DELAY OF GRATIFICATION AND BUSINESS PERFORMANCE IN LEAST DEVELOPED COUNTRIES: EVIDENCE FROM LAO PDR

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A Thesis Submitted in Partial
Fulfillment of the Requirements for the Degree of
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ABSTRACT

Title of Thesis	DELAY OF GRATIFICATION AND BUSINESS PERFORMANCE IN LEAST DEVELOPED COUNTRIES: EVIDENCE FROM LAO PDR
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Does delay of gratification affect the probability of engaging in self-employment and does it contribute to their business performance? This article aims to quantify impacts of delay of gratification on engaging in self-employment and business performance. Using Lao PDR as representative of least-developed countries, We analyze nationally representative survey data from the Lao-STEP Skills Measurement Household Survey, we estimate binary Probit and Logit model to quantify impacts of delay of gratification on probability of self-employment. And, we estimate impacts of delayed gratification on business performance of those self-employed individual. Those with a lower degree of delayed gratification tend to elect to be self-employed instead of being full-time employees. However, a higher delay of gratification score is found to positively correlate with higher business performance among those who are self-employed. Other control variables, such as business characteristics, education level and skills of the self-employed also play an important role in higher business performance. Analysis from this article still shows some weak points and limitations. First, the dataset on self-employment has little representation from industry and the service sector, and lacks of many important variables such as parents' characteristics and working hours. Secondly, there is no clear measurement of delay of gratification as our measurements use only hypothesis money. Lastly, there is a lack of studies to back up the result of delay of gratification on business performance, especially in a least-developed country like Lao PDR. The authors suggest that future research be conducted with richer data regarding the self-employed in industries and services. It would be quite interesting to study further the delay of gratification along with the grit, another behavioral variable, on the business performance.

Based on this finding, it is therefore crucial that the Lao government support a

policy that helps strengthen both cognitive and non-cognitive skills and the delay of gratification along with education to make Lao self-employment more productive. Even though there is extensive of research indicating that delayed gratification exists in many contexts, there are very few studies investigating the impact delayed gratification on the business, especially on the decision to be self-employed and the resulting business performance. The delay of gratification could be one factor that influences decisions on job selection or employment status and that influences business performance as well. This article is also the first one conducted in a least-developed country like Lao PDR.

Keywords: Delayed Gratification, Self-Employment, Business Performance, Least-Developed Countries, Lao PDR

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After that, I am deeply thankful to my parents, my relatives, my friends and other all people for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this dissertation. This accomplishment would not have been possible without them. Thank you.

Lastly, this may not the best paper; however, I try my best to success it. Especially, I own much to my family, the source of my daily well-being.

Dalivone Xayavongsa

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Delay of Gratification is an individual's ability to postpone receipt of an immediate small reward for the chance of getting larger reward later. It relates skills such as patience, impulse control, or self-control (Mischel, Shoda, and Rodriguez1989). It has been identified as a crucial predictor of the lifetime achievement in many domains. Research shows that individuals who grow up to be patient eventually do better in life, such as in educational achievement, occupational achievement, consumption and financial stability, physical health and relationships (Barnett et al. 2009; Sutter, Yilmaz, and Oberauer 2015).

The first study of delay of gratification to be well known is a longitudinal psychological study called the "Marshmallow Test," conducted by Mischel and Ebbesen(1970). In the experiment, children aged four to six were offered a marshmallow, but those who could wait until researchers came back (after 15minutes) would get two marshmallows.Preschoolers who could override the attraction of an alluring marshmallow as a result the children were surprisingly explored more cognitively and socially capable in adulthood life (Mischel, Shoda, and Rodriguez1989). The first follow-up found that the children who had waited until the researcher came back after the 15 minutes were more capable than the children who could not wait.The second follow-up found that children who had waited had higher Scholastic Assessment Test (SAT) scores (Shoda, Walter, &Peake 1990). The third follow-up took place when individuals in the original sample were in middle-aged. By using high technology to scan their brains, it was found that that adults who had the ability to delay gratification had a higher Emotional Quotient (EQ) (Casey et al.2011).

In the context of delayed gratification and education, the delay of gratification was found to correlate positively with academic performance; students with higher delay of gratification tended to be more academically motivated, more self-effective

and interested in learning, and having better cognitive skills. It is therefore to be concluded that teaching children to be patient is challenging but necessary in both the short run and long run (Pressley et al. 1983).

As for work-related outcomes, patient people are more likely to be task focused, responsible, hardworking and successful in their jobs. Moreover, patience enables people to effectively concentrate and persist in completing a task (Hoerger, Quirk, and Weed 2011; Ramanathan & Menon 2006; Baumeister et al. 1998).The ability to delay gratification was found to positively correlate with organizational satisfaction and commitment, and it also plays a key role in work, relationships, and overall well-being outcomes of an individual (Converse et al. 2018;Witt 1990)

The studies of delay of gratification on consumption and financial stability show that those who show a low level of self-control are more likely to falling to and stay in debt. This is supported by two economists (Meier and Sprenger 2010) who found that an individual who does not do well in terms of delaying gratification is likely to be a credit card borrower and to have significantly more credit card debt. The boom in credit card use and online shopping has led to "impulsive spending" (or impulsive buying/ impulsive purchasing), and the outcome of such behavior includes a high level of debt (Lejoyeux and Weinstein 2010;Baumeister 2002;Faber and Vohs 2003).

Even though there is extensive of research indicating that delayed gratification exists in many contexts, there are very few studies investigating the impact delayed gratification on the business, especially on the decision to be self-employed and the resulting business performance. The delay of gratification could be one factor that influences decisions on job selection or employment status and that influences business performance as well. An individual’s need for a high and immediate return might make a person engage in his or her own business, and self-employment might satisfy one’s needs through the return or performance of business. Moreover, increasing complexity and competitiveness in business require business owners to acquire more skills to improve their productivity. And patience is one skill that facilitates people thinking things through and using critical and systematic thinking to help them make precise and accurate decisions and take appropriate action. In terms of business yield returns, often entrepreneurs overlook larger, delayed payoffs and

focus too much on smaller, proximate payoffs, which causes them to miss potential gains in the future.

The characteristics and the way of engaging in self-employment differ, however, between developed, developing, and least-developed countries. In developed countries, individuals starting a self-employed enterprise begin with new, brilliant entrepreneurial ideas, which are combined with a drive towards innovation to boost business growth. However, engaging in self-employment is quite hard. Only 1-2 percent of the total population of employed people start a new business in a typical year(Kelley, Bosma, & Amoròs 2011). To do so requires that the self-employed individual be managerial, competitive, and able to adjust to the rapid changes that occur in business. The scale of self-employment ranges from small to large in terms of size and income in developed countries. Most self-employed individuals in developed countries are well-trained and well-educated and thus have adequate skills for being successfully self-employed. As a result, their productivity is quite high, and the return from their businesses is higher on average than it would be from wage employment.

In many developing countries and especially in least-developed countries, poor people are generally self-employed by working in the informal sector, by working in individual or unregistered household firms. People typically respond to the lack of adequate employment opportunities by creating their own employment, which may be their only alternative to earning something, which is better than remaining unemployed and earning nothing. But what they earn tends to be lower than wage employment on average. A much smaller group of people are well-educated, have skills, are innovative, and intentionally prepare themselves to be self-employed or entrepreneurial for the sake of future growth potential (Fields 2014). They may have previously been wage employees and could have continued in wage employment, but they left their jobs willingly to create their own enterprises.

By using Lao PDR as a case study of a least developed country, this paper aims to investigate the effects of delay of gratification on employment status or on being self-employed. It comprises six sections. In the next section, we review the literature on delay of gratification and self-employment and discuss the business performance of self-employment enterprises. Section 3 presents dataset measurements

of delay of gratification and measurements of risk-taking attitudes. Section 4 explains the empirical models and estimates the results of delay of gratification and the probability of being self-employed. Section 5presents estimated models explaining the impact of delay of gratification and business performance of self-employed individuals. Section 6 gives a conclusion and offers policy recommendations.

