Confounding Modernisation Theory? A Comparative Study of South-East Asia.

May 2024

Introduction

Modernisation theory contends that when a country gets more developed, the demand for democracy also increases, meaning that more developed or "modernised" countries are more likely to be democracies. However, South-East Asia presents a face-value rejection of this theory, since there are countries such as Singapore which are very developed yet are not democracies, and countries such as Indonesia which democratised at a point of low development.

This paper assesses whether modernisation theory still holds up in South-East Asia. A causal chain for how modernisation leads to democratic development according to key literature will first be identified, and it will be hypothesised that the development of a high-skilled workforce can explain the emergence and survival of democracy. Next, the variables used to assess the hypotheses will be identified according to the causal chain, and the hypotheses are tested using the cross-sectional time-series Markov method.

The paper finds no evidence that modernisation theory explains democratisation in South-East Asia, with no independent or control variables significant. These results are finally related to the broader literature on regional breakdown of Modernisation theory, and explanations are briefly suggested.

Literature Review / Theory

Modernisation is a school of thought that arose out of the attempt to link economic development to political systems during the cold war. The first empirical study testing democracy's relationship with development was done by Lipset (1959), who theorised specifically that increased education and an enlarged middle class would lead to democratisation. The general thought was that the middle class is instrumental in the clamour for

democracy because of their values, economic stability, property ownership and social capital. Moreover, education was argued to be instrumental in making citizens more politically aware, and galvanising people into a class struggle.

Since the study, many papers have sought to test and build upon Lipset's iteration of modernisation theory. For example, Barro (1999) assesses an expanded set of indicators for modernisation globally which other authors have found to be significant, including the urbanisation rate (Lerner, 1958) and indicators of health (Barro, 1996), where he finds that per capita GDP, primary education levels, and middle class growth promotes democracy. Epstein, Bates, Goldstone, Kristensen, and O'Halloran (2006) repeat the main conclusion that modernisation holds globally, finding that higher incomes per capita significantly increased the likelihood of democratic regimes, contrary to Przeworski, Alvarez, Cheibub, and Limongi (2000). Moreover, Inglehart and Welzel (2009) find that democracy is more likely where there are higher self-expression and rational values, as opposed to ones oriented around survival or tradition. They attribute this development to a growth in the middle class and in education as a result of a process of industrialisation within a country, specifically identifying the importance of the development of the "knowledge sector" jobs which inherently require more independence of thought.

There is therefore evidence that modernisation can be found globally, and that the most important factors in the link between modernisation and the growth in democracy are an increase in education and an increase in the middle class. Moreover, the education increase theoretically is critical only in relation to high-skilled worker growth. A causal chain can thus be drawn out from the literature as follows. The growth in industrialisation leads to the need for more high-skilled workers. More high-skilled workers means a higher proportion of the workforce becomes more educated and more affluent, which in turn means that more people grow up securely, with more emphasis on autonomous thought. As people take self-governance of their own life for granted, the desire for self-governance thus extends to government, meaning a larger proportion of the country can put pressure on the ruling systems to make democratic adjustments. The likelihood that a country becomes (and stays) democratic thus increases.

Despite the evidence at a global scale for modernisation, however, it cannot be concluded that this causal chain applies at the regional level. This is because the strength of correlation in other regions may be such that a lack of correlation within another is outweighed. Moreover, there are exceedingly few - and conflicting - studies on modernisation in South-East Asia. Nicholas Anderson (2011) tests South-East Asia against modernisation theory using GDP/capita, finding on the whole most states are where they should be, with Brunei and Singapore being notable outliers. To the contrary, however, Barro (1999) finds that using modernisation as a predictor for democracy is poor in South-East Asia, with only Philippines displaying the level of democracy expected.

The shortcoming of both studies is that they do not test for what theoretically is central to the modernisation causal chain: development of high-skilled workers. Ander-

son is particularly limited in his assessment of the region, relying solely on GDP/capita, but despite Barro's more extensive set of variables, the most that could be said is middle class development proxies for high skilled labour growth. According to theory, even if GDP/capita grows, without parallel knowledge sector specialisation the likelihood of democracy should not actually be increased. This is because a middle class is critical in democratic transition insofar as they embody "middle class values" weighted towards more rational and self-expressive tendencies, which arises as a result of the expansion of the knowledge sector (Inglehart & Welzel, 2009). This paper therefore tests modernisation more comprehensively, assessing the effect of *both* middle class size and skilled jobs on democracy.

