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# THE EFFECT OF INCOME AND EDUCATION ON SUPPORT FOR DEMOCRACY

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## ABSTRACT

Our research aimed to find whether income levels and years of education would influence the support for democracy in Taiwan and other Asian countries. With the survey data from the Asian Barometer Survey, we find that the relationship between income and support for democracy is not consistent throughout the countries we examine, with only results from Taiwan are positive and statistically significant. On the other hand, the results of years of education match what we have expected: higher education generally has a positive effect on support for democracy in most of the countries.

## 1 Introduction

The effect of income on democracy and attitudes toward democracy has long been debated over decades and among nations. Acemoglu et al. [2008] test cross-country panel data and claim that per-capita incomes have almost no effect on whether a country is a democracy. On the other hand, Cordero and Simón [2016] find that individual income can have a positive influence on the support for democracy from 14 Eurozone countries. Also, Andersen [2012] states that with higher GDP per capita, people tend to be more supportive upon democracy.

Investigating the literature related to our research topic, we found that most research discusses the relationship of income and democracy from macro perspectives, using indices such as electoral rights as measurement of a nation's democracy. On the other hand, it may be hard to find survey data that is valid among nations with different cultural and political backgrounds. Nevertheless, we still can find some literature examining survey data within similar culture regions, and these research give us insight into handling the survey data. Following we arrange the literature reviews by diverse aspects related to our research question.

### 1.1 Possible Determinants of Democracy

When it comes to income, some research separate people's income into some groups. For instance, Andersen separates data into a group at the 20<sup>th</sup> percentile and a group at the 80<sup>th</sup> percentile to tell the different trend between the high-income and the low-income group. Solt [2008] further separates data into five groups by income quintile, and discuss the different influences on dependent variables of each group. From Anderson's research, income has a significantly U-shaped impact on support for democracy. Higher income will raise people's support for democracy first, but the effect becomes negative then. On the contrary, Solt states that income has no significant influence on political variables.

In Shafiq [2010], the author dually focuses on education and income with respect to how they affect citizens attitude toward democracy in Muslim countries. While educational attainment has a positive effect on being supportive for democracy in general, income seems to have little or even no contribution to the support for democracy. Cordero and Simón's research also include education level as an independent variable, and they find that higher education level may makes people support democracy more. Anderson's research states the same result, too.

Gender is commonly served as a controlled variable in research based on survey data. Anderson's research suggests that on average, men are more supportive of democracy. Also, Solt concludes that women have less political interests, and they participate in politics less. On the contrary, Cordero and Simón mention that males have less support for democracy than females.

Cordero and Simón add satisfaction of economy as one of the controlled variables in their research, and the result points out that although this independent variable has little correlation with support for democracy, it is significantly positively correlated to people's satisfaction with democracy.

Information about national leaders plays a significant role in defining a country's political situation. Londregan and Poole [1996] use data compiled by Bienen and van de Walle. They take biographical information about national leaders as a determinant of democracy. The year the leader assumed power, age, military background, and whether the leader seized power by nonconstitutional means are included in the category. In their research, when democratic leaders needed to face re-election, also known as the time remaining in constitutionally mandated interelection period (CMIP), is also treated as a determinant.

Political condition of the whole country has been used as the determinant of democracy, also. In the research of Rigobon and Rodrik [2005], a modest but significant positive relationship between rule of law and democracy is found. They also find that openness, which was measured by the proportion of trade in GDP, has a negative effect on democracy. Additionally, distance from the equator is treated as an exogenous variable and has a strong and significant impact on the level of democracy. Burkhart [1997] includes world system position in the determinant of democracy. An important impact on democratic fortune is found. Burkhart also finds that British colonial status has a strong and positive influence on democracy, to which colonization brought by 2.5 points. Additionally, ethnic composition is considered. Ethnic heterogeneity brings a negative impact on democracy in Burkhart's research.

