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Promoting Accessibility to Financial Inclusion of Micro-Enterprises

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Abstract— *Using panel data of 177 micro-enterprises in Hanoi collected in the period from October 2017 to March 2018, this research aims to promote the accessibility to financial inclusion of micro-enterprises with OLS regression. The two key findings are: (1) Two factors from financial inclusion services: Credit and Internet transactions were mostly considered as importance factors affecting ME"s business performance. The higher figure of people supposed that accessing to Internet transaction plays a very big role in business was witnessed, compared to the figure for crediting.(2) Amongst all factors, the number of years in business has the strongest negative effect on outcomes and financial performance of MEs. It implies that (i) micro-enterprises should pay more attention to the access to internet banking and crediting; and (ii) the longer micro-enterprises stay in their business, the harder to gain more profit and therefore access to financial inclusion is more crucial.*

Keywords— *Financial inclusion; micro-enterprises; accessibility; business performance*.

I. Introduction

Financial inclusion is considered essential for the sustainable development of any nations. It boosts the production, manufacturing and transaction among people within the economy and therefore; thrives the economy.

Financial inclusion is an important tool for economic development. Accessibility of financial inclusion services opens doors for families, allowing them to smooth out consumption and invest for business and improve living condition through education and health. Access to credit enables businesses, especially micro and small ones to expand, creating jobs and reducing inequality. Financial inclusion is the bridge between economic opportunity and outcome.

In Vietnam, financial inclusion term is quite new and novel to many people, that even those who work in a financial institution have not been fully informed by these terms. Because of the lack of information and research about accessibility of financial inclusion in Vietnam, especially financial inclusion for ME, their businesses have fewer opportunities to expand and improve business performance, therefore slow down the economic growth of Vietnam. Based on the situation, the aim of my research is to bring international experience and apply knowledge as well as operations in Vietnam in order to help Vietnamese MEs expose easily to financial services.

II. Literature Review

Up to now, there is no unified definition of micro business in the world, each international organization or country based on the specific conditions of each stage of development to define it. Micro Sized Enterprise - ME is classified by the following criteria: Capital size, Labor size, Revenue, Asset, Cost and Independence of the business. In Vietnam, micro enterprises are defined based on the size of labor, which means micro enterprise has less than 10 labors.

In this research, the author use the definition of financial inclusion as the universal accessibility, at a reasonable cost, to a wide range of financial services, provided by a variety of sustainable institutions. The range of financial services includes savings, short and long-term credit, leasing and factoring, mortgages, insurance, pensions, payments, local money transfers and international remittances.

Several recent studies have conducted complicated research to examine whether microfinance enhances firm growth and performance but they have come up with various results. However, most papers tend to have positive effects on some business outcomes.

A. Review of Previous Empirical Studies

Several recent studies have conducted complicated research to examine whether microfinance enhances firm growth and performance but they have come up with various results. However, most papers tend to have positive effects on some business outcomes.

Firstly, a study conducted in Mexico City shows that improved access to microloans lead to increases in inventory investment and fixed assets for very small retail enterprises (Cotler and Woodruff, 2007). Sales and profits also went up, but the effects are not statistically significant.

Secondly, a similar research is implemented in India which figured out that microcredit allows MEs with an existing business to invest more in durable goods, that is, to expand the business (Banerjee, 2010). However, microcredit is shown to have no clear impact on the nondurable consumption of these MEs, meaning that existing businesses may or may not become more profitable if their scale is larger.

Another study is the one in Thailand which shows that a large micro-credit institutions in Thailand had no measurable effect on business investment, but business income rose significantly because of the expansion in credit (Kaboski and Townsend 2012). A possible explanation for these findings is that the businesses used the microcredit to finance their short and long-term projects.

Another study in Nigeria examined the influence of financial inclusion services (mobile banking, banking services and banking penetration) on SMEs growth and development.

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The result showed that financial inclusion services have positive relationship and significant influence on SMEs growth and development (Salman, Adebayo, Ayo-Oyebiyi and Emenike Ogechi, 2015).

