Political Regimes and Natural Resources in Southeast Asia*

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Ⅰ. Statement of Problem

Establishment of democratic regime is a global and universal trend in these days. The end of the World War II was an important point in terms of starting diffusion of democracy: not only the Axis Powers but a number of newly independent countries adapted democracy as their official political regime. Furthermore, the 'third wave' of democratization during the last quarter of twentieth century triggered a chain of transition from authoritarian to some kind of democratic regimes in various regions. Recently, massive protests in Northern African and Middle East countries have been playing an important role to collapse or weaken long-lived non-democratic regimes. Though these newly established democracies have some difficulties for consolidating and sustaining their democracies, it is natural for assuming that democracy has been widely accepted at least

institutional dimension in most of countries.

Like other regions, Southeast Asia also has been undergoing substantial political changes during the last few decades. The Philippines' so-called the first 'People Power' that broke down the authoritarian regime of Ferdinand Marcos in 1986 was a starting point. In 1992, political intervention from the military forces was frustrated by massive protest and the King's disapproval at Thailand. After financial crisis, Indonesia also experienced transition toward democratic regime: President Suharto's 32-year authoritarian regime suddenly collapsed in 1998 when Indonesia just started to receive bail-out from the International Monetary Fund.

Political transitions in Southeast Asian, however, have not followed the simple and smooth trajectory to the democratization. In fact, during the same period, there also have been a number of political phenomena that are politically retarded or retrograded in terms of democratic principles in Southeast Asia. For instance, Burmese military regime still firmly secures their political privilege since they suppress the massive anti-government struggles i.e. the '8888' movement in 1988. Also, political development in Thailand is obstructed by chronic military intervention: Thai military is always ready to overthrow the government that has legitimacy from the general election. Besides, countries in the Indochinese Peninsular such as Cambodia, Laos and Vietnam are still needed to be improved in terms of guaranteeing not only free and fair election but also broad political participation (Table 1). also bolsters that we cannot simply conclude that politics in Southeast Asia is stably developing toward democracy.

<Table 1> Trends of the *Polity2* score in Southeast Asia, 1960－2009 (except Brunei)

Country	Average *Polity2* Score				
	1960－1969	1970－1979	1980－1989	1990－1999	2000－2009
Cambodia	-9	-5.44	0	0.4	2
East Timor	No data	No data	No data	No data	6.5
Indonesia	-5.7	-7	-7	-5.5	7.2
Lao PDR	-0.1	-4.2	-7	-7	-7
Malaysia	9.1	3.7	3.5	3.5	3.6
Myanmar	-3.9	-6.4	-7.6	-7	-7.2
Philippines	4.7	-6.8	-1.7	8	8
Singapore	1.38	-2	-2	-2	-2
Thailand	-5.6	-1.3	2.2	7.4	5.6
Vietnam	-7.9	-7	-7	-7	-7

Source: PolityIV Project (Marshall et al. 2011)

Political scientists usually try to find the relationship between natural resources and democratic stability. To be specific, they believe that oil-rich or resource-rich countries are deviant cases of the modernization theory: resource-wealth offsets the democratizing effect of the rising income and economic development (Ross 2001: 325). Mainly, high income states in the Arab Middle East and sub-Saharan African oil-producing states have been treated as typical cases for studying. It is interesting that economies of those democratic underdeveloped states are highly dependent on their own rich oil and other mineral resources. Saudi Arabia, Kuwait and Bahrain, for example, which can be regarded as the typical oil-reliant states still hold their absolute monarchies despite the powerful democratic movements of neighbor states.

Except specific countries such as Indonesia and Brunei, therefore, states in Southeast Asia could not be treated as proper subjects about

the "oil (or resource) impedes democracy" researches. However, as far as I am concerned, Southeast Asia has a lot of possibilities to provide new insights in terms of the relationship between natural resource and democracy. First of all, it is easy to find the empirical cases that seem to connect to the pre-existed arguments of oil politics in Southeast Asia. For instance, by producing natural gas and oil to Chinese oil companies and regional government using pipelines and tankers which were built across Burma, Burmese government is accumulating enormous capital that can protect their own regime (Montlake 2011). Also, Benjamin Smith already points out that strong durability of Suharto's authoritarian regime was heavily bolstered by rich oil production of Indonesia (Smith 2004: 242).