CHAPTER 2
LITERATURE REVIEW

2.1 Delay gratification and Employment status

There has recently been increased academic interest in the study of self-employment and attempts to determine what causes individuals to engage in self-employment(Shaver and Scott 1991). Previous findings have revealed that personality traits such as cognitive factors and risk-taking are key factors in an individual's deciding to become self-employed. Identical job characteristics such as autonomy and result orientation can induce people to engage in self-employment(Benz & Frey 2008; Ekelund et al 2005; Kolvereid & Isaksen 2006; Millán 2013; Stewart& Roth, 2001).

With regard to delay of gratification, self-employed individuals or entrepreneurs are more likely to delay gratification with regard to payoffs and would therefore be more willing to forego quicker payoffs in order to achieve larger rewards later(Baron 2004).However, although individuals willing to delay gratification may foresee higher gains from self-employment, they might also delay being self-employed in order to lower the chances of failure by accumulating more crucial knowledge and skills as well as human capital and resources in the interim (Raphael, Lawrence, and Muller 1993).

In terms of business performance, since the self-employed are defined as persons who are founders, owners, and managers of their businesses, their success depends on the decisions and actions they make as they drive toward achieving their business goals in the context of various external and internal factors. Thus, entrepreneurs need not just ability, knowledge, and professional competency, but they also need a variety of skills, such as job-relevant, technical skills as well as emotional, behavioral skills. Delay of gratification also facilitates business performance through business decision-making. This is because patient people are more likely to be proactive and have a long vision shaped by critical thinking, which might simplify business planning and boost business prospects for the future. Besides, people with

higher degrees of delayed gratification are generally more focused, responsible, and persistent in carrying out tasks toward achieving long-term goals. Generally, since self-employed workers have to deal outside their comfort zone and manage themselves under pressure, deadlines, and other difficulties, this may require them to postpone desires (such as desires for instant gratification) that would have a negative impact on their business and focus more on the duties and responsibilities that may take time to fulfill (and thus delay gratification) but that hold out the promise for an eventual reward. Delay of gratification therefore encourages people to make greater use of their cognitive capacity as well as to successfully use resource management strategies that might be useful in their business (Bembenutty and Karabenick 1998). Moreover, delay of gratification helps business owners maintain long-term relationships among colleagues, employees, and business partners.

Taking into account the delayed gratification, the decision to be self-employed, and business performance, this research attempts to address these issues, especially in the context of least-developed countries such as, in this case, Lao PDR. We aim to discover how delayed gratification might help encourage or discourage people from being self-employed and how it might relate to their business performance. In this context, we have selected data and methodology that will be explained in the next section.

CHAPTER 3
DATA AND RESEARCH METHODOLOGY

3.1 Data and research methodology

This study used the raw dataset from the Lao-STEP Measurement Household Survey in Lao PDR, which was conducted in 2012 by the World Bank. It gathered representative samples from every region in the country (from 17 provinces). Individuals who were 15 to 64 years old, residing in both rural and urban areas, were randomly interviewed. From a total sample of 2,845individuals, 421 observations were removed because of missing values. Therefore, the total sample comprised 2,424 individuals.

In Table 3.1, descriptive statistics display differences between being full-time employees and those who were self-employed. It can be seen that a majority of females (63.22 percent) designated themselves as self-employed workers. In terms of age group, the majority (45.95 percent) of self-employed workers were of mid-working age (33-47 years old), were already married (87.43 percent), and had low (less than primary level) or, somehow, no education (36.92 percent). Their families were mainly of low to middle socioeconomic status (SES) and living mainly in urban areas (62.79 percent). The majority of self-employed workers here in Lao PDR still have a relatively low level of cognitive skills, as indicated by low skills in reading (78.87 percent), writing (75.89 percent), and numeracy (70.38 percent).

Since education is one of the crucial requirements that companies and governments demand of workers, there are difference in the levels of cognitive and non-cognitive skills between employees and self-employed workers, and the reading, writing, and numeracy skills of employees are slightly higher than those of the self-employed. However, most of these skills, are low for both employees and the self-employed. Regarding the delay of gratification, there is not much difference between employees and the self-employed, both of whom mostly get a 1 or 2 score on delay of

gratification – 34.62 and 38.75 percent for employees and 32.73 and 42.70 percent for the self-employed.

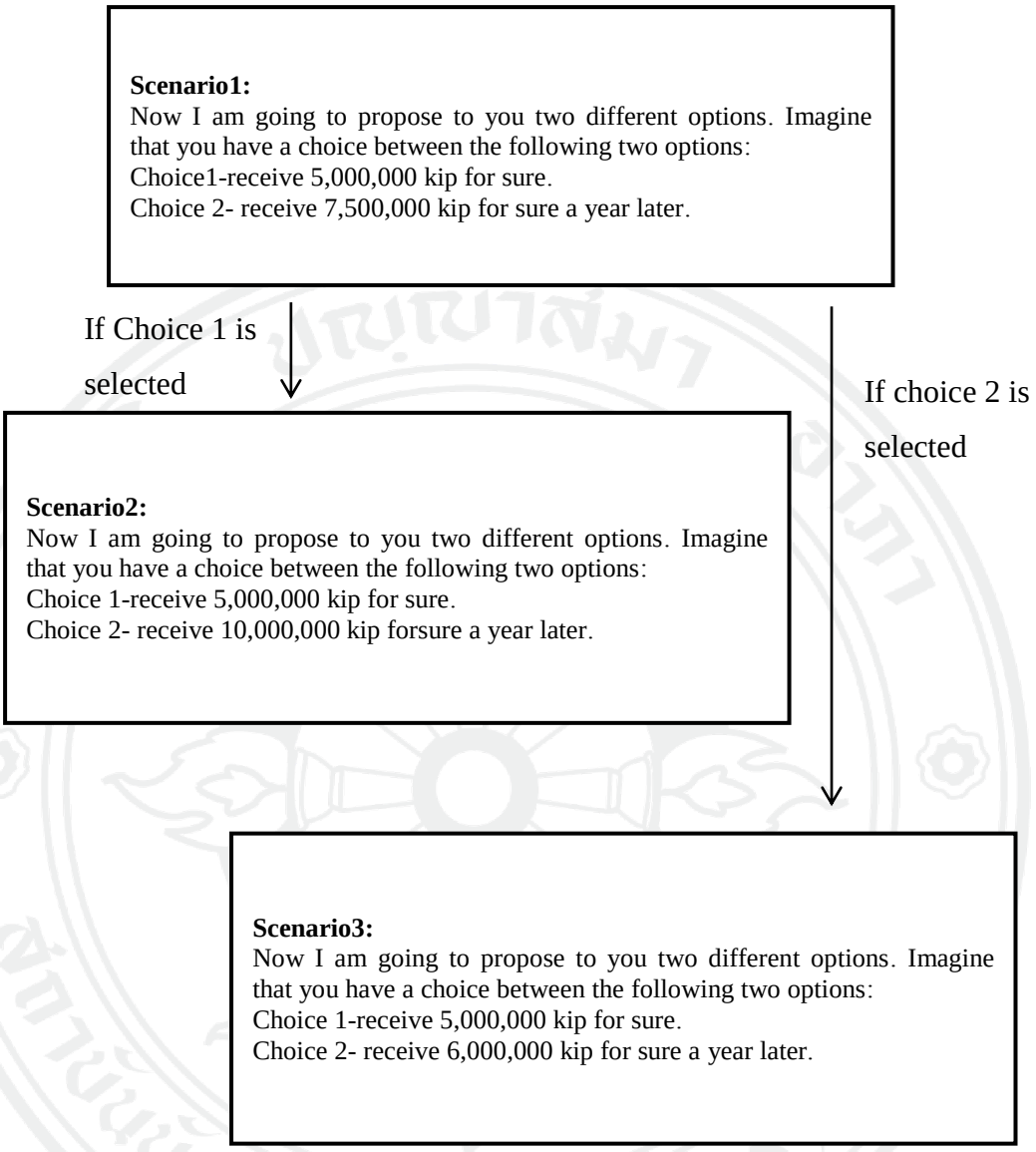
Table 3.1: Description statistics of all employment status(percent)

