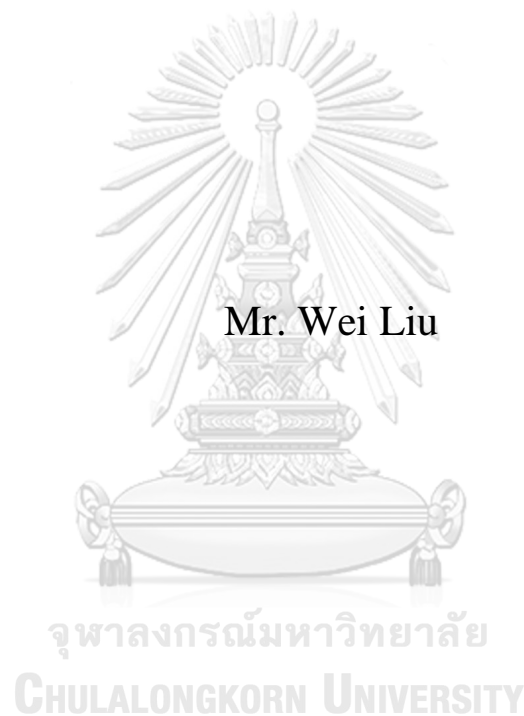


The Relationships between Socio-economic Background and  
Youth Not in Education, Employment, or Training in a  
Developing Country Context: A Case Study of Thailand



A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Arts in Labour Economics and Human  
Resource Management  
Field of Study of Labour Economics and Human Resource Management  
FACULTY OF ECONOMICS  
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ความสัมพันธ์ระหว่างภูมิหลังทางสังคมและเศรษฐกิจ กับกลุ่มเยาวชนที่อยู่นอกระบบการศึกษา  
การทำงาน หรือการฝึกทักษะ ในกลุ่มประเทศกำลังพัฒนา กรณีศึกษา: ประเทศไทย



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต  
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เวย ดู : ความสัมพันธ์ระหว่างภูมิหลังทางสังคมและเศรษฐกิจ กับกลุ่มเยาวชนที่อยู่นอกระบบการศึกษา การจ้างงาน หรือการฝึกทักษะ ในกลุ่มประเทศกำลังพัฒนา กรณีศึกษา: ประเทศไทย. ( The Relationships between Socio-economic Background and Youth Not in Education, Employment, or Training in a Developing Country Context: A Case Study of Thailand) อ.ที่ปรึกษาหลัก : ศศ. ดร.เจสสิกา เวชบรรยงรัตน์

วิทยานิพนธ์นี้ศึกษาหาค่าความสัมพันธ์ของกลุ่มเยาวชนอายุ 15 ถึง 24 ปี ซึ่งไม่ได้กำลังศึกษา ทำงาน หรือฝึกอบรม (NEET) กับ ระดับ ภูมิ หลัง ทาง เศรษฐกิจ สังคม ใน บริบท ประเทศไทย โดยใช้การวิเคราะห์ตัวแบบความน่าจะเป็นเชิงเส้นจากฐานข้อมูลการสำรวจภาวะเศรษฐกิจและสังคมของครัวเรือนในประเทศไทย ปี พ.ศ. 2550 และ 2560 จำนวน 16,329 และ 12,813 กลุ่มตัวอย่าง ตามลำดับ ผลการศึกษาพบว่าขอบเขตของคำจำกัดความของคำว่า NEET มีความสำคัญ กล่าวคือ ในกรณีของค่านิยามที่รวมเอาผู้ทำงานให้ครอบครัวโดยไม่ได้รับค่าจ้าง (unpaid family workers) เข้าร่วมวิเคราะห์ในตัวแบบ ผลการศึกษาพบว่าเยาวชนที่อยู่ในกลุ่มรายได้ครัวเรือนยิ่งสูง จะมีความน่าจะเป็นต่ำในการเป็น NEET ในทางเดียวกัน เยาวชนที่มีระดับการศึกษาที่สูง จะมีความน่าจะเป็นในการเป็น NEET ต่ำ อย่างไรก็ตาม ในกรณีของค่านิยามที่ไม่รวมเอาผู้ทำงานให้ครอบครัวโดยไม่ได้รับค่าจ้าง (unpaid family workers) เข้าร่วมวิเคราะห์ในตัวแบบ ผลพบว่าไม่มีความแตกต่างระหว่างกลุ่มรายได้ เพศสภาพ หากแต่มีความแตกต่างในตัวแปรของระดับการศึกษา กล่าวคือ เยาวชนที่มีระดับการศึกษาที่สูง จะมีความน่าจะเป็นในการเป็น NEET ต่ำ หากแต่ ผล จะ ตรง กัน ข้าม ใน กรณี ของ ระดับ อุด ม ศึกษ า โดยเยาวชนทั้งหญิงและชายในระดับอุดมศึกษาจากภูมิภาคเหนือและตะวันออกเฉียงเหนือจะมีแนวโน้มการเป็น NEET ที่ต่ำ ในขณะที่ เยาวชนในระดับอุดมศึกษาจากกรุงเทพฯ จะมีแนวโน้มของความเป็น NEET ที่สูงกว่า (ในกรณีของค่านิยามที่ไม่รวมเอาผู้ทำงานให้ครอบครัวโดยไม่ได้รับค่าจ้าง (unpaid family workers) เข้าร่วมวิเคราะห์ในตัวแบบ) ยิ่งไปกว่านั้น ค่านิยามของ NEET ในบริบทของประเทศอื่น ๆ อาจหมายถึงกลุ่มเยาวชนที่ทำงานในภาคเศรษฐกิจนอกระบบในตลาดแรงงานไทย

จุฬาลงกรณ์มหาวิทยาลัย  
CHULALONGKORN UNIVERSITY

สาขาวิชา เศรษฐศาสตร์แรงงานและการจัดการทรัพยากรมนุษย์ ลายมือชื่อนิติ .....  
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# # 6185661629 : MAJOR LABOUR ECONOMICS AND HUMAN RESOURCE MANAGEMENT

KEYWORD NEET, youth, unpaid family workers, Thailand

D:

Wei Liu : The Relationships between Socio-economic Background and Youth Not in Education, Employment, or Training in a Developing Country Context: A Case Study of Thailand. Advisor: Asst. Prof. JESSICA VECHBANYONGRATANA, Ph.D.

This paper explores the relationship between young people aged 15 to 24 who are not in education, employment, or training (NEET) and socio-economic background in Thailand. Using a linear probability model with 16,329 samples with data from 2007 Socio-Economic Survey of Thailand and 12,813 samples with data from the 2017 Socio-Economic Survey of Thailand, I find that the results are sensitive to the definition of NEET used. For NEET status that includes unpaid family workers, I find that in both 2007 and 2017 data, compared to the lowest income group, individuals from household with higher average monthly income per capita are less likely to be NEET. People with more years of education are less likely to be NEET, but this trend reverses with higher education. However, for NEET status that excludes unpaid family workers, there are no differences across income groups and gender, and people with more education are less likely to be NEET, but the opposite is true for those with a university degree. Both male and female from North and Northeast region are less likely to be NEET compared to Bangkok when unpaid family workers exclude from NEET. Many people who might be classified as NEET in other country context are actually economically active in the informal economy in the Thai context.



Field of Study:	Labour Economics and Human Resource Management	Student's Signature .....
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## **Introduction**

The growing number of young people who are not in education, employment, or training (NEET) are often considered a problem in modern society. One concern about NEET is that large investment in education by government and households are not transferring to the labor market. Also, young people with NEET status may rely on resources provided by the state, such as unemployment benefits, or other resources provided by their family members.

The previous work on developed countries have found that NEET status is related to socio-economic factors. For instance, research (Robson, 2008) about European Union countries found that as household income increase, the less likely to be NEET. another research about Japan (Genda, 2007) found that the proportion of NEET from rich families had reduced between 1992 and 2002, but the number of NEET from poor families had increased. One study (Bynner, 2002) has shown that in Italy, Portugal, and the UK, women were more likely to be NEET than men.

Yet to date, there is little research about concept of NEET among young people in developing countries. In one of the few previous studies on the developing world. A study (Susanli, 2016) about Turkey shown from 2004 to 2013, education level and NEET status had a significantly negative relationship, indicating that young people with higher education are less likely to be NEET. Same findings in a study of Greece (Drakaki, 2014), that for most people with NEET status have a lower levels of education. This is also found to be true in another study (Kilic, 2014) about Turkey.

Like Turkey, Thailand has a large number of agriculture-based population, thus, it is possible that there is a need for labor in many unpaid family workers among them. In that case, the NEET problem maybe have different relationships with socio-economic backgrounds when the definition of NEET changes. It is possible young people are not entering the paid workforce because of unpaid contributions they make to their households especially in agriculture sector. At the same time, NEET youth in Thailand may provide relief to Thailand's ageing society and workforce shortage problems. Thus, this paper fills the current research gap by quantifying the NEET

population in Thailand and understanding which types of people are most likely to be classified as NEET.

NEET is a widely existing problem all around the world. However, Thailand doesn't have much related research on this issue. This paper is mainly study on the relationships between Thai youth NEET and their socio-economic backgrounds.