Hypothesis

From the causal chain above, two hypotheses can thus be developed for this study:

1. For countries in South-East Asia, according to modernisation theory, if there has been a growth in middle-class high-skilled workers in years prior, then there is a higher chance that a country will democratise.

2. For countries in South-East Asia, according to modernisation theory, if there has been a growth in middle-class high-skilled workers in years prior, then there is a higher chance that a country will stay democratic.

Conceptualisation and Measurement

The way in which democracy is defined and measured within the literature is varied. Some opt for a dichotomous measure (Boix, Miller, & Rosato, 2012; Przeworski et al., 2000), while others define democracy continuously (Freedom House, 2024; Marshall & Gurr, 2020). Moreover, the definitions can either be "minimal" or "substantive"; the set of requirements for democracy either is a restricted set of procedural criteria, or is expanded upon to include elements of social justice and equality (Clark, Golder, & Golder, 2017).

This paper uses a minimal dichotomous definition of democracy, following the criteria set out by Boix et al. (2012). Following from Dahl (1971), democracy is defined along meeting a required standard of political contestation and participation. The measures used as conditions for each of these two dimensions are whether the legislature is (in)directly elected in free and fair elections, and whether the majority of adult men have the right to vote. This definition of democracy is chosen since its dichotomous nature provides clear

distinctions between democratic and non-democratic regimes, allowing for more straight-forward analysis of transitions to and from democracies. Moreover, democracy being minimally defined avoids any circularity when assessing the impacts of modernisation.

The independent variables are chosen in order to measure for the two key aspects of the above causal chain: high-skilled jobs growth and middle class growth. Firstly, high skilled workers are defined as those in managerial, professional and technical professions. These strata are chosen based on their requirement for higher levels of education and more autonomous work-streams, both of which theoretically contribute to shaping public attitudes towards a desire for democracy. Note that this means education itself is not measured as an independent variable, as theoretically is already accounted for by sector specialisation. Secondly, the middle class is measured by the middle three quintiles of income, and thus an increase in the middle class is measured by an increase in the middle three quintile's share of total income. This is in line with Barro (1999). An increase in this share leads to higher stability and vested interest in the workings of the state, allowing for flourishing of democratic values. Together, these account for the causal mechanism theorised to impact democracy. See Table 1.

Table 1: Description of Independent Variables

Variable	Measurement	Details
Middle Class Size	Middle 3 quintile's proportion of total income	Proportion of total income from bottom 20% and top 20% used to calculate middle 3 quintiles.
Skilled Workforce proportion	Proportion of workforce in highest skill-level work bands according to International Standard Classification of Occupation (ISCO)	*Occupations*: Legislators, Senior Officials, Managers, Professionals, Technicians and Associate Professionals
	Pre-1988: ISCO-68 Bands 0, 1	
	Post-1968: ISCO-88 Bands 1, 2, 3	

Although the final link between modernisation and democracy development outlined in the causal chain is the impact this skilled worker increase has on the attitudes and values of citizens, due to data unavailability it will not be tested in this paper. The World Value Survey (Inglehart et al., 2020) provides the best available data, where individuals

across the globe are interviewed to get a picture of the values present in the country at a certain time. However, the data for South-East Asia is unfortunately sparse. Between the years of 1950 and 2010, only 9 data points exist, with Brunai, Cambodia and Laos not having any. Regression analysis is therefore impossible.

The paper will finally include GDP per capita, urbanisation rate, life expectancy at birth and gross primary school enrollment rate as control variables. These measure the standard of living, spread of ideas, mobilisation potential and human capabilities respectively, all of which have theoretical and empirical impacts on the emergence or sustaining of democracy (Almond & Verba, 2015; Barro, 1999). By controlling for each, it can be ascertained whether any impact of middle class growth or skilled worker growth is merely proxying for a different underlying cause, or whether in the absence of an effect of the independent variables, other measures of modernisation hold, implying that a reworking of the causal chain is required.

Data and Methodology

The data for the proportion of the workforce in professional or managerial positions is taken from the International Labour Organization (n.d.) "Labour Force Statistics" dataset, and the data for middle class growth is taken from the World Income Inequality Database (UNU-WIDER, 2023). The democracy variable is taken from Boix, Miller, and Rosato (2018). The control variables are taken from the World Bank (n.d.) "World Development Indicators". Each dataset contains yearly country averages for their respective variables.

