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Adaptability of SMEs in production sector in Chiang Mai to the 300 Baht wage policy

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ABSTRACT

The study of analysis of factors affecting the adaptive capacity of SME entrepreneurs in production sector in Chiang Mai province towards the 300 baht aims to examine the adaptive capacity levels of entrepreneurs towards minimum wage policy and also aims to investigate the factors affected by the minimum wage policy. The research instrument is questionnaire collected from 400SME entrepreneurs in Chiang Mai. Ordered Logit model and Marginal Effect have been employed to analyze the factors affecting the minimum wage policy on entrepreneur's adaptive capacity.

The result shows the adaptive capacity levels affecting the entrepreneurs, most in high level such as higher wage, higher raw material higher transportation lower profit. The factors that affect the entrepreneur's adaptive capacity for reducing cost are sex, age marriage status, level of business and period in business operation. The factors that affect this section are higher transportation, higher wage, higher raw material, lower profit. The factors that affect the entrepreneur's adaptive capacity for product are age marriage status, source of fund, education level. The factors that affect this section are higher wage and higher raw material. The factors that affect the entrepreneur's adaptive capacity for business development are sex and marriage status. The factors that affect this section are higher transportation, higher wage, higher raw material, lower profit. The factors that affect the entrepreneur's adaptive capacity for marketing are sex, age and period in business operation. The factors that affect this section are higher transportation and higher raw material. All factors above can affect SMEs entrepreneur's adaptive capacity from minimum wage policy operation. The factors that affect this section are higher transportation and higher raw material. All factors above can be effect SMEs entrepreneur's adaptive capacity from minimum wage policy.

Keywords: Adaptability of enterprise, SMEs, wage policy

1. Introduction

Chiang Mai is mostly important in Economic and tourism term. Investors are interesting in to invest not only in properties, tourism and hotel business, and department stores but also in productive industry sector. Repidly Economic Growth in Chiang Mai, Gross Province Product (GPP) was observed around 138,114 million baht. The highest proportion of GPP is agricultural sector 25,343 million baht. The secondary highest proportions in GPP are wholesale, retail and service sector around 20,899 million baht. Manufacturing values are 16,891 million. Fishery is smallest proportion around 259 million baht. In SMEs View, There are 27,817 entrepreneurs enrolled in sector especially wholesale, retail and service sectors which are register 9,929 entrepreneurs. Manufacturing. Forth rank around 2,723 entrepreneurs in system are smaller than property and construction sectors (Office of Commerce ,Chiang Mai,2012).

From enrollment of SMEs in Chiang Mai, we found that forth rank is Manufacturing sector which 2,723 entrepreneurs confirmed us that there are higher employment rate than other sectors. It certainly affected Manufacting sector if the minimum wage increase to 300 baht per day. There is doubt that if Chiang Mai government sector announce increasing minimum wage to 300 baht per day agreement how can it affect SMEs entrepreneurs. This study observes by using questionaires to effect and factors of entrepreneurs adaptation from increasing minimum wage policy.

This paper achieves two goals :To study the level of increasing minimum wage effect to 300 baht per day in Chiang Mai affected on SEMs , Entrepreneurs. Second, to study factors of affecting the opportunity of adaptation of SMEs in production sector in Chiang Mai Province to the 300 baht minimum wage policy.

In this study, there are two kinds of economic indicator to observe the SMEs manufacturing Entrepreneurs adaptation. Demographic ex. Sex, age, status, education, size of business, source of fund and length of work factors. Effective factor ex. higher wage, higher productive, higher material price which were affected by higher wage in industry,higher cost in transport goods and decreasing ability to make profit.

2. Literature review

Dilaka Lathapipat) 2012(Studied the impact of the minimum wage policy on the employment of the inequality and hours of operation. The purpose of the study. To study the impact of the minimum wage workers by age between 15-65 years with a high school education or less only. And by age group between 14-24 years and 56-65 eye years. By studying the impact on wages inequality and wage labor. Effect on employment. Participation in the labor force and labor mobility between sectors. Effect on labor mobility between manufacturing formal sector and informal sector. And the impact on utilization hours per week. In the framework of the research. The strong effects of the minimum wage on wages and inequality in the wages of workers using the research framework of Autor, Manning, and smith (2010), which was developed by Lee (1999) and in part the effects of the adjustment of the minimum wage on employment. Participation in the labor force. Working hours per week as a whole. And by the manufacturing sector. Using the research framework of the Sabia (2009), and Allegretto, Dube, and Reich (2011). The results showed that the action has no effect on wages significantly to total employment for low-skilled workers between the ages of 15-

65 years, but considering the mobility of labor between the production. Found that the proportion of employment in the private sector, particularly workers from 10 to 99 decreased significantly. Labor is the main driver for the age group 25-55 years, A significant portion to 76% in 2010 for abusive labor mobility among young workers (aged 15-24 years), and the results. impact on the manufacturing sector of the labor force aged no statistical significance.

