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Research Title

"Factors Influencing Access to Formal Credit by Pottery Households: Case Study in Bat Trang Village, Hanoi, Vietnam"

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CONTENTS

1. Introduction

2. Methodology

3. Research findings

4. Conclusion and policy implication

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Introduction

- In Vietnam, rural transformation began in the late 1980s. In this process, the share of households who have been engaging in non-farm activities dramatically increased.

- Non-farm activities become main income sources of many rural households. In 2020, the proportion of households whose the largest source of income came non-farm activities is 59.22%.

- The government of Vietnam has issued a number of policies supporting the development of non-farm activities in rural areas, among them, the program of preserving and developing craft villages play a crucial role.

- Bat Trang is a traditional craft village with a long history of pottery production. It is situated in the peri-urban area, about 20 km from the center of Hanoi. Bat Trang ceramics have been exported to many countries such as Japan, the Republic of Korea, the US and EU members. In the village more than 1,000 out of 2,300 households produce pottery and the rest are engaged in trading and services.

- Despite of the success and positive socio-contributions, pottery households in Bat Trang village have been facing a varieties of difficulties, particularly lack of financial resource in order to invest in new equipment and expand production scale. Low access to formal credit is one of the most important constraints

Methodology

- In Bat Trang village, 1015 households of 2373 have been conducting ceramic production, the remains provide relating services such as material inputs, final product marketing and other activities.
- Pottery households were categorized based on their accessibility to credit (i.e. accessed credit users/borrowers and non-accessed credit users/non-borrowers) through the list provided by formal credit institutions at the commune and district levels.
- Among 1015 households conducting ceramic production, 667 households have accessed to credit and 348 households have not.
- The pottery households were randomly selected by Yamande's formula (1967) to make up the determined proportion of each category.

$$n = \frac{N}{(1 + N.e^{\wedge}2)}$$

- Total sample size in this research is 167. Structured questionnaires consisting of closed and open-ended questions were applied to 167 random selected respondents (89 credit accessed household heads and 78 credit non-accessed household heads) in Bat Trang village

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Methodology

- In order to explore determinant factors that affect pottery households' access to formal credit for ceramic production, a model of binary choice decision was applied in analysis.

$$Y(1/0) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + e_i$$

- Y is dependent variable (Access to credit); X_1 is sex of household head, X_2 is age of the household head, X_3 is educational level, X_4 is family size, X_5 is number of hired labor, X_6 is land area for ceramic production, X_7 is value of collateral assets, X_8 is return from ceramic production after tax.

Independent variables	Type	Description
Sex (X_1)	Dummy: 1 if household head is male, 0 if household head is female	Sex of the household head
Age (X_2)	Continuous (Years)	Age of the Household head
Education (X_3)	Categories: Primary school equals to 1; Secondary school equals to 2; High school equals to 3; College equals to 4; University and above equals to 5	Education of Household head
Family size (X_4)	Continuous (Persons)	Number of people live in the household
Hired labor (X_5)	Countinuous (Persons)	Number of hired labor working in the pottery workshop
Workshop size (X_6)	Countinuous (m^2)	Land area for ceramic production measured in m^2
Collateral (X_7)	Countinuous (million VND)	Value of assets which can be used for collateral
Return (X_8)	Countinuous (million VND)	Return from ceramic production after tax

Overview of formal credit institutions in rural area of Vietnam
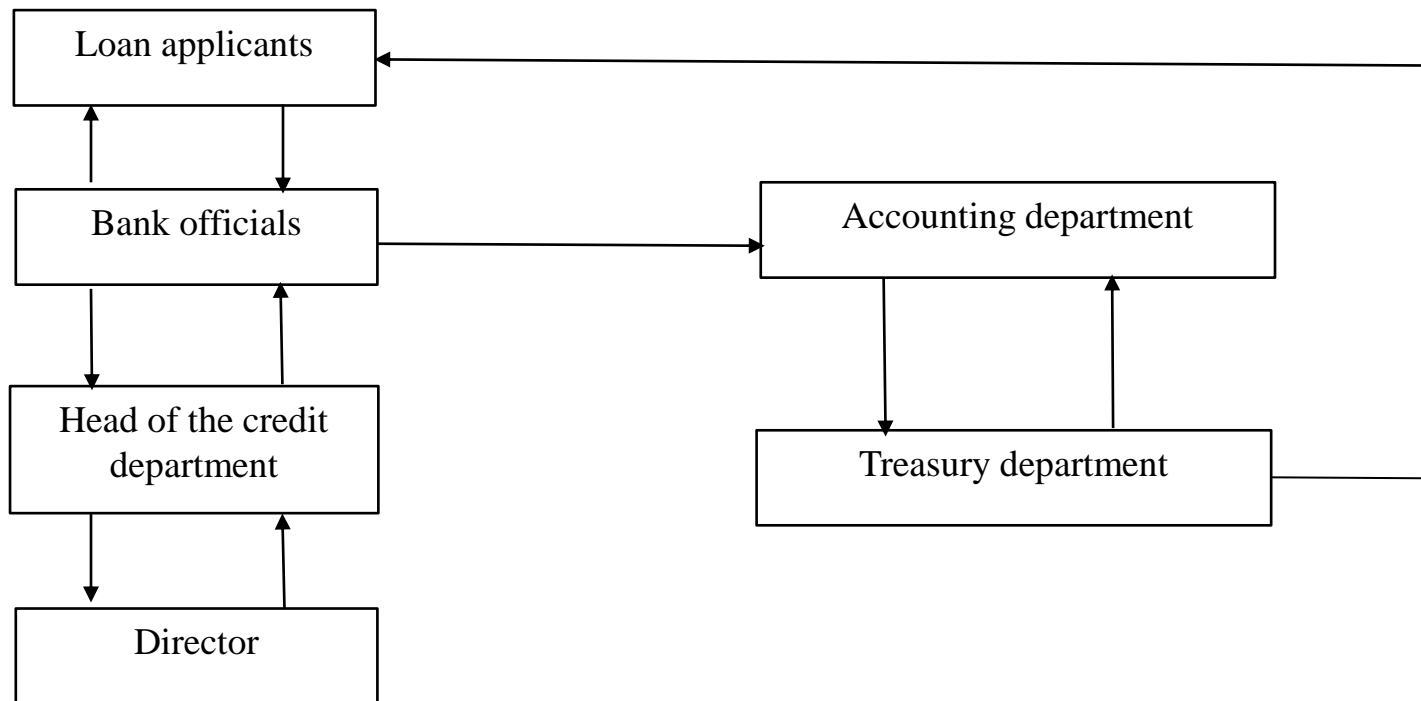
Chart 1. Lending procedure by public commercial banks in Vietnam