This paper employs the Markov transition model (Przeworski et al., 2000, p. 138) to assess how modernisation impacts both the emergence and survival of democracy. The model uses probit regression to identify the probability of a given country being democratic, conditional on whether the country was democratic or not the previous year. Thus, democratic emergence is assessed when the regression tests for the probability a country is democratic given it was not the previous year, and democratic survival when a was democratic the previous year as well. Equations are found in the Appendix.

Given the assessment of a region, a quantitative medium-N analysis was most appropriate, and due to the binary nature of the dependent variable, the Markov method was chosen. Moreover, the method addresses inverse causality of democracy by lagging independent and control variables.

Analysis

To test this paper's hypothesis of the impact of middle class development and sector specialisation on democracy, firstly Markov regression models were run to include both

middle class growth and survival within the same model for democratic emergence. The results can be seen in table 2. Neither the effects of middle class size nor proportion of workforce in high skilled jobs are significant to the 0.05 level. This does not change when controlling for GDP / capita and primary school enrollment. This is the first striking result against modernisation theory, insofar as GDP / capita and education, which has been extensively found to be highly significant globally, is highly insignificant here. Moreover, there is thus preliminary evidence to reject the hypothesis that for countries in South-East Asia, if there has been a growth in high skilled sectors requiring education in years prior, then there is a higher chance that a country will democratise.

Table 2: Democratic Emergence, South East Asia, 1960-2015

	Dependent variable:	
	Democracy	
	(1)	(2)
Middle Class share of income	0.072	−0.014
	(0.473)	(0.485)
Skilled labour force size	−0.022	−0.091
	(0.061)	(0.152)
Primary enrolment, gross		−0.007
		(0.037)
per capita GDP (in constant 2010 US$)		0.0002
		(0.0004)
Constant	−5.082	0.381
	(25.654)	(27.517)
Observations	25	24
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 3: Democratic Emergence and Survival, South East Asia, 1960-2015

	Dependent variable:			
	Democracy			
	Emergence	Survival	Emergence	Survival
	(1)	(2)	(3)	(4)
Middle Class share of income	0.267	−0.742		
	(0.335)	(0.880)		
Skilled labour force size			−0.350	−0.047
			(0.326)	(0.149)
per capita GDP (in constant 2010 US$)	−0.001*	0.001	0.00000	−0.001
	(0.001)	(0.001)	(0.0001)	(0.001)
Urbanisation rate	0.208*	−0.016	0.051	0.116
	(0.115)	(0.094)	(0.067)	(0.091)
Life Expectancy at birth	0.053	−0.471	0.131	0.369
	(0.118)	(0.522)	(0.095)	(0.377)
Primary enrolment, gross	0.060	0.162	−0.021	−0.031
	(0.072)	(0.113)	(0.027)	(0.092)
Constant	−31.443	55.020	−7.432	−22.132
	(24.011)	(69.577)	(6.374)	(19.235)
Observations	61	38	92	49

Note: *p<0.1; **p<0.05; ***p<0.01

When regressing for the survival of democracy, any attempt to model both the income share of the middle class and the proportion of the workforce in skilled labour together leads to unusable results. This is likely due to the reduced number of observations.

There are, however, clear limitations of using these models, since the nature of data availability for the independent variables significantly reduces the N. Specifically, due to the non-overlapping years of data collection, when the two independent variables are run together 193 observations are removed, leaving 24 degrees of freedom. This has two major detrimental effects; firstly, such a small sample size reduces the statistical power of the analysis meaning any potential relationships that might be present may not be detected,

and secondly the reliability of the model's estimates is undermined. Moreover, adding the full set of control variables becomes impossible since the residual deviance becomes too great to produce any results at all.

To more robustly test the hypothesis that a growth in the proportion of technical and skilled jobs increases the likelihood of democratic emergence and survival, four further Markov models are run. Middle class income share and proportion of labour in skilled jobs are separated out into different models, to allow for a sufficient sample size, and each one is regressed for democratic emergence and democratic survival. The results of these models can be seen in table 3.

Strikingly, in no model are the independent variables or any control variable significant to the 0.05 level. Interactions between the variables were tried, with none being significant. For countries within South-East Asia, therefore, there is evidence both democratisation and democratic sustenance occurs independently of how modernised the country is. Moreover, there is no evidence that a growing middle class is important when assessing modernisation in South-East Asia, and further that the development of a knowledge sector plays a significant role in promoting democracy within the region. Finally, education does not account for anything missing from sector specialisation, justifying its independent variable absence. This paper's hypotheses should therefore be rejected. To answer the research question, there is good reason to think that Modernisation Theory breaks down in South-East Asia.