Country's economic condition are often treated as an important determinant of democracy. Londregan and Poole apply data of real income in 1985 U.S. dollars, previous years per capita income, rate of current income growth, and previous years income growth for a hundred of countries over 34 years from 1952 to 1985. Andersen also includes the economic situation of the whole country in his research. Through putting GDP per capita in the model, he concludes that economic prosperity is positively correlated with support for democracy. Aside from real income, income distribution, both squared and not, is considered as determinants in Burkhart's research. The positive impact of income distribution on democracy is found, while squared income distribution brings a negative but small effect to democracy. Anderson and Solt also take income inequality into consideration. They both conclude that the higher inequality will lead to lower support for democracy or political interest.

## 1.2 How to Evaluate Democratic Variables

In papers discussing income and democracy from a macro perspective, such as Acemoglu, Robinson & Yared and Barro [1999], the indices of Freedom House - Political Rights score and Civil Liberties score - have been used to measure democracy. This can be an important indicator for us to better understand the connotation of democracy. Another example of measuring democracy under macro scale is the consideration of the regime type. Intuitively, the characteristic of the regime is an important index when evaluating democracy. Rigobon and Rodrik used data from Polity IV and considered regime type as an evaluation of democracy. Various ways of implementation of regime type were used, Londregan and Poole applied a 21 point measurement to evaluate democracy in their research. They mention that Gurr first designed this method, in which various aspects were considered in the score on an annual basis. Aside from above, Londregan and Poole include the probability of leader change and regime change as an evaluation of democracy, which was measured by various aspects of a government including biographical information of the leader.

Among papers inquiring individuals support of democracy, we learn how questionnaires have been conducted to gather people's opinion on democracy. Anderson's study constructs the support for democracy scale according to data from the 2001 wave of the World Values Survey, which contains three questions of how respondents think of democracy. In Solt's research, there are three dependent variables to be discussed, which are political interest, political discussion and electoral participation. In the survey, respondents are asked to answer the questions such as "describe their interest in politics on a four-point scale" and "how often they discussed political matters with their friends". The answers will be scaled to be corresponding dependent variables. From Cordero and Simon's research, the democratic variable can be separated into two, that is, "satisfaction with democracy" and "support for democracy". The former represents the specific support for the political system, while the latter defines the diffuse support for democracy. In their research, they derive the data from the sixth wave of the European Social Survey (ESS). Moreover, using micro-level public opinion data from the Pew Global Attitudes Project 2005, Shafiq examines the support of democracy among Muslim countries. The survey questions of citizens' attitude toward democracy has been designed with the consideration of the cultural and political backgrounds in mind.

## 2 Descriptive Statistics

To research the effect of income and education on support for democracy, we applied data that was collected between 2014 to 2016 from The Asian Barometer Survey.

Aside from comparing to the results from other East-Asian countries, the main purpose of the paper is to examine the effect of income and education in Taiwan. Whether the result is consist among East-Asian countries and what might be the reasonable explanation are also our purpose of research. Fortunately, the same survey we used to examine Taiwan's situation is available for other countries. Our research included Taiwan, Hong Kong, Japan, South Korea, Malaysia, and China.

The dependant variable we would like to examine is "support for democracy", obtained from the following survey question:

*"Which of the following statements come closest to your own opinion?"*

The sequential choices include:

0: *"For people like me, it does not matter whether we have a democratic or a nondemocratic regime."*

1: *"Under some circumstances, an authoritarian government can be preferable to a democratic one."*

2: *"Democracy is always preferable to any other kind of government."*

Table 1 shows how the respondents' answers distributed in each countries:

Table 1: Distribution of support for democracy in six countries

|                        | (1)<br>Taiwan | (2)<br>China | (3)<br>Japan | (4)<br>South Korea | (5)<br>Malaysia | (6)<br>Hong Kong |
|------------------------|---------------|--------------|--------------|--------------------|-----------------|------------------|
| <i>supportDemo</i> = 0 | 401           | 804          | 123          | 109                | 175             | 280              |
| <i>supportDemo</i> = 1 | 441           | 446          | 127          | 294                | 167             | 165              |
| <i>supportDemo</i> = 2 | 757           | 1,680        | 737          | 756                | 789             | 547              |
| Total                  | 1,599         | 2,930        | 987          | 1,159              | 1,131           | 992              |

