The minimum wage change effect to the household saving
between 2011 and 2013

Mr. Soraphong Smitintu

ศึกษาผลกระทบของการเปลี่ยนแปลงค่าแรงขั้นต่ำที่กระทบต่อการออมของครัวเรือนในระหว่างปี
2011 ถึง 2013

นายสรพงษ์ สมิตินทุ

Independent Study Title	The minimum wage change effect to the household saving between 2011 and 2013
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Field of Study	Applied Economics
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Accepted by the FACULTY OF ECONOMICS, Chulalongkorn University in Partial Fulfillment of the Requirement for the Master of Arts

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สรพงษ์ สมิตินทุ : ศึกษาผลกระทบของการเปลี่ยนแปลงค่าแรงขั้นต่ำที่กระทบต่อการออมของครัวเรือนในระหว่าง ปี 2011 ถึง 2013. (The minimum wage change effect to the household saving between 2011 and 2013) อ.ที่ปรึกษาหลัก : รศ. ดร.เจสสิกา แมรี่ เวชบรรยงรัตน์

กฎหมายค่าจ้างขั้นต่ำของประเทศไทยเปลี่ยนจากการกำหนดค่าจ้างขั้นต่ำในรายจังหวัดไปสู่ค่าจ้างขั้นต่ำเท่ากันทั้งประเทศในปี 2013 รายงานการศึกษาฉบับนี้วิเคราะห์ความสัมพันธ์ระหว่างการเปลี่ยนแปลงค่าจ้างขั้นต่ำและการออมของครัวเรือนที่มีรายได้ต่ำโดยใช้การวิเคราะห์เชิงปริมาณประมาณด้วยค่าสมการถดถอยเชิงซ้อนด้วยวิธีกำลังสองน้อยที่สุดจากการใช้ข้อมูลตัวอย่างจากสำรวจภาวะเศรษฐกิจและสังคมของครัวเรือนในปี 2013จากสำรวจ โดยสำนักงานสถิติแห่งชาติ นิยามของการออมของครัวเรือนคือรายได้รายเดือนโดยเฉลี่ยต่อบ้านลบด้วยค่าใช้จ่ายรายเดือนรายเดือน ต่อมาการพิจารณากลุ่มครัวเรือนที่มีรายได้ต่ำซึ่งหัวหน้าครอบครัวต้องมีอายุตั้งแต่ 18 ถึง 60 ปี มีวุฒิการศึกษาต่ำกว่าหรือเท่ากับการศึกษาขั้นพื้นฐานและมีรายได้รายเดือนเฉลี่ยต่อคนน้อยกว่าหรือเทียบเท่ากับเปอร์เซ็นไทล์ที่ 40 ผลลัพธ์จากรายงานฉบับนี้แสดงให้เห็นถึงค่าจ้างขั้นต่ำมีความสัมพันธ์เชิงบวกอย่างมีนัยสำคัญทางสถิติกับการออมของครัวเรือนที่มีรายได้ต่ำ

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ปีการศึกษา	2565	ลายมือชื่อ อ.ที่ปรึกษาหลัก ....

6584091829 : MAJOR APPLIED ECONOMICS
KEYWOR
D:
low-income household minimum wage saving

Soraphong Smitintu : The minimum wage change effect to the household saving between 2011 and 2013. Advisor: Assoc. Prof. JESSICA MARY VECHBANYONGRATANA, Ph.D.

In 2013, Thailand's minimum wage legislation change from multiple minimum wage levels in each province to a single national minimum wage. This study paper presents analyses of the relationship between the minimum wage change and low-income household savings. By using ordinary least square regression analysis. Sample data by Household Socio-economic survey in 2013 from National Statistical Office. The household saving is average monthly total income per household minus average monthly total expenditures per household. For a household to be considered as a low-income household, the household head must be between the ages of 18 and 60, have completed less than or equal to the compulsory education, and have a per capita average monthly income that is less than or equal to the 40th percentile. The econometric result shows that minimum wage has a statistically significant positive relationship with low-income household saving.

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Field of Study:	Applied Economics	Student's Signature	....
Academic Year:	2022	Advisor's Signature	....