According to the United Kingdom office for National Statistics 2017 data, on average there were around 79,350 people (Petkova, 2018), which is accounting for 11.2% for the age between 16 to 24-year-old was NEET. In the US, there was 13% male and 14.7% female classified as NEET ("%NEET youth male and female," 2020) at the same year and same age range. A study (Eurofound, 24 June 2020) done in 2015 about the Europe Union estimated NEETs have made a "significant loss to European economics to be around €142 billion a year." The Organization for Economy Co-operation and Development (OECD) has published a report (OECD, 10 Sep 2019) that, on average across OECD member countries had about 11% for the age between 15 to 24-year-old were NEET in 2017. NEET is also concerned is some countries "because they are more likely involved in the 'informal' economy." (OECD, 2013)

NEET is originated from the UK, after the government decided to withdraw youth unemployment benefits in 1988 (Furlong, 2006), and this concept is widely adopted, especially in Europe and OECD countries.

However, the definition of NEET varies in different countries and organizations. The UK (Chandler, 15th May, 2013) defines education and training as

- Enrolled on an education course and are still attending or waiting for term to (re)start.
- Doing an apprenticeship.
- On a government-supported employment or training program.
- Working or studying towards a qualification

- Had a job-related training or education in the last 4 weeks.

The International Labor Organization (ILO) doesn't have much detail about education or training. People will be classified as NEET (ILO, 2013) if

- Not employed (unemployed or inactive).
- Not received any education or training in the 4 weeks preceding the survey.
- Youth is age between 15 to 24.

The OECD has same definition of NEET youth as ILO, but slight differences about education and training (OECD, 2013)

- Not attending part-time or full-time education, or in non-formal education.
- Not having a paid work for at least 1 hour or temporarily absent from such work.

The difference of NEET definition has been a problem for researchers and has been pointed out in a study done by Euro Found in 2012. In this paper, this study (Eurofound, 2012) also suggest that NEET should be defined as age between 16 to 29 and “been unemployed or inactive for a period of 6 months or more. This longitudinal approach has the advantage of identifying real patterns of disengagement, instead of catching contingent or transition situations.” Another paper (Elder, 2015) also pointed that “there is no international standard for the definition of NEETs.” In the same paper also mentioned that NEET is related with problems like early school leaving, youth unemployment and labor market discouragement.

Because of the importance and urgency of NEET problem. The United Nations (UN) have launched a global initiative called Sustainable Development Solution Network (SDSN), one of the goals is “by 2020 substantially reduce the proportion of youth NEET” and “by 2030 achieve full and productive employment and decent work for all women and men, including young people...” (“Indicators and a Monitoring

Framework for the Sustainable Development Goals Launching a data revolution for the SDGs," June 12, 2015)

Even though NEET seems a problem in the developed countries, but it does not mean that it is not exist in developing countries. Data from the OECD database (OECD, 10 Sep 2019) have shown that member countries like Chile, Israel, Mexico, Slovenia and Turkey has NEET. Yet, there are few papers study about the problems in developing country context. In a study (OECD, 2013) about Turkey shown that it had the highest NEET ratio of all member countries from 2008 to 2011, in the age between 15 to 19, which is around 35%. An important reason on such high ratio of NEET youth is the level of education, a research (Kilic, 2014) have found people have lower level of education are having higher chance of become NEET. But this is not all true in every country, "the analysis of the EU Labor Force Survey shows that in Spain and Portugal, NEETs with lower education arraignment comprise approximately 70% of the overall NEET population. Other countries where the majority of NEETs have a lower education level than average are the Netherlands...In contrast, in Cyprus, the UK... more than 10% of NEETs have a tertiary education degree." (Eurofound, 2012)

Poverty has an indirect impact on NEET problem in Turkey, one study (Kilic, 2014) found "studies on social exclusion and poverty among young people have identified various problems that negatively affected these individuals' ability to benefit from their education, such as the limited number of extracurricular activities, overcrowded classroom, and unsuitable environment at home for studying."

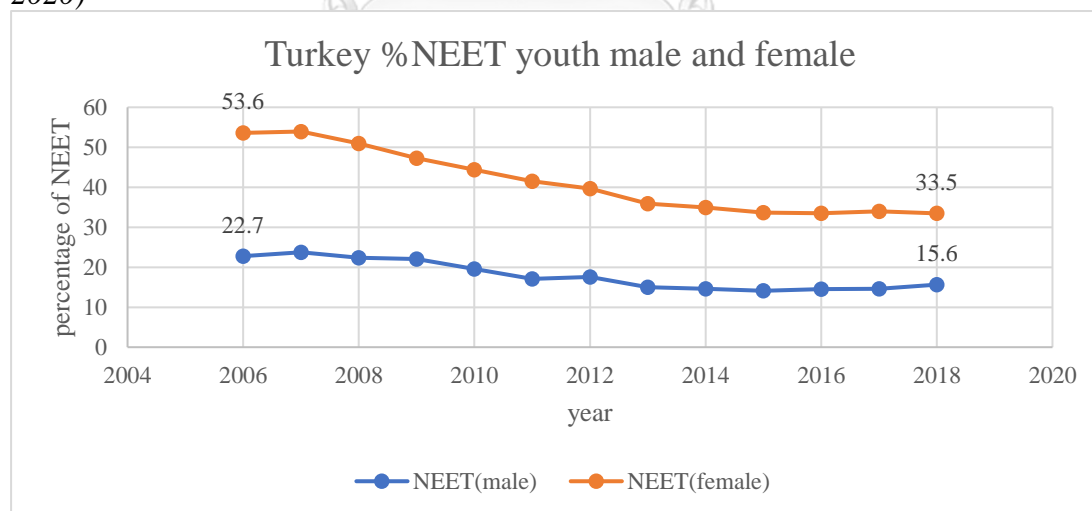
Thailand does not have an official definition about NEET, therefore in this paper I will use a similar definition as the ILO to analyze Thai NEET situation. In this paper NEET youth will be defined as people who are between age 15 to 24, not in education (general education, religious study, vocational or technical education), employment (employer, own-account worker, government employee, state enterprise employee, private employee, members of producers' cooperative). There will be no people classified as training. The reason to use a definition close to the ILO is it's a worldwide organization, so it is more flexible and easier to interpret than other definitions, also more suitable for a developing country. According to the ILO 2019

estimate data, in 2017, Thailand had about 1,489,000 NEETs, 15.6% over all youth population, the number has increased 2.7% from 2007. Like Turkey, poverty or socio-economic related indicators might be the reason leading youth become NEET. Therefore, I think it is necessary to study the situation of NEET in Thailand. The data used to analysis Thai NEET youth is from the National Statistical Office of Thailand Socio-Economic Survey (SES). I choose the data from 2007 and 2017, since the survey does not have related date about training, the results and discussion about Thai NEET youth will not include them in this paper.

### Background study

According to the data from the World Bank database, I have selected 6 countries to observe the trend of NEET in both developed countries and developing countries. The share of NEET youth is reducing in all 6 countries, but female NEET rate is higher than male NEET rate for overall. This is significant especially in the developing countries. Also, for all countries were trying to reduce the number of NEET, but there are some years the number has increased.

Figure 1 The trend of NEET in OECD countries ("%NEET youth male and female," 2020)

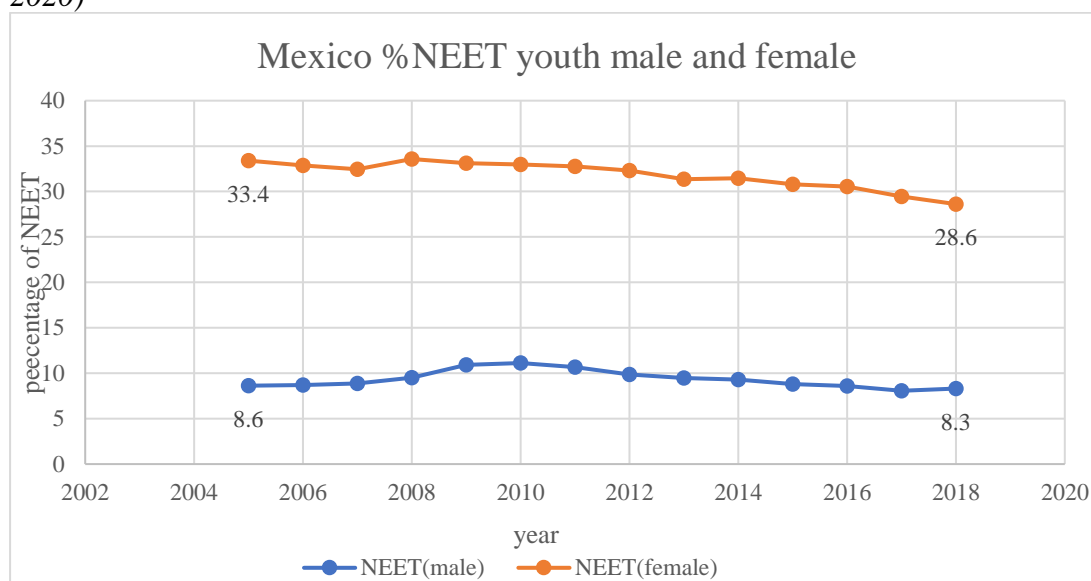


Source: Author's calculation from the World Bank database 2020.<sup>1</sup>

In Turkey, the gap between female and male NEET rate is getting closer over the years, but female NEET is more than male.