The explanatory variables we chose are income and number of years of education, among which income is in its quintile form. Examining the relationship between income, years of education, and how the respondent supports democracy, we discover that in Taiwan theres no apparent trend between income and how they support democracy. However, while those who prefer democracy regardless of the circumstances and those who sometimes see authoritarian government preferable share the broad level of income and education, those who feel indifferent in regime type tend to have less than ten years of education. The same trend appears in South Korea and Japan, while Hong Kong, Malaysia, and China show no such trend in both income and years of education.

Additionally, in Hong Kong and Malaysia, there exist respondents having more than twenty years of education that feel indifferent toward regime time. In Hong Kong and Japan, those who sometimes prefer authoritarian governments appear to have only about ten years of education.

Age, gender, region, marital status, and the satisfaction toward the government are the control variables in our model. "Satisfaction toward the government" was obtained from the survey question:

*"How satisfied or dissatisfied are you with the [name of president, etc. ruling current] government?"*

The possible answers are:

4: *"Very satisfied."*

3: *"Somewhat satisfied."*

2: *"Somewhat dissatisfied."*

1: *"Very dissatisfied."*

Table 2: Descriptions of variables

| Variable           | Description  |
|--------------------|--|
| <i>supportDemo</i> | support for democracy, labeled 0, 1, 2   |
| <i>income</i>      | group of the household income falls into   |
| <i>edu</i>         | years of formal education completed  |
| <i>age</i>         | actual age   |
| <i>male</i>        | gender, equals to 1 if being male  |
| <i>married</i>     | groups of marital status: married, living-in as married, widowed/separated and divorced. |
| <i>region</i>      | region   |
| <i>satGov</i>      | degree of satisfaction with the ruling government, from 1 to 4                           |

### 3 Model

Since support for democracy, which is the dependent variable in our research, is a categorical variable, we use the multinomial logistic model to estimate how income and education influence it. First we set the group choosing *"it does not matter whether we have a democratic or a nondemocratic regime"* as group 0, and groups of choosing *"under some circumstances, an authoritarian government can be preferable to a democratic one"* and *"democracy is always preferable to any other kind of government"* be group 1 and group 2 respectively.

We set group 0 as the base group; therefore, for two other options, the regression to be estimated is

$$\ln\left(\frac{Pr(supportDemo_i = k)}{Pr(supportDemo_i = 0)}\right) = \beta_{k0} + \beta_{k1}income_i + \beta_{k2}edu_i + \beta_{k3}age_i + \beta_{k4}male_i + \beta_{k5}married_i + \beta_{k6}region_i + \beta_{k7}satGov_i + u_{ki}, \quad (1)$$

where  $k = 1, 2$ .

Our research focuses on how income and education level influence support for democracy. Besides, we put some control variables in the regression. Growing up and living in different era give people different thoughts on democracy; therefore, we include age variable in our model. Gender can also be an crucial control variable. With the conclusion from Cordero and Simón, we expect that males may be less supportive for democracy than females. To discuss one's socioeconomic background, marital status and region are required. Finally, one's satisfaction with the ruling government may have impacts on his or her support for democracy. In our data, degree of satisfaction is ranged from 1 to 4, so we use dummies for representation.

By estimating equation (1), we can know how the probabilities of choosing group 1 and group 2 relative to that of choosing group 0 increase or decrease when the independent variables change. Then, we estimate the marginal effects of income and education. By doing this estimation, we can know how the probabilities of being group 1 and group 2 change with independent variables.

## 4 Results

As to measure the preference for democracy in Taiwan, we mainly focus on the regression where the dependent variable is *supportDemo*. We use margin effects to discuss the impacts of income and education level on peoples support for democracy. The regression tables are shown in Table 3 and Table 4.

