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Wealth distribution, income distribution, social class and education of household heads: Evidence from Thailand's national household survey

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Abstract

This study empirically investigates income and wealth distributions in Thailand using the 2021 Household Socio-Economic Survey in which the National Statistical Office (NSO, 2021) collected information in all 77 provinces and in both urban and rural areas. This research has two objectives. First, it examines income and wealth inequality by social classes, residential location, and educational attainment of household heads. Second, it analyses the influence of educational attainment of household heads and social class on ability to earn income and ability to accumulate household wealth. Descriptive statistics and instrumental variable analysis are employed in the study. As projected by the life-cycle model, this research finds that wealth possession tends to increase by age of household heads, illustrating a hump-shaped graph called the Kuznets Curve. Overall, income and wealth distributions vary by social class, residential location, and education of household head. More specifically, urban households accumulate more wealth than their rural counterparts. The head of the household obtaining more education builds up more wealth than their less educated counterparts. This indicates a positive contribution of educational level to earnings and wealth in the long run. We suggest the Thai government to employ more poverty targeting approaches like the Equitable Education Fund (EEF) that boost financial support for about 600,000 students who fall in the category of "very poor," so they have opportunity to accumulate wealth, become less vulnerable during uncertain times, and are protected from the progression of intergenerational inequality.

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Introduction

The widening gap between the rich and the poor has stimulated fervent debates on income and wealth distribution over the past three decades. Technological progress and globalization have driven economic growth, although they have benefited the capitalist class and top managerial class more than the poor (Piketty 2014; Piketty & Saez, 2014). If a country aims to increase and sustain its economic growth, the income share of the middle and the poor class has to rise through various economic, social and political means (Dabla-Norris et al., 2015). In advanced countries, research on economic inequality has both theoretically and empirically expanded with the use of different complex data designs and sources (e.g., household panel survey, income tax file, property tax data and government official inheritance documents). However, similar research in developing countries has been limited in number due to data unavailability. Fortunately, in Thailand, since the mid-1970s, the National Statistical Office (NSO) has conducted large-scale household data surveys with information about incomes and occupations, that have been very useful data sources of income inequality research. Subsequently, NSO has expanded its data coverage to include information about possession of assets, indebtedness, and financial debt, which has driven further research on wealth distribution (e.g., Patmasiriwat, 2009) and financial stability (e.g., Piyakarn & Socatiyanurak, 2013).

This paper is set for two modest objectives. First, this research employs the latest NSO's Household Socio-economic Survey in 2021 (SES2021), a multi-stage sampling survey data randomly drawn from rural and urban areas of 77 provinces, to perform comparative statistics on income and wealth distribution by social class. Second, using the instrumental variable regression, educational attainment of household head is examined to see if more education is positively related to high paid occupational choices, high income and high wealth. Hence, this research asks the following questions. What is the extent of income and wealth gaps among social classes and geographic regions? What are the influences of educational attainment of household heads on ability to earn income and ability to accumulate household wealth?

The rest of this paper is organized as follows. Section II briefly discusses our research model based on application of the life cycle and the human capital theories and describes the variables of interest and hypotheses. Section III reports our empirical findings. Section IV is a critical note of Thailand's recent government welfare programs aimed to reduce poverty and inequality in the short and long run. The paper includes the limitations of study and suggests possible topics for future research at the end of paper.

Literature Review

The Life-Cycle Hypothesis and Human Capital Theory

Inequality is a complex social phenomenon that manifests itself through a skewed wealth and income distribution, unequal access to economic and social opportunities, and regional disparities (Pfeffer, 2008, 2011, 2018; Piketty & Zucman, 2014; Saez & Zucman, 2016). In essence, educational inequality is often regarded as the foundation of the overall equality of opportunity in present-day societies (Pfeffer, 2018). Educational inequality may relate to one's socioeconomic class, the choice of occupation, income, saving and wealth accumulation over one's lifetime. The life-cycle and human capital theories are adopted as theoretical framework to explain this hypothesis, make linkages between variables and draw conclusions in our research. Therefore, they are briefly discussed here.