Somsajee Siksamat (2011) Studied the effects of the minimum wage to 300 baht for the purpose . 1) examine the appropriateness or adequacy of the minimum wage rate in the dimensions of the resolve or alleviate poverty and fairness . 2) To study the impact of the rate hike the minimum wage a jump to 300 baht , were renowned in the developed model economy general equilibrium (General Equilibrium Model) for use as a tool . analyze and respond to the impact of the aid to be analyzed down to the industry (Industry level) and the overall 3) Design alternative policy (Designed policy option) to reduce the negative effect of increasing the rate . minimum wage a jump and comment policy is based on the results of the research study was to develop a Computable General Equilibrium (CGE) model , which is called a General Equilibrium Model-55-Sector or GEM55 to use a calculator . the magnitude and direction of the effect of the increase in the minimum wage due to the use of CGE model because the model family , which helps to analyze the impact of Shock or policies that affect the economy on a macro (Macro level.) can also be analyzed down to the level of the industry (Industry level) as well as the other economies such as consumers and investors, The model CGE can also explain the behavior changes under the operation of market forces make Price can change and help all markets are in equilibrium results from GEM55 found that increasing the minimum wage is to increase production costs and result in continuing to prices of other goods and employment , which will be submitted. the GDP is Real GDP is lower than normal (Baseline) 1.7% and inflation increased by 1 %, the industry has high impact , including the production of plastic products, textiles , primarily steel products and forestry products , shoes and apparel . body, while the service sector and agriculture affected descending down . In this study also points to the impact that the increase in scale of the minimum wage as a jump may result in the termination of employment in businesses with low profits and bear the cost. increased not the analysis in this industry will be helpful to find ways to alleviate or ameliorate the effects of the industry to meet the facts by the results (Simulation results) of S2 and S3 allows you to channel healing if needed. to raise wages as a jump like this, it must increase labor productivity up 8 percent , or to improve the overall efficiency of production to rise 2.5 percent, or a combination of both approaches , which is very promising . productivity and competitiveness of the country in the long run .

Jeeranun Khermkhan and Surachai Chancharat (2009) Studied the application of the model .Logit and Probit models to predict the failure of small and medium enterprises in the Northeast of Thailand. In this study with the aim to study and test the feasibility and accuracy of models in predicting the financial failure . Study of small and medium enterprises in the Northeast of Thailand. Secondary data collected in fiscal years 2007and 2008 to test failures that occurred in the year 2009, using a sample of 400 companies split into two groups. Group companies and joint ventures failed 200 to 200, the Company performed the statistical methods used for data analysis. Classification models and multivariate logit and Probit model as a way to be recognized internationally. From the test results, the logistic model in predicting the failure of small

and medium enterprises , which is 90.3 percent more efficient model -bit processing and the classification of several variables. And able to accurately forecast the failure in the first year, the business will fail.

3.Methodologies

The questions covered in the survey include:

1) The demographic information including gender, age, education level, size of business(measure from quantity of labour), source of funds and Length of work by using Likert Scale, Percentage.

2) The level of effects from increasing minimum wage policy including cost in higher wage, higher production cost, higher cost in transport goods and decreasing ability to make profit by using Likert Scale, Percentage.

3) Entrepreneurs adjustment from 300 baht per day increased minimum wage policy in Chiang Mai are composed with –Cost Adjustment –Product Adjustment –Business Potential Adjustment and Marketing Adjustment by using Likert Scale, Ordered Logit and Marginal Effect

Ordered Logit

Suppose the underlying process to be characterized is

$$Y_i = x'\beta + \varepsilon \quad (1)$$

Where Y_i is Entrepreneurs adjustment they are divided in 5 levels

Which $Y_i = 1$ entrepreneurs cannot adjusted.

$Y_i = 2$ entrepreneurs adjusted.in poor level.

$Y_i = 3$ entrepreneurs adjusted.in fair level.

$Y_i = 4$ entrepreneurs adjusted.in good level.

$Y_i = 5$ entrepreneurs adjusted.in well level

x' is Effect factors.