### 4.1 Income

In Taiwan, individuals with higher income are more likely to choose *"it does not matter whether we have a democratic or a nondemocratic regime"* less and choose *"democracy is always the best form of government"* more, and both effects are significant. The marginal effects shown in Table 5 indicates that when income increases, people will have bigger support for democracy. It is reasonable because as the income increases, people can have more ability and time to culture and enhance their point of view and attention toward politics.

However, we find the outcome of Taiwan might be a special case. In fact, income level has no significant impact on support for democracy in other five countries we examine, which implies that income is not a key factor of whether the subject supports democratic system. In those countries, education, historical background or other factors may influence peoples tendency toward democracy more strongly.

Table 3: The impacts of income and education on support for democracy in Taiwan, China and Hong Kong

| <i>supportDemo</i>         | (1)<br>Taiwan         |                        | (2)<br>China          |                        | (3)<br>Hong Kong     |                      |
|----------------------------|-----------------------|------------------------|-----------------------|------------------------|----------------------|----------------------|
|                            | 1                     | 2                      | 1                     | 2                      | 1                    | 2                    |
| Income                     |                       |                        |                       |                        |                      |                      |
| Second quintile            | 0.263<br>(0.220)      | 0.234<br>(0.187)       | -0.447*<br>(0.259)    | 0.127<br>(0.159)       | 0.142<br>(0.437)     | -0.156<br>(0.330)    |
| Third quintile             | 0.914***<br>(0.259)   | 0.570**<br>(0.236)     | 0.240<br>(0.219)      | 0.241<br>(0.153)       | -0.380<br>(0.425)    | -0.283<br>(0.310)    |
| Forth quintile             | 0.711**<br>(0.295)    | 0.448*<br>(0.269)      | -0.162<br>(0.283)     | 0.0623<br>(0.199)      | 0.159<br>(0.442)     | 0.0722<br>(0.336)    |
| Highest quintile           | 0.785**<br>(0.374)    | 1.030***<br>(0.340)    | 0.333<br>(0.276)      | 0.186<br>(0.212)       | 0.299<br>(0.552)     | 0.522<br>(0.416)     |
| Education Year             | 0.199***<br>(0.0287)  | 0.193***<br>(0.0260)   | 0.122***<br>(0.0229)  | 0.0750***<br>(0.0157)  | 0.0641<br>(0.0641)   | 0.0431<br>(0.0431)   |
| Age                        | 0.0166**<br>(0.00802) | 0.0260***<br>(0.00724) | 4.58e-05<br>(0.00622) | 0.0203***<br>(0.00419) | -0.0214*<br>(0.0116) | -0.0126<br>(0.00859) |
| Male                       | 0.220<br>(0.161)      | 0.132<br>(0.145)       | -0.0326<br>(0.165)    | 0.132<br>(0.114)       | -0.113<br>(0.259)    | -0.218<br>(0.198)    |
| Marital Status             |                       |                        |                       |                        |                      |                      |
| Married                    | -0.385<br>(0.239)     | -0.116<br>(0.222)      | -0.957***<br>(0.260)  | -0.251<br>(0.220)      | 0.388<br>(0.381)     | 0.180<br>(0.294)     |
| Living-in as married       | -0.202<br>(0.805)     | -0.159<br>(0.758)      | 0.670<br>(1.281)      | 0.744<br>(1.124)       | -0.336<br>(1.278)    | 0.686<br>(0.811)     |
| Widowed/separated          | -0.298<br>(0.537)     | 0.0527<br>(0.451)      | 0.0632<br>(0.478)     | -0.0809<br>(0.367)     | 1.072*<br>(0.609)    | 0.268<br>(0.479)     |
| Divorced                   | -0.392<br>(0.512)     | -0.174<br>(0.452)      | -1.197<br>(1.194)     | 0.363<br>(0.688)       | -0.346<br>(0.894)    | 0.825<br>(0.506)     |
| Satisfaction of Government |                       |                        |                       |                        |                      |                      |
| Somewhat dissatisfied      | 0.179<br>(0.189)      | -0.106<br>(0.168)      |                       |                        | 1.462***<br>(0.465)  | 0.0566<br>(0.253)    |
| Somewhat satisfied         | 0.485**<br>(0.223)    | 0.122<br>(0.200)       |                       |                        | 2.126***<br>(0.465)  | -0.135<br>(0.264)    |
| Very satisfied             | 2.151*<br>(1.208)     | 1.679<br>(1.172)       |                       |                        | 0.0213<br>(1.165)    | -0.484<br>(0.573)    |
| Constant                   | -3.180***<br>(0.627)  | -2.910***<br>(0.569)   | -1.402***<br>(0.536)  | -1.070***<br>(0.384)   | -1.687*<br>(0.993)   | -1.368<br>(0.718)    |
| Observations               | 1,383                 | 1,383                  | 1,768                 | 1,768                  | 702                  | 702                  |