Furthermore, a research in Kenya has shown that the retained earning has a positive and significant effect on financial performance of SMEs. It means that Retained earning is a significant indicator of financial performance. SMEs which use their retained earning finance their operations are likely to see their output and revenues increase thus increasing their bottom line which means the level of productivity of the firm (Muganda Munir Manini, Umulkher Ali Abdillahi, Dr. Kadian Wanyama and John Simiyu, 2016).

The research associated with the saving and credit behavior is conducted by 3 students in Moi university in Kenya namely Irene Rotich, Charlet Lagat and Japhet Kogel. The research reveals that the access to credit and saving mobilization have satisfactory effects on the outcomes and performance. It means that the more likely people can afford credit, their performance improve. Therefore, it is a reversed situation for saving, when saving rate is high, the performance cannot be utilized (Irene Rotich, Charlet Lagat and Japhet Kogel, 2015)

Furthermore, a significant relationship between firm age and its financial performance is found, which is consistent with findings of Coad et al. (2010), Abayie et al. (2011), Kipesha (2013), but inconsistent with Loderer and Waelchli (2009), Onaolapo and Kajola (2010), Dogan (2013). Moreover, it is also known that the relationship between firm age and profitability of firm is significantly positive (Ofuan. J. Ilaboya and Izien. F. Ohiokha, 2016).

Overall, those research and papers have shown that the microcredit or microfinance and business outcomes have the positive relationship, while saving and firm age also have impact on business performance of firms. However, the research gap is those papers focused on SMEs, however, this research of the author concentrates on the relationships of MEs financial performance and financial inclusion.

B. *Vietnamese Empirical Case*

Although financial inclusion has not been massively researched in Vietnam, there are some topics that related to and preceding our project. Some noticeable studies in Vietnam have been carried out on the similar topic Pham Bich Lien (2006) analyzed how the microfinance activities are developed in formal credit institutions of Vietnam. The development of microfinance (MF) has been studied mostly in term of social objectives. This thesis focuses on clarifying the relationship between financial sustainability of CIs and the development of microfinance operations of CIs. Based on the indicators to assess the development of microfinance operations in MFIs, the author has selected two groups of indicators to evaluate the development of microfinance in CIs: (1) indicators of financial sustainability include: the profit after tax on average total assets, profit after tax on equity and NPL ratio (2) indicators related to the level of outreach specified by (i) the breadth of outreach (number of customers, size of deposits and loans, number of microfinance products and services) and (ii) the depth of outreach (average loan value). Applying the model of the relationship between the outreach and sustainability of microfinance institutions of Christen et al (1995), Thys (2000), Olivares-Polanco (2005) as well as the theoretical basis to be suitable to the Vietnamese CIs, the thesis analyzed the proposed model exploring the factors affecting the average loan value with the independent factors: Operating time, sustainability, the breadth of outreach and two additional factors are labor productivity and credit risk.

1. In the research of Nguyen Duc Hai (2015), the three main parts of microfinance are analyzed: the common problems of micro finance in the financial market, current situations of developing microfinance in Vietnam, and suggestions on enhancing the microfinance in Vietnam. By analyzing, comparing and examining the numbers and figures, the project of Nguyen Duc Hai gives limitations and causes of the problems, the situation of microfinance can be enhanced effectively and efficiently.

According to Nguyen Thu Hang (2010), the first issue raised is the concept of financial sustainability of MFP and their theoretical and empirical issues. The second issue is analyzing the relationship between efficiency and development objectives of People's credit fund and determinant of sustainable development model for Microfinance. In addition, the last one is for policy implication and recommendation for further studies. After analyzing figures, run model and identifying the model of sustainable development for People‟s credit fund, she gives some recommendations to PCFs, CCF and other support agencies based on those findings. And she ends with limitations of the study and suggests areas for further research.

III. Data Analysis for the Case of Vietnam

A. *Variables and models*

After discussing all the elements and the development of financial inclusion in different nations and in our country, the proposed research model is presented as below. This model will also be used as a criteria base on which the sample data are collected to be analyzed.

$$Buz = \beta0 + \beta1 * Ret + \beta2*Cre + \beta3*Int + \beta4*Sav + \beta5 * Time1 + \beta6* Time2$$

TABLE I. Expected relationship between variables.