Moreover, natural resources are still one of the main factors in the Southeast Asian economies. As we can see from the <Table 2>,

<Table 2> Resource Dependence in Southeast Asia, 1960－2009

Country	Total natural resources exports (% of merchandize exports)		Total natural resources rents (% of GDP)	
	(1960－1999)	(2000－2009)	(1960－1999)	(2000－2009)
Brunei	88.74	47.09	54.34	54.52
Cambodia	0.29	0.38	9.90	2.58
East Timor	No data	0.00002	No data	0.64
Indonesia	45.76	33.89	16.05	10.71
Lao PDR	123.02	No data	8.44	3.95
Malaysia	21.66	13.68	12.75	15.06
Myanmar	5.82	No data	No data	No data
Philippines	11.98	4.87	3.00	1.66
Singapore	21.11	12.59	0	0
Thailand	6.90	5.09	1.80	3.97
Vietnam	1.38	22.76	7.53	12.66
World	13.31	14.19	3.38	3.90

Source: *World Development Indicators* (World Bank 2012).

though relative importance has been slightly decreased, natural resources in the "old" exporters such as Indonesia, Malaysia and Brunei remain crucial for developing their economies. Besides, "new" exporters (Cambodia, East Timor, and Vietnam) are continuously increasing their production of natural resources. Therefore, it is reasonable that Southeast Asia also can be included as a reliable research subject about the discourse of relationship between resource exports (or rent) dependence and political situation.

In this paper, by using cross-national time series regression, I point out that resource dependence is also has a negative influence on the development of democracy in Southeast Asia.

Both indicators regarding on the resource dependence－natural resource exports and rents－ significantly show the negative coefficients on the level of democracy in each model. In terms of testing the specific causal mechanism of existing theories such as rentier state and rent-seeking theory, however, I find the some causal mechanisms such as the influence of the civil war onset are opposite to expected hypotheses.

This paper proceeds as follows. First, I introduce major works on the relationship between the resource dependence and political regime which provide meaningful hypotheses on my study. Second, based on the existing literature, I raise models which test a number of theories on research dependence studies. Third, based on the regression results, I try to find the causal mechanisms within the Southeast Asian context.

Ⅱ. Theoretical Argument

1. The "Rentier State" Theory

Studies on the relationship regarding the influence of natural resource abundance can be divided into two the phases based on the late 1980s. Before this period, most scholars claimed that plentiful natural resources were advantage in terms of social, economic and political development. In the 1960s, for example, Walter Rostow argued that plentiful natural resource can play an important role for escaping from underdevelopment in developing countries (Rosser 2006: 7). Though a number of radical economists opposed these views, majority of scholars regarded natural resources as a blessing for developing countries.

However, since the late 1980s, a number of literatures have challenged the conventional arguments. This academic challenge was empirically based on the cases about the strong regime stability of oil-rich Middle East authoritarian states that were deviant from the global trend toward democratization. To explain this deviant cases, political scientists started to develop the "rentier state" theory. Usually, a rentier state is characterized by a high dependence on specific rents, which are especially from the natural resources, generated by only a few economic actors (Jensen and Wantchekon 2004: 817). Thus, the majority is only able to access in the process of distribution or utilization of rents (Ross 2001: 329).

Accumulated researches regarding the reasons of strong stability in the authoritarian regime (or autocracy) in the rentier states can be

categorized into two types. Jay Ulfender coined these two types as "demand-side effects" and "supply-side effects" respectively (Ulfender 2007: 997). Demand-side explanations have emphasis on the relatively strong autonomy of rentier states that does not need to extract revenues from other parts of economic actors. In contrast to tax-dependent states that must try hard to extracting their operating revenues from the society, abundant resource rents reduce this burden of extraction. Thus, more natural resources make rentier state more free from the accountability that would be created as a consideration of taxation by population (Ross 2001: 332; Smith 2004: 233; Ulfender 2007: 997). Because leaders of rentier state are not necessary to extract resources from other parts of society, they also are not necessary to response to people's political demand.