Discussion

Other studies of modernisation theory within the region are hard to come by, unsurprisingly given the research project has value due to this fact in the first place. Anderson (2011) produces the only notable study, finding Modernisation holds. His identification must be viewed with caution, however, since he only assesses GDP/capita, and does not run any regression analyses for the region. Given this study's more rigorous statistical methods, his conclusion should be rejected.

Although South-East Asian analysis is sparse, Modernisation is found to break down in many papers assessing other regions. In fact, while it has been shown that there is a link between modernisation and democratic development at a global level, it has repeatedly been shown that this link does not hold up regionally.

For example, in Latin America, Landman (2006) and Mainwaring and Pérez-Liñán (2013) use statistical methods to find no significant effect of economic development on democracy. Instead, Mainwaring and Pérez-Liñán argue that favourable predisposition towards democracy from actors, produced by a specific historical-cultural backdrop, plays a more critical role. The same pattern of regional breakdown is also found in sub-Saharan Africa, where Van de Walle (2001) points to the "crisis in the postcolonial neopatrimonial",

not development, as a strong reason behind African democratisation. Moreover, Lust-Okar (2004) shows that in the Middle-East, modernisation again does not hold up due to regimes' co-option and repression preventing descent to overturn governments. Finally, Ross (2001) shows that unearned income in the Middle-East, but also more generally, leads to a breakdown of the link between economic development and democratisation.

One recent paper by The RAND Corporation (Dossani, Eugeniu, Cooper, & Lilly, 2021) does find that, contrary to the above trend that modernisation breaks down region-ally, modernisation holds in Asia. They find statistically significant impacts of GDP per capita, urbanisation and education, among other variables, on democracy. However, this is likely because a study of Asia in fact mirrors a global study more than a regional study such as Latin America or South-East Asia. With a smaller regional study, given supposed cultural and geographical similarities, a most-similar systems design is approximated; this is not the case when assessing a continent as diverse as Asia, and thus it is unsurprising that many of the results seen at the global level are found within the regional assessment.

This paper's findings therefore add to the body of literature which assesses mod-ernisation as inadequate to explain democracy at the regional level. Qualitative historical studies of different regions, such as is found in Rueschemeyer, Stephens, and Stephens (1992), go some way to explain why this might be. They point out that the differences in the way specific countries democratise differs so extremely due to radically different histories. Moreover, Acemoglu and Robinson (2006) also emphasise the importance of country-specific history in understanding democratisation. Shin and Tusalem (2018) build on this principle, suggesting that South-East Asia is unique in the absence of external democratic reform impulses and prevalence of illiberal cultural values, which may explain its lack of democratic development.

This particular historical backdrop of the region in fact be a direct explanation for why this paper's specific causal chain fails to hold up in South-East Asia. An increase in the middle class only matters if there is an incorporation of liberal values or vested interest in changing the system to better suit them. If the system is working fine for them, and these values do not pervasively exist in the society beforehand, then the increase in individuals in high skilled professions, or an increase in the standard of living itself, is not likely to be able to create a clamour for democracy. It should be noted, however, that this is merely one possible explanation, and more research is needed to make a case for the reasons why democratic development has (not) occurred in the region.

Conclusion

This paper has tested the relationship between modernisation and democratic survival and emergence for countries within South-East Asia. A causal chain was first developed according to the literature, linking modernisation and democracy based on the growth in

the middle class and skilled worker employment. It was then hypothesised that this link could explain democratic emergence and survival in the region.

This paper found no evidence in favour of these hypotheses, using Markov transition models, and controlling for a number of other variables linked to modernisation. The paper therefore concludes that the growth in the professional or managerial sector in South-East Asia has no demonstrable impact on democracy.