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

## 4.2 Education

Observing results from tables of the six countries, we can see that except for Hong Kong, in the logistic regression of  $supportDemo=2$  ("democracy is always the best form of government") from the other countries, marginal effects of years of education is positive and statistically significant at 1 % level. That is to say, as the years of education increases, the probability for an individual to support democracy is also expected to increase. Furthermore, in Taiwan and China, in the logistic regression of  $supportDemo=1$  ("sometimes dictatorship is better than democracy"), the marginal effects of years of education is also positive and statistically significant at 1 % level; however, the effects are negative among Japan, South Korea and Malaysia.

In Taiwan, the outcome implies that people with higher education are less likely to be indifferent and having no opinion on the form of government. In contrast, people in Japan, South Korea and Malaysia show stronger preference for democracy as years of education increase.

Understanding the cultural and historical contexts help explain the differences. In country such as Taiwan, citizens may not have a strong consensus on the value of democratic movements due to the divergence of identity and perspec-

Table 4: The impacts of income and education on support for democracy in Japan, South Korea and Malaysia

| <i>supportDemo</i>         | (1)<br>Japan        |                       | (2)<br>South Korea  |                      | (3)<br>Malaysia      |                      |
|----------------------------|---------------------|-----------------------|---------------------|----------------------|----------------------|----------------------|
|                            | 1                   | 2                     | 1                   | 2                    | 1                    | 2                    |
| Income                     |                     |                       |                     |                      |                      |                      |
| Second quintile            | 0.158<br>(0.522)    | -0.137<br>(0.409)     | 0.643<br>(0.443)    | 0.0731<br>(0.414)    | 0.266<br>(0.367)     | 0.202<br>(0.282)     |
| Third quintile             | 0.0897<br>(0.540)   | -0.220<br>(0.424)     | 0.179<br>(0.385)    | -0.437<br>(0.354)    | 0.0829<br>(0.378)    | 0.250<br>(0.288)     |
| Forth quintile             | -0.0854<br>(0.568)  | -0.292<br>(0.444)     | 0.0547<br>(0.401)   | -0.347<br>(0.364)    | 0.00435<br>(0.450)   | 0.143<br>(0.349)     |
| Highest quintile           | 0.894<br>(0.590)    | 0.389<br>(0.488)      | 0.0249<br>(0.507)   | -0.310<br>(0.457)    | 0.776<br>(0.524)     | 0.746*<br>(0.437)    |
| Education Year             | 0.193**<br>(0.0800) | 0.303***<br>(0.0673)  | 0.0221<br>(0.0518)  | 0.155***<br>(0.0483) | 0.118***<br>(0.0391) | 0.165***<br>(0.0302) |
| Age                        | 0.0219*<br>(0.0124) | 0.0337***<br>(0.0101) | 0.00715<br>(0.0145) | 0.0131<br>(0.0135)   | -0.00136<br>(0.0103) | 0.0146*<br>(0.00786) |
| Male                       | 0.939***<br>(0.324) | 0.602**<br>(0.265)    | 0.229<br>(0.248)    | -0.0748<br>(0.230)   | -0.0662<br>(0.236)   | -0.0862<br>(0.186)   |