The life-cycle hypothesis (Modigliani & Brumberg, 1954) posits that rational people plan and smoothen their consumption throughout their lifetime. That is, they would borrow and consume when their income is low, and they would save when their income surpasses some threshold levels. A number of studies have found a hump-shaped pattern of wealth accumulation as predicted by the life-cycle model and the human-capital theory. That is to say, asset possession among the young household heads tends to be low and increases during middle age along with working experience; income earnings tend to reach their peaks at 50–55 years of age, and, later on, tends to decline due to retirement or other factors.

When data are available, much research would consider household wealth as a combination of the total value of various physical assets (e.g., house, vehicle, land, stocks, bonds, and cash) and intangible assets (e.g., education, knowledge) before subtracting such asset values by debts owed. Although the original life-cycle theory posits that persons accumulate wealth for their own personal gains (self-interest), their decisions to save and accumulate wealth may be altruistic (e.g., inheritances from parents to children). Altruism in the family explains reasons why households transfer their wealth advantages across generations, leading to wealth inequality in subsequent generations and the rigidity of the wealth distribution (Benton & Keister, 2017).

Human capital investment and wealth accumulation are intertwined. Baker and Tomes's dynastic utility function (1986) assumes that utility-maximizing parents are concerned about the well-being for their children. The degree of the transmission of assets and consumption from parents to children "is determined by the interaction of this utility-maximizing behavior with investment and consumption opportunities in different generations" (Becker & Tomes, 1986, p. 51). Altruistic parents would opt for the altruistic alternative if placing the welfare of a child (investing on their children's education) over their own welfare, and parents may draw on their wealth to invest on their children's education. Because the wealthy households have more resources to finance their children's education, compared to the poor ones, this would lead to growing wealth gaps in education.

Wealth Inequality in Education

The distribution of wealth is pivotal in determining economic capabilities and abilities to climb up a social ladder because wealth is generally linked to political power. Therefore, post Keynesian economics has a long interest in investigating the theory of wealth inequality (Dutt, 1984; Palley, 2012). Advances in data availability have allowed researchers to renew interest in empirical wealth research (Patmasiriwat, 2009; Piketty 2014; Saez & Zucman 2016). Most existing studies have found a linkage between individuals' educational attainment and parental/household income, but only a handful of studies have examined the relationship between household wealth accumulation and education (Conley, 2001; Lucas, 2001; Lucas & Byrne, 2017; Morgan & Kim, 2006; Pfeffer, 2018). For example, Pfeffer (2018) examined gaps in educational attainment by household wealth and compared their change over two cohorts, born in the 1970s and 1980s. Pfeffer's findings are consistent with Conley (2001) that gaps in educational attainment by family net worth were significant across all high school and postsecondary educational outcomes. In addition, the household wealth effect on these educational outcomes was independent of that of other socioeconomic attributes of families, including household income. Pfeffer explained that "wealth is distinct from income, its association with education is distinct, and trends in that association may thus be distinct, too (p. 1035)."

In Thailand, the Credit Suisse Global Wealth Report (2018) ranked Thailand as one of the 10 most unequal countries in terms of wealth distribution. Wealth inequality is more pronounced than income inequality (Thailand Development Research Institute [TDRI], 2020). It is reasonable to believe that rising gaps in education is related to household wealth. However, examining family wealth is no easy task as it requires detailed information about source of wealth (e.g., land ownership, employment, business ownership, vehicle ownership, saving, investments) that generates one's wealth throughout her lifetime (Killewald, Pfeffer, & Schachner, 2017). Fortunately, the National Statistical Office (NSO) began to collect household assets and wealth information in B.E. 2549 (2006). Using the National Statistical Office (SES2006), Patmasiriwat (2009) constructed an estimate for household wealth that contained various sources of wealth such as land and house ownership, household income, debt, and financial assets. His findings confirmed that wealth distribution in Thailand was far more unequal than income inequality. More specifically, the Gini coefficient for household wealth was .70, which was greater than that for household income (Gini coefficient = .52). Now that the national panel data collected during the third and fourth waves of COVID-19 (Q3 and Q4 in 2021) have become available, it is an appropriate time to examine wealth distribution and wealth gaps in education after the pandemic. This research differs from previous studies mentioned above in several ways. First, Thailand is one of the most unequal countries in the world, so examining current inequality development based on current situations is timely and noteworthy. Second, unlike prior wealth research conducted on the eve of COVID-19 with simulated estimates, the present research makes use of latest actual data to analyse wealth inequality. Households with sufficient wealth, particularly those able to rely on savings, are more protected against the adverse effects than those with no or little wealth. As the pandemic is threatening to widen inequalities everywhere, this is a timely study that provides a new level of knowledge about income and wealth distribution.