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INTRODUCTION

During the general election in July 2011, Pheu Thai Party won the election by announcing the minimum wage policy increasing 300 baht for the entire country. Blue-collar employees, such as those who work in manufacturing, construction, and warehousing, as well as agriculture and low-income households, are the Pheu Thai Party's target voters, particularly in the North and Northeast regions of Thailand. Minimum wage in Thailand start in 1973, for the first time, the Ministry of Interior announced a minimum wage for four provinces, namely Bangkok, Samut Prakan, Nonthaburi, and Pathum Thani, according to the national labor research center Thammasat university research and consultancy institute (2004). Government involvement after winning the election on 1 April 2012, the minimum wage policy will be implemented in Bangkok Metropolitan Region, Phuket, and entries country on 20 November 2012.

According to Mankiw (2014),"minimum wage laws dictate the lowest price for labor that any employer may pay." Therefore, the minimum wage is a price floor for the labor received. With the Fair Labor Standards Act of 1938, the U.S. Congress first established a minimum wage. This policy changes the minimum wage in each province of Thailand from different minimum wages to a single minimum wage of 300 baht for every province in Thailand, According to Lathapipat and Poggi (2016) called "From many to one minimum wage effect in Thailand" Phayao, for example, had the lowest minimum wage in Thailand at the time, around 159 baht per day, an

increase of 88.68 percent, Bangkok had increase lowest minimum wage change around 39.53 percent and the the national average was increase around 71.83 percent.

Figure 1 : From many to one minimum wage change in Thailand between 1987 and 2013
(Lathapipat and Poggi 2016)

In this study, we will examine how changes in the minimum wage affect the savings of low-income households. Using cross-sectional data set the Household Socio-economic Survey 2013 provided by the National Statistical Office. In this sample set, there are 42,738 households. (National Statistical Office of Thailand 2020) Household Socio-economic survey defines as "the excess of income over expenditure on necessary items for daily life" as well as Alamgir (1976) "saving as the excess of current income over current consumption expenditure" In 2011, according to Vansuriya (2023).The average household saving was 6,254 baht in 2012, which increased to 6,437 baht, or 2.93 percent, in 2013. According to Hansri (2015) show that Thai agricultural households' savings represent a household in which the average monthly income per person is less than 15,000 baht is divided into four distinct categories. First group is less than 5,000 baht with approximately 73.36 percent, second group is 5,001-10,000 baht with approximately 71.72 percent, third

group is 10,001-15,000 baht with only 3.13 percent, and fourth group is more than 15,000 baht with approximately 3.76 percent (see in figure 2).
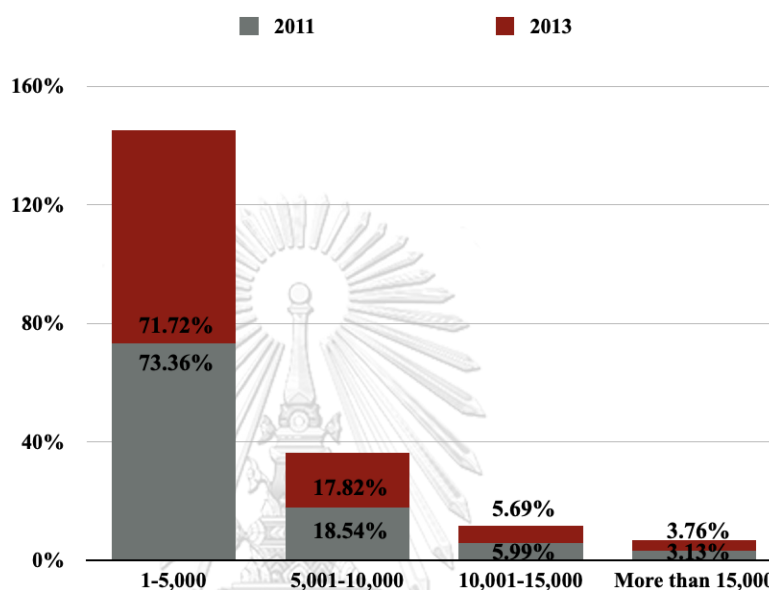

Figure 2 The average agricultural household saving in 2011 and 2013
(Hansri 2015)

The objective of this study measures the relationship between the minimum wage increase affect and saving in low-income households. We predicted that the minimum wage change coefficient would have a positive relationship with household savings as dependent variables. According to Katona (1949) Those whose incomes increased will not increase their consumption proportional and will therefore save the largest amounts. The scope of this study using ordinary least square (OLS) regression analysis with reference to Ceritoğlu (2013) use OLS regression in income risk and household saving and for this topic the minimum wage change in 2011 and 2013 affects low-income household savings is to study the effect of minimum wage change on low-income household savings. The definition of a low-income household is based

on the age of the household head between 18 and 60 years old, their education level being below or equal to that of compulsory education, and their average monthly income per capita at or below the 40th percentile of the sample of household survey. The relationship between low-income household saving and minimum wage change in 2011 and 2013 using SES data is the contribution in this paper. The second section of this paper is a literature review of saving and minimum wage in developing countries and Thailand; the third section is the methodology; the fourth section is the econometric results; and the fifth and final sections are the discussion and conclusion.