<sup>1</sup> The data used in the figures were the years available.

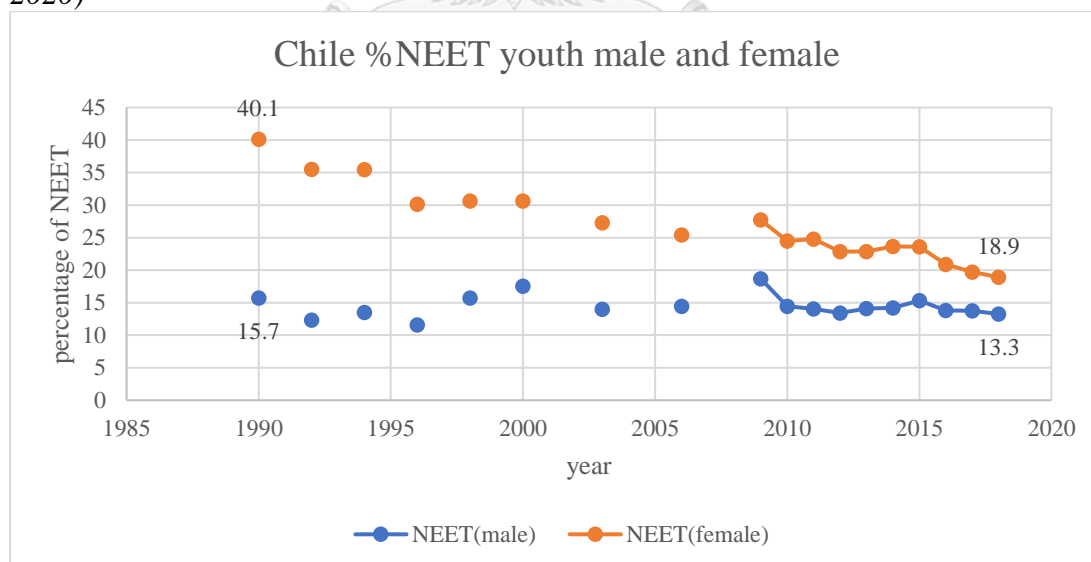
Figure 2 The trend of NEET in OECD countries ("%NEET youth male and female," 2020)



Source: Author's calculation from the World Bank database 2020.

In Mexico, the female NEET rate and the gap between female and male NEET did not change much over the years, male NEET rate is steady.

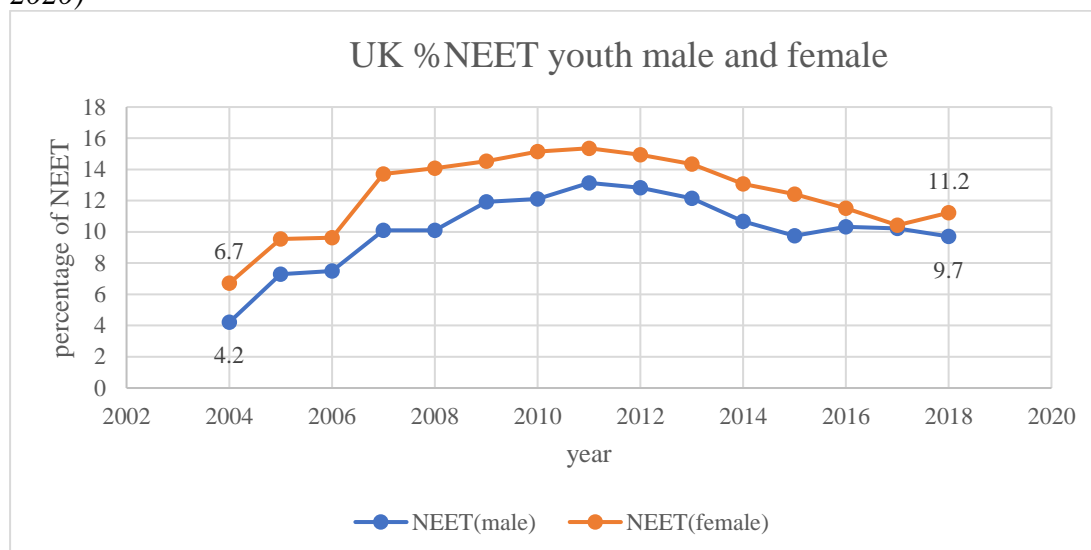
Figure 3 The trend of NEET in OECD countries ("%NEET youth male and female," 2020)



Source: Author's calculation from the World Bank database 2020.

Chile does not have ongoing basis of data in the early years, but it is obvious that the gap between female and male NEET rate is getting closer.

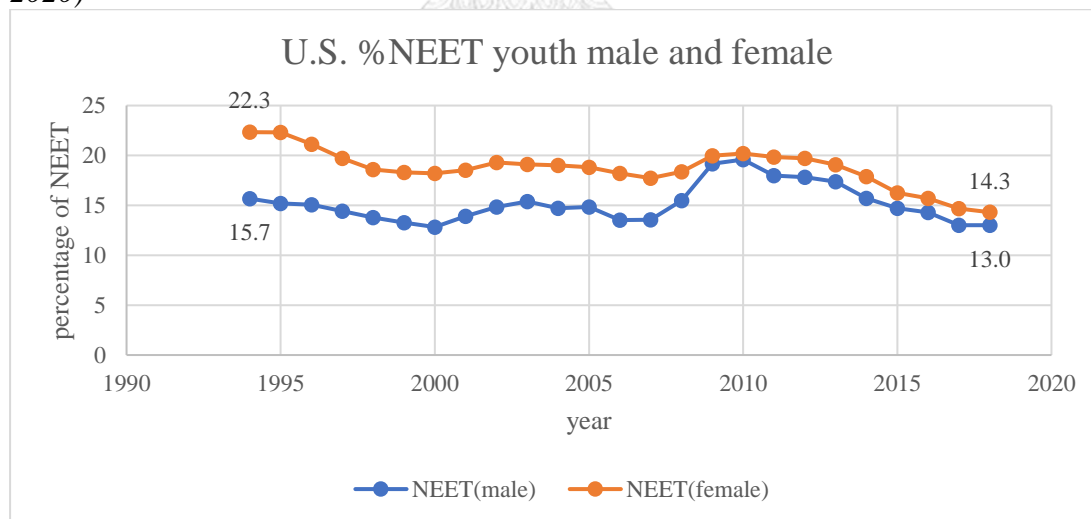
Figure 4 The trend of NEET in OECD countries ("%NEET youth male and female," 2020)



Source: Author's calculation from the World Bank database 2020.

In the UK, NEET rate is low in the beginning for both female and male but has increased over the years.

Figure 5 The trend of NEET in OECD countries ("%NEET youth male and female," 2020)

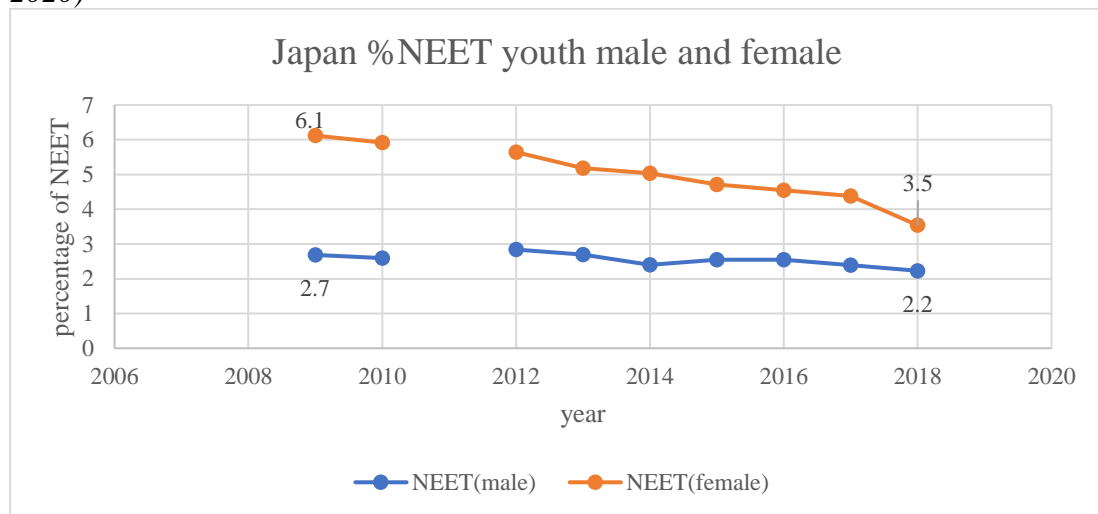


Source: Author's calculation from the World Bank database 2020.

In the US, the gap is getting closer over the years and NEET rate decreased for both female and male.



Figure 6 The trend of NEET in OECD countries ("%NEET youth male and female," 2020)



Source: Author's calculation from the World Bank database 2020.

Japan has the lowest NEET rate compared to other 5 countries. There is also a gap between female and male and is getting closer.

Gender gap is a common concern, and when it comes to NEET, the gap also exists, especially in the developing countries. This makes wonder if Thailand has the same problem.