Variables	Type of employed		
	Employee	Self-employment	Total
Characteristic factor			
Gender (Percent)			
Male	49.42	36.78	42.20
Female	50.58	63.22	57.80
Age group (Percent)			
48-65 years	11.92	27.24	20.67
33-47 years	30.96	45.95	39.52
15-32 years	57.12	26.81	39.81
Marital status (Percent)			
Married	58.17	87.43	74.88
Divorced	2.21	2.46	2.35
Separated	1.54	0.94	1.20
Widowed	2.02	4.41	3.38
Never married	36.06	4.77	18.19
Highest level of education (Percent)			
None or less than Primary education	15.29	36.92	27.64
Primary education	19.33	26.66	23.51
Lower secondary	20.00	18.50	19.14
Upper secondary & diploma	15.67	10.26	12.58
Vocational	10.29	5.13	7.34
Higher degree	19.42	2.53	9.78
Socioeconomic status at age 15 (Percent)			
Low SES	31.06	44.58	38.78
Middle SES	60.77	50.58	54.95
High SES	8.17	4.84	6.27
Economic shocks at age 15 (Percent)			
No shock	54.52	43.71	48.35
One shock	13.63	14.96	14.48

Variables	Type of employed		
	Employee	Self-employment	Total
Two or more shocks	31.63	41.33	37.17
Residence (Percent)			
Rural	23.56	37.21	31.35
Urban	76.44	62.79	68.65
Region (Percent)			
Vientiane Capital	35.38	23.27	28.47
North	30.48	32.80	31.81
Central	19.42	24.28	22.19
South	14.71	19.65	17.53
Cognitive skill			
Reading (Percent)			
No	6.47	15.48	11.62
Low	71.62	78.87	75.77
Middle	18.44	4.99	10.75
High	3.47	0.65	1.86
Writing (Percent)			
No	10.22	20.49	16.09
Low	74.93	75.89	75.48
Middle	13.31	3.40	7.65
High	1.54	0.22	0.79
Numeracy (Percent)			
No	5.10	5.20	5.16
Low	49.81	70.38	61.55
Middle	32.02	19.80	25.04
High	13.08	4.62	8.25

Source: Authors' Calculation. Data from the 2012 STEP Survey in Lao PDR.

In order to measure delay of gratification, we examined the most recent studies on this topic(Wolfe and Patel 2017),which posed questions by offering three scenarios and requesting interviewees to state their preference.As shown in Figure3.1, the score of delayed gratification was classified into four score levels. A higher number implies a higher delay of gratification.



Source: Adapted from Wolfe and Patel (2017)

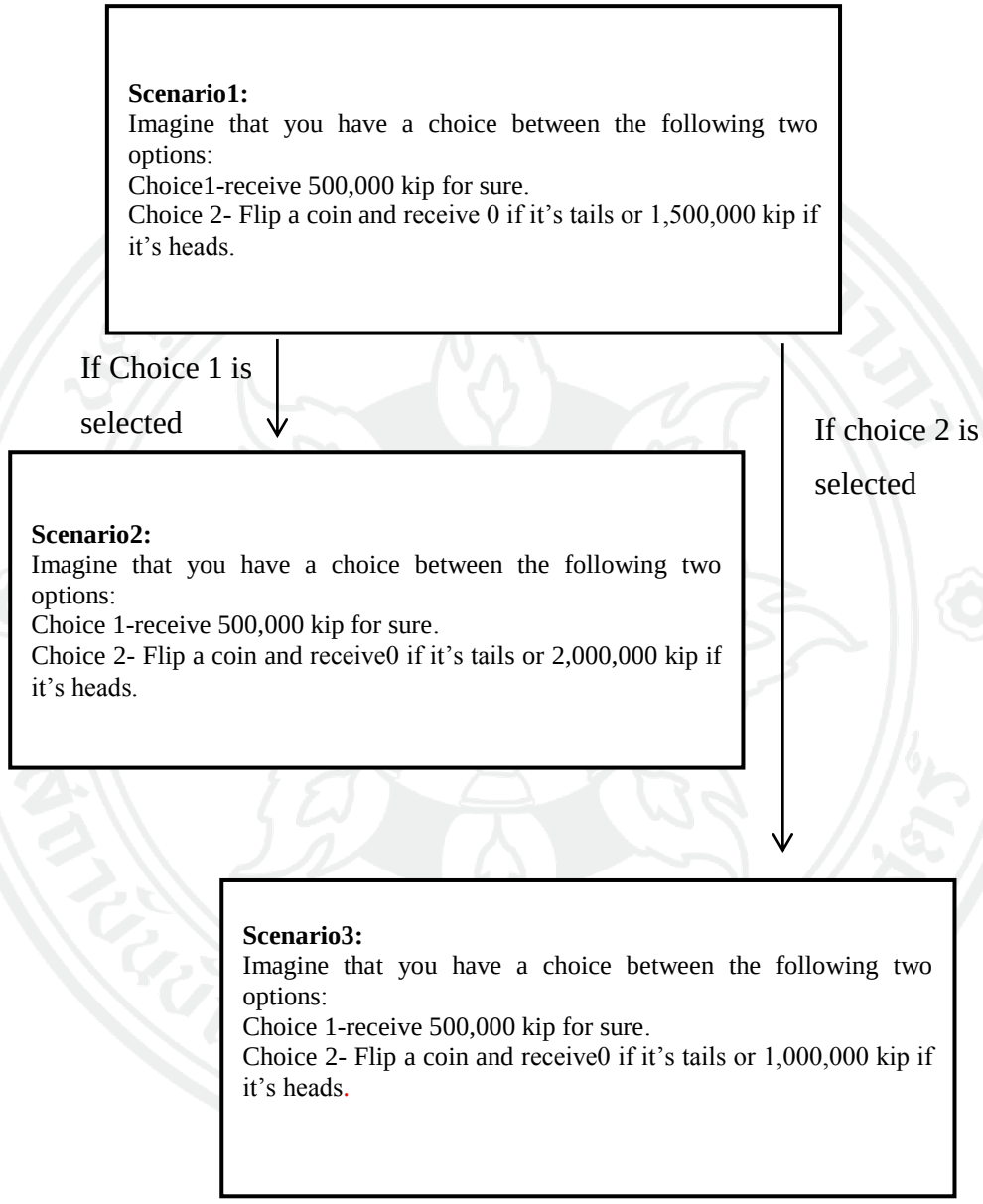
Figure 3.1: Measurement of Delay of Gratification

Scoring:

1- If Choice 1 was chosen for both Scenario1 and 2
2- If Choice 1 was chosen for Scenario 1 and Choice 2 for Scenario 2
3- If Choice 2 was chosen for Scenario 1 and Choice 1 for Scenario 3
4- If Choice 2 was chosen for both Scenario 1 and 3

Besides delay of gratification, we also measured risk-taking behavior. The respondents were asked to choose whether they would accept the smaller amount of money immediately or flip a coin for chance of 50-50 for larger reward if it turns

heads, but if it turns up tails, the respondent gets nothing. This measures to what extent high and low individuals take risks; a high score indicates a higher degree of risk-taking (Wolfe and Patel 2017).