Research Hypotheses

H1: Income and wealth are unequally distributed among Thai households. A large number of poor households (79%) tend to have a larger family size with many dependents and live in rural areas where they do not have the opportunity to go to good schools or to work in a well-paying occupation compared to their rich counterparts. As such, variations in socio-economic class and occupational choice very likely affect the ability to earn a living, saving and accumulating wealth. Even excluding the farmers, the chance of an average person from other social classes becoming an entrepreneur (the highest SES group) is much smaller than an individual from a wealthy family living in urban areas.

H2: Wealth is unequally distributed between urban and rural households. The poverty rate in Thailand has remarkably improved from 58 percent in 1990 to 6.8 percent in 2020 due to high economic growth rates and structural transformation. However, about 79 percent of the poor Thais still reside in rural areas, and mostly are in agricultural sectors (World Bank, 2022). Rural households also suffer from having low education, supporting many dependent family members, facing difficult living standards, and having limited access to food security, quality public services and social protection mechanisms.

H3: Wealth dispersion is explained by (1) human capital, (2) age cohort, and (3) socio-economic class. The Human Capital Theory would predict that parents of higher SES are better able to accumulate wealth and invest more on their children's education, compared to their counterparts of lower SES. That is, families with more accumulated wealth would leave an inheritance to their children in the forms of in-kind (e.g., education, land and properties) and cash transfers. Likewise, the well-educated children would have a versatile career, have higher-paying jobs, have more opportunities to accumulate more wealth and power and invest more on their own children's education, resulting in a wider wealth inequality and intergenerational inequality in the long run.

Methodology

This research employs the latest Thailand's Household Socio-economic Survey in 2021, which was carried out by the National Statistical Office (NSO). The latest survey includes socioeconomic information about household income, characteristics, expenditures, assets, debt, remittance transfers as well as information about benefits received from social welfare programs, collected from January to December 2021. The coverage of the survey includes sampled 46,840 households located in both municipal and non-municipal areas in all 77 provinces in Thailand. The unit of analysis of this study refers to households, which typically comprise of 3 to 4 members with 1 to 2 children plus working-aged adults and elderly. The household survey is a large-scale and multi-stage sampling survey. First, the whole kingdom was divided into over 3,000 clusters, which covered 77 provinces in both urban and rural areas. Next, the sampling survey was drawn from all clusters. The questionnaire survey collected various information that was grouped into: (1) basic family information, (2) income generation, (3) housing and household assets, and (4) indebtedness and asset components.

In this paper, information used to construct wealth is retrieved from the 17th record of Part 5 of SES dataset. This record contains information about assets and liabilities of households in the survey. Hence, wealth in this paper is the total value of household assets (both living and temporary dwelling), total value of land assets (land/building for business/farm), the value of vehicles owned by household, and the value of financial assets. However, this research does not include the amount of household debt in the wealth calculation because such information is self-reported data (likely to be over-or under-reported due to person's judgement, trust, attitude). It should be noted that financial assets combine both financial assets for saving and for investment purposes, so saving as one of the essential aspects of building wealth is part of financial assets (for more information, see the 2021 Household socio-economic survey-Whole Kingdom).