The reason why I have picked these countries to compared with, is first they are all OECD countries, the definition of NEET is same. Secondly, they can capture the dimensions of NEET around the world and Asia. Lastly, there are papers have studied the NEET situation in these countries, especially the developing ones.

Although the overall trend of NEET is reducing, it is still important problem needed to be study about, since it also relates to problems like early school leaving, youth unemployment, and labor market disengagement.

### *Early school leaving*

Turkey (Kilic, 2014) compared to other EU countries, “had a far more negative outlook in all three of the main indicators<sup>2</sup> that used to define and identify disadvantaged youth.”

But in Greece (Drakaki, 2014), early school leaving seems not the main reason for being NEET, “the Greek NEET has a low educational level (a majority has graduated from lower secondary education) and in most cases, moderate educational level (graduates of higher secondary level or technical school). A significant percentage of NEETs are higher education graduates. Only a small percentage of NEET population are early school leavers.” The paper also pointed that the education system’s insufficient, ineffective, and could not teach students the skills they needed for employment might be the main reason for youth become NEET.

### *Youth unemployment*

Youth seems to have much higher unemployment rate than other age group. Studies about Turkey find that even youth are more likely to have a higher rate of unemployment, but they also have tertiary education. A study (Kilic, 2014) shows that the highest rate of unemployment is the 20 to 24 age group, and most are university graduates.

According to a “104 human resource bank” research in Taiwan, from 2008 to 2009 there are 45% society freshmen don’t have a job, estimates number around 100,000. Data from the Directorate-General of Budget, Accounting and Statistics, Executive Yuan. R.O.C. shows that, in 2009 from January to October, average unemployment rate is 5.86%, but youth unemployment rate is 14.64%. It is 2.5 times higher than the age group 25 to 44. As the level of education, high school graduate’s average unemployment rate is the highest, which is 6.2%. (Hsu, 2010)

### *Labor market discouragement*

Because employers are preferred employees with work experiences, and schooling is not the priority concern, some of the youth with high levels of education are actually

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<sup>2</sup> The three indicators are being unemployment, school dropout, and youth poverty.

struggling to find work (Bills, 1988), another study (Rosenbaum, 1990) about the US find “employers do not understand or trust information from school” and “school performance has little payoff for jobs.” An Audit Commission report (Mirza-Davies, 2014), in the UK, compare with other reasons like “pregnancy(2.8), supervision by youth offending team(2.6), fewer than 3 months post-16 education(2.3), disclosed substance abuse(2.1), responsibilities as a carer(2.0)”, being a NEET once will increase the chance 7.9 times of not stand in the labor market.

### **Literature review**

Several studies done on developed countries has investigated relationship between personal characteristics and socio-economic background with likelihood of being NEET, for example, Robson (Robson, 2008) finds that in the UK, female being a mother at young age are more likely to be NEET, for male, main reason of being NEET is lack of work experience. This is also found by Bynner (Bynner, 2002) and some other researchers. This research uses data from the European Community Household Panel (ECHP) (1994-2001), for other personal characteristics, in Italy, Portugal, and the UK, female is more likely being NEET than male, especially in Portugal. Age is another variable associated with NEET statis in all EU countries, except Portugal, and has negative relations in the UK and Greece.

As for socio-economic reasons, household structure is used to measure in this study. In France, unmarried living together couples than young people live with their parents. If the couples have a kid, they are more likely being NEET. In all EU countries except Italy, household income is negative associated with NEET status “as quintile of household income increases, the likelihood of being NEET is reduced.”

A study on Japan shows the “declining income effect”. Genda (Genda, 2007) studies the Employment Status Survey from 1992, 1997, and 2002. Proportion of jobless youth from poor families are keep increasing. Household yearly income from 1 to 2-million-yen group in 1992 and 1997 shows a significant negative correlation with NEET status, except in 2002. For the group of household yearly income of 2 to 3 and 3 to 4-million-yen, the effect is significant in all three years, but the significance is declining.

As for gender and age, in the 1990s NEET youth male from household yearly income 1 to 5-million-yen are more willingly to find a job than being NEET, but it eventually disappears in 2002. People with less education and younger, in the household yearly income group of less than 2 million yen are more likely to lose the desire of working than those from the middle-income households.

Bynner (Bynner, 2002) studies the adult life form 16,761 people born in Britain from week 5 to 11 April 1970 (BCS70), found that in 1986, about 50% of the 16-year-old leave from school, in 1976 the number is 70% and by the end of 1980s it reduced to about 33%. During that time when people leave from school at age 16 has two options, one is government's national scheme (YTS) for youth training, and the other is unemployed. In 1988, when they turned to age 18, they were removed from the YTS benefits, instead of fully engaged in the labor market, they found it is very difficult to either back to school, training or find a job. For young women who have kid, it is especially hard to back to EET. This study also found that for male, living in the inner city is more likely being NEET, and for female, lack of interest in children's education are more likely being NEET.

Although Thailand has a significant amount of youth who are considered as NEET, it is unclear whether this by choice or economic necessity, this study will add to the literature by exploring the relationship between education and socio-economic status on the likelihood of being NEET in Thailand.

A study on Taiwan (Chen, 2011) shows it seems youth cannot being NEET for a long time, the researcher interviewed some interviewees from "Flying Young Program" (FYP), which is designed for helping youth between 14 to 19, who have not yet finish senior high school (no more than 12 years) education and not have a full time job. Most of the interviewees are from single-parent family, the reason why they cannot be NEET long is money, they need money to pay rent and food, and their families cannot give them any financial support.

Study about being NEET in Turkey (Susanli, 2016) shows that through 2004 and 2013 Household Labor Force Survey (HLFS), people in the age group 20 to 24 are

more likely to become NEET than age group 15 to 19. For education, there is a significant negative relation with NEET, for female and female only, start a family will increase the likelihood of being NEET, that is getting married and having a child. Living in municipal and more household member in labor force are correlated with lower likelihood of being NEET for both genders. Another thing needs to be noticed is that, even in both municipal and non-municipal area the more family members in work, the less being NEET, but the magnitude is much larger in the non-municipal area.

Economically inactive is hard to change, in this study, about 81% people staying the same as previous year, on the other hand, 86% employed youth stay the same as previous year. The transition between unemployment and employed is quite slow, only 39% previous year unemployed people transit employed while 34% are still struggling.

### **Objective of study**

The first objective of this paper is to identify the proportion of young Thai people who are classified as NEET, unlike previous research, this paper will use two different definitions of NEET, where the first include unpaid family workers (UFWs) and the second excludes this group. This is important in the Thai context because many people who might be classified as NEET in other country context are actually economically active in the informal economy in the Thai context. The Thailand National Statistical Office recognizes contributions from the informal workers, thus, it is possible to distinguish between NEET workers who are UFWs and those who are NEET by a stricter definition of making no contributions to the labor force, which is more consistent with the definition used on developed countries contexts.

The second objective is to find the relationships between NEET and socio-economic characteristics. Based on the previous literatures, this paper analyzes the relationship between NEET and ten socio-economic characteristics, including gender, age, region or residence, years of education, relations with household head, number of earners in the same household, asset ownership, marital status, disability or not, and household monthly income per capita.

## Methods

This paper analyzed the relationship between socio-economic background and NEET status using a linear probability model. The regression used for the analysis is as follows:

$$NEET = \beta_0 + \beta X + \gamma H + \delta R + \theta E + \epsilon$$

$X$  is vector of personal characteristics,  $H$  is a vector of dummy variables for household income quintile,  $R$  is a vector of dummy variables indicating region, and  $E$  is a vector of dummy variables indication education level. The analysis uses two definitions of NEET as the outcome variables, where the first includes UFWs and the second excludes UFWs. The regression with two definitions of NEET run for two groups: men and women.

*Table 1 Summary statistics of SES 2007*

Variables	Description	women		men	
		Mean	Std. Dev.	Mean	Std. Dev.
NEET1	Indicator for 15 to 24 years old who are NEET (UFW included)	0.236	0.425	0.208	0.406
NEET2	Indicator for 15 to 24 years old who are NEET (UFW excluded)	0.137	0.344	0.071	0.257
Household income quintile 1	Average household monthly income per capita (servant excluded) (reported mean for quintile in 1000s of baht)	0.197	0.400	0.203	0.400
Household income quintile 2		0.197	0.400	0.203	0.400
Household income quintile 3		0.201	0.400	0.198	0.400
Household income quintile 4		0.202	0.400	0.198	0.400
Household income quintile 5		0.202	0.400	0.197	0.400
Greater Bangkok	Indicator for Greater Bangkok	0.076	0.266	0.073	0.260
Central	Indicator for Central	0.310	0.463	0.303	0.460

	region				
North	Indicator for North region	0.205	0.404	0.203	0.402
Northeast	Indicator for Northeast region	0.252	0.434	0.259	0.438
South	Indicator for South region	0.156	0.363	0.162	0.368
Education group 1	Indicator for 9 years and less	0.454	0.498	0.555	0.497
Education group 2	Indicator for 10 to 11 years	0.206	0.404	0.166	0.372
Education group 3	12 years	0.158	0.364	0.148	0.355
Education group 4	Indicator for 13 to 15 years	0.111	0.315	0.097	0.297
Education group 5	Indicator for 16 years and more	0.071	0.257	0.034	0.182
Age	15 to 24	19.047	2.909	18.960	2.904
Area	Indicator for non-municipal area	0.384	0.486	0.400	0.490
Household assets (self-owned land)	Live in self-owned land or purchased, rent house	0.730	0.444	0.760	0.427
Earners	Number of people in the household who earn income (servant exclude)	2.278	1.240	2.383	1.244
Marital status	Indicator for married	0.282	0.450	0.134	0.341
Disability	Indicator for people with no disabilities	0.987	0.114	0.982	0.135
Relationship with household head	Indicator for household head or spouse	0.140	0.347	0.088	0.283

Notes: SES data does not have information on training, thus, NEET maybe undercounted. UFW = unpaid family worker SES = Socio-Economic Survey. Source: Author's calculation from SES 2007 data.