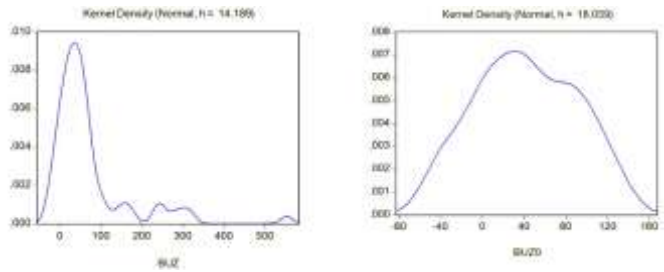
List of dependent variables	Denoted by	Expected relationship with Business performance (Buz)	Level of influence	Reference
Beginning financial investment of MEs	Ret	(+)	Significant	Muganda Munir Manini, Umulkher Ali Abdillahi, Dr. Kadian Wanyama and John Simiyu, 2016
Willingness in making loans.	Cre	(+)	Not significant	Cotler and Woodruff, 2007

Willingness of using internet/mobile to access financial service.	Int	(+)	Satisfied	Salman, Adebayo, Ayo-Oyebiyi and Emenike Ogechi, 2015
Willingness of saving	Sav	(-)	No information	Irene Rotich, Charlet Lagat and Japhet Kogel 2015
Number of years using microfinance services.	Time1	(+)	Satisfied	
Number of years in business.	Time2	(+) (-)	Bias	Coad et al. (2010), Abayie et al (2011), Kipesha (2013) Loderer and Waelchli (2009), Onaolapo and Kajola (2010), Dogan (2013)

The research studies the factors belonging to financial inclusion that influence the operation of micro-businesses. Thus, the dependent variable is: business performance (Buz) and the independent variables are: Beginning financial investment of MEs (Ret), Willingness in making loans (Cre), Willingness of using internet/mobile to access financial service (Int), Willingness of saving (Sav), Number of years using microfinance services (Time1), Number of years in business (Times2). The effects of these independent variables on the dependent variable were scattered in other researches, which ignites the eager to make one research studying the relationship of these variables at the same time on the same case.

B. Descriptive Statistics Result

Two graphs were drawn to see the percentages of business growth in the non-using financial services MEs with ones that have accessed to these services



With financial inclusion Without financial inclusion

Fig. 1. Comparison of business's growth distribution of micro-enterprises with financial inclusion and without financial inclusion

It can be seen that businesses using financial services have more chances to push their improvement in Revenue, Income and Business Expansion. Thus, businesses with financial inclusion have more opportunities to reach further in the business development, with a mere number of those reached over 500% increase in their business performance. Whereas, the figure for those not using any financial inclusion services tends to encroach to the left side and earn a considerable negative value in their development. Overall, the mean value of business growth‟s percentage is 70% in businesses using FI services, significantly higher than 42% of those who did not. Although both of the 2 groups can be exposed to losses in their businesses, the group using FI services witnessed safer and higher return from the business (with minimum growth. In the scale of the research, there are 143 over 177 of the subjects confirmed to have been exposed to financial inclusion services in their business, accounted for 80.80 percent, the remainders are mainly those who earn livings on small stalls in the market.

The data collected from sources specified in the previous part then are analysed by the Stata descriptive statistic function to provide the overall view about some common measurements of the sample of this research.

TABLE II. Descriptive statistic of variables in the model.