| Marital Status             |                     |                       |                     |                      |                      |                      |
| Married                    | -1.086**<br>(0.546) | -0.216<br>(0.484)     | 0.240<br>(0.410)    | 0.129<br>(0.377)     | 0.0922<br>(0.322)    | 0.605*<br>(0.258)    |
| Living-in as married       | -1.826**<br>(0.797) | -1.260*<br>(0.644)    | -0.427<br>(4.975)   | 14.66<br>(4.279)     | -14.14<br>(866.9)    | -1.103<br>(1.067)    |
| Widowed/separated          | -1.418*<br>(0.782)  | -0.870<br>(0.638)     | -0.206<br>(0.899)   | 0.328<br>(0.803)     | -0.335<br>(0.946)    | 1.560***<br>(0.592)  |
| Divorced                   | -1.954**<br>(0.775) | -1.303**<br>(0.592)   | 0.464<br>(0.781)    | -0.769<br>(0.770)    | 0.855<br>(1.318)     | 0.357<br>(1.191)     |
| Satisfaction of Government |                     |                       |                     |                      |                      |                      |
| Somewhat dissatisfied      | 0.103<br>(0.474)    | 0.195<br>(0.359)      | 0.272<br>(0.354)    | -0.0431<br>(0.318)   | -0.478<br>(0.457)    | 0.216<br>(0.388)     |
| Somewhat satisfied         | 0.765<br>(0.474)    | 0.577<br>(0.374)      | 1.114***<br>(0.379) | 0.661*<br>(0.345)    | -0.0891<br>(0.429)   | 0.346<br>(0.370)     |
| Very satisfied             | 0.802<br>(0.963)    | 1.299<br>(0.821)      | -0.147<br>(0.624)   | 0.0333<br>(0.533)    | -0.381<br>(0.476)    | 0.260<br>(0.394)     |
| Constant                   | -3.123**<br>(1.525) | -4.015***<br>(1.272)  | 0.0222<br>(1.049)   | -0.0703<br>(0.976)   | -0.720<br>(0.768)    | -2.362***<br>(0.635) |
| Observations               | 780                 | 780                   | 1,092               | 1,092                | 1,065                | 1,065                |

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

tive of China-Taiwan relations . Since these issues are closely related to the values that politic parties stand for, the influence is that people with higher education can still have divergent opinions on the form of government with polarized identity. In contrast, citizens have closer ethnicity in countries such as Korea and Japan; people in Malaysia strove for the transition in the 2013's election after 61 years of semi-authoritarian, which gives an insight into why respondent with higher education did not agree with the statement "Under some circumstances, an authoritarian government can be preferable to a democratic one" in the survey of 2014.

### 4.3 Other Control Variables

Observing the results from the regression tables, we find that some of the control variables also have significant effects in certain countries. For instance, *age* seems to have positive effects on both choices' regressions in countries such as Taiwan and Japan. Also, *satGov* is also an important determinant of individual's support for democracy in Taiwan, South Korea and Hong Kong.

Table 5: The marginal effects of income on support for democracy in Taiwan

| Income   | (1)<br>Taiwan             |
|--|---------------------------|
| $Pr(supportDemo = 0)$  | -0.00124***<br>(0.000371) |
| $Pr(supportDemo = 1)$  | 0.000165<br>(0.000336)    |
| $Pr(supportDemo = 2)$  | 0.00107***<br>(0.000386)  |
| Observations   | 1,383                     |
| Standard errors in parentheses<br>*** p<0.01, ** p<0.05, * p<0.1 |                           |