The unit of analysis is households. Descriptive statistics are used to display wealth distribution. The Gini coefficient is calculated to measure the degree of inequality in the distribution of household wealth. In this study, two-Stage Least Squares (2SLS) regression analysis is used to estimate our predictive models because the models contain an instrumental variable (household income). More specifically, 2SLS estimates wealth in which income (instrument variable) is estimated in the first stage, and wealth is estimated in the second stage. The key variables extracted from the SES dataset are the following:

– *Social class* in this study refers to occupational choice of household head, ranking from the highest to the lowest class: *entrepreneur* (highest SES class), *professional worker* (2nd SES class), *farmers with own land* (3rd SES class), *landless farmer* (4th SES class), manual worker (5th SES class) and *economically inactive persons/elderly* (lowest SES class).

– *Household income per capita* (Y) measures the average income earned per person in a household (household income divided by number of household members). More specifically, household income in this paper includes 4 sources of income. $Y = \{Y_1, Y_2, Y_3, Y_4\}$ where Y_1 = wage income, Y_2 = farm income, Y_3 = non-farm income, Y_4 = other incomes.

– *Wealth* is a combination of 4 components of *household assets*. $A = \{A_1, A_2, A_3, A_4\}$ where A_1 = land and housing assets, A_2 = vehicle assets, A_3 = financial assets, A_4 = other assets.

– *The number of years of schooling* is a proxy of household head's educational background.

– Other variables include household head's characteristics (gender, age cohorts) and household characteristics (home tenure, family size, house with disabled family member, household's regional location).

Results

Income is a flow variable (money received on a regular basis), while wealth is a stock (accumulated over a long period). In general, an individual is said to be "wealthy" when he/she has accumulated many valuable assets and goods over time. Table 1 displays components of households' income, wealth and other variables used in the study. Table 2 displays the descriptive statistics of variables used in this study. We separate households into deciles (1 = lowest wealth, 10 = highest wealth) for comparison purposes. There appears to be notable variations between the lowest and highest wealth deciles. For example, the value of wealth per capita of the lowest decile was only 19,184 baht, while the value of wealth per capita of the top decile was 3,154,625 baht. On average, household heads of the top decile have 11.23 years of schooling, while the heads of the bottom decile obtain only 8.57 years. The family size (number of family members) of the top decile is smaller than other deciles.

Table 3 displays income sources of each social class. As seen from the table, income sources of professionals and basic workers are from wages, while most income of farmers is from farm income. A considerable portion of entrepreneurs' and inactive workers are from other income sources (e.g., pension, government benefits). In addition, there appears to be significant inequality in income and wealth between and within social class (Table 4). The combined asset share of the upper class (e.g., entrepreneurs and professionals) is noticeably higher than other classes. Although the income share of farmers is small (0.098), their asset share is quite high (0.189). In contrast, both income and asset share of landless farmers is very low. Within wealth (Theil index = 0.983) and income (Theil index = 0.657) inequality is highest among entrepreneurs.

Table 1 Descriptive statistics of variables

Variable	Household	Mean	*SD*	Min	Max
Total asset (1000)	46,840	1,783	4,396.91	0	601,050
Household income	46,840	26,073	35,429.64	-1,089,507	2,862,588
Wage income	46,840	10,005.14	10,532.23	0	414,234
Farm income	46,840	2,466.434	12,112.34	-246,046	799,759
Non-farm income	46,840	4,393.802	25,866.41	-1,105,933	2,857,700
Other income	46,840	9,208.225	12,248.24	0	593,000
Age	46,840	56.19	14.91	13	99
Family size	46,840	2.79	1.56	1	20
Years of education	44,655	8.78	3.79	6	19
Earner (persons)	46,840	1.58	1.05	0	10
Home tenure	46,840	1.97	1.85	1	8
Housing asset	46,840	815,188	1,788,978	0	200,000,000
Commercial asset	15,508	1,616,258	3,805,700	100	119,000,000
Vehicle asset	41,040	299,215	559,302	200	26,800,000
Financial asset	46,840	170,609	1,626,397	0	300,000,000

Source: NSO (2021); Researchers' own calculation (2023)