LITERATURE REVIEW

According to Aidoo-Mensah (2018) said about the Keynesian saving theory and the non-Keynesian saving theory explain the saving and income relationships among households. Keynesian saving theories claim that disposable income (income after taxes) is the factor that determines saving, implying that a positive relationship between disposable income and saving. And non-Keynesian is permanent income hypothesis according to Carroll (2001) The hypothesis establishes a relationship between a household consumption and its anticipated long-term average income. The expected long-term income is viewed as the amount of permanent income that can be securely spent by the household. To protect against income declines in the future, a household will only save if its current income exceeds its expected permanent income.

According to Ceritoğlu (2013) measured the effect of income risk on household savings utilizing household Budget surveys from 2003 to 2009 collected by the Turkish Statistical Institute (TURKSTAT) under the precautionary saving hypothesis. The result show that a positive relationship between permanent income and household savings. Following Guariglia and Kim (2003) measure wage uncertainly to test the precautionary saving hypothesis as income risk on households saving in Russia, using the Russian Longitudinal Monitoring Survey from 1994,1995,1996 and 1998. The result show that household in Russia support the precautionary saving and has strategies to second employment to prevent income risk on household saving.

Aaronson, Agarwal et al. (2012) found that as the minimum wage increases, so do expenditures on durable goods. This paper demonstrates that households receiving minimum wage prior to a minimum wage increase experience an increase in consumption, a rise in debt due to the purchase of durable goods, and a need to borrow money.

In case of Thailand, previous research on minimum wage and low-income household by Durongkaveroj (2017). This paper uses data from the household socio-economic survey in 2013 collected by the national statistical office (NSO) and divided group of households by poverty line by Thailand's National Economic and Social Development Board (NESDB) that household consumption expenditure below 2,572 baht per month as poor household and above 2,572 baht per month as non-poor household. This paper investigates two research questions. The first research question is whether the poor benefit positively or negatively from the minimum wage

adjustment, and the second research question is whether most of the poor's increased income is spent on food. We find that a significant increase in the minimum wage has no statistically significant effect on employment, and it is interesting to note that the ratio of food expenditure to the minimum wage increase is not high. However, this result indicates a significant increase in the poor household expenditure, particularly on non-consumption goods and services, and no statistically significant increase in debt repayment.

METHODOLOGY

In this study use the Household Socio-economic survey (SES) collected by The National Statistical Office (NSO) between 2013. This survey is conducted annually using a questionnaire to collect information on household members and expenditures. The objective of this survey is collected about the economics and social of the household such as a summary of household information, housing characteristics, expenditure on goods and services, expenditure on beverage and tobacco and income during the past 12 months.

The focus of this paper is the minimum wage for low-income households. The sample consists of individuals aged 18 to 60 who are employed and of working age, as determined by the head of household. Excluded from the sample size in SES are housewives, students, children, and the elderly, as well as those who are unable to work due to illness or disability, are retired, or cannot identify their occupation type. Within the scope of the sample, the education level of household head is equivalent to or lower than the minimum level required by legislation.

In Thailand, students are required to attend school for nine years, getting started with elementary school year 1 to year 6 (Prathom 1 to 6) and lower secondary school grade 7 to grade 9 or in Thai, Matthayom 1 to 3(Office of the Education Council 2017).This includes 6 years of elementary school and 3 years of lower secondary education. According to Sani, Rahman et al. (2018), low-income households are comprised of three groups: the top 20%, the middle 40%, and the bottom 40%. In this sample set select bottom 40 percentile of average monthly total income per capita below or equal 5,952 baht is for low-income households.

A dependent variable is household saving. According to National Statistical Office of Thailand (2020) defines household saving the excess of income over expenditure on necessary items for daily life. The remaining and unspent income constituted saving. So, we define household saving as average monthly total income per household minus average monthly total expenditures per household.