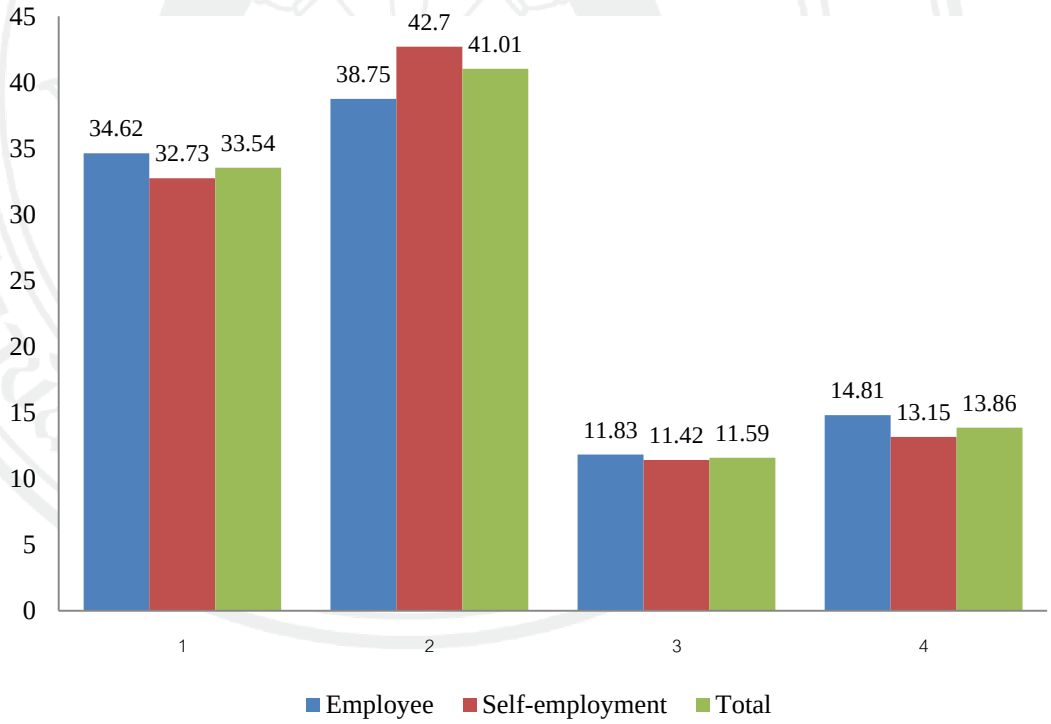
Source: Adapted from Wolfe and Patel (2017)

Figure 3.2: Measurement of Risk Taking

Scoring:

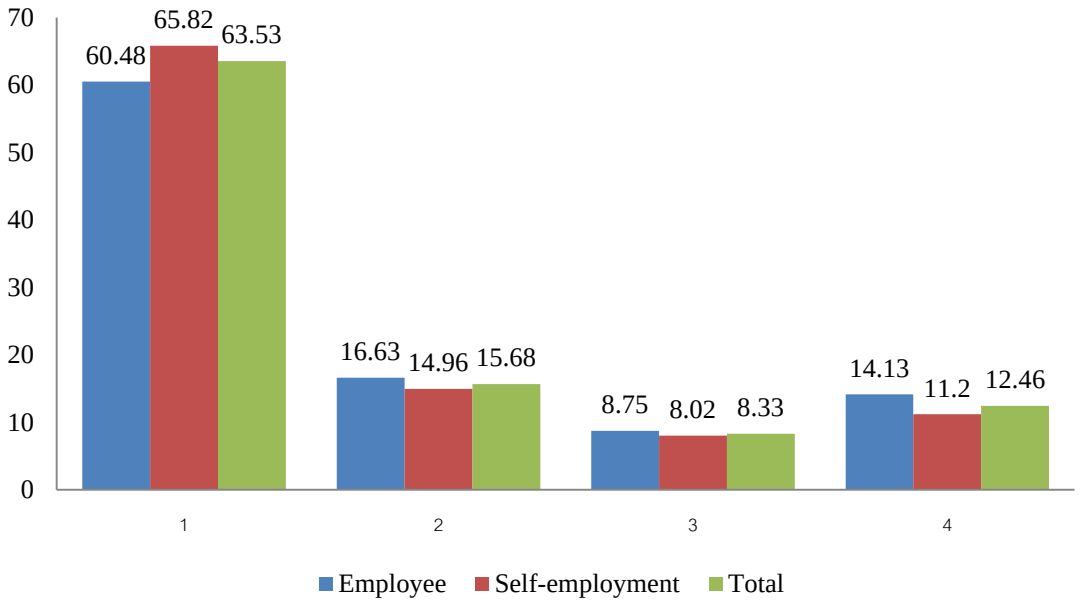
1- If Choice 1 was chosen for both Scenario1 and 2
2- If Choice 1 was chosen for Scenario 1 and Choice 2 for Scenario 2
3- If Choice 2 was chosen for Scenario 1 and Choice 1 for Scenario 3
4- If Choice 2 was chosen for both Scenario 1 and 3

Classifying both full-time employees and the self-employed, as shown in Figure 3, indicates that the majority of individuals in Lao PDR have a relatively low level of delay of gratification (Scores 1 and 2). The situation is similar with regard to risk-taking attitude. It can be clearly shown that the majority of Lao people (around 63.53 percent) are relatively risk-averse. Nevertheless, both diagrams are not clear in determining whether full-time employees or the self-employed seem to have a higher/lower degree of gratification or a higher/lower risk-taking attitude. The descriptive statistical predictors here in this section, therefore, can only provide a rough association between interesting factors, but it may not be good enough for policy design as it is not precise enough to support a cause-effect conclusion. Therefore, in the next section, econometric regression will be used to statistically measure the relationship of delay of gratification and working status.



Source: Authors' Calculation. Data from the 2012 STEP Survey in Lao PDR.

Figure 3.3: Delay of Gratification Scores classified by Working Status (Percent)



Source: Authors' Calculation. Data from the 2012 STEP Survey in Lao PDR.

Figure 3.4: Risk-Taking Attitude Scores classified by Working Status (Percent)

CHAPTER 4
RESULT

4.1 Delay of gratification and Status of Employment.

This study examines the data by using the econometrics approach to examine the objectives of the study, namely, (1) to explore the effect of a delayed gratification factor on engaging in self-employment, and (2) to investigate the delay of gratification on business performance (profit of self-employment). For the first objective, the Binary Probit and Logit models were used to examine whether and how delay of gratification affects the probability of being self-employed. The dependent variable is therefore set to be equal to 1 if an individual is currently self-employed and a value of 0 if an individual is currently an employee/otherwise employed. In addition, descriptive statistics of delay of gratification and risk-taking (1 to 4 scores) and a list of control variables (i.e., gender, age group, marital status, level of education, region, set of skills include both cognitive skills and non-cognitive skills are also shown in the Table 4.1.