β is Parameter

and ε is Error term

Then, we analyze risk in Ordered Logit Model in 5 levels (Suriya, 2009)

Suppose the underlying process to be characterized are

$$Y_i = 1 \text{ if } y^* \leq 0 \; ; \; Pr(Y_i=0 \mid X) = \Phi(-x'\beta) \quad (2)$$

$$Y_i = 2 \text{ if } 0 < y^* \leq \mu_1 \; ; \; Pr(Y_i=1 \mid X) = \Phi(\mu_1 - x'\beta) - \Phi(-x'\beta) \quad (3)$$

$$Y_i = 3 \text{ if } \mu_1 < y^* \leq \mu_2 \; ; \; Pr(Y_i=2 \mid X) = \Phi(\mu_2 - x'\beta) - \Phi(\mu_1 - x'\beta) \quad (4)$$

$$Y_i = 4 \text{ if } \mu_2 < y^* \leq \mu_3 \; ; \; Pr(Y_i=3 \mid X) = \Phi(\mu_3 - x'\beta) - \Phi(\mu_2 - x'\beta) \quad (5)$$

$$Y_i = 5 \text{ if } \mu_3 < y^* \leq \mu_4 \; ; \; Pr(Y_i=4 \mid X) = \Phi(\mu_4 - x'\beta) - \Phi(\mu_3 - x'\beta) \quad (6)$$

Where y* is latent variables of Y in model.

μ is random variables

Then adjustment levels by using Marginal Effects suppose the underlying process to characterized are

$$\text{Marginal Effect } (Y_i=1) = \frac{\partial \Pr(Y_i = 1)}{\partial x} \quad (7)$$

$$\text{Marginal Effect } (Y_i=2) = \frac{\partial \Pr(Y_i = 2)}{\partial x} \quad (8)$$

$$\text{Marginal Effect } (Y_i=3) = \frac{\partial \Pr(Y_i = 3)}{\partial x} \quad (9)$$

$$\text{Marginal Effect } (Y_i=4) = \frac{\partial \Pr(Y_i = 4)}{\partial x} \quad (10)$$

$$\text{Marginal Effect } (Y_i=5) = \frac{\partial \Pr(Y_i = 5)}{\partial x} \quad (11)$$

4. The Data

The target population for the survey was 400 entrepreneurs in the field of SMEs entrepreneurs in Chiang Mai by using Sample random Sampling .(Yamane,1967 (The field of questionnaires are 5 places especially Mueng, Sankompang, Hangdong, Sarapee and Sansai district.

5. Empirical results

1) The demographic information

The results of data analysis, general business entrepreneurs SMEs in Chiang Mai, 220 people, mostly male (55 percent) were aged between 31-45 years, 232 patients (58 percent), most of the status. 212 married people (53 percent) in the education level of the entrepreneur. Most are 257 undergraduate students.(Percentage 64.25) for the size of the business, which measure the number of workers in the business, 319 entrepreneurs with labor not exceeding 50 (percentage 79.25) mainly use private capital investment. number 253(63.25 percent) and duration of operation more than five years, with 231 cases (57.25 percent).

2) The level of effects from increasing minimum wage policy

The study sample from 400 entrepreneurs SMEs in Chiang Mai found that the impact of the burden of higher wages. Entrepreneurs are affected to a large extent. Accounted for 91.75 percent. The impact of higher production costs. Entrepreneurs are affected to a large extent accounted for 92.75 percent. The impact of raw materials used to produce higher. Entrepreneurs are affected to a large extent accounted for 91.75 percent. The impact of higher transport Entrepreneurs are affected to a large extent. 67.5 percent. And the result of a decrease in the profitability of the business were 88.5 percent at the affected level.

3) Analysis of affecting the opportunity of adaptability of adaptation of SMEs

The results of the analysis with Ordered Logit Model. Factors that can affect the adaptation of enterprises SMEs in each of the following.

- Cost Adjustment

Factors that affect the opportunity of adjustment of entrepreneurs by reducing the number of employees at the 90 percent confidence level. The Demographic information on the sex, age and status of the entrepreneurs. The impact factor of the entrepreneurs, including the impact of increased transport costs. While the factors that affect the opportunity of the adaptive capacity of enterprises by the supply of foreign workers to be paid wages at rates lower than government employees. The Demographic information, including gender and the impact of factors, including households. Affected by the burden of higher wages. The factors that affect the opportunity of adjustment of entrepreneurs by providing employees increased. The Demographic, including gender and size of the business entrepreneurs. The factors include the impact of entrepreneurs. The impact of the burden of the increased wages. The impact of higher production costs and the impact of the decline in profitability. The factors that affect the opportunity of adjustment of entrepreneurs by reducing employee benefits.