As independent variables, we have the difference in minimum wage between 2011 and 2013, and as a second explanatory variable, we have the income per capita as measured by the average monthly total income of household members. The household characteristics categories include the number of children under the age 15 in the household as dummy variables, with a value of zero if the household head does not have children and a value of one if the household head is have children. the marital status of the head of the household as dummy variables if the head of the household is married as one and otherwise as zero include single, divorced, separated, and marriage but unknown status, and if the head is married, the value is one. Education household head are under compulsory education or lower second year 3

(Matthayom 3) equals zero, while a group of households with a higher than compulsory education level equals one. Area of household live are urban as municipal area equals zero and household live in outside urban as non-municipal area equals one, the region where household live in Thailand is divided into 5 regions as Bangkok, Central, North, Northeast, and South (See Table1).

Table 1 Descriptive variables

Variables	Description
Difference in minimum wage	The difference minimum wage between 2011 and 2013
Income percapital	Per capital average monthly income
Number of Children	Children under 15 years
No child	= 0 if household no child (base group)
1-8 children	= 1 if household has children
Marital status	
Otherwise	= 0 if household head is Never married, Widowed, Divorced, Separated and Married but unknown status (base group)
Marriage	= 1 if household head is marriage
Education	
Compuslory education	= 0 if household head is under or graudaute compulsory education (base group)
Higher than compulsory education	= 1 if household head is graduate higher than compulsory education
Area	
Municipal areas	= 0 if household live in municipal area (base group)
Non-Municipal areas	= 1 if household live in non-municipal area
Region	
Bangkok	Base group = 0
Central	= 1 if household live in central region
North	= 1 if household live in north region
Northeast	= 1 if household live in northeast region
South	= 1 if household live in south region

Empirical methods

Previous research on household saving. The equation on measures the saving

using.

$$S_h = \alpha_0 + \beta Y_h^p + \lambda U_h + \sum_{K=1}^{k} v_k Z_h + U_h$$

According to Ceritoğlu (2013) The variables of S_h is household saving, h is

household level. Y_h^p is the estimation of the permanent component of household

head's income, for the second variables U_h is the approximation of the household

head's labor income risk and Z_h is household characteristics.

Our model

$$\begin{aligned} lnS_{h2013} = {} & \beta_0 + \beta_1 \Delta MW_j + \beta_2 PC\ HH\ inc + \ \beta_3\ children + \beta_4\ Marital\ status \\ & + \beta_5\ Edu\ of\ HH + \beta_6 Area + \beta_7\ central + \beta_8\ North\ + \beta_9\ north\ east \\ & + \beta_{10}\ south + \varepsilon_h \end{aligned}$$

The dependent variable (lnS_{h2013}) is the natural log of household saving in

2013, based on the difference between the average monthly total income and the

average monthly total expenditures. The natural log of this variable is applied to

ensure its distribution is normal. (See figure 5). h , which is low-income household

level. The independent variables are ΔMW_j which represents the difference between

the minimum wage in 2011 and 2013 and j, which represents the province of the

household (See appendix 1). PC HH inc is the average monthly income per capita.

Children are dummy variable for whether a household has children or not. Marital

status dummy variable indicates whether a household is married or non-marriage. Edu

of HH is a dummy variable indicating whether the household head's education is less than or equal to the compulsory level and greater than the compulsory level. Area in which a household lives as dummy variables are municipal areas and non-municipal areas. The final variable is the region, which is divided into five categories: central, north, northeast, and south, with Bangkok serving as the base and ε_h is error term.

RESULT

Table 2 Descriptive statistics of household head

| Table 2	Descrptive Statistics			
Variables	Household saving >0 (%)	median	Household saving >0 (%) and per captia income <=5952	median
Number of children	**72.37%**	**2470**	**55.19%**	**378**
No child (0)	75.05%	2573	51.39%	74
Children(1-8)	68.68%	2300.5	57.44%	629
Marital status	**72.37%**	**2470**	**55.19%**	**378**
Marriage	73.74%	1815	54.33%	219
Otherwise	71.89%	2824.5	55.38%	439
Education of household	**72.45%**	**2560.5**	**54.71%**	**366**
Compuslory education	69.15%	1848	55.09%	386.5
Higher than compulsory education	78.77%	4545	52.22%	156.5
Area	**72.37%**	**2470**	**55.19%**	**378**
Non-Municipal areas	69.23%	2034	54.01%	319
Municipal areas	74.33%	2802	56.30%	428
Region	**72.37%**	**2470**	**55.19%**	**378**
Bangkok	75.28%	4808	42.62%	-1915
Central	76.20%	2760	56.42%	463
North	69.37%	2492	63.22%	835
Northeast	64.40%	1637.5	48.96%	-86
South	72.08%	2674	54.60%	400.5