Table 2 Comparative statistics by wealth decile

Wealth decile	Assets (1000 baht)	Wealth per capita (baht per person)	Family size (person)	Years of Schooling
1 lowest	47.29	19,184	2.40	8.57
2	246.47	77,599	3.12	8.12
3	480.33	141,466	3.40	7.66
4	663.65	207,046	3.21	7.62
5	862.75	283,989	3.04	7.90
6	1,106.87	377,647	2.94	8.09
7	1,408.86	506,424	2.78	8.49
8	1,912.45	703,963	2.72	8.98
9	2,707.64	1,068,157	2.54	9.71
10 highest	6,608.97	3,154,625	2.19	11.23

Source: NSO (2021); Researchers' own calculation (2023)

Table 3 Income source by social class

Social Class	Wage Income	Non-farm Income	Farm Income	Other Income
Farmer with land	1,388	630	15,579	6,947
Landless farmer	1,124	375	12,390	5,786
Entrepreneur	3,073	35,702	699	13,846
Professional	18,160	10,333	510	7,590
Basic worker	16,270	599	391	5,518
Inactive & elder	1,001	381	363	15,677
Total	10,005	4,394	2,466	9,208

Source: NSO (2021), researchers' own calculation (2023)

Table 4 Income and wealth inequality by social class

Social Class	Wealth				Income			
	Asset share	Pop share	Asset Value (1000 baht)	Theil index	Income share	Pop Share	Mean Income	Theil index
Farmer	0.189	0.104	3,250	0.540	0.098	0.104	24,600	0.384
Landless Farmer	0.026	0.038	1,210	0.773	0.029	0.038	19,700	0.457
Entrepreneur	0.107	0.043	4,410	0.983	0.088	0.043	53,400	0.657
Professional	0.292	0.240	2,170	0.582	0.337	0.240	36,600	0.281
Basic Worker	0.159	0.311	914	0.668	0.272	0.311	22,900	0.169
Inactive	0.226	0.263	1,530	0.706	0.176	0.263	17,500	0.414

Source: NSO (2021), Researchers' own calculation (2023)

Figure 1 displays comparative statistics over the socioeconomic class. On average, entrepreneurs rank on top in terms of assets per capita. Surprisingly, farmers with own land possess the second most asset per capita, which is also higher than that of professionals. Manual workers have least asset per capita. Figure 2 displays the average year of schooling by social class and residential location. On average, professionals, entrepreneurs, and manual workers obtain more education than farmers. Nevertheless, professionals, entrepreneurs and manual workers residing in urban areas have more educational attainment than those in rural areas. Figure 3 displays wealth per capita based on age of household head. The graph confirms the life-cycle hypothesis, which shows a hump-shaped pattern, indicating wealth accumulation is low for young household heads and is high for older household heads, as hypothesized by the life-cycle theory. The graph also shows that wealth per capita begins to decline when household heads are about 65 years old. From Figure 4, females in general have more wealth per capita when they are 20 to 39 years old, while males' wealth per capita is higher than that of females when they are 40 years old and above. Wealth per capita of both males and females is highest when they age closer to retirement (50–60 years old). The Lorenz curves in Figure 5 showed disparities in wealth per capita of households located in urban and rural areas. We find that wealth inequality is more apparent for the households in the urban areas. The Gini coefficient of urban areas is 0.6433, which is higher than that of rural areas of 0.5931, indicating a greater inequality in urban than rural areas.