Appendix

0.1 Equations

Given a country is democratic when the dependent variable democracy $= 1$, the Markov models can be summarised as follows:

$$
\textbf{Emergence:} \quad P(Democracy_t = 1 | Democracy_{t-1} = 0)
$$
$$
= \Phi \left(\boldsymbol{\beta_1} \cdot \textbf{Independent Variables}_t + \boldsymbol{\beta_2} \cdot \textbf{Control Variables}_t \right) \quad (1)
$$

$$
\textbf{Survival:} \quad P(Democracy_t = 1 | Democracy_{t-1} = 1)
$$
$$
= \Phi \left(\boldsymbol{\gamma_1} \cdot \textbf{Independent Variables}_t + \boldsymbol{\gamma_2} \cdot \textbf{Control Variables}_t \right) \quad (2)
$$

Where Φ is the cumulative distribution function of the standard normal distribution. The vectors **Independent Variables**$_t$ for both emergence and survival contain the key explanatory variables Middle Class growth and Skilled Job growth, where $\boldsymbol{\beta_1}$ and $\boldsymbol{\gamma_1}$ are their respective coefficient vectors. The vectors **Control Variables**$_t$ contain other explanatory factors associated with modernisation that could be confounding the causal chain outlined (GDP per capita, primary school enrolment, urbanisation, and life expectancy), where $\boldsymbol{\beta_2}$ and $\boldsymbol{\gamma_2}$ are their respective vectors of coefficients.