*Table 2 Summary statistics of SES 2017*

Variables	Description	women		men	
		mean	Std. Dev.	mean	Std. Dev.
NEET1	Indicator for 15 to 24 years old who are NEET	0.241	0.428	0.235	0.424

	(UFW included)				
NEET2	Indicator for 15 to 24 years old who are NEET (UFW excluded)	0.163	0.369	0.104	0.305
Household income quintile 1	Average household monthly income per capita (servant excluded) (reported mean for quintile in 1000s of baht)	2.258	0.400	2.313	0.400
Household income quintile 2		4.151	0.400	4.142	0.400
Household income quintile 3		5.974	0.400	5.981	0.400
Household income quintile 4		8.648	0.400	8.621	0.400
Household income quintile 5		19.454	0.400	20.092	0.400
Greater Bangkok	Indicator for Greater Bangkok	0.063	0.244	0.062	0.240
Central	Indicator for Central region	0.284	0.451	0.287	0.452
North	Indicator for North region	0.193	0.395	0.197	0.398
Northeast	Indicator for Northeast region	0.276	0.447	0.273	0.446
South	Indicator for South region	0.183	0.387	0.181	0.385
Education group 1	Indicator for 9 years and less	0.396	0.489	0.499	0.500
Education group 2	Indicator for 10 to 11 years	0.203	0.402	0.170	0.376
Education group 3	12 years	0.173	0.379	0.158	0.365
Education group 4	Indicator for 13 to 15 years	0.136	0.343	0.120	0.325
Education group 5	Indicator for 16 years and more	0.092	0.288	0.052	0.223
Age	15 to 24	19.221	2.878	19.192	2.835
Area	Indicator for non-municipal area	0.393	0.488	0.410	0.492



Household assets (self-owned land)	Live in self-owned land or purchased, rent house	0.740	0.439	0.768	0.422
Earners	Number of people in the household who earn income (servant exclude)	2.099	1.211	2.209	1.237
Marital status	Indicator for married	0.239	0.427	0.120	0.325
Disability	Indicator for people with no disabilities	0.982	0.133	0.981	0.137
Relationship with household head	Indicator for household head or spouse	0.083	0.276	0.091	0.288

Notes: SES data does not have information on training, thus, NEET maybe undercounted. UFW = unpaid family worker SES = Socio-Economic Survey. Source: Author's calculation from SES 2007 data.

This paper uses the data from 2007 and 2017 Thailand Socio-Economic Survey (SES) compiled by the National Statistical Office of Thailand. In 2007 (table 1), there are 16,329 total observations from age 15 to 24, among them 8,194 are female and 8,135 are male. There are 3,628 (22.22%) NEETs when UFWs included, and 1,703 (10.43%) NEETs when UFWs are excluded. In 2017 (table 2), there are 12,813 total observations as the same age, among them 6,210 are female and 6,591 are male. There are 3,047 (23.8%) NEETs when UFWs are included and 1,696 (13.2%) NEETs when UFWs are excluded. Age, area, assets, earner, marital status, disability, and relationship with household head re control variables.

This survey records household income, region, education level, age, residence in municipal or non-municipal area, household asset ownership, gender, number of earners in the household, marital status, disability status, and relationship with household head. Table 1 and table 2 shows the summary statistics for both years.

## Results and discussions

### *2007 data results*

Table 3 reports the regression results for both female and male using two definitions of NEET.

*Table 3 Relationship between Socio-economic Status and NEET: OLS regression results SES 2007*

Variables	Female only 2007		Male only 2007	
	NEET1 (UFW include)	NEET2 (UFW exclude)	NEET1 (UFW include)	NEET2 (UFW exclude)
Income quintile 2	-0.089*** (0.013)	-0.033*** (0.011)	-0.075*** (0.013)	-0.011 (0.009)
Income quintile 3	-0.109*** (0.014)	-0.056*** (0.011)	-0.086*** (0.014)	-0.018** (0.009)
Income quintile 4	-0.148*** (0.014)	-0.096*** (0.012)	-0.080*** (0.014)	-0.018** (0.009)
Income quintile 5	-0.153*** (0.014)	-0.105*** (0.012)	-0.092*** (0.015)	-0.048*** (0.009)
Central	-0.017 (0.017)	-0.003 (0.014)	0.027 (0.018)	-0.013 (0.012)
North	-0.022 (0.018)	-0.068*** (0.015)	0.036* (0.019)	-0.060*** (0.012)
Northeast	0.028 (0.018)	-0.051*** (0.015)	0.068*** (0.019)	-0.054*** (0.012)
South	0.032* (0.019)	0.018 (0.016)	0.055*** (0.020)	-0.019 (0.013)
10 to 11 years of education	-0.159*** (0.012)	-0.102*** (0.010)	-0.171*** (0.012)	-0.094*** (0.008)
12 years of education	-0.047*** (0.013)	-0.018* (0.011)	0.006 (0.013)	-0.008 (0.009)
13 to 15 years of education	-0.175*** (0.016)	-0.112*** (0.013)	-0.109*** (0.016)	-0.047*** (0.011)
16 years and more education	0.0368* (0.019)	0.096*** (0.016)	0.052** (0.025)	0.100*** (0.016)
Constant	0.200*** (0.055)	0.524*** (0.045)	0.142*** (0.050)	0.544*** (0.032)
Observations	8,194		8,135	
R-squared	0.227	0.205	0.133	0.116

Notes:  $p < 0.1$ ,  $**p < 0.05$ ,  $***p < 0.01$ . Standard errors in parentheses. Other controls: age, area, assets, number of earners, marital status, disability, and relationship with household head. Source: Author's calculation from SES 2007 data.

In 2007 data, no matter UFWs are included in the NEET definition or not, the average monthly household income per capita shows the same pattern. For both genders,

compared to the lowest earning quintile, youth from higher income households are less likely to be NEET. When NEET includes UFWs, male from Northeast (6.8%) a largely agriculture region, is slightly likely to be NEET than Bangkok. However, when UFWs are removed, people from North (6.8% less for female and 6% less for male) and Northeast (5.1% less for female and 5.4% less for male) regions are significant less likely to be NEET than Bangkok. This suggests that agriculture may be an important factor keeps youth out of the paid workforce. As for education level, the results show that compared to people who have compulsory education (9 years) or less, those who has finished upper secondary school (high school) are just as likely to be NEET. However, people with a university degree or higher are more likely to be NEET (36.8% more for female when UFWs include 9.6% when UFWs removed, and 5.2% for male when UFWs include 10% when UFWs removed). This could mean that the youth are not finding job opportunities that match their education, especially for female. Figure 7 to 10 shows the distribution of NEET under both definitions over age, gender, and region.