Table 4.1 Variables, Definitions, and Descriptive Statistics

Name of variable	Definition	Observation	Mean	SD	Min	Max
Dependent Variables						
1. Self-employed	1=yes,0=otherwise	2,424	0.570	0.495	0	1
2. Business performance	Amount of money (Kip)	1,384	2,406,646	8,350,751	0	168,000,000
Independent Variables						
Female	1=yes,0=otherwise	2,845	0.600	0.489	0	1
Dummy of age group (Reference: 48-65 years)						
33-47 years	1=yes,0=otherwise	2,845	0.357	0.479	0	1
15-32 years	1=yes,0=otherwise	2,845	0.427	0.494	0	1
Dummy of marital status (Reference: No married)						
Married	1=yes,0=otherwise	2,845	0.696	0.459	0	1
Divorced	1=yes,0=otherwise	2,845	0.023	0.152	0	1
Separated	1=yes, 0=otherwise	2,845	0.010	0.103	0	1
Widowed	1=yes,0=otherwise	2,845	0.046	0.211	0	1
Dummy of highest level of education (Reference: None or < primary)						
Primary education	1=yes, 0=otherwise	2,845	0.233	0.423	0	1
Lower Secondary	1=yes,0=otherwise	2,845	0.210	0.407	0	1
Upper secondary /diploma	1=yes,0=otherwise	2,845	0.131	0.338	0	1
Vocational	1=yes,0=otherwise	2,845	0.067	0.250	0	1
Higher degree	1=yes,0=otherwise	2,845	0.882	0.283	0	1
Dummy of socioeconomic status at age 15 (Reference: Low SES)						
Middle SES	1=yes,0=otherwise	2,844	0.559	0.496	0	1
High SES	1=yes,0=otherwise	2,844	0.069	0.255	0	1
Household size	Number	2,845	5.026	2.028	1	17
Life satisfaction	Scale	2,845	7.498	2.178	1	10
Dummy of economic shock at age 15 (Reference: No shock)						
One shock	1=yes,0=otherwise	2,844	0.150	0.357	0	1
Two or more shocks	1=yes,0=otherwise	2,844	0.354	0.478	0	1
Dummy of region (Reference: Vientiane capital)						
North	1=yes,0=otherwise	2,845	0.298	0.457	0	1
Central	1=yes,0=otherwise	2,845	0.218	0.413	0	1
South	1=yes,0=otherwise	2,845	0.170	0.376	0	1
Dummy of residence (Reference: rural)						
Urban	1=yes,0=otherwise	2,845	0.71	0.45	0	1
Cognitive skills						
Dummy of Reading score (Reference: No)						

Name of variable	Definition	Observation	Mean	SD	Min	Max
Low	1=yes,0=otherwise	2,838	0.747	0.434	0	1
Middle	1=yes,0=otherwise	2,838	0.113	0.317	0	1
High	1=yes,0=otherwise	2,838	0.021	0.146	0	1
Writing score (Reference: No)						
Low	1=yes,0=otherwise	2,838	0.736	0.440	0	1
Middle	1=yes,0=otherwise	2,838	0.082	0.275	0	1
High	1=yes,0=otherwise	2,838	0.008	0.089	0	1
Numeracy score (Reference: No)						
Low	1=yes,0=otherwise	2,844	0.590	0.491	0	1
Middle	1=yes,0=otherwise	2,844	0.253	0.434	0	1
High	1=yes,0=otherwise	2,844	0.094	0.292	0	1
Big five personalities						
Extraversion	Average score	2,793	2.72	0.53	1	4
Conscientiousness	Average score	2,792	2.74	0.47	1	4
Openness	Average score	2,794	2.60	0.61	1	4
Emotional stability	Average score	2,793	2.65	0.53	1	4
Agreeableness	Average score	2,793	2.86	0.57	1	4
Dummy of delayed gratification score (Reference: 1score)						
2 scores	1=yes,0=otherwise	2,844	0.41	0.49	0	1
3 scores	1=yes,0=otherwise	2,844	0.11	0.32	0	1
4 scores	1=yes,0=otherwise	2,844	0.13	0.34	0	1
Dummy of risk taking score (reference: 1 and 2score)						
3 and 4 scores	1=yes,0=otherwise	2,844	0.206	0.404	0	1
Dummy of Characteristic of Business factor						
Number of workers (Reference: only one)						
2-5 workers	1=yes,0=otherwise	1,384	0.653	0.476	0	1
6-15 workers	1=yes,0=otherwise	1,384	0.079	0.270	0	1
16-25 workers	1=yes,0=otherwise	1,384	0.005	0.070	0	1
26-50 workers	1=yes,0=otherwise	1,384	0.007	0.847	0	1
>51 workers	1=yes,0=otherwise	1,384	0.0007	0.026	0	1
Source of funds for starting business (Reference: did not used family money)						
Used family money	1=yes,0=otherwise	1,384	0.956	0.203	0	1
Economic sector (Reference: Agriculture)						
Manufacturing &Construction	1=yes,0=otherwise	2,421	0.131	0.337	0	1
Commerce	1=yes,0=otherwise	2,421	0.197	0.397	0	1
Other services	1=yes,0=otherwise	2,421	0.216	0.411	0	1

Source: Author's calculation. Data from the 2011-2012 STEP skill survey 2012.

Table 4.2 presents the estimated marginal effect of variables on the probability of engaging in self-employment from both the Probit and Logit models. Our results show that compared to single individuals, individuals who got married and used to have a spouse (divorced and widowed) are about 35.2-49.6 percent, 18.5-33.9 percent and 26-43.1 percent more likely to be self-employed. Females were about 10.7-15.2 percent more likely to be self-employed than were males. This result contrasts with Caliendo et al.(2014), who found that females were less likely to be self-employed than were males. Generally, in least developed countries, the opportunity to engage in formal employment is still limited, especially for women. Lack of education, economic opportunity for Lao women, and Lao culture (Siliphong, Khampoui, & Mihyo 2005) steer women into the informal sector – small-scale income earning activities in farming, handicrafts, and retail. Age is not significant after controlling for other variables.

Regarding area and region, the estimation suggests that individuals who live in rural areas tend to be 8.66-11.3 percent more likely to engage in self-employment compared to individuals who live in urban areas. Moreover, individuals who live in Vientiane have the highest probability of being wage employees compared to individuals who live in the central and southern parts of Lao PDR. This is because of the social and economic development of Vientiane, which has been growing dramatically and has thus been able to absorb labor supply in the formal sector.

Education matters statistically in terms of engaging in self-employment. Individuals with an upper secondary school education and higher are less likely to engage in self-employment compared to individuals with no education or less than a primary school education. Educated people have a better advantage in job choices and access to better jobs. On the other hand, uneducated people, who cannot meet the basic education and skills requirements for better jobs, tend to be forced into self-employment. However, sometimes formal education may not be the only source of the skills needed for a better job. Indeed, individuals' cognitive and non-cognitive skills that can influence their employment status may be acquired from their social environment, including friends, family, and social groups.

However, since this paper is mainly focused on investigating the effect of delay of gratification on employment status, our estimated results show that delay of gratification is found to be negatively and statistically significant on engaging in self-employment. It suggests that individuals with scores of 2, 3, and 4 have a delay of gratification of about 10.1-13.7, 19.3-24.5, and 34.1-45.1 percent less probability, respectively, of being self-employed. Our result here is consistent with our main research touchstone (Wolfe and Patel, 2017), which indicates that differences in delay of gratification influence individuals' employment decisions and that a person with a low delay of gratification is more positively associated with the likelihood of self-employment. With regard to considering the chance for success by engaging in one's own business, individuals with high instant gratification might be considered as being enamored by the idea of success, which might motivate them to both overestimate potential returns and to expect an immediate and higher return from a new business venture – underestimating the chances of business failure. This could increase the preference to capitalize from self-employment sooner rather than later (Howe, Strauss, & Matson, 2000)

As for risk-taking attitude, it is not statistically significant in terms of affecting the probability of engaging in self-employment. The risk attitude of the self-employed in developing countries might not be the same as that of the self-employed in developed countries because a risk-taking attitude may not play a crucial role for the self-employed in developing countries. Most self-employed people in developing countries work in the agricultural sector, which represents only a small scale supplement to their family income. The interaction between delay of gratification and age indicates that younger individuals lack sufficient levels of human capital resources to forgo self-employment. However, younger individuals with a lower penchant for delaying gratification might nevertheless decide to act sooner in terms of seeking self-employment.

The result shows that the interaction between delay of gratification and age of individual is positively and statistically significant, suggesting that individuals with greater likelihood of delaying gratification and maturing are more likely to engage in self-employment compared to younger individuals with low delay of gratification.