Table 6: The marginal effects of education years on support for democracy in six countries

| Education Year   | (1)<br>Taiwan           | (2)<br>China            | (3)<br>Japan            | (4)<br>South Korea      | (5)<br>Malaysia         | (6)<br>Hong Kong      |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------------------|
| $Pr(supportDemo = 0)$  | -0.0321***<br>(0.00365) | -0.0163***<br>(0.00290) | -0.0245***<br>(0.00570) | -0.00910**<br>(0.00372) | -0.0190***<br>(0.00355) | -0.00856<br>(0.00552) |
| $Pr(supportDemo = 1)$  | 0.0142***<br>(0.00392)  | 0.00790***<br>(0.00227) | -0.00812<br>(0.00575)   | -0.0206***<br>(0.00586) | -0.00156<br>(0.00362)   | 0.00467<br>(0.00477)  |
| $Pr(supportDemo = 2)$  | 0.0178***<br>(0.00433)  | 0.00835***<br>(0.00322) | 0.0326***<br>(0.00736)  | 0.0297***<br>(0.00629)  | 0.0206***<br>(0.00446)  | 0.00389<br>(0.00620)  |
| Observations   | 1,383                   | 1,768                   | 780                     | 1,092                   | 1,065                   | 702                   |
| Standard errors in parentheses<br>*** p<0.01, ** p<0.05, * p<0.1 |                         |                         |                         |                         |                         |                       |

#### 4.4 Voting Behavior

To examine the results we observe in regressions of *supportDemo* more precisely, we also use voting behavior as a dependent variable to check whether words and actions that shown individual's support for democracy will come to the same conclusion. There is a survey question in the Asian Barometer Survey asking "Did you vote in the last national election?"; setting the option "Yes" as 1 and option "No" as 0, we use logistic regression to see the effects of income and education level on people's voting behavior.

We find that in all of the countries, income does not have any significant effect on the dependent variable *dvote*. In regard to education, the probability of going to vote increases as years of education increases in all countries, though some are significant while others are not. The results of this model are shown as Table 7 and Table 8 in appendix.

The outcomes in individual's voting behavior is similar to the outcomes we have seen in the main model. The effect of income level is not statistically significant. The results from both words and actions ,however, are consistent with the theory that higher education brings a more supportive attitude toward democracy, though in some countries the external effect is not that significant.

## 5 Conclusion and Further Research Topics

With the results shown from the tables, we can conclude that aside from Taiwan, the effect of income on support for democracy is not that significant. This outcome is similar to what we have seen in literature: the effect of income level on support for democracy is not always positive and is not consistent among all countries.

On the other hand, the effect of education on support for democracy is positive and significant in general. As we expected, the consistency of the results throughout the countries we examine shows that the external effects of the education leads to a stronger support for democracy in society.

This paper has done the preliminary findings of the relationship between some factors of socioeconomic status and personal attitude toward democracy among some East-Asian countries. We would like to put further effort in some related topics, such as finding instrument variables for the income level and years of education for improving our model's robustness. Also, as we still do not have a clear insight about why income has such a special effect in Taiwan, further cultural and historical research may help clarify.

## 6 Appendix

Table 7: The impacts of income and education on voting behaviors in six countries