The Demographic information that does not affect the adaptability of enterprises. While the impact of such entrepreneurs. The impact of increased transport costs. The factors that affect the opportunity of adjustment of entrepreneurs to switch from work to be paid for a work or piece. The Demographic information on the sex, age and size of the business entrepreneurs. Factors impact the effect of entrepreneurs such as affected by the ability to make a lower profit. The factors that affect the adaptation of enterprises by hoarding goods, while the price has not increased. In demographic information no factors affecting adaptation of the enterprise.The factors include the impact of entrepreneurs. The impact of higher production costs. And the impact of the decline in profitability. And factors affecting the adaptive capacity of entrepreneurs by creating a network of partners to increase investment or funding for wage increases. Of the factors in the information age, and duration of operation of enterprises. The factors include the impact of entrepreneurs. The impact of higher raw material prices. And the impact of the decline in profitability

-Product Adjustment

Production adaptation Factors that affect the opportunity of Entrepreneur is to increase the price and services in order to compensate the increasing cost at the significant level of 90. The Demographic factor are Age, Source of fund of Entrepreneurship. Factor that affect Entrepreneur are affect from higher wage level and higher cost of production. The factor that affect the opportunity of Entrepreneur by developing the quality of goods and services in order to increase the sale. Factor that affect the Demographic factor are Age, level of education. Factor that affect the Entrepreneur are affect from higher cost of production and at the end of production adaptive capacity that affect the opportunity of entrepreneur by decreasing the cost of production, factors that affect the opportunity of the adaptive capacity of entrepreneur in Demographic information are Age, Status and level of education. The factor affect of entrepreneur does not affect the adaptive capacity of the entrepreneur.

-Business Potential Adjustment

Adaptive capacity in the development of the business. Factor that affect the opportunity of entrepreneur's adaptive capacity in the development of the business by developing the cost management and financial management efficiently. At the level of confidence at 90, The Demographic information showed that none of the factor affected

the entrepreneur while the factor that affected the entrepreneur are the higher wage rate and higher cost of production. The factor that affect the opportunity of the entrepreneur by using Technologies instead of employment, the Demographic factors are age and status of entrepreneur. The factor affect the entrepreneur are the higher cost of production and the higher cost of transportation. Factors that affect the opportunity of entrepreneur's adaptation by developing cost management and financial management efficiently. Demographic information has no affect on adaptation of entrepreneur. The affect of entrepreneur is higher cost of raw material.

-Marketing Adjustment

Factor that affect the opportunity of entrepreneur adaptation by finding sources of fund in order to support the higher wage rate at the confidence level of 90. The Demographic factors is age. The affect of entrepreneur are affect from the higher cost of transportation. Factor that affect the opportunity of entrepreneur adaptation by investing on technology instead of employment, the Demographic factor are age and period of operation. The factor that affect the entrepreneur are higher cost of production. Factor that affect opportunity of entrepreneur adaptation by increasing the investment in order to develop the product to increase its value are gender and age. The affect of entrepreneur has no affect on the entrepreneur.

Table1: The factors that affect the opportunity of the adaptation of enterprises in various fields.

Factor affecting the Opportunity of adaptation of entrepreneurs	**Coefficient**	**Z**	**p>|Z|**
Opportunity to adapt by reducing the number of employees.			
-Gender	.-4616906	-2.39	0.017*
-Age	.033351	2.63	0.009*
-Status	.-3326275	-2.50	0.012*
- The impact of increased transport costs.	.2845129	2.17	0.030*
Adaptation by providing opportunities to pay workers less than the federal government.			
- Gender	.-4919949	-2.50	0.012*
- Affected by the burden of higher wages.	.4246555	2.04	0.041*
Opportunity to adjust by reducing welfare.			
- the impact of increased transport costs.	.2817051	2.17	0.030*
Opportunity to adapt by changing the routine work of the subcontract work.			
- Gender	.-3477745	-1.80	0.072*
- Age	.-0216269	-1.74	0.083*
- Size of business	.-4998624	1.87	0.061*
- Affected by the decreasing profitability of the business.	.300254	1.88	0.060*

Factor affecting the Opportunity of adaptation of entrepreneurs	**Coefficient**	**Z**	**p>|Z|**
Opportunity to adapt by hoarding a trade while the price has not increased.			
- The impact of higher production costs.	.6245805	3.06	0.002*
- Affected by the decreasing profitability of the business.	.6349411	4.04	0.000*
Opportunity to adapt by creating a network investment to support higher wages.			
-Gender	.-0383708	-2.96	0.003*
- Period of operation.	.5086623	2.24	0.025*
- The impact of higher raw material prices.	.3472509	1.91	0.056*
- Affected by the decreasing profitability of the business.	.3486619	2.23	0.026*
Opportunity to adapt by increasing prices of goods and services to offset the cost increase			
- Age	.-0375898	-2.98	0.003*
- Source of fund	.3943198	1.87	0.062*
- Affected by the burden of higher wages.	.545746	2.70	0.007*
- The impact of higher production costs.	.3582215	1.79	0.074*

Table1: The factors that affect the opportunity of the adaptation of enterprises in various fields. (cont.)