Research Findings

Situation of credit accessibility by pottery households

Criteria	Borrowed (from formal credit) household	Non-borrowed (from formal credit) household
Numbers of household	89	78
Average loan amount (million VND)	3,050	-
Reasons for not borrowing		
Short loan term (%)	-	20.37
High interest rate (%)	-	25.93
Complex borrowing procedure (%)	-	20.37
High collateral requirement (%)	-	33.33
Understanding of formal credit sources		
Never heard about (%)	0	17.95
Partly awareness (%)	29.21	14.10
Fully awareness (%)	23.50	17.95
Careless (%)	0	32.05
Well understanding (%)	47.19	17.95
Purposes of loan investment		
Constructing a new kiln (%)	29.21	-
Purchasing raw materials (%)	20.22	-
Expanding the workshop (%)	29.21	-
Buying a truck (%)	3.37	-
Investing in new production technology (%)	17.97	-

Research Findings

Household characteristics of borrowers and non-borrowers

Criteria	Borrowed household (n=89)	Non-borrowed household (n=78)	T-test
Age of household head (years)	47.83	47.27	0.39
Level of education (% completed college and university)	56.30	61.00	0.12
Family size (persons)	3.67	3.27	0.02***
Hired labor size (person)	44.96	26.64	0.00***
Residential land (m²)	141.91	114.00	0.002***
Ceramic production workshop area (m²)	2,194.20	548	0.00***
Value of collateral assets (million VND)	22,305.56	10,088.16	0.00***
Return after tax per year (million VND)	532.85	330.52	0.00***
Gender of household head (% male)	70.00	75.00	0.25
Production scale (% large scale)	54.00	10.00	0.00***

*: Significant at 10%; **: Significant at 5%; ***: Significant at 1%.

Research Findings

Factors influencing pottery access to formal credit – The Probit model result

Variables	Coef.	Std. Err.	Z	P>|z|	Marginal effect
X_1	-.161441	.595575	-0.27	0.786	-.0395661
X_2	-.0581663	.0339561	-1.71	0.087*	-.0142554
X_3	-.9651909	.4325277	-2.23	0.026**	-.2365497
X_4	.0105469	.3113988	0.03	0.973	.0025848
X_5	.024277	.024256	1.00	0.317	.0059498
X_6	-4.66e-06	.0003167	-0.01	0.988	-1.14e-06
X_7	.0000951	.0000497	1.91	0.056*	.0000233
X_8	.0041466	.0018192	2.28	0.023**	.0010162
-cons	2.852865	3.290952	0.87	0.386	
Diagnostic statistics					
Number of obs	167				
LR chi2 (8)	46.84				
Prob > chi2	0.0000				
Log likelihood	-40.442616				
Pseudo R2	0.5636				

X_2, X_3, X_7, and X_8 were found statistical significantly influence pottery households' formal credit access at 5% and 10% possibility levels. It could be seen that credit access was determined 56.36% by the above mentioned factors.

The variables with positive effects on pottery households' access to formal credit include value of collateral asset (X_7), this reflected a fact that the pottery households only can get loan when they prove their relative collateral value assets; and return from ceramic production after tax (X_8).

Age (X_2) and educational level (X_3) have negatively effects on pottery household's access to formal credit. The negative relationship of household head's age and the accessibility to formal credit can be explained by less motivation of the older. It seems that the old aged household head were not expected to recovered credit that they borrowed.

Conclusion

- The statistical data pointed out that 65.7% of pottery households in the village could access to formal credit institutions, including commercial banks and People Credit Fund while the remain had to get loan from informal credit sources.

- The Probit model showed that households' formal credit accessibility was determined 56.36% by the above mentioned factors, whereas the remaining 43.67% was determined by the others.

- From the results of Probit regression model, it was revealed that the main factors influencing pottery households' accessibility to formal credit in the study area were value of collateral asset, return from ceramic production after tax (positively influenced with statistical significance), age and educational level of household heads (negatively influenced with statistical significance).

Policy Implication

- Recognizing the importance of collateral asset value and return from ceramic production after tax of household in getting larger loan amount from formal credit institutions, it is implied that commercial banks and other formal credit institutions in Vietnam paid much attention to their safety through borrowers' repayment.

- Commercial banks should loose credit requirements, particularly on collateral value assets, in order to help rural non-farm households to access to banking loan.

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Thank you for your attention!