According to Table 2, a household without children has more positive household savings of 75.05% more than a household has more than one children has positive household savings of 68.68%, When the household head is married, approximately 2% more positive save than when the household head is not married, while a household with a head under compulsory education has positive household savings of 69.15 percent, whereas a household with a head higher under compulsory education has positive household savings of 78.77 percent. In municipal areas, 74.33 percent of households are positive, while only 69.23 percent of households in non-municipal areas are positive. The Central region has the highest savings rate, at 76.20 percent, while the Northeast has the lowest, at 64.40 percent. Bangkok, North, and South have respective positive savings rates of 75.28 percent, 69.37 percent, and 72.08 percent.(See figure3) .

For the category of low-income households, the average per capita monthly income is less than or equal to the 40th percentile, which is 5952 baht per month, in this category, approximately 6 percent more is saved by families with children compared to those without children. And households with a married head have only slightly less positive savings than those without a married head. 55.09 percent more households with a head with a compulsory education have positive savings than households with a head with a higher level of education For the area, households living in municipal areas save more income than those living in non-municipal areas. shows that low-income households in the north have the maximum rate of savings, at 63.22 percent, while those inBangkok have the lowest rate, at 42.62 percent. The

central, northeast, and southern regions have respective savings rates of 56.42 percent,

48.96 percent, and 54.60 percent. (See figure4)
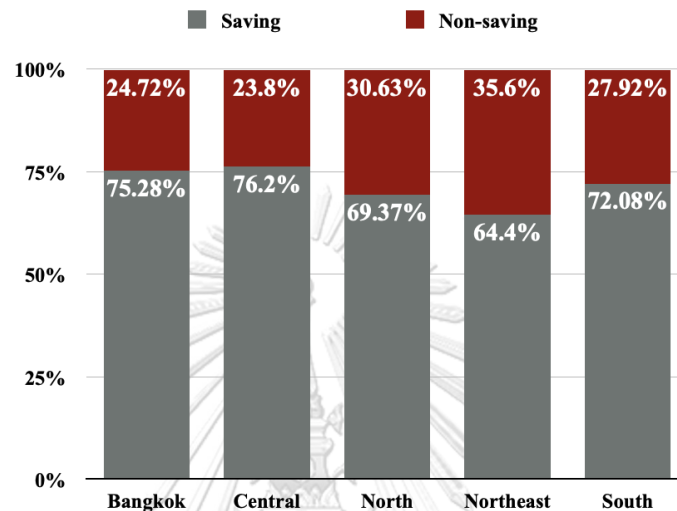
Figure 3 Regional household saving in Thailand 2013
(National Statistical Office of Thailand 2013)
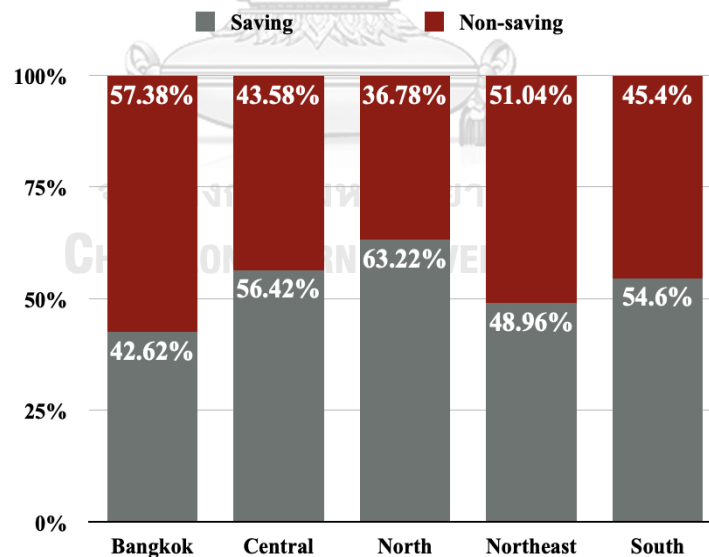
Figure 4 Regional low-income household savings in Thailand in 2013
(National Statistical Office of Thailand 2013)

Table 3 The testing of correlation matrix.