Figure 7 SES 2007 distribution of NEET (UFWs include) over gender and region

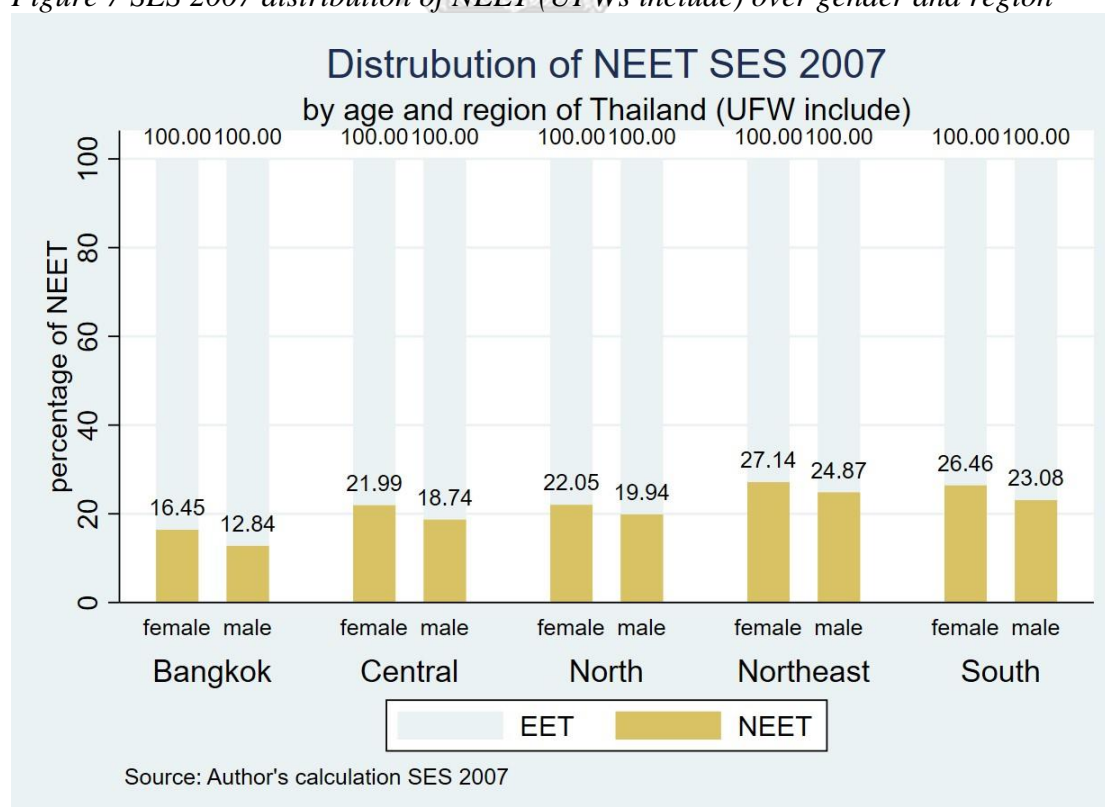
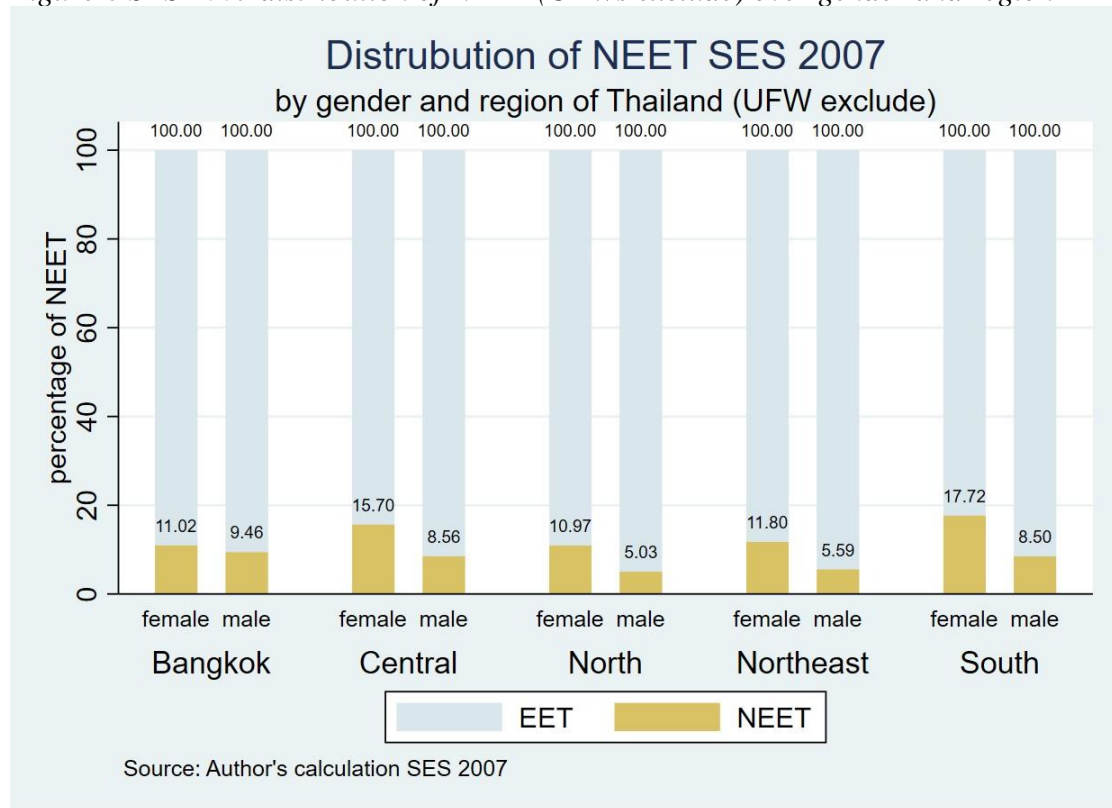


Figure 8 SES 2007 distribution of NEET (UFWs exclude) over gender and region



In 2007, when UFWs are included as NEET, Thailand's NEET situation shows the same pattern as the 6 OECD countries I selected, which is the gender gap between NEET rates. Another thing stand out is, other regions have higher NEET rate compared with Bangkok. When UFWs are removed from NEET, the gender gap is still existing, but in North and Northeast regions there is also a significant drop for both genders.

Figure 9 SES 2007 distribution of NEET (UFWs include) over age and region

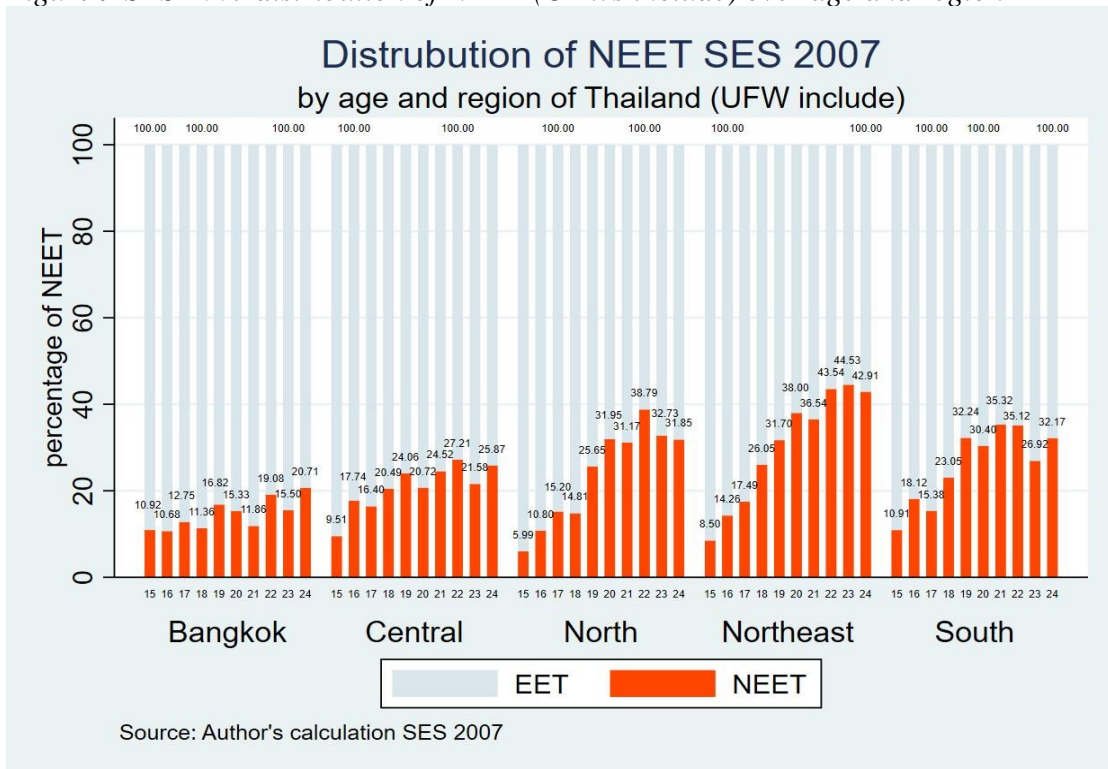
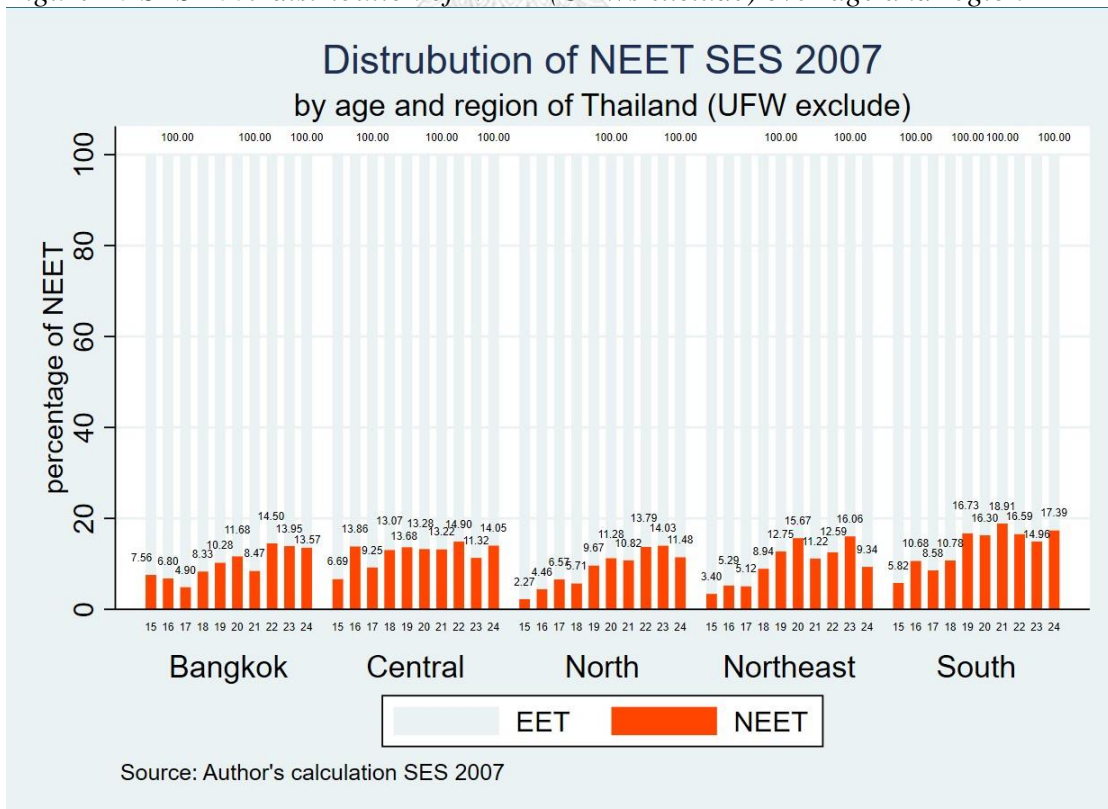