Word Count: 2996

0.2 R script

```
setwd("C:\\Users\\XXX\\OneDrive\\Documents\\R working directory")

library(tidyverse)
library(ggplot2)
library(haven)
library(data.table)
library(R.utils)
library(stargazer)

## Middle class size ##

world <- read.csv("world.csv")
inequality <- read_dta("wiidcountry.dta")

#add new columns for middle class size

inequality<- inequality %>%
  mutate(middle_quintile = 100 - top20 - bottom20) %>%
  group_by(country) %>%
  mutate(l.middle_quintile = lag(middle_quintile))  %>%
  mutate(l.gini = lag(gini_std))  %>%
  rename(countrycode = c3)  %>%
  filter(region_un_sub == 405) %>%
  ungroup ()

world <- world %>%
  group_by(country) %>%
  mutate(l.gdppc = lag(gdppc)) %>%
  mutate(l.democracy = lag(democracy)) %>%
  mutate(l.enrl_gross = lag(enrl_gross)) %>%
  mutate(l.lifeexp = lag(lifeexp)) %>%
  ungroup ()

## Sector job change ##

ocu <- read.csv("EMP_TEMP_SEX_OCU_NB_A.csv")
```

```r
#filter by higher bands of job skill

filtered_data_2 <-ocu %>% filter(classif1 == "OCU_ISCO88_1" |
                                  classif1 == "OCU_ISCO88_2"|
                                  classif1 == "OCU_ISCO88_3"|
                                  classif1 == "OCU_ISCO68_0-1" |
                                  classif1 == "OCU_ISCO68_2",
                              sex == "SEX_T") %>%
  rename(countrycode = ref_area, year = time)

#create total skilled in workforce column for each row

filtered_data_2 <- filtered_data_2 %>%
  group_by(countrycode, year) %>%
  mutate(total_skilled = sum(obs_value))

#select 1 row per year for total skilled

filtered_data_2 <- filtered_data_2 %>%
  filter(classif1 == "OCU_ISCO88_1" | classif1 == "OCU_ISCO68_0-1") %>%
  select(countrycode, year, total_skilled)

#select 1 row per year for total workforce number

filtered_data_3 <- ocu %>%
  filter(classif1 == "OCU_ISCO68_TOTAL" | classif1 == "OCU_ISCO88_TOTAL",
         sex == "SEX_T") %>%
  rename(countrycode = ref_area, year = time) %>%
  select(countrycode, year, classif1, obs_value)

#merge data sets with total skilled and total employed to find proportion skilled

merged_data_2 <- merge(filtered_data_3,
                       filtered_data_2,
                       by = c("year", "countrycode")) %>%
  mutate(percent_skilled = total_skilled / obs_value *100)
View(merged_data_2)

## Primary gross enrollment ##
```

```
enrol <- read.csv("API_SE.PRM.ENRR_DS2_en_csv_v2_1078.csv",
                  header = TRUE,
                  check.names = FALSE) %>%
  rename(Country.Code = "Country Code") %>%
  rename(Country.Name = "Country Name") %>%
  rename(Indicator.Name = "Indicator Name") %>%
  rename(Indicator.Code = "Indicator Code")

region <- world %>% rename(Country.Code = countrycode) %>%
  select(Country.Code, un_region_name) %>%
  unique

joined_enrol <- full_join(region, enrol, by = c("Country.Code")) %>%
  filter(un_region_name == "South-Eastern Asia")

reformatted_enrol <- joined_enrol %>%
  pivot_longer(cols = -c(Country.Name,
                         Country.Code,
                         Indicator.Name,
                         Indicator.Code,
                         un_region_name),
               names_to = "Year",
               values_to = "Enrolment_rate") %>%
  select(Country.Code, Year, Enrolment_rate) %>%
  rename(year = "Year") %>%
  rename(countrycode = "Country.Code")

reformatted_enrol$year <- as.numeric(as.character(reformatted_enrol$year))

## FINAL DATA SETS FOR SE ASIA ##

#add skilled workers to world
SE_asia_middle_class_exp <- left_join(world, merged_data_2,
                                      by = c("year", "countrycode"))

#add primary school enrollment
SE_asia_mc_enrol <- left_join(SE_asia_middle_class_exp, reformatted_enrol,
                              by = c("year", "countrycode"))

#add middle class + filters
```

```r
SE_asia_IV_combined <- left_join(SE_asia_mc_enrol, inequality,
                                 by = c("year", "countrycode")) %>%
  group_by(countrycode) %>%
  mutate(l.percent_skilled = lag(percent_skilled)) %>%
  mutate(l.middle_quintile = lag(middle_quintile)) %>%
  mutate(l.gini = lag(gini)) %>%
  mutate(l.democracy = lag(democracy)) %>%
  mutate(l.gdppc = lag(gdppc)) %>%
  mutate(l.prim_compl = lag(prim_compl)) %>%
  mutate(l.urban = lag(urban)) %>%
  mutate(l.lifeexp = lag(lifeexp)) %>%
  mutate(l.Enrolment_rate = lag(Enrolment_rate)) %>%
  filter(un_region_name == "South-Eastern Asia", !is.na(percent_skilled) |
           !is.na(middle_quintile) |
           !is.na(l.percent_skilled) |
           !is.na(l.middle_quintile)) %>%
  select(year,
         country.x,
         countrycode,
         percent_skilled,
         middle_quintile,
         gini,
         democracy,
         gdppc,
         prim_compl,
         urban,
         lifeexp,
         Enrolment_rate,
         l.percent_skilled,
         l.middle_quintile,
         l.gini,
         l.democracy,
         l.gdppc,
         l.prim_compl,
         l.urban,
         l.lifeexp,
         l.Enrolment_rate) %>%
  ungroup ()

View(SE_asia_IV_combined)
```

```
SE_democ0 <- filter(SE_asia_IV_combined, l.democracy == 0)
SE_democ1 <- filter(SE_asia_IV_combined, l.democracy == 1)

## Probit Models:

#running middle class and skilled workers together
#Note: "b" = only independent variables, "c" = control as well

emergence_b <- glm(democracy ~
                      l.middle_quintile  +
                      l.percent_skilled,
                   data = SE_democ0,
                   na.action = na.exclude,
                   family = binomial(link="probit"))
summary(emergence_b)

emergence_c <- glm(democracy ~
                      l.middle_quintile  +
                      l.percent_skilled +
                      l.Enrolment_rate +
                      l.gdppc,
                   data = SE_democ0,
                   na.action = na.exclude,
                   family = binomial(link="probit"))
summary(emergence_c)

survival_b <- glm(democracy ~
                     l.middle_quintile  +
                      l.percent_skilled,
                   data = SE_democ1,
                   na.action = na.exclude,
                   family = binomial(link="probit"))
summary(survival_b)

survival_c <- glm(democracy ~
                     l.middle_quintile  +
                     l.percent_skilled +
                     l.Enrolment_rate +