While the "demand-side effects" theorists accentuate financial freedom from the taxation, the "supply-side" explanations point out the excessive governmental spending which allows immunity from people's resistance for democratization in rentier state. This approach mainly argues that large rents from the natural resources allow governments to greater spending on patronage network and effective security apparatuses, which successfully reduce latent pressures for democratization (Ross 2001: 333; Rosser 2006: 20; Ulfelder 2007: 997). For example, Lam and Wantchekon argue that the reason of strong regime sustainability of the authoritarian regimes in rentier states is mainly based on the successful concentration of economic benefits of political elites (Lam et al. 2003). Similarly, Jenson and Wantchekon mention that large governmental consumption in the resource dependence in Sub-Saharan authoritarian states plays an

important role for consolidating incumbent politicians' hold on political power (Jenson et al. 2004: 819; 828). A related literature also points out that oil revenues provide enough financial resources for authoritarian government to prevent the formation of oppositional groups (Beblawi 1987).

2. Rent-seeking Theory

The other kind of "resource curse" studies in political science mentions that abundance of natural resources is highly associated with not only the onset but the duration, and intensity of civil war which causes severe political instability. The causal mechanisms of this argument can be categorized as three folds: first, weak institutions for social control in rentier state hamper government for monitoring dissent of oppositional and militant group who wants to occupy attractive rents from abundance resources (Fearon et al. 2003; Ross 2006). Second, because the massive rents from natural resources cannot be fairly distributed, elites in government tend to be corrupted or even violent for dominating these incentives (Fearon et al.2003; Smith 2004; Fjelde 2009). Lastly, some of researchers focus on the failure of macroeconomic policy and over-developed public assets in rentier state, which triggers the rent-seeking activities and armed conflicts (Ross 2006; Rosser 2006). It is noticing that all these three mechanisms highlight the rent-seeking activities of political actors.

Until recently, countless researches have examined these causal mechanisms between the onset, duration, and intensity of civil war and natural resource abundance in rentier state. Collier and Hoeffler,

for example, argue that though the relationship between the natural resource abundance and civil war onset is not strictly linear, the former is a fundamental cause of the latter. In other words, natural resources significantly increase duration and risk of the civil war during the initial period, but after a certain amount of the exports, it rather decreases the risks (Collier et al. 1998). Ross also points out that petroleum and other different natural resources such as diamond lead to onset of civil war. However, he does not argue the statistical correlation between the abundance of natural resources and duration of civil wars. Instead, he claims that different location of producing fuels influences on the civil war onset: while fuel onshore is clearly associated with the onset of conflict in all models that he suggests, fuel offshore is associated with reduced a risk of minor conflicts (Ross 2006). In addition, though Fjelde agrees with a positive and significant relationship between the oil production and risk of armed conflict, she suggests that corruption in rentier state plays an important role for not increasing but decreasing possibility of the civil war onset. To bolster her argument, she claims that corruption helps to consolidate powerful alliances with a stake for continuing authoritarian regime in rentier state (Fjelde 2009). Lastly, contrast to existing literature that suggest the linear relationship between oil dependence and civil war onset, Basedau and Lay argue that oil production increases the risk of civil war onset at lower levels, while it rather decreases the risk at higher levels. Thus, they suggest the inverted U-shaped relationship between risk of civil war onset and oil wealth (Basedau et al. 2009).

3. Resource Dependence Studies on Southeast Asia

Unlike homogeneous regions such as Latin America and Middle East, political scientists regard politics in Southeast Asia as a much more difficult subject which cannot be explained in the single and general framework (McCargo et al. 1996: 210). This argument is based on the unique complexity of culture, religion and economy in Southeast Asia. Until recently, therefore, rather than cross-national analysis, country-specific studies by area specialists who have language skills, historical and cultural knowledge have played major role for study of Southeast Asian politics (McCargo et al. 1996: 213).

Though it is not significantly accumulated, literature on the resource dependence or 'resource curse' in Southeast Asia also usually focus on case of single country or several sub-regions in one country. For example, Rosser points out that Indonesia can be regarded as one of the few countries that overcame the resource curse phenomenon. To bolster his argument, he mentions two reasons: political victory of counter-revolutionary forces which effectively blocked the radical social movements and strategic location during the Cold-War which was beneficial to receiving economic opportunities (Rosser 2007). However, Tadjoeddin counter-argues that the danger of conflicts for natural resources in Indonesia is always latent and if there is no proper policies that manage natural resources in effectively, this danger may be overt (Tadjoeddin 2007).