Factor affecting the Opportunity of adaptation of entrepreneurs	**Coefficient**	**Z**	**p>|Z|**
Opportunity to adapt by developing quality products and services to increase sales.			
- Age	.-0438452	-3.32	0.001*
- Education	.3032682	1.79	0.073*
- Source of fund	.-4975435	-2.27	0.023*
- The impact of higher production costs	.5989683	2.85	0.004*
Opportunity to adapt by reducing product costs and operations.			
-Age	-.0484327	-3.79	0.00*
-Status	.3096032	2.30	0.022*
-Education	-.4223895	-2.55	0.011*
Opportunity of adaptation to manage the cost and financial management to be effective			
- Affected by the burden of higher wages.	.3586745	1.77	0.077*
- The impact of higher production costs.	.3580729	1.75	0.079*

Factor affecting the Opportunity of adaptation of entrepreneurs	**Coefficient**	**Z**	**p>|Z|**
Opportunities of adaptation by technology used to replace employment.			
-Age	-.0223856	-1.77	0.076*
-Education	-.3197999	-1.93	0.053*
-The impact of higher production costs.	.5178245	2.61	0.009*
-The impact of increased transport costs.	-.3020027	-2.32	0.020*
Opportunity to adapt to the development of a quality workforce.			
- The impact of higher raw material prices.	-.3437363	-1.86	0.063*
Opportunity to adapt by finding additional funding sources to support higher wages.			
-Age	-.0405176	-3.14	0.002*
- The impact of increased transport costs.	.2932375	2.25	0.024*
Opportunity to adapt by investing in technology to replace employment.			
-Age	-.0351418	-2.76	0.006*
-Period of operation.	.3881124	1.76	0.079*
-The impact of higher production costs.	.3513013	1.71	0.087*
Opportunity to adapt by increasing investment to develop value-added products.			
-Gender	.3852321	1.93	0.054*
-Age	-.0329067	-2.54	0.011*

Source: calculation

* = having significance level of α = 0.10 or having confidence level of 90%

6. Conclusions and policy suggestions

The results of the study on adaptive capacity of SME entrepreneurs towards the minimum wage policy 300 baht show that the impact on households is enormous and make adjustments in areas of entrepreneurship whether adaptation by reducing the number of employees reducing welfare or any other factors are all the results of the gradual increase in the wage. The government should provide assistance to entrepreneurs who have been outstanding in producing increased dramatically. There should be a concrete way of helping SME businesses in order to minimize the impact. Of course, if the operator is unable to bear the higher wages and have to close down, this will affect the broader economy because business for SMEs bears large portion of employment and the level of wage is relatively less flexible. The well-being in the economy of the country largely relies on SMEs as a economic driven engine. Therefore, the relevant agencies should come to rescue these SMEs by guiding the entrepreneurs

who have to bear the burden of higher wages. Of course, that is an approach that can help both parties, whether it is in support of an entrepreneur or an employee to improve the country's business, SMEs to be more competitive with other countries more stable and sustainable.

6.1 Limitations of the research.

Since in this study. Collected data of the SMEs in the manufacturing sector of Chiang Mai, 400 who were faced with a problem. Such as access operators must take the time to understand the research questions. And to cooperate in providing information on data operators can not provide data. As this may affect the operations and responsibilities within a business, it is essential to take the time to explain that the information collected from each entrepreneurs will be kept confidential and will be used to analyze the overall adaptive capacity. Besides, this study focuses solely in the manufacturing sector that cannot be used to imply an overview of the business, including the SMEs in several sectors such as the service sector, trade maintenance, tourism and hotel management.

6.2 Guidelines for future research

To provide education about the factors affecting the adaptive capacity of SMEs in more comprehensive details. For future study, in order to understand the adaptive capacity, the study should focus SMEs in other sectors to help understand adaptive capacity in the large scale. Furthermore, the study should included the other to provide a more comprehensive study of this research, including other reliable and more effective theories to support the research. In addition, the study may specify case study on particular issues in order to strengthen the development of SMEs and labor system of the country.

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