Variables	Difference of minimum wage	Income per captia	Number of children	Marital status	Education	Area	Region
Difference of minimum wage	1						
Income per captia	-0.1046	1					
Number of children	0.1186	-0.1695	1				
Marital status	0.0611	-0.0682	0.254	1			
Education	-0.1546	0.2663	-0.0945	-0.094	1		
Area	0.1023	-0.0859	0.0914	0.0965	-0.1921	1	
Region	0.5204	-0.0728	0.1137	0.0732	-0.0732	0.0857	1

Based on table 3 show that the independent variables of multicollinearity test of difference of minimum wage in 2011 and 2013, per capital average monthly income, number of children in household, highest education of household head, area, and region. Following the result on table 2 above no variable which is greater than 0.8. It means that there is no multicollinearity in this independent variable.

Table 4 The testing of heteroskedasticity

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity	
Assumption: Normal error terms	
Variable: Fitted values of log saving	
H0: Constant variance	
Chi2(1) = 51.27 Prob > chi2 = 0.0000	

For Table 4 the result show that the probability of chi-square from the test result using the probability value 0.000 < 0.05. Therefore, there is heteroscedasticity.

To address the issue of heteroskedasticity, we conduct regression analysis with ordinary least square (OLS) and robust standard error.

Table 5 Result of regression (OLS)

Variables	lnsaving
Difference of minimum wage	**0.00709****
	(0.00179)
Average monthly total income per capita	**0.00042****
	(0.000014)
Number of Children	**0.61693****
	(0.0332318)
Marital status	**0.32987****
	(0.0409294)
Education level	**-0.18938****
	(0.0460207)
Area	**0.09558***
	(0.0294074)
Region	
Bangkok (based)	
Central	**-0.14961**
	(0.141417)
North	**-0.04910**
	(0.1555212)
Northeast	**0.01468**
	(0.1534045)
South	**0.00723**
	(0.1467756)
constant	**4.2236****
	(0.2213526)
Number of Observation	**5,501**
R-squared	**0.1768**
Robust standard errors in parentheses	
** p<0.01, * p<0.05,	

The econometric findings indicate that there was a statistically significant impact on the savings rate of low-income households resulted by the change in the minimum wage that occurred between 2011 and 2013. If there is a change of 1 baht in the minimum wage, low-income households have an increase in savings of 0.7 percent and there is a change of 1 baht in the per capita average income, low-income households have an increase in savings of 0.042 percent as stated by Ceritoğlu (2013), the relationship between permanent income and household saving is positive, and the relationship between income growth and saving is also positive. This study found that household with children could save money 61% more than household without children. Thus result also has the same outcomes as Kelley (1973) who found that if a family has one or two children, household savings will increase, but if a family has more than three children, household savings will decrease.

The marital status has a positive relationship with household saving in more than 33 percent of non-marriage households, according to a study by Michal Grinstein-Weiss (2006) If the household head is married, it has a greater effect on reducing poverty than non-marriage couples. In contradiction to the expectation that if a household head has a higher education than compulsory education, it will have more household savings than a household head graduate below or equal to compulsory education, households with a higher education than compulsory education save 18.93 percent less than households with a degree below or equal to compulsory education. Similar outcome Rha et al. (2006) found that households with high school graduates save more money than those with college and graduate degrees.

Next is an area of non-municipal households, as rural households are less likely to save than the 9.5% of municipal households, as pointed out by Duflo and Banerjee (2011) , poor households in rural areas have additional costs, such as transportation fees, in order to deposit money at a financial institution, as there are less financial institutions in rural areas than in urban areas. In addition, the surroundings for saving money in the home is not secure, and some impoverished households in rural areas must save at a negative saving rate with a depended on middleman, but they must pay for the advantage. The region where the household's head lives is statistically insignificant

DISCUSSION

The purpose of this study is to investigate how a rise in the national minimum wage might affect the willingness of households with low incomes to save money for the future.The adjustment to the minimum wage and the increase in the average monthly total income per capita had a significant positive impact on low-income households with minimum wage-earning household heads, according to the findings. According to Ceritoğlu (2013), Changes in household income are positively related to household savings and income risk. This is identical to the situation in Turkey.