		RET	CRE	INT	SAV	TIME1	TIME2
N	Valid	143	143	143	143	143	143
	Missing	0	0	0	0	0	0
Mean		60.12	85.62	2.59	3.10	2.86	7.28
Mode		10	0	1	3	3	3
Std. Deviation		97.203	144.533	1.081	1.092	2.369	6.843
Minimum		0	0	1	1	0	3
Maximum		600	800	5	5	13	30
Sum		8598	12243	371	444	409	1041

Regarding the results, Beginning financial investment of micro business households, Number of years using microfinance services, Number of years in business, Credit behavior factors have quite a large range and standard deviation. The average amount of loan is just above 85 million VND and each ME came to borrow for around 3 to 4 times in 3 years with their main purpose of making loans is to invest in their short-term assets. The majority is witnessed to make loan without collaterals. This finding can be explained by the fact that most of the MEs asked chose to borrow from their relatives. Besides their popular loan supplier is their relatives. Only 32% of MEs encounter official financial institutions to borrow. Obscurity or shortage of reliability may explain for the mere people choosing to borrow from in non-formal financial institutions.

There are 129 MEs used Internet banking transaction, accounted for 90%. The highest proportion of these entities used the internet/mobile banking for receiving payments from customers. From the result, it can be concluded that the accessibility of MEs to Internet transactions is significant. MEs have their weak tendency of saving, they tend to use or invest the money in their business and projects rather than keeping them. The majority of MEs who did save, chose to keep their extra money in banks for later consume.

Beginning financial investment of MEs factor has mean of 60.12 million VND which is smaller than mean of Credit behavior with 85.62 million VND and mean of Number of years in business is 2.5 times higher than mean of Number of years using microfinance services. However, after doing some testing on the model formation and correlation between variables, two variables are eliminated from the model. The eliminated variables are: Ret and Time1 and all the factors relating to financial inclusion stay safe in the model. The regression function are at this time expected to be:

$$Buz = \beta_0 + \beta_1 * Cre + \beta_2 * Int + \beta_3 * Sav + \beta_4 * Time2 + u_t$$

C. Regression Result

In order to evaluate the role and effects of independent variables on dependent variables, author use recurrence analysis. The result of recurrence analysis is display in table III.

TABLE III. Recurrence analysis result.

Coefficientsa								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	104.605	45.187		2.315	.022		
	CRE	.113	.086	.117	1.305	.0194	.802	1.248
	INT	22.445	10.468	.174	2.144	.034	.974	1.026
	SAV	-15.103	10.399	-.119	-1.452	.0149	.966	1.035
	TIME2	-4.953	1.817	-.244	-2.725	.007	.806	1.241
a. Dependent Variable: BUZ								

Result from table III can be written as:

$$\widehat{BUZ} = 104.605 + 0.113.CRE + 22.445.INT - 15.103.SAV - 4.953.TIME2$$

This regression function is considered the final results from our survey. Among these 3 financial inclusion factors affecting the business performance, Internet transaction usage was the most significant influence, those if increase by 1%, would lead to the increasing of 22.445% of the business performance. Besides, 1% increase in credit tendency would lead to a mere percentage of 0.113% increase in business growth, unlike our first assumption that this variable will make the most significant impact on business performance, it exists another supposition that the over leverage would result in the significant amount of interest fee of some MEs in our survey, that would lower the coefficient of Cre variable. That Saving had negative impact on business performance could be understood, as theoretically it is not one factors of increasing business performance; however, it will have significant influence on MEs income.

IV. Major Findings from the Regression Results and Explanations

In conclusion, based on model sample with 143 MEs using financial inclusion within the most recent 3 years, the research has discovered the following outcomes.

Firstly, the relationship between independent and dependent variables that have been analyzed has shown that Beginning financial investment of MEs factor, and the Amount of time using the financial services have no impact on dependent variables, the performance of MEs.

TABLE IV. Comparison between expectation and reality of the impacts.

	Expectation of impact on Buz		Reality of impact on Buz		Hypothesis
	Signal	Level of impact	Signal	Level of impact	
CRE	(+)	Not significant	(+)	Not significant	Accepted
INT	(+)	Significant	(+)	Significant	Accepted
SAV	(-)	No information	(-)	Significant	Accepted
TIME2	(+)	Bias	(-)	Significant	Rejected
RET	(+)	Significant	Unreliable	In fact, both Ret and Time1 is considered to have no impact on business performance of MEs, as the level of explanation of these factors in the model is too low.	Not concluded yet
TIME1	(+)	No information			

Secondly, the variables that influence business performance of MEs are related to financial inclusion services including Saving behavior, Credit behavior, Usage of Internet/Mobile banking behavior, similarly to prior research. Thus, it is proved that the usage of financial inclusion has significant effects on financial performance of MEs.