While some researchers explore single-country unit, however, recently other researchers try to conduct cross-national analysis or at least include resource abundant countries such as Indonesia, Brunei,

and Malaysia which already possess enough econometric database as samples of the large-N analysis. Smith, for instance, points out that existing literature of oil politics is also coherent in terms of applying to the Southeast Asian context (Smith forthcoming). However, because he just focuses on the oil exports he failed to broaden his eyesight to the endowment of other natural resources such as gas and non-ferrous metals in Southeast Asian countries.

Ⅲ. Quantitative Analysis: Natural Resources and Political Outcome

1. Research Design

In this section, I try to find the relationship between natural resource dependence and political regimes in Southeast Asian countries, using cross-national time series data analysis from 1960 to 2009. Data sets used in this study come from various sources such as World Bank's World Development Indicators website[1], Polity IV data set, and UCDP/PRIO Armed Conflict dataset. Descriptive statistics for all variables used in this paper are introduced in Appendix.

The dependent variable for cross-national panel regressions is a measure of political regime type. This variable is mainly from the

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1) http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2(search date: 04/28/2012)

Polity IV data set which is released by Marshall, Jaggers and Gurr in 2010. Like existing Polity datasets, the Polity IV dataset includes all countries where the 2006 population exceeds 500,000 (about 162 countries).

However, unlike the earlier Polity projects the Polity IV dataset adds a new variable: *POLITY2* is designed for the convenient measurement of regime in the time series analysis. Before the Polity IV data set was released, usually scholars had to modify or rescale the data set in order to measure the regime type. This arbitrarily modified variable, however, has a definite limitation in terms of converting the "standardized authority codes" (i.e., -66, -77, and -88) to normal polity score. To overcome this problem, the research team invented the revised combined polity score by using certain set of rule (Marshall et al. 2011: 17). Yet this variable does not cover Brunei whose population is about only 400,000. To deal with this problem, I use *fh_ipolity2* score which has a range from 0 to 10 from the Quality of Government (QoG) Dataset by University of Gothenburg for measuring political regime of Brunei. Because *POLITY2* has a range from -10 (least democratic) to 10 (most democratic), I rescaled *fh_ipolity2* by using this formula: Multiplying *fh_ipolity2* score by 2 then subtracting by 10.[2]

The key independent variable in this study is resource[3] dependence or resource abundance. To measuring this variable, scholars usually

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[2] Compared to using the combination between Polity2 score and modified *fh_ipolity2* score for Brunei, using exclusively *fh_ipolity2* score as a dependent variable diminishes 56 observations based on the basic model.

[3] In this study, I define oil, gas, iron ore and other kinds of nonferrous metals as 'resource'.

use two indicators respectively: natural resources exports as a percentage of merchandise exports (for example Jensen et al. 2004) and natural resources rents as a percentage of GDP (for example Ross 2001; Smith 2004). In this study, I use both indicators due to a dearth of sufficient data. Because specific countries in Mainland Southeast Asia maintained a closed economic system until recently, establishment of macroeconomic database has not been fully development. In other words, some countries have both indicators between natural resource exports and rents others only show one indicator of them during specific period. To check the validity of my study, therefore, I use both indicators as a main independent variable in turn.

In my basic regression model, I also include three control variables. The first one is a natural log of GDP per capita (*log_of_gdppercapita*) in current international dollars. As we can see from the disputes about the "endogenous democratization" theory, per capita income has played an important role for measuring the correlation between the economic development and level of democracy (for example, Przeworski et al. 1997; Boix et al.2003). By using this variable, I expect to confirm whether economic development triggers democratization in Southeast Asian countries or not.

The second control variable is *Islam*, which is a dummy variable to indicate Islamic countries. To be specific, I operate this variable as one if one country declares Islam as a state religion (Brunei, Malaysia) or the more than fifty percent of the population is Muslim (Indonesia). Previous literature mentions that Islam

generally has a close relationship with the underdevelopment of democracy. For instance, by using a cross-national analysis, Fish argues that the reason of the democratic deficit in the Islamic societies is originated from the subordination of women and patriarchal social order (Fish 2002).