This study is limited by the proxy for household saving, as household saving is defined as average monthly total income minus average monthly total expenditures per household.Household reported income is less than actual income. As a result of households' unwillingness to disclose their actual income and other sources of income, they will save less than estimated and in terms of low-income households, the SES survey is based on only quantity, with no qualitative information. For further

studies on low-income households, qualitative interview techniques, for example in-depth interviews, can be used to collect data on their savings and financial behavior after the minimum wage change.

CONCLUSION

This study examines the relationship between an increase in the minimum wage and savings among low-income households. The household socio-economic survey (SES) conducted in 2013 by the National Statistical Office (NSO) provided the data for this study. This data set, which reflects household savings, focuses mainly with the household head. The econometric study found that the difference between the minimum wage in 2011 and 2013 and the average monthly per capita income in that region had a positive and statistically significant relationship with household savings. In addition, the study found that the minimum wage changes in 2011 and 2013 had an impact on the 2013 minimum wage change. The result is positive for household characteristics such as marital status and location if the household head is married and lives in a municipal area.

Additionally, unexpected results are observed for household characteristics, such as having found that families with children are more likely to save money than households without children. The education of the head of the household is contrasted with the expectation that a household head with a higher level of education than compulsory education will have a smaller percentage of savings. As consequence of the positive relationship between the minimum wage and low-income household savings, the government can develop policies to save low-income households.

APPENDIX

Table 6 The Minimum wage change between 2011 and 2013
(Office of the National Economic and Social Development Council 2020)

Provinces	Region	Minimum wage 2011	Minimum wage 2013	Difference 2011 and 2013	% change
Bangkok	Bangkok(1)	215	300	85	39.53%
Nakhon Pathom	Central(2)	215	300	85	39.53%
Nonthaburi	Central(2)	215	300	85	39.53%
Pathum Thani	Central(2)	215	300	85	39.53%
Samut Prakan	Central(2)	215	300	85	39.53%
Samut Sakhon	Central(2)	215	300	85	39.53%
Chai Nat	Central(2)	167	300	133	79.64%
Ayutthaya	Central(2)	190	300	110	57.89%
Lop Buri	Central(2)	182	300	118	64.84%
Saraburi	Central(2)	193	300	107	55.44%
Sing Buri	Central(2)	176	300	124	70.45%
Ang Thong	Central(2)	174	300	126	72.41%
Chanthaburi	Central(2)	179	300	121	67.60%
Chachoengsao	Central(2)	193	300	107	55.44%
Chonburi	Central(2)	196	300	104	53.06%
Trat	Central(2)	169	300	131	77.51%
Nakhon Nayok	Central(2)	170	300	130	76.47%
Prachin Buri	Central(2)	183	300	117	63.93%
Rayong	Central(2)	189	300	111	58.73%
Sa Kaeo	Central(2)	173	300	127	73.41%
Ratchaburi	Central(2)	180	300	120	66.67%
Kanchanaburi	Central(2)	181	300	119	65.75%
Suphan Buri	Central(2)	167	300	133	79.64%
Samut Songkhram	Central(2)	172	300	128	74.42%
Phetchaburi	Central(2)	179	300	121	67.60%
Prachuap Khiri Khan	Central(2)	172	300	128	74.42%
Chiang Mai	North(3)	180	300	120	66.67%
Lamphun	North(3)	169	300	131	77.51%
Lampang	North(3)	165	300	135	81.82%
Uttaradit	North(3)	163	300	137	84.05%
Phrae	North(3)	163	300	137	84.05%