Table 4.2 Estimations of Self-employment by Probit and Logit Models (Marginal Effect)

Variable	Probit (Marginal Effect)				Logit (Marginal Effect)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Female	0.115***	0.107***	0.123***	0.139***	0.121***	0.114***	0.131***	0.152***
	(0.0241)	*(0.0245)*	*(0.0255)*	*(0.0254)*	*(0.0260)*	*(0.0265)*	*(0.0277)*	*(0.0275)*
Age Group (Reference: 48-65 years)								
33-47 years	-0.0883***	-0.0865***	-0.0898***	0.0557	-0.0974***	-0.0952***	-0.0985***	0.0758*
	(0.0327)	*(0.0330)*	*(0.0335)*	*(0.0397)*	*(0.0355)*	*(0.0358)*	*(0.0364)*	*(0.0433)*
15-32 years	-0.280***	-0.285***	-0.287***	-0.0154	-0.300***	-0.306***	-0.309***	0.0198
	(0.0341)	*(0.0342)*	*(0.0350)*	*(0.0570)*	*(0.0384)*	*(0.0387)*	*(0.0396)*	*(0.0619)*
Marital Status (Reference: No married)								
Married	0.435***	0.408***	0.406***	0.352***	0.496***	0.468***	0.470***	0.393***
	(0.0291)	*(0.0307)*	*(0.0310)*	*(0.0334)*	*(0.0404)*	*(0.0410)*	*(0.0417)*	*(0.0421)*
Divorced	0.261***	0.237***	0.234***	0.185***	0.339***	0.304***	0.302***	0.229***
	(0.0524)	*(0.0569)*	*(0.0586)*	*(0.0652)*	*(0.0834)*	*(0.0837)*	*(0.0846)*	*(0.0856)*
Separated	0.217***	0.183**	0.177**	0.128	0.283**	0.240**	0.238**	0.165
	(0.0778)	*(0.0845)*	*(0.0868)*	*(0.0944)*	*(0.110)*	*(0.111)*	*(0.112)*	*(0.114)*
Widowed	0.316***	0.305***	0.305***	0.260***	0.431***	0.419***	0.419***	0.341***
	(0.0410)	*(0.0436)*	*(0.0452)*	*(0.0527)*	*(0.0811)*	*(0.0821)*	*(0.0837)*	*(0.0840)*
Level of highest education complete (Reference: None or < Primary education)								
Primary education	-0.0374	-0.0309	-0.0312	-	-0.0448	-0.0363	-0.0356	-
	(0.0334)	*(0.0363)*	*(0.0370)*	-	*(0.0356)*	*(0.0391)*	*(0.0398)*	-
Lower secondary	-0.0553	-0.0384	-0.0335	-	-0.0575	-0.0389	-0.0322	-
	(0.0369)	*(0.0403)*	*(0.0411)*	-	*(0.0389)*	*(0.0429)*	*(0.0439)*	-
Upper secondary& diploma	-0.175***	-0.147***	-0.136***	-	-0.191***	-0.158***	-0.145***	-
	(0.0399)	*(0.0443)*	*(0.0453)*	-	*(0.0430)*	*(0.0473)*	*(0.0485)*	-
Vocational	-0.319***	-0.268***	-0.263***	-	-0.360***	-0.294***	-0.288***	-
	(0.0405)	*(0.0477)*	*(0.0485)*	-	*(0.0497)*	*(0.0553)*	*(0.0565)*	-
Higher degree	-0.497***	-0.446***	-0.440***	-	-0.621***	-0.532***	-0.525***	-
	(0.0290)	*(0.0385)*	*(0.0396)*	-	*(0.0567)*	*(0.0631)*	*(0.0646)*	-
Economic shock at age 15 (Reference: No shock)								
One shock	-0.00843	0.000777	-0.00320	-0.00346	-0.00756	0.000926	-0.00361	-0.00629
	(0.0344)	*(0.0346)*	*(0.0354)*	*(0.0352)*	*(0.0371)*	*(0.0376)*	*(0.0385)*	*(0.0381)*

Variable	Probit (Marginal Effect)				Logit (Marginal Effect)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Two or more shocks	-0.00880	-0.000391	0.00140	0.00349	-0.00565	0.00276	0.00556	0.00557
	(0.0263)	*(0.0266)*	*(0.0270)*	*(0.0269)*	*(0.0280)*	*(0.0284)*	*(0.0289)*	*(0.0287)*
Socioeconomic status at age 15 (Reference: Low SES)								
Middle SES	-0.0130	-0.0112	-0.00585	-0.00563	-0.0133	-0.0121	-0.00813	-0.00872
	(0.0257)	*(0.0260)*	*(0.0265)*	*(0.0264)*	*(0.0275)*	*(0.0279)*	*(0.0285)*	*(0.0282)*
High SES	-0.0268	-0.00730	-0.00291	-0.00401	-0.0294	-0.00648	-0.00295	-0.000305
	(0.0515)	*(0.0522)*	*(0.0529)*	*(0.0527)*	*(0.0550)*	*(0.0563)*	*(0.0572)*	*(0.0570)*
Household size	-0.00932	-0.00955	-0.0107*	-0.00904	-0.0101	-0.0101	-0.0112*	-0.00931
	(0.00582)	*(0.00586)*	*(0.00598)*	*(0.00594)*	*(0.00626)*	*(0.00631)*	*(0.00645)*	*(0.00637)*
Life satisfaction	0.00618	0.00729	0.00605	0.00552	0.00782	0.00880	0.00748	0.00678
	(0.00536)	*(0.00543)*	*(0.00557)*	*(0.00556)*	*(0.00574)*	*(0.00581)*	*(0.00597)*	*(0.00594)*
Region (Reference: Vientiane Capital)								
North	0.0495	0.0525*	0.0460	0.0619**	0.0554*	0.0583*	0.0520	0.0630*
	(0.0304)	*(0.0312)*	*(0.0320)*	*(0.0314)*	*(0.0329)*	*(0.0339)*	*(0.0346)*	*(0.0340)*
Central	0.0597*	0.0735**	0.0781**	0.0844**	0.0651*	0.0809**	0.0857**	0.0847**
	(0.0328)	*(0.0333)*	*(0.0340)*	*(0.0335)*	*(0.0361)*	*(0.0372)*	*(0.0380)*	*(0.0374)*
South	0.0931***	0.0974***	0.0962***	0.0960***	0.102***	0.108***	0.107***	0.104***
	(0.0349)	*(0.0354)*	*(0.0359)*	*(0.0355)*	*(0.0390)*	*(0.0400)*	*(0.0403)*	*(0.0401)*
Area (Reference: Rural)								
Urban	-0.0902***	-0.0866***	-0.0972***	-0.102***	-0.0965***	-0.0922***	-0.104***	-0.113***
	(0.0260)	*(0.0263)*	*(0.0269)*	*(0.0268)*	*(0.0286)*	*(0.0289)*	*(0.0297)*	*(0.0298)*
Cognitive skill								
Reading Score (Reference: No)								
Low	-	-0.0265	-0.0163	0.0308	-	-0.0310	-0.0204	0.0311
	-	*(0.0537)*	*(0.0563)*	*(0.0563)*	-	*(0.0595)*	*(0.0620)*	*(0.0614)*
Middle	-	-0.131*	-0.121*	-0.0997	-	-0.152**	-0.141*	-0.121
	-	*(0.0694)*	*(0.0718)*	*(0.0713)*	-	*(0.0755)*	*(0.0782)*	*(0.0771)*
High	-	-0.263***	-0.256**	-0.256**	-	-0.321***	-0.313**	-0.294**
	-	*(0.0996)*	*(0.102)*	*(0.101)*	-	*(0.124)*	*(0.126)*	*(0.123)*
Writing Score (Reference: No)								
Low	-	-0.0140	-0.0124	-0.00921	-	-0.0156	-0.0140	-0.00834
	-	*(0.0455)*	*(0.0468)*	*(0.0465)*	-	*(0.0496)*	*(0.0510)*	*(0.0510)*