                     l.gdppc,
```

```
                    data = SE_democ1,
                    na.action = na.exclude,
                    family = binomial(link="probit"))
summary(survival_c)

#running middle class and skilled workers separately
#note: "sk" = skilled workers; "mc" = middle class

emergence_sk <- glm(democracy ~
                    l.percent_skilled +
                    l.gdppc +
                       l.urban +
                       l.lifeexp +
                       l.Enrolment_rate,
                     data = SE_democ0,
                     na.action = na.exclude,
                     family = binomial(link="probit"))
summary(emergence_sk)

survival_sk <- glm(democracy ~
                       l.percent_skilled +
                       l.gdppc +
                       l.urban +
                       l.lifeexp +
                       l.Enrolment_rate,
                     data = SE_democ1,
                     na.action = na.exclude,
                     family = binomial(link="probit"))
summary(survival_sk)

emergence_mc <- glm(democracy ~
                    l.middle_quintile +
                    l.gdppc +
                    l.urban +
                    l.lifeexp +
                    l.Enrolment_rate,
                  data = SE_democ0,
                  na.action = na.exclude,
                  family = binomial(link="probit"))
summary(emergence_mc)
```

```r
survival_mc <- glm(democracy ~
                   l.middle_quintile +
                   l.gdppc +
                   l.urban +
                   l.lifeexp +
                   l.Enrolment_rate,
               data = SE_democ1,
               na.action = na.exclude,
               family = binomial(link="probit"))
summary(survival_mc)


## Interactions ##

#independent variables

emergence_c_i <- glm(democracy ~
                     l.middle_quintile  +
                     l.percent_skilled +
                     (l.percent_skilled * l.middle_quintile) +
                     l.Enrolment_rate +
                     l.gdppc,
                  data = SE_democ0,
                  na.action = na.exclude,
                  family = binomial(link="probit"))
summary(emergence_c_i)

survival_c_i <- glm(democracy ~
                     l.middle_quintile  +
                     l.percent_skilled +
                     (l.percent_skilled * l.middle_quintile) +
                     l.Enrolment_rate +
                     l.gdppc,
                  data = SE_democ1,
                  na.action = na.exclude,
                  family = binomial(link="probit"))
summary(survival_c_i)

#middle class
```

```
i_emergence_mc <- glm(democracy ~
                      l.middle_quintile +
                      l.gdppc +
                      l.urban +
                      l.lifeexp +
                      l.Enrolment_rate +
                  (l.middle_quintile * l.urban) +
                  (l.middle_quintile * l.gdppc) +
                  (l.middle_quintile * l.Enrolment_rate),
                  data = SE_democ0,
                  na.action = na.exclude,
                  family = binomial(link="probit"))
summary(i_emergence_mc)

i_survival_mc <- glm(democracy ~
                      l.middle_quintile +
                      l.gdppc +
                      l.urban +
                      l.lifeexp +
                      l.Enrolment_rate+
                  (l.middle_quintile * l.urban) +
                    (l.middle_quintile * l.gdppc) +
                    (l.middle_quintile * l.Enrolment_rate),
                  data = SE_democ1,
                  na.action = na.exclude,
                  family = binomial(link="probit"))
summary(i_survival_mc)

#skilled workers

i_emergence_sk <- glm(democracy ~
                      l.percent_skilled +
                      l.gdppc +
                      l.urban +
                      l.lifeexp +
                      l.Enrolment_rate +
                      (l.percent_skilled * l.urban) +
                      (l.percent_skilled * l.gdppc) +
                      (l.percent_skilled * l.Enrolment_rate),
```

```
                              data = SE_democ0,
                              na.action = na.exclude,
                              family = binomial(link="probit"))
summary(i_emergence_sk)


i_survival_sk <- glm(democracy ~
                        l.percent_skilled +
                        l.gdppc +
                        l.urban +
                        l.lifeexp +
                        l.Enrolment_rate +
                        (l.percent_skilled * l.urban) +
                        (l.percent_skilled * l.gdppc) +
                        (l.percent_skilled * l.Enrolment_rate),
                     data = SE_democ1,
                     na.action = na.exclude,
                     family = binomial(link="probit"))
summary(i_survival_sk)



## turn into tables ##



stargazer(emergence_mc, survival_mc, emergence_sk, survival_sk,
          header=F,
          font.size = "small",
          covariate.labels = c(
                               "Middle Class share of income",
                               "Skilled labour force size",
                               "per capita GDP (in constant 2010 US\\$)",
                               "Urbanisation rate",
                               "Life Expectancy at birth",
                               "Primary enrolment, gross"),
          dep.var.labels  = "Democracy",
          column.labels = c(
                               "\\shortstack{Emergence}",
                               "\\shortstack{Survival}",

                               "\\shortstack{Emergence}",
```

```
                         "\\shortstack{Survival}"),
        omit.stat = c("aic", "ll"),

        title = "Democratic Emergence and Survival,
        South East Asia, 1960-2015")

###

stargazer(emergence_b, emergence_c,
        header=F,
        font.size = "small",
        covariate.labels = c(
          "Middle Class share of income",
          "Skilled Labour force size",
          "Primary enrolment, gross",
          "per capita GDP (in constant 2010 US\\$)"),
        dep.var.labels   = "Democracy",
        column.labels = c(
          "\\shortstack{Emergence}",
          "\\shortstack{Survival}"),
        omit.stat = c("aic", "ll"),

        title = "Democratic Emergence, South East Asia, 1960-2015")
```