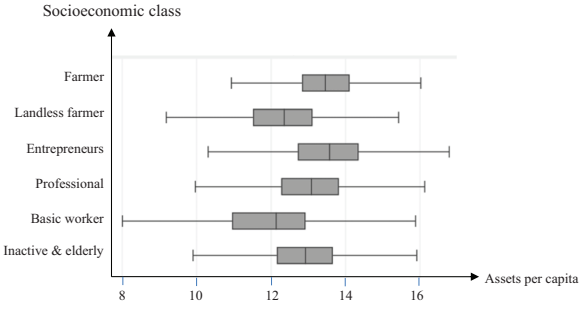

Figure 1 Asset per capita by socio-economic class

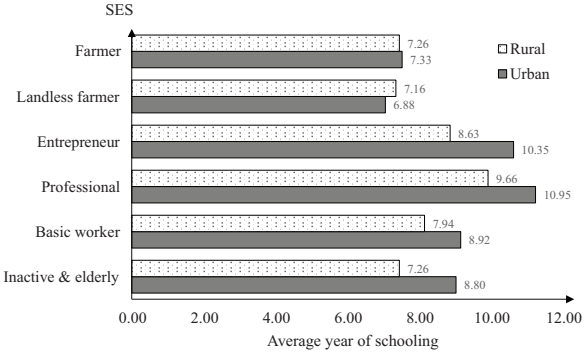

Figure 2 Average year of schooling by socio-economic class

Figure 3 Wealth per capita and age of household head

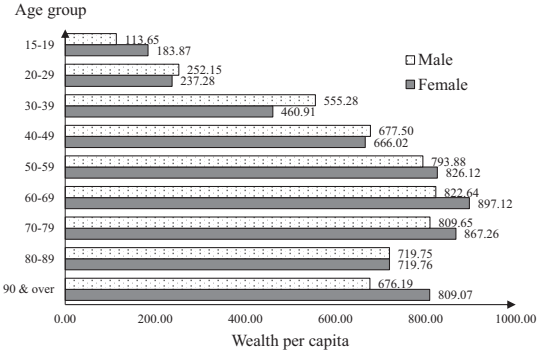

Figure 4 Wealth per capita over age group and gender

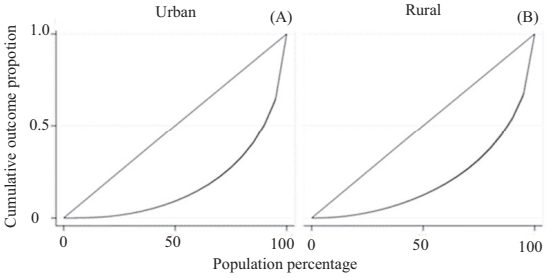

Figure 5 Wealth inequality in (A) urban and (B) rural areas

Table 3 shows wealth per capita by age-grouping and social class. Wealth per capita of entrepreneurs and farmers owning land appears to increase by age. Landless farmers and manual workers have lowest wealth per capita in all the age groupings, compared to other social classes.

Table 4 shows two-stage least squares regression results for urban and rural households. We follow suggestion by Maddala and Hu (1996) on the topic of "to pool or not to pool" the model estimation. In essence, if two samples are quite different in pattern, it is more reasonable to separate the sample into two groups (urban/rural) and make a separate estimate for each group, rather than using an estimation based on pooled data.

Table 3 Wealth distribution by age grouping and social class

Age group	Wealth per capita, 1000 baht				
	Farmer with land	Landless farmer	Entrepreneur	Professional	Manual worker
15–19	775.0	71.6	339.7	68.3	115.4
20–29	752.1	284.7	859.0	460.7	150.8
30–39	1,124.5	273.7	1,125.3	730.8	251.7
40–49	1,087.7	407.1	1,679.2	845.9	331.2

Table 4 Two-stage least squares regression results for urban and rural households