Variable	Probit (Marginal Effect)				Logit (Marginal Effect)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Middle	-	-0.0996	-0.0923	-0.1000	-	-0.110	-0.104	-0.111
	-	*(0.0680)*	*(0.0693)*	*(0.0687)*	-	*(0.0735)*	*(0.0749)*	*(0.0742)*
High	-	-0.143	-0.187	-0.205	-	-0.202	-0.287	-0.306
	-	*(0.169)*	*(0.180)*	*(0.177)*	-	*(0.200)*	*(0.229)*	*(0.231)*
Numeracy Score (Reference: No)								
Low	-	0.168***	0.170***	0.167***	-	0.179***	0.182***	0.180***
	-	*(0.0533)*	*(0.0552)*	*(0.0558)*	-	*(0.0578)*	*(0.0601)*	*(0.0604)*
Middle	-	0.133**	0.139**	0.127**	-	0.147**	0.153**	0.140**
	-	*(0.0562)*	*(0.0580)*	*(0.0585)*	-	*(0.0637)*	*(0.0659)*	*(0.0659)*
High	-	0.0910	0.103	0.0779	-	0.102	0.115	0.0877
	-	*(0.0656)*	*(0.0672)*	*(0.0684)*	-	*(0.0750)*	*(0.0772)*	*(0.0769)*
Non-cognitive skill								
extraversion	-	-	-0.0379	-0.0489**	-	-	-0.0380	-0.0498**
	-	-	*(0.0235)*	*(0.0234)*	-	-	*(0.0253)*	*(0.0252)*
conscientiousness	-	-	0.00831	-0.00505	-	-	0.00647	-0.00536
	-	-	*(0.0257)*	*(0.0258)*	-	-	*(0.0278)*	*(0.0279)*
openness	-	-	0.00457	0.00365	-	-	0.00654	0.00628
	-	-	*(0.0218)*	*(0.0218)*	-	-	*(0.0237)*	*(0.0235)*
stability	-	-	0.0360	0.0376*	-	-	0.0394	0.0410*
	-	-	*(0.0228)*	*(0.0227)*	-	-	*(0.0245)*	*(0.0243)*
agreeableness	-	-	-0.0240	-0.0181	-	-	-0.0303	-0.0229
	-	-	*(0.0218)*	*(0.0218)*	-	-	*(0.0237)*	*(0.0235)*
Delay of gratification score (Reference: 1score)								
2 scores	-	-	0.0161	-0.101**	-	-	0.0158	-0.137***
	-	-	*(0.0275)*	*(0.0408)*	-	-	*(0.0298)*	*(0.0452)*
3 scores	-	-	0.0142	-0.193***	-	-	0.0204	-0.245***
	-	-	*(0.0405)*	*(0.0697)*	-	-	*(0.0436)*	*(0.0787)*
4 scores	-	-	-0.0358	-0.341***	-	-	-0.0390	-0.451***
	-	-	*(0.0388)*	*(0.0837)*	-	-	*(0.0414)*	*(0.109)*
Risk taking (Reference: 1 and 2 scores)								
3 and 4 scores	-	-	-0.0170	-0.0299	-	-	-0.0229	-0.0330
	-	-	*(0.0303)*	*(0.0307)*	-	-	*(0.0325)*	*(0.0327)*

Variable	Probit (Marginal Effect)				Logit (Marginal Effect)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Delay of gratification x age	-	-	-	0.00475***	-	-	-	0.00587***
				(0.000821)	-	-	-	*(0.000951)*
Delay of gratification x edu	-	-	-	-0.0343***	-	-	-	-0.0382***
				(0.00428)	-	-	-	*(0.00473)*
Observations	2,424	2,417	2,369	2,369	2,424	2,417	2,369	2,369
Pseudo R-squared	0.2465	0.2568	0.2601	0.2587	0.2493	0.2604	0.2639	0.2640

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4.2 Delay of Gratification and Business Performance.

For the second objective, investigating the impact of delay gratification on business performance, we use the previous month's net profit of their business reported by self-employed individuals. Since data indicated that many self-employed workers made no profit, the data are left-censoring in zero. Therefore, the authors had to use Tobit regression, which is a consorted regression to examine the impact of delay gratification on the business performance of self-employment enterprises. Using Tobit models, as shown in Table 4.3, Model 1 shows the impact of individual characteristic of the self-employed on business performance. Model 2 adds more variables related to characteristics of businesses such as number of workers, source of funds, and economic sectors. We were also interested in the set of skills such as cognitive skills (reading, writing, and numeracy) and non-cognitive skills (extraversion, conscientious, openness, stability and agreeableness), including our variables of interest, which shape delay of gratification and risk-taking attitudes.

Our estimated results suggest that gender has a significant impact on the net profit of self-employment and that women are more likely to get higher profits than men do by around 1,157,000-1,395,000 kip per month (or around US$144-$174 per month). This contrasts with Lechmann and Schnabel (2012), who report that men make more profit than women. The age group, area, and region were not statistically different in terms of business profit after controlling other factors. As for level of education, the self-employed who completed lower secondary school gained higher profit of 1,726,000kip per month (around US$215) compared to the non-educated or those with less than primary school education. And overall, profit of businesses increased with the increase of the educational level of the self-employed.

Interestingly, results show that higher levels of delay gratification are found to have a positive effect on business performance. When the self-employed have a higher score of delay of gratification, say scores of 4, they tend to gain higher profit by about 2,378,000kip (about US$297) more in their businesses compared to those with only scores of 1 for delayed gratification. Our findings here are supported by Giacalone, Jurkiewicz, and Dunn (2005) who argue that delay of gratification can

potentially provide great benefit for business profit. Business success does not come from overnight but is comprised of risk and uncertainty that might continually affect the performance of business. A greater delay of gratification is likely to apply more risk-taking propensity to the future outcome, thereby placing greater value on the potential successful outcome; risky businesses are associated with high return. Indeed, self-employed workers with a high delay of gratification tend to overweigh the relatively small probability of larger and later success while underweighting the larger probability of smaller, but immediate payoff (Baron, 2004).

Theoretically, a low delay of gratification often induces individuals to speedily make decisions and act immediately in responding to business choices, which might lead to wrong decisions (Baron, 2004). In addition, delayed gratification individuals have greater ability to control themselves. This can lead to systematic and critical thinking, taking into consideration the details of each aspect of an issue, which can help them make smarter decisions under unexpected stress, deadlines, and other pressure. Moreover, delayed gratification individuals are likely to be responsible and better able to concentrate effectively and persist in the completion of tasks, which in turn might facilitate better management of their businesses when facing difficulties. The interaction between delaying of gratification and business performance indicates that the self-employed tend to have more patience and that having a higher education is likely to lead to more success in business – with a profit of 403,992kip (about US$51).