Figure 10 SES 2007 distribution of NEET (UFWs exclude) over age and region



When it comes to each age groups' distribution over different regions, as figure 9 shows, NEET youth are most in age group 18 (402), 22 (441), and 24 (440) which are have finished high school or university or higher degree. This may suggest that Thailand is facing a huge gap on transferring people from education to labor market. When UFWs removed from NEET, as figure 10 shows, the most NEET people are in age group 18 (190), 20 (196) and 22 (191), this could also suggest there may be a school leaving problem. Unlike other countries with early school leaving problem. Thailand seems have a “late school leaving” problem, especially in Bangkok and Central region.

#### 2017 data results

Table 4 reports the regression results for both genders using two definitions of NEET in 2017.

*Table 4 Relationship between Socio-economic Status and NEET: OLS regression results SES 2017*

Variables	Female only 2017		Male only 2017	
	NEET1 (UFW include)	NEET2 (UFW exclude)	NEET1 (UFW include)	NEET2 (UFW exclude)
Income quintile 2	-0.089***	-0.060***	-0.100***	-0.028**
	(0.0149)	(0.013)	(0.015)	(0.011)
Income quintile 3	-0.128***	-0.092***	-0.107***	-0.045***
	(0.015)	(0.014)	(0.016)	(0.011)
Income quintile 4	-0.188***	-0.148***	-0.146***	-0.075***
	(0.016)	(0.014)	(0.016)	(0.012)
Income quintile 5	-0.206***	-0.161***	-0.162***	-0.090***
	(0.016)	(0.015)	(0.017)	(0.012)
Central	0.012	0.008	0.017	-0.019
	(0.022)	(0.019)	(0.022)	(0.016)
North	0.017	-0.041**	-0.024	-0.085***
	(0.023)	(0.020)	(0.023)	(0.017)

Northeast	0.023	-0.039**	0.048**	-0.069***
	(0.022)	(0.020)	(0.023)	(0.016)
South	0.010	0.007	0.001	-0.028
	(0.023)	(0.020)	(0.023)	(0.017)
10 to 11 years of education	-0.191***	-0.131***	-0.219***	-0.123***
	(0.014)	(0.012)	(0.014)	(0.010)
12 years of education	0.013	0.002	-0.005	0.004
	(0.015)	(0.013)	(0.015)	(0.011)
13 to 15 years of education	-0.196***	-0.129***	-0.167***	-0.080***
	(0.018)	(0.002)	(0.017)	(0.013)
16 years and more education	0.044**	0.092***	0.080***	0.145***
	(0.021)	(0.019)	(0.024)	(0.018)
Constant	0.414***	0.777***	0.176***	0.639***
	(0.064)	(0.057)	(0.062)	(0.045)
Observations	6,218		6,595	
R-squared	0.252	0.209	0.162	0.138

Notes:  $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . Standard errors in parentheses. Other controls: age, area, assets, number of earners, marital status, disability, and relationship with household head. Source: Author's calculation from SES 2017 data.

In 2017, the overall NEET population reduced a bit compared with 2007 in both definitions. However, most outcomes like average household monthly income per capita, education level, region stays the same as 2007, when UFWs removed from NEET, North (4.1% less for female and 8.5% less for male) and Northeast (3.9% less for female and 6.9% less for male) region are less likely to be NEET compared with Bangkok. Since the results stay almost the same as 2007 suggest there is no changes on the youth NEET situation in Thailand. Figure 11 to 14 shows the distribution of NEET under both definitions over age, gender, and region.

Figure 11 SES 2017 distribution of NEET (UFWs include) over gender and region

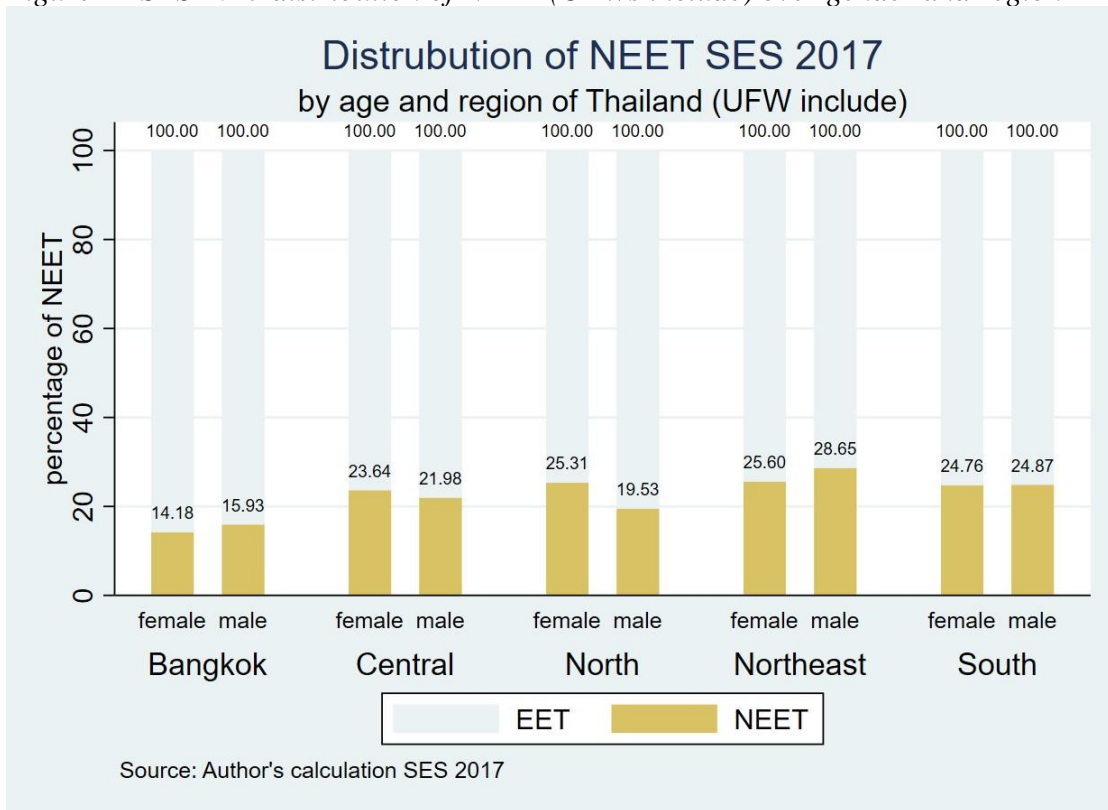
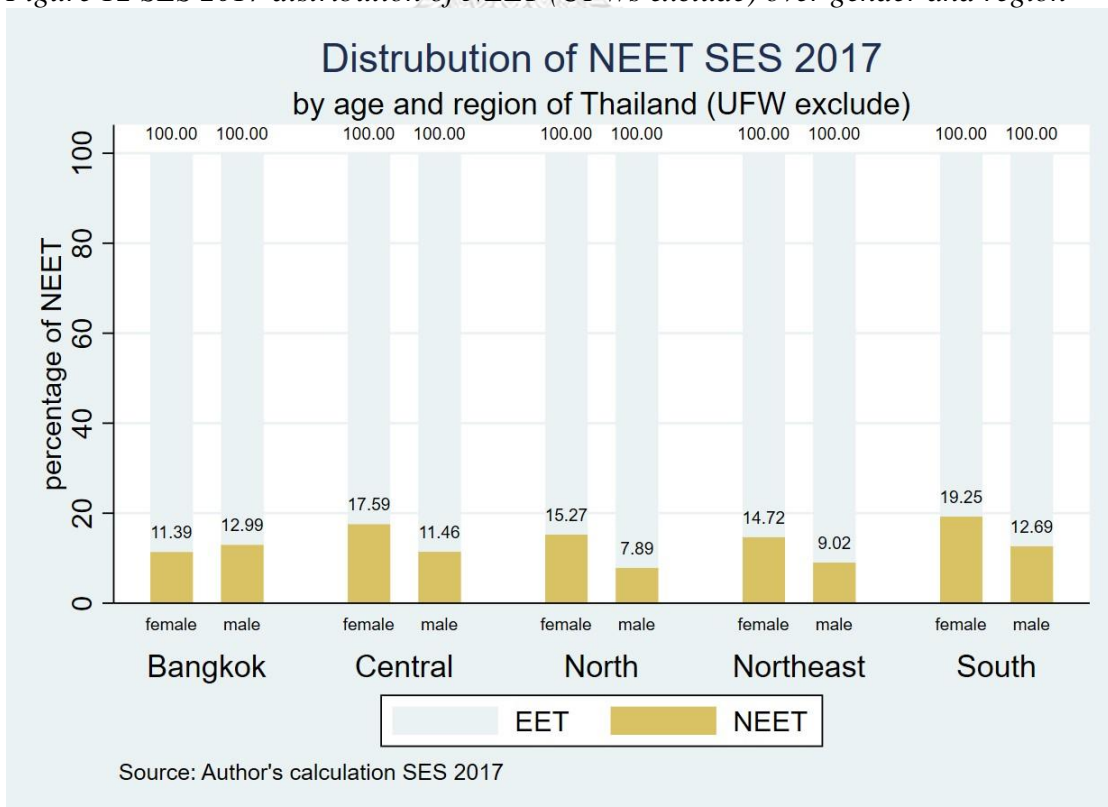


Figure 12 SES 2017 distribution of NEET (UFWs exclude) over gender and region





In 2017, when UFWs are included in NEET other four regions' NEET population are higher than Bangkok region, the gender gap still exists. However, the gender gap turns over for the first time, in Bangkok, Northeast, and South region. When UFWs are removed from NEET, Bangkok is the only region has more male NEET than female.