| <i>dvote</i>               | (1)<br>Taiwan          | (2)<br>China           | (3)<br>Japan           | (4)<br>South Korea    | (5)<br>Malaysia       | (6)<br>Hong Kong      |
|----------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|
| Income                     |                        |                        |                        |                       |                       |                       |
| Second quintile            | -0.493**<br>(0.218)    | -0.339**<br>(0.158)    | -0.0939<br>(0.365)     | 0.0153<br>(0.351)     | -0.0913<br>(0.381)    | -0.132<br>(0.557)     |
| Third quintile             | -0.0350<br>(0.265)     | -0.119<br>(0.157)      | -0.441<br>(0.367)      | -0.170<br>(0.316)     | -0.0870<br>(0.377)    | 0.212<br>(0.493)      |
| Forth quintile             | -0.126<br>(0.294)      | -0.328<br>(0.217)      | 0.393<br>(0.400)       | 0.0253<br>(0.327)     | 0.0273<br>(0.448)     | 0.0536<br>(0.530)     |
| Fifth quintile             | 0.157<br>(0.350)       | -0.866***<br>(0.206)   | 0.339<br>(0.403)       | 0.200<br>(0.397)      | -0.0393<br>(0.441)    | -0.166<br>(0.557)     |
| Education Year             | 0.0997***<br>(0.0279)  | 0.0052<br>(0.0158)     | 0.219***<br>(0.0559)   | 0.0840*<br>(0.0456)   | 0.116***<br>(0.0351)  | 0.0454<br>(0.0458)    |
| Age                        | 0.0426***<br>(0.00844) | 0.0188***<br>(0.00438) | 0.0695***<br>(0.00895) | 0.0515***<br>(0.0124) | 0.0918***<br>(0.0118) | 0.0390***<br>(0.0137) |
| Male                       | -0.232<br>(0.160)      | 0.301**<br>(0.117)     | -0.164<br>(0.222)      | 0.362*<br>(0.201)     | 0.249<br>(0.210)      | 0.443<br>(0.295)      |
| Marital Status             |                        |                        |                        |                       |                       |                       |
| Married                    | 0.586***<br>(0.216)    | 0.857***<br>(0.217)    | 0.0481<br>(0.332)      | 1.149***<br>(0.295)   | 0.320<br>(0.260)      | -0.370<br>(0.436)     |
| Living-in as married       | 0.347<br>(0.798)       | -1.728*<br>(0.901)     | 0.0629<br>(0.602)      | 0.230<br>(1.375)      |                       |                       |
| Widowed/separated          | -0.463<br>(0.470)      | 0.795**<br>(0.348)     | -0.931*<br>(0.525)     | 0.562<br>(0.768)      |                       | -0.498<br>(0.738)     |
| Divorced                   | -0.165<br>(0.450)      | 0.213<br>(0.613)       | -1.054**<br>(0.492)    | 0.280<br>(0.642)      | 0.847<br>(1.190)      | -0.992<br>(0.769)     |
| Satisfaction of Government |                        |                        |                        |                       |                       |                       |
| Somewhat dissatisfied      | -0.298<br>(0.182)      |                        | -0.350<br>(0.361)      | -0.288<br>(0.291)     | 0.143<br>(0.406)      | -0.662*<br>(0.360)    |
| Somewhat satisfied         | 0.0198<br>(0.229)      |                        | -0.0682<br>(0.364)     | 0.0732<br>(0.306)     | -0.0473<br>(0.385)    | -0.149<br>(0.401)     |
| Very satisfied             | 0.174<br>(1.068)       |                        | -0.224<br>(0.569)      | 0.485<br>(0.684)      | 1.123**<br>(0.482)    | 0.0510<br>(1.262)     |
| Constant                   | -1.212**<br>(0.618)    | -0.0888<br>(0.409)     | -4.610***<br>(1.076)   | -1.842**<br>(0.914)   | -2.728***<br>(0.816)  | -0.835<br>(1.115)     |
| Observations               | 1,339                  | 1,659                  | 806                    | 1,079                 | 907                   | 296                   |

Standard errors in parentheses

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

Table 8 shows that the marginal effect of education year has the most significant effect on voting behavior in Taiwan, Japan, and Malaysia. While in South Korea it is significant under 10% level of confidence, the results of China and Hong Kong are not significant. The early-developed colonial democracy in Hong Kong and the political control in China are the reasonable interpretation of this result.



Table 8: The marginal effects of education year on voting behaviors in six countries

| Education Year  | (1)<br>Taiwan          | (2)<br>China         | (3)<br>Japan           | (4)<br>South Korea    | (5)<br>Malaysia        | (6)<br>Hong Kong     |
|-----------------|------------------------|----------------------|------------------------|-----------------------|------------------------|----------------------|
| $Pr(dvote = 1)$ | 0.0123***<br>(0.00343) | 0.00106<br>(0.00302) | 0.0243***<br>(0.00607) | 0.00867*<br>(0.00468) | 0.0123***<br>(0.00367) | 0.00852<br>(0.00854) |
| Observations    | 1,339                  | 1,659                | 806                    | 1,079                 | 907                    | 296                  |

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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