References

Acemoglu, D., & Robinson, J. A. (2006). *Economic origins of dictatorship and democracy*. Cambridge University Press.

Almond, G. A., & Verba, S. (2015). *The civic culture: Political attitudes and democracy in five nations*. Princeton, N.J.: Princeton University Press.

Anderson, N. (2011). The odd couple: Modernization and democratization in southeast asia. *Cornell International Affairs Review*, *4*(2). Retrieved from http://www.inquiriesjournal.com/a?id=1232

Barro, R. J. (1996). Democracy and growth. *Journal of Economic Growth*, *1*(1), 1-27.

Barro, R. J. (1999). Determinants of democracy. *Journal of Political Economy*, *107*(6), S158-S183.

Boix, C., Miller, M., & Rosato, S. (2012). A complete data set of political regimes, 1800-2007. *Comparative Political Studies*, *46*(12), 1523-1554.

Boix, C., Miller, M., & Rosato, S. (2018). Boix-miller-rosato dichotomous coding of democracy, 1800-2015.

Clark, W. R., Golder, M., & Golder, S. N. (2017). *Principles of comparative politics* (Third ed.). Thousand Oaks, Cal: CQ Press.

Dahl, R. A. (1971). *Polyarchy: Participation and opposition*. New Haven, Conn.: Yale University Press.

Dossani, R., Eugeniu, H., Cooper, C. A., & Lilly, S. (2021). *Democracy in the asia-pacific region.* Retrieved from https://www.rand.org/pubs/research_reports/RRA1515-1.html.

Epstein, D. L., Bates, R., Goldstone, J., Kristensen, I., & O'Halloran, S. (2006). Democratic transitions. *American Journal of Political Science*, *50*(3), 551-569.

Freedom House. (2024). *Freedom in the world 2024: The annual survey of political rights and civil liberties.* Freedom House.

Inglehart, R., et al. (Eds.). (2020). *World values survey: All rounds – country-pooled datafile*. Madrid, Spain & Vienna, Austria: JD Systems Institute & WVSA Secretariat. (Version: http://www.worldvaluessurvey.org/WVSDocumentationWVL.jsp)

Inglehart, R., & Welzel, C. (2009). How development leads to democracy: What we know about modernization. *Foreign Affairs*, *88*(2), 33-48.

International Labour Organization. (n.d.). *Labour force statistics, ilostat.* Retrieved from https://ilostat.ilo.org/data/

Landman, T. (2006). Development, democracy and human rights in latin america, 1976?2000. In *Human rights and capitalism. corporations, globalisation and the law.* Edward Elgar.

Lerner, D. (1958). *The passing of traditional society: Modernizing the middle east*. Glencoe, Ill.: Free Press.

Lipset, S. M. (1959). Some social requisites of democracy: Economic development and political legitimacy. *The American Political Science Review*, *53*(1), 69–105. doi: 10.2307/1951731

Lust-Okar, E. (2004). Divided they rule: The management and manipulation of political opposition. *Comparative Politics*, *36*(2), 159-179. doi: 10.2307/4150141

Mainwaring, S., & Pérez-Liñán, A. (2013). *Democracies and dictatorships in latin america: Emergence, survival, and fall*. Cambridge University Press.

Marshall, M., & Gurr, T. (2020). Politytm project polity5 political regime characteristics and transitions, 1800-2018 dataset users' manual [Computer software manual]. Retrieved from `https://www.systemicpeace.org/inscr/p5manualv2018.pdf`

Przeworski, A., Alvarez, M., Cheibub, J. A., & Limongi, F. (2000). *Democracy and development: Political institutions and well-being in the world, 1950-1990*. Cambridge University Press.

Ross, M. L. (2001). Does oil hinder democracy? *World Politics*, *53*(3), 325-361.

Rueschemeyer, D., Stephens, E. H., & Stephens, J. D. (1992). *Capitalist development and democracy*. University of Chicago Press.

Shin, D. C., & Tusalem, R. (2018). *Democratization*. Oxford University Press. Retrieved from `https://www.oxfordpoliticstrove.com/view/10.1093/hepl/9780198732280.001.0001/he`

UNU-WIDER. (2023). *World income inequality database (wiid)*. Retrieved from `https://doi.org/10.35188/UNU-WIDER/WIID-281123`

Van de Walle, N. (2001). African economies and the politics of permanent crisis. *Journal of Modern African Studies*.

World Bank. (n.d.). *World development indicators*. Retrieved from `https://databank.worldbank.org/source/world-development-indicators`