Nan	North(3)	161	300	139	86.34%
Phayao	North(3)	159	300	141	88.68%
Chiang Rai	North(3)	166	300	134	80.72%
Mae Hong Son	North(3)	163	300	137	84.05%
Nakhon Sawan	North(3)	166	300	134	80.72%
Uthai Thani	North(3)	168	300	132	78.57%
Kamphaeng Phet	North(3)	168	300	132	78.57%
Tak	North(3)	162	300	138	85.19%
Sukhothai	North(3)	165	300	135	81.82%
Phitsanulok	North(3)	163	300	137	84.05%
Phichit	North(3)	163	300	137	84.05%
Phetchabun	North(3)	166	300	134	80.72%
Nakhon Ratchasima	Northeast(4)	183	300	117	63.93%
Buriram	Northeast(4)	166	300	134	80.72%
Surin	Northeast(4)	162	300	138	85.19%
Si Sa Ket	Northeast(4)	160	300	140	87.50%
Ubon Ratchathani	Northeast(4)	171	300	129	75.44%
Yasothon	Northeast(4)	166	300	134	80.72%
Chaiyaphum	Northeast(4)	165	300	135	81.82%
Amnat Charoen	Northeast(4)	163	300	137	84.05%
Nong Bua Lamphu	Northeast(4)	165	300	135	81.82%
Khon Kaen	Northeast(4)	167	300	133	79.64%
Udon Thani	Northeast(4)	171	300	129	75.44%
Loei	Northeast(4)	173	300	127	73.41%
Nong Khai	Northeast(4)	169	300	131	77.51%
Bueng Kan	Northeast(4)	169	300	131	77.51%
Maha Sarakham	Northeast(4)	163	300	137	84.05%
Roi Et	Northeast(4)	166	300	134	80.72%
Kalasin	Northeast(4)	167	300	133	79.64%
Sakon Nakhon	Northeast(4)	166	300	134	80.72%
Nakhon Phanom	Northeast(4)	164	300	136	82.93%
Mukdahan	Northeast(4)	165	300	135	81.82%
Nakhon Si Thammarat	South(5)	174	300	126	72.41%
Krabi	South(5)	184	300	116	63.04%
Phangnga	South(5)	186	300	114	61.29%
Phuket	South(5)	214	300	86	40.19%
Surat Thani	South(5)	172	300	128	74.42%
Ranong	South(5)	185	300	115	62.16%
Chumphon	South(5)	173	300	127	73.41%

Songkhla	South(5)	176	300	124	70.45%
Satun	South(5)	173	300	127	73.41%
Trang	South(5)	175	300	125	71.43%
Phatthalung	South(5)	173	300	127	73.41%
Pattani	South(5)	170	300	130	76.47%
Yala	South(5)	172	300	128	74.42%
Narathiwat	South(5)	171	300	129	75.44%
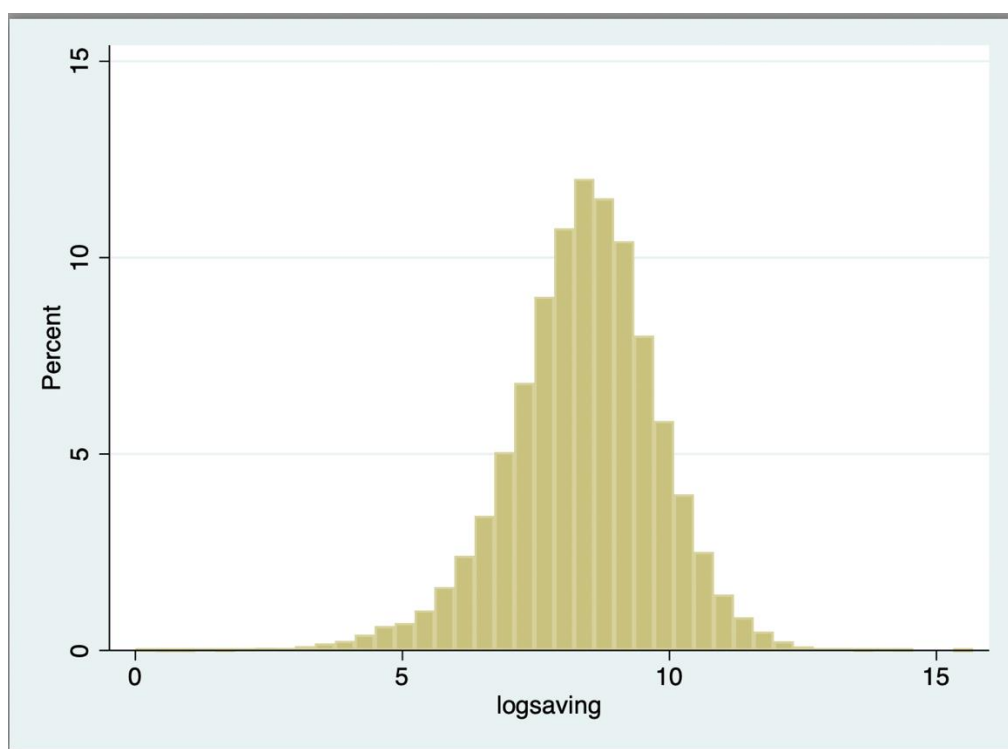
Figure 5 Histogram of household saving
(National Statistical Office of Thailand 2013)

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