Variables	Pooled data		Separate Equations			
			Urban		Rural	
	Coef. (*SE*)	*t*	Coef. (*SE*)	*t*	Coef. (*SE*)	*t*
1st stage						
Years of school	.093 (0.001)	111.73	.095 (0.001)	93.86	.086 (0.001)	59.07
Age	.007 (0.001)	34.14	.008 (0.000)	29.35	.006 (0.000)	17.31
Rural	-.068 (0.005)	-11.74	-	-	-	-
Female	-.026 (0.005)	-4.80	-.037 (0.007)	-5.09	-.011 (0.008)	-1.35
Renter	-.121 (0.007)	-16.32	-.134 (0.009)	-14.68	-.075 (0.013)	-5.77
Earner	.286 (0.003)	93.18	.290 (0.004)	69.38	.283 (0.004)	62.96
Disabled	-.029 (0.003)	-7.76	-.046 (0.005)	-8.61	-.010 (0.005)	-2.00
SES Class						
Landless farmer	-.121 (0.016)	-7.16	-.097 (0.028)	-3.48	-.149 (0.021)	-7.04
Entrepreneur	.439 (0.015)	28.39	.463 (0.021)	21.84	.450 (0.024)	18.58
Professional	.177 (0.010)	16.91	.221 (0.015)	13.95	.158 (0.014)	10.84
Manual worker	.046 (0.010)	4.65	.094 (0.015)	6.03	.015 (0.013)	1.16
Inactive	-.113 (0.010)	-10.40	-.026 (0.017)	-1.61	-.189 (0.014)	-13.00
Region						
Central	-.178 (0.013)	-14.04	-.198 (0.013)	17.09	-8.12 (0.055)	-20.43
North	-.404 (0.013)	-30.48	-.405 (0.014)	9.02	-4.33 (0.059)	-36.21
Northeast	-.416 (0.013)	-31.63	-.416 (0.013)	11.90	-4.47 (0.058)	-36.59
South	-.299 (0.014)	-21.94	-.286 (0.015)	15.42	-6.17 (0.047)	-39.42
Constant	8.492 (0.024)	352.43			8.431 (0.031)	
Observations	44,449		25,392		19,057	
R-squared	0.445		0.460		0.412	
			Urban		Rural	
	Coef. (*SE*)	*z*	Coef. (*SE*)	z	Coef. (*SE*)	z
2nd stage						
Income	.449 (0.016)	27.02	.537 (0.022)	23.40	.292 (0.023)	12.47
Years of school	.100 (0.002)	41.83	.103 (0.003)	32.34	.089 (0.003)	24.46
Age	.035 (0.000)	75.59	.041 (0.000)	65.09	.025 (0.000)	36.57
Rural	.214 (0.013)	16.20	-	-	-	-
Constant	5.247 (0.153)	34.23	4.016 (0.208)	19.27	7.648 (0.220)	34.69
Observations			25,392		19,057	
R-squared	0.212		0.258		0.134	

Note: Per capita income (log) is the instrumental variable. Income per capita (log) is the dependent variable in the first stage and wealth per capita (log) is the dependent variable in the second stage.

Accordingly, we provide estimates from both pooled and disaggregated data (urban/rural). Using the instrumental variable regression, this research finds that human capital as measured by years of schooling is positively linked to wealth per capita for both urban and rural households. Wealth per capita of entrepreneurs, professionals and manual workers is significantly higher than that of farmers with own land. However, wealth per capita of landless farmers and inactive worker is significantly lower than that of farmers owning land. Households located in Bangkok have higher wealth per capita than households in other areas. Model estimations are shown in Table 4.

In addition, estimates based on separate data (urban/rural) seem to be more sensible than estimates based on pooled data because the sample in the data appears to be heterogeneous. Considering the estimates based on disaggregated data (urban/rural), we see that the marginal estimate of income for urban households (.537) is much larger than .292 for rural counterparts, meaning urban families are more able to accumulate wealth than their rural counterparts. Furthermore, the coefficient for year of schooling of urban household heads is .102, compared with 0.89 for rural counterparts. This again indicates that years of schooling generate more wealth for urban households than rural counterparts. In this particular case, using separate estimates for urban and rural households makes more sense than estimates from pooled data because the former takes into account heterogeneity in the sample.

