34.48)	(0.00)	(46.66)
Construction of houses	8	20	10	38
	(42.10)	(68.96)	(83.33)	(63.33)
Social and religious ceremonies	17	26	11	54
	(89.47)	(89.65)	(91.66)	(90.00)
Medical treatment expenditure	10	18	9	37
	(52.63)	(62.06)	(75.00)	(61.66)
Repayment of old debts	15	22	6	43
	(78.94)	(75.86)	(50.00)	(71.66)
Family maintenance	14(73.68)	25(86.20)	11(91.66)	50(83.33)
Other (education, immigration,	9	21	10	41
purchase of plot, vehicle, commission of loan, purchase expenditure of animal)	(47.36)	(72.41)	(83.33)	(68.33)

Figures in parentheses indicate percentages to total

consumption credit and other reasons like education, immigration, purchase of plot, vehicle, and purchase of animal was about 47 per cent and 68 per cent respectively in non border areas.

Overall, maximum diversion of loan amount was reported for social and religious ceremonies by sampled farmers in both the areas followed by family maintenance expenditure and repayment of old debts respectively. But category wise, the reasons cited for diversion of credit were different in border and non border areas. In case of small farm category, it was repayment of old debts in border areas and lack of consumption credit in non border areas. The major cause of diversion of credit was family maintenance expenditure in medium farms of border areas, while it was expenditure incurred on social/religious ceremonies in non border areas. In case of large farm category, it emerged that expenditure incurred on social/religious ceremonies was the major reason for diversion of mainly institutional credit.

### **Conclusion and Policy Implications**

In border areas more diversion was found in credit availed for electric motors/ diesel engine, tractor and trolleys by large farmers, while diversion in loans for farm building and purchase of cattle was more on small and medium farms. In non border areas, diversion was higher in credit availed for land development, construction of farm building and motor/ diesel engines. So, there is need to properly supervise these farm loans. The regression coefficients of non- institutional loan and per capita household expenditure were found to have positive and significant effect on diversion of loan in border and nonborder areas. So, there is need to strengthen the institutional credit network in these areas. Efforts should be made to increase the nonfarm income and literacy level as these have shown positive effect to check the diversion of credit. Expenditure on social ceremonies and redemption of old debts emerged as a major reason for diversion of productive credit in both the areas, so some efforts should be made with the help of cooperative societies and NGOs to educate the people to check this unproductive expenditure.

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