Thirdly, amongst all factors, the one that has the strongest negative effect on outcomes and financial performance of MEs is Number of years in business, inconsistent with the expectation from the results of previous researches. It can be explained by the different economic periods between researches.

Last but not least, in those factors that associated with financial inclusion services, Saving behavior factor has negative relationship with business performance of MEs, while the others have positive relationships. However, these results are properly appropriate with economic theory.

V. Conclusion

Firstly, the relationship between independent and dependent variables that have been analyzed has shown that Beginning financial investment of MEs factor, and the Amount of time using the financial services have no impact on dependent variables, the performance of MEs.

This can be explained by the fact that in the model sample, Number of years using microfinance services factor is quite small, with mean equal to 2.86 years, and standard deviation is not high. The Beginning financial investment ends up with the same results in this sample.

Secondly, the variables that influence business performance of MEs are related to financial inclusion services including Saving behavior, Credit behavior, Usage of Internet/Mobile banking behavior, similarly to research of Salman, Adebayo, Ayo-Oyebiyi and Emenike Ogechi, 2015. Thus, it is proved that the usage of financial inclusion has significant effects on financial performance of MEs.

Thirdly, amongst all factors, the one that has the strongest negative effect on outcomes and financial performance of MEs is Number of years in business, inconsistent with the expectation from the results of previous researches. It can be explained by the different economic periods between researches.

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To sum up, among 6 hypotheses that were made about the independent variables, 2 did not end up with any reliable conclusions (RET, TIME1). One hypothesis of variable-TIME2 did show significant negative effects on BUZ, totally consistent with the previous research. Thus, it is the only hypothesis that is rejected. However, 3 hypotheses are accepted, these 3 hypotheses are of financial inclusion services. Therefore, financial inclusion factors are proved to bring positive signal in enhancing the business performance of MEs. **Recommendation 1**: Financial inclusion service

Objective: Extend and upgrade the quantity as well as quality of financial services with affordable cost.

Content:

Executed: FIPs

Implemented actions:

Focus on insurance field because MEs are vulnerable parts in society: hire professors in insurance field or corporate with insurance company to develop this service.

Building computerized management and administrative system and renewing the application of information technology for management of financial accounting and information technology.

- Time required to execute: Long-term

Expected result: Improve stability of MEs and accessibility of financial inclusion for MEs.

Recommendation 2: Enhance the quality of customer services and widen market share

Objective: Promote accessibility of financial services for MEs

Content:

Executed: FIPs

Implemented actions:

Training staff to handle different circumstances and problems related to customers Expanding the number of branches and ATM

Advertising FIPs‟ inclusive packages for MEs

- Time required to execute: Short-term

Expected result: Ability of staff increased, therefore understand more about MEs and provide better services.

Recommendation 3: Improving lending policy for MEs Objective: Promote accessibility of financial services for MEs Content:

Executed: FIPs

Implemented action:

Changing from asking for collaterals when making loan to limiting maximum amount of loan to percentage of initial capital of MEs

Shorten and simplify procedure in make loans for MEs - Time required to execute: Short-term

Expected result: More MEs will be able to use loans, therefore their business performance will be increased.

Recommendation 4: Improve business performance by using financial inclusion services

Objective: Maximize business performance by utilizing the usage of financial inclusion services

Content:

Executed: MEs

Implemented actions:

Do not focus on saving and saving service, which have negative impact on MEs according to author's research.

Internet banking is a factor that has big influence on MEs business performance, therefore they should use this service more by having bank account and offer customers payment through internet banking.

MEs should not abuse financial services without careful consideration to avoid take too much risk and debt.

- Time required to execute: Short-term

Expected result: Business performance and stability of MEs will be increased, therefore the businesses would be expanded.

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