Figure 13 SES 2017 distribution of NEET (UFWs include) over age and region

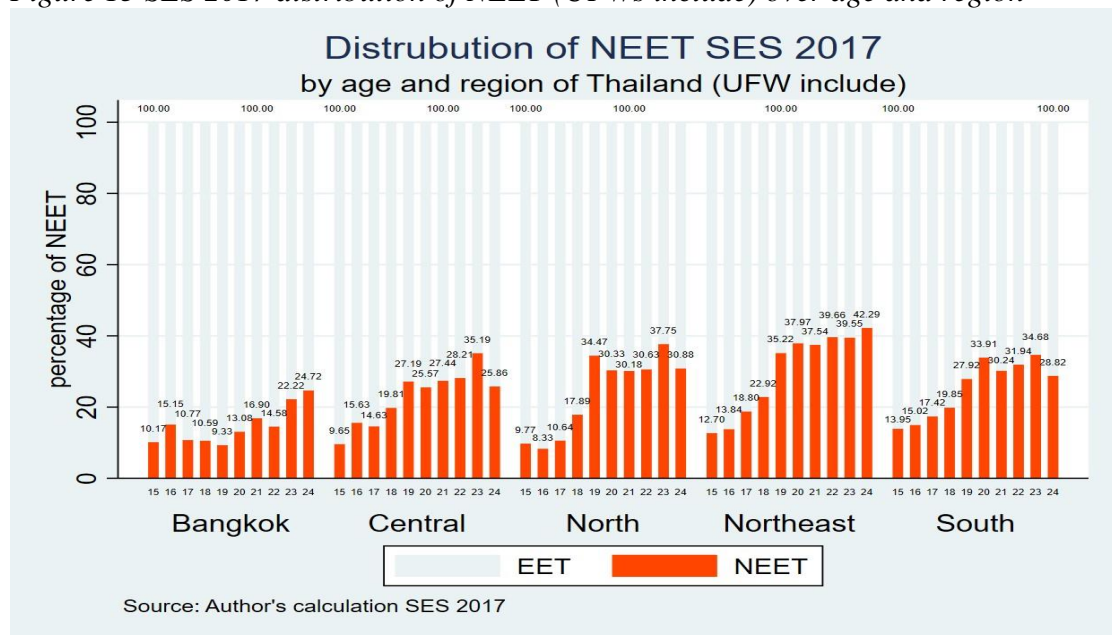
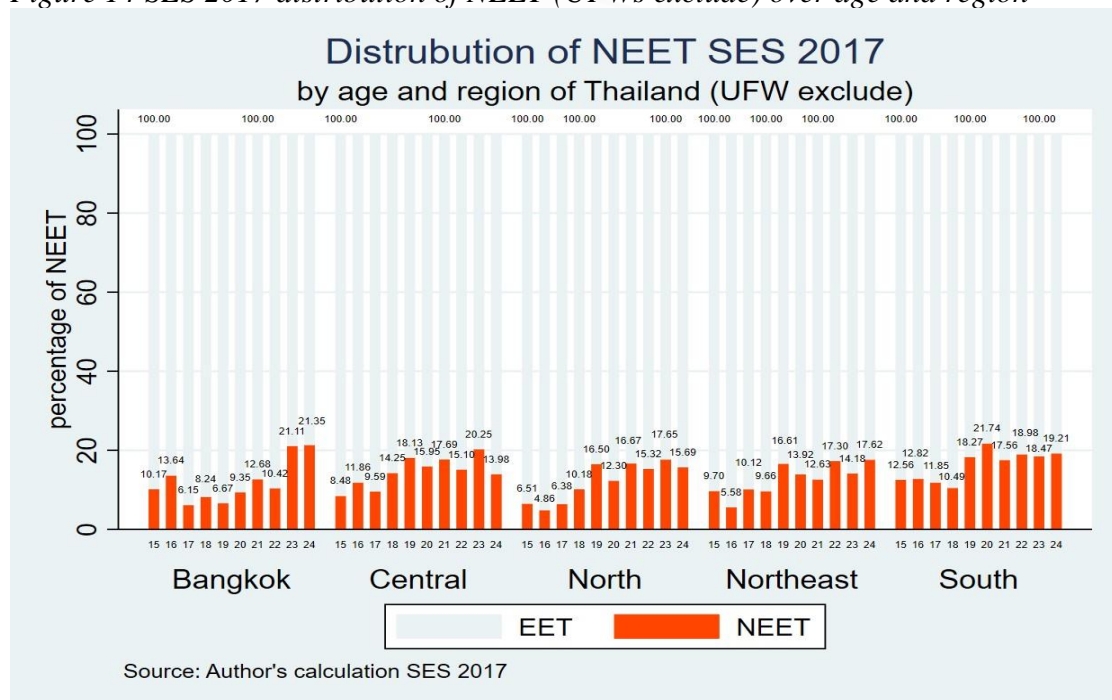


Figure 14 SES 2017 distribution of NEET (UFWs exclude) over age and region



As for age group distribution over regions in 2017, as figures 13 shows, NEET people are most in age group 20 (387), 23 (419), 24 (345). Compared to 2007, there is a decrease in the number of NEET, but when UFWs removed from NEET there is a slightly increase. Also, it seems the age of the largest NEET group grows older over the ten years, this could mean that the “late school leaving” problem has become more serious.

Over the decade, the total population of NEET has decreased, but for factors such as average household monthly income per capita and education level, both genders have the same results in both definitions, which is youth from rich families are less likely to be NEET, higher education level is more likely to become NEET, but most of them are UFWs, especially in North and Northeast region.

The age of most NEET youth shows a pattern of increasing, this could mean there is a “late school leaving” problem in Thailand, it needs to be further explored and it is a set back to the government universal education plan.

### **Discussion and recommendations**

This paper captures some interesting patterns of Thai youth identified as NEET. First, unlike previous finding where higher levels of education are associated with lower likelihood of being NEET, this current study finds that Thai youth are more likely to be NEET with highest level of education. Compared to those only have finished compulsory education, those who have a bachelor's degree or higher are much more likely to be NEET. This could mean that there is a big mismatch between education and labor market. Second, people from higher income families are less likely to be NEET, and the result is consistent for both different definitions of NEET. Third, people from the North and Northeast regions are less likely to be NEET than Bangkok when UFWs are removed from NEET definition. The fact the coefficients on the North and Northeast regions are sensitive to whether UFWs are included in or not is suggestive that many who are classified as NEET are potentially important economic contributors as UFWs in agriculture households. From 2007 and 2017 data, all the findings are similar, also the number of NEET people are slightly reduced. Last, Thailand unlike previous study about Turkey or Greece has a “late school leaving”

problem, most people drop out at university or higher degree, and there is a trend shows this situation has become more serious, and mostly happened in Bangkok and Central regions.

UFWs need to be pay more attention. This research has showed that the NEET situation in Thailand can be changed just by put them into different category, this might because of Thailand has a large number of households work in the agriculture sector. However, these people may be considered as NEET if the definition is misused and lead to a totally different result.

As for Thai government it is ideal to make policies not only about relocate UFWs, but also to focus on closing the gap between transfer education and labor market. But working on closing the gap seems more urgent, after all, agriculture needs a lot of labor, and more importantly, if the gap continues to grow, it might give the impression of taking education is a waste of money, since it is not helpful on find a job, which can lead to less people go to school. This situation continues may create a bad loop, leading to less educated people, more UFWs, and a bigger gap between education and the labor force.

There are many areas of future work could be pursued. It would be desirable in the future to use data that contains information on training and panel data that captures movement in and out of NEET status. Given that findings show that the most highly educated youth are most likely to be NEET, future research might also want to pursue the reasons behind the mismatch between education and the labor market in Thailand. Finally, further research is needed to understand the role of Thai youth in unpaid family work and their prospects for finding paid work as a way to relief the ageing population and immigrant worker problems. Also, the potential possibility of “late school leaving” problem need to be further explored.



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