Discussion

This paper presents an investigation of income and wealth distribution of Thai households using a large-scale and multi-staged survey, conducted by the National Statistical Office in the year 2021 (B.E. 2564) during the COVID-19 pandemic. Overall, this research finds that wealth possession tends to increase by age of household head, as projected by the life-cycle model, while income tends to increase in the middle-age and reach maximum at around 65 years of age, illustrating a hump-shaped graph called the Kuznets Curve. There are three key findings. First, income and wealth inequalities exist among social classes. The incomes of professionals, basic workers and entrepreneurs are higher than farmers. The primary means of income of professionals and basic workers come from wage income, while the income earned by farmers is mainly from agricultural activities. Second, there are regional variations in wealth per capita. That is, wealth distribution is confirmed to be highly unequal as measured by the Gini coefficient of .64 for urban areas and .59 for rural areas. The asset share of the upper class (e.g., professionals) is larger than farmers and basic workers. Third, urban and rural households are significantly different in terms of asset possession. Urban households accumulate more wealth than their rural counterparts. The head of the household obtaining more education builds up more wealth than their less educated counterparts. This indicates a positive contribution of educational level to earnings and wealth in the long run.

These research findings are consistent with previous studies: income levels play a direct and indirect role in determining wealth. The findings also confirm that the widening wealth inequality affects the position of individuals in the socioeconomic structure, which also prevents them and their children from climbing the social ladder. In other words, wealth inequality may lead to intergenerational inequality through investment in children. To confirm this, we use the same data to examine household spending on their children aged 0–14 years old in 2021 (not tabled). In comparison, households at the top decile class with total assets around 11,200,000 baht spend on average 22,994 baht on their children per year, while households at the bottom decile class with total assets around 78,475 baht spend only 2,035 baht on their children each year. In addition, when the data are classified into percentiles (p10, p25, p50, p75 and p90), the rich households' spending on education (per capita) is about 70 times higher than that of the poor.

Our research has some limitations. First, the measurement of wealth may be imprecise as information about household wealth was self-reported by the survey respondents and, in some circumstances, some individuals (especially the rich) may have motive to understate their asset possession. Another limitation is that due to data unavailability, we can only use years of schooling as a measure of human capital. In fact, the quality of education as well as other types of human capital investments such as on-the-job training and informal learning (data not available from the NSO survey) likely affect one's ability to accumulate wealth. The NSO's household dataset provides rich and useful information for study on ground-breaking topics like income and wealth distributions, yet there is room for improvement to be useful for researchers to address advanced research topics. Currently, the Household Socio-Economic Survey is cross-sectional by nature (collected every two years), but the observations are not repetitive measurements over time. Hence, it is not possible to examine changes in income and wealth of

individuals/household at different time points. Longitudinal and/or panel data with repeated measurements would provide extremely useful information for researchers to detect development or changes in wealth accumulation of the target social class at both the household and individual level. Furthermore, the Household Socio-Economic Survey should also collect information about inheritance (e.g., registered land and property transfers), which is recently required by the Department of Lands. Methodology-wise, future research may want to add an instrument variable in their estimation model to measure how quality education and other types of human capital investments may yield more wealth accumulation during one's lifetime. It is also worth mentioning that the National Education Reform Act is being debated in parliament. We advocate our government to initiate more pro-poor policies that aim to help children from underprivileged families improve their learning, using research findings based on the national household survey as a guidance.

Thailand is far from being welfare state, and numerous welfare programs have been temporary (e.g., "half-and-half" program). That is to say, long-term solutions to address inequality need to be for the long run. Addressing the root causes of inequality should begin with equal education. For many developing countries including Thailand, governments do not have adequate financial resources or the political will to meet every student' s educational needs given that they also have to finance other public goods and services. The level of public and private spending on education has important policy implications for reducing inequality in learning (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2022). That is, when government spending on education is low, households may have to borrow and save to pay for their children's education themselves. For the poor, saving or borrowing for their children's education would likely lower wealth or set them into debt over time. Long-term consequences may lead to the inheritability of socioeconomic status and the difficulty of social mobility. To help lower-income people in realizing their human capital potential, we ask the Thai government to employ more poverty targeting approaches and fundings like the Equitable Education Fund (EEF), that boost financial support for more than 600,000 students who fall in the category of "very poor." Allocating the government budget with demand-side financing would reduce wealth inequality in education among the poorest groups and protect them from the progression of intergenerational inequality in the long run.

Conflict of Interest

Authors declare that there is no conflict of interest.

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