Table 4.3 Estimation of the Business Performance (Monthly Profit) by Tobit Model

Variable	(1)	(2)	(3)	(4)
Female	1,395,000**	1,157,000*	1,320,000**	1,353,000**
	(625,680)	*(613,733)*	*(623,065)*	*(618,714)*
Age group (Reference: 48-65 years)				
33-47 years	-356,075	20,487	233,842	318,690
	(709,626)	*(681,497)*	*(678,022)*	*(664,114)*
15-32 years	-2,064,000**	-1,528,000*	-1,271,000	-1,221,000
	(821,538)	*(787,326)*	*(782,550)*	*(765,758)*
Level of education (Reference: None or <Primary)				
Primary education	3,338,000***	2,254,000***	1,151,000	-
	(752,093)	*(724,360)*	*(781,691)*	-
Lower secondary	4,976,000***	3,079,000***	1,726,000*	-
	(849,072)	*(832,506)*	*(881,179)*	-
Upper secondary& diploma	6,367,000***	3,830,000***	2,400,000**	-
	(1,036,000)	*(1,022,000)*	*(1,070,000)*	-
Vocational	7,599,000***	4,665,000***	2,927,000**	-
	(1,334,000)	*(1,298,000)*	*(1,337,000)*	-
Higher degree	1,147,000***	5,603,000***	3,844,000**	-
	(1,831,000)	*(1,820,000)*	*(1,847,000)*	-
Region (Reference: Vientiane Capital)				
North	-703,672	1,094,000	603,183	722,981
	(794,110)	*(781,800)*	*(790,434)*	*(786,950)*
Central	-3,332,000***	-1,288,000	-1,072,000	-983,186
	(868,054)	*(849,136)*	*(849,992)*	*(845,389)*
South	-387,854	1,278,000	732,918	796,806
	(887,779)	*(865,327)*	*(865,302)*	*(858,417)*
Area (Reference: rural)				
Urban	1,065,000*	-404,524	-189,553	-209,266
	(630,859)	*(626,916)*	*(623,833)*	*(620,979)*
Characteristic of Business				
Number of workers when starting business (Reference: only oneself)				
2-5 workers	-	953,233	1,175,000*	1,183,000*
	-	*(700,896)*	*(687,882)*	*(684,012)*
6-15 workers	-	2,994,000**	3,030,000***	3,018,000***
	-	*(1,189,000)*	*(1,171,000)*	*(1,165,000)*
16-25 workers	-	31,740,000***	30,280,000***	30,560,000***
	-	*(3,685,000)*	*(3,617,000)*	*(3,561,000)*
26-50 workers	-	6,307,000**	4,453,000	4,365,000
	-	*(3,158,000)*	*(3,158,000)*	*(3,132,000)*
>51 workers	-	10,690,000	9,342,000	7,852,000
	-	*(9,463,000)*	*(9,225,000)*	*(9,191,000)*
Source of funds when starting business (Reference: did not use family money)				
Used family money	-	-3,219,000**	-2,818,000**	-2,740,000**
	-	*(1,268,000)*	*(1,240,000)*	*(1,232,000)*
Economic sector (Reference: Agriculture)				
Manufacturing & Construction	-	7,652,000***	7,694,000***	7,747,000***
	-	*(953,328)*	*(954,766)*	*(949,174)*
Commerce	-	5,921,000***	5,036,000***	4,998,000***
	-	*(782,911)*	*(782,337)*	*(776,406)*
Other services	-	6,338,000***	5,298,000***	5,379,000***
	-	*(1,148,000)*	*(1,135,000)*	*(1,114,000)*

Variable	**(1)**	**(2)**	**(3)**	**(4)**
Cognitive skill				
Reading score (Reference: No)				
Low	-	-	-952,045	-995,710
	-	-	*(1,260,000)*	*(1,232,000)*
Middle	-	-	-552,148	-682,759
	-	-	*(1,772,000)*	*(1,754,000)*
High	-	-	-359,274	-604,967
	-	-	*(3,529,000)*	*(3,498,000)*
Writing score (Reference: No)				
Low	-	-	970,829	993,545
	-	-	*(1,065,000)*	*(1,060,000)*
Middle	-	-	3,348,000*	3,358,000*
	-	-	*(1,783,000)*	*(1,772,000)*
High	-	-	1,505,000	1,735,000
	-	-	*(6,667,000)*	*(6,637,000)*
Numeracy score (Reference: No)				
Low	-	-	3,051,000*	3,089,000*
	-	-	*(1,600,000)*	*(1,590,000)*
Middle	-	-	6,157,000***	6,081,000***
	-	-	*(1,716,000)*	*(1,706,000)*
High	-	-	106,347	286,107
	-	-	*(2,090,000)*	*(2,076,000)*
Non-cognitive skill				
Extraversion	-	-	51,817	70,831
	-	-	*(539,000)*	*(536,537)*
Conscientious	-	-	373,083	320,383
	-	-	*(594,276)*	*(591,788)*
Openness	-	-	525,095	444,308
	-	-	*(498,192)*	*(497,212)*
Stability	-	-	552,535	578,815
	-	-	*(521,848)*	*(519,129)*
Agreeableness	-	-	*717,516*	*660,623*
	-	-	*(499,486)*	*(497,168)*
Delay of gratification (Reference: 1 score)				
2 scores	-	-	-686,557	-1,345,000**
	-	-	*(633,447)*	*(653,085)*
3 scores	-	-	1,016,000	-117,205
	-	-	*(922,506)*	*(956,857)*
4 scores	-	-	4,094,000***	2,378,000**
	-	-	*(912,071)*	*(1,021,000)*
Risk-taking (Reference: 1 and 2 scores)				
3 and 4scores	-	-	-1,109,000	-1,137,000
	-	-	*(720,244)*	*(716,096)*
Delay of gratification X edu	-	-	-	403,992***
	-	-	-	*(107,953)*
Constant	-2,997,000***	-3,324,000*	-12,430,000***	-11,490,000***
	(1,036,000)	*(1,734,000)*	*(3,441,000)*	*(3,442,000)*
Observation	1,384	1,383	1,342	1,342
R-squared	0.0042	0.0090	0.0109	0.011

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

CHAPTER 5
CONCLUSION AND RECOMMENDATION

5.1 Conclusion and Policy recommendation.

Most of empirical studies in developed countries had been studied about the delay gratification for long with education, occupation, consumption, financial stability, relationship and criminality. Using the STEP skill survey 2012 from World Bank, this paper extent concept of delay of gratification and self-employment, applied Probit and Logit to investigate whether and how delay of gratification affect probability of engaging in self-employment; furthermore, examine whether and how delay gratification affect business performance of self-employment by applying Tobit model.

Finding indicated that individual who got married and used to married was found greater probability of being self-employed, especially women. The individual who live in Vientiane capital has lowest opportunity to engage in self-employment and the probability of self-employment is greatest in rural area. Interestingly, more educated individual is less likely to engage in self-employment. In addition, individual with high score of reading has less probability to be self-employed and individual with low, middle score of calculating skill is more likely to engage in self-employment. Surprisingly, the delay gratification score is negatively and statistically significant with the probability of engaging in self-employment, it implies that individual with higher delay gratification is less likely to be self-employed.

Furthermore, the result indicates that women self-employed is likely to earn more than men in the self-employment business, the net profit of business increase with increasing level of education particularly, self-employed those educated lower secondary school and higher. The size of the business also matters for the business performance, larger size of business increases greater net profit; in addition, the self-employment business in the agricultural sector has lowest business performance,

beside that using family fund in the business has lower net profit than debt financing. One interesting finding is that delay gratification was found positively and statistically significant with the business performance of self-employment business, especially those who has high score of delay gratification. Moreover, the cognitive skill like writing and numeracy skill of self-employed was found positively associated with net profit of the business.

To summarize, less of education and necessary skills, especially delay of gratification makes them engage in self-employment. However, finding also indicated that higher education and skills, particularly high delay of gratification was found supported for Lao business performance.

Base on this finding, it is crucial that Lao government should support the policy that helps strengthening both cognitive and non-cognitive, along with the education. Delay gratification should be originally promoted early from children by family, school, and government especially, encouraging special activities that involve emotional, behavioral skills learning and practice for children. For instant promoting religious learning like meditation that might boost up their ability of delayed gratification. Moreover, support skill training both basic and job relevant skills, promotes business experience exchange for self-employment by creating an organization that provide guideline, information and advice for self-employment.

Nevertheless, analysis from this article still shows some weak points. Firstly, the STEP data on self-employment is quite less to represent the entire self-employed in the country, limited variable like parent's characteristic, working hour and less representative from industry and service sector. Secondly, there is no clear measurement of delay gratification, they used only hypothesis money. Thirdly, limited study to support the effect of delay gratification on business performance. The author suggests that future research conduct with a larger national representative and richer data regarding self-employed in industries and service such as working hour, measure intensity of delay gratification. It is quite interesting to further study delay gratification along with the grit on the business performance.

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