Lastly, the third control variable is Mailnand (*continent*), a dummy variable that is coded 1 for countries located in Mainland Southeast Asia and 0 for Maritime Southeast Asia. Two geographic regions show clear ethnographic, linguistic, religious differences. Linguistic structure, for example, of the former is based on Mon-Khmer, Sino-Tibetan and Hmong-Mien whereas languages of Maritime Southeast Asia are derived from Proto-Austronesian (Enfield 2005: 181-182). In this sense, though Malaysia and Singapore is located in the Malay Peninsula, these countries are identified as Maritime Southeast Asian countries. Because of the steep topographical feature and geographical proximity to China which is the biggest Communist country in the world, I assume that Mainland Southeast Asian countries are less democratic than Maritime Southeast Asian countries.

Overall, the hypotheses that indicate my basic model are stated as below.

H_1 : While economic growth has a positive effect, resource dependence has a negative effect on the development of democracy in Southeast Asian countries

H_2 : In terms of resource dependence context, Islam plays a negative role for democracy in Southeast Asia

H_3 : In terms of resource dependence context, countries which are

located in Mainland Southeast Asia are less democratic than Maritime Southeast Asian countries.

In my basic regression model, I also include several demographic and historical control variables. First, as a geographic variable, I use log of population density (*log_popdensity*). Pre-exiting arguments point out that there is a positive correlation between population size and democratic underdevelopment or civil war onset in resource rich countries (Ross 2001; Fjelde 2009). Similarly, Smith finds that greater population density reduces the risk of regime failure in resource rich countries (Smith 2004: 238). Based on these studies, I also hypothesize that large population density has a negative influence on the democratic development in Southeast Asian countries.

Second, I assume that so-called during the "third wave of democratization" period, which is from 1974 to 1990, there was also a positive impact for the democracy in Southeast Asia. During this period, instead of existing authoritarian regimes, a series of newly democratic regimes were established across the world. Because this phenomenon was a global and 'diffused' among neighbor countries (Brinks et al. 2001), it is reasonable to suppose that countries in Southeast Asia also were influenced at least indirectly. Thus I create a dummy variable (*third wave*) for indicating the period of the third wave of democratization.

The third control variable, *Britain*, is interesting in terms of testing whether the institutional legacies from the British colonial period have positive effects on the democracy in Southeast Asia

or not. Though a number of previous researches mentions British institutional heritage, unified argument has not been settled yet. In detail, while some studies show that the institutional legacies from the British colonial policies have positive effects on the political development in newly democratized countries (for example, Widner 1994; Jenson et al. 2004), others argue that there is no clear relationship between the specific former colonial control and political institutions after independent (for example, Lust-Okaret al. 2002), or qualitative characteristic of political institutions can be varied by the political conditions in each former British colonial countries (for example, Anckar 2012). Thus, using the dummy variable for representing countries which were the British colonies is useful to test which argument is more proper in the context of Southeast Asia.

I also create additional models for testing diverse existing arguments in both rentier state theory and rent-seeking theory. First, to test the rentier state theory, I include two variables. In terms of the "demand-side effects", I use the variable *Tax_Revenue*, which is the collected tax revenue as percentage of the GDP. Also, to test the "supply-side effects", I use a variable which measures general government final consumption expenditure as percentage of GDP (*Government_ Consumption*). All the data regarding these variables are from World Bank's *World Development Indicators* (2012). The hypothesis of the rentier state model is stated as below.

H_4 : Because revenues from natural resources relieve the burden of
　　　responsibility to response popular demand for democratization,

> governments try to keep their regimes less democratic using excessive governmental consumption

Additionally, I use two variables to test the arguments of rent-seeking theory that resource depended states tend to be more repressive to deal with not only inner conflict but popular pressure. The first variable is armed force personnel (*armed_force*), which measures the size of the military as a fraction of the labor force. Compared to military expenditure variable which existing studies use, this variable is more beneficial it terms of not only controlling the differences of the military wages across the countries but guaranteeing relatively more observations. This variable sporadically covers 10 states between 1960 and 2006.

The second variable is a civil war incidence, which measures the incidence civil war and is coded 1 in all country years with at least one active war. I hypothesized that resource dependence triggers armed conflict for occupying more resources and it tend to be harmful for democracy. To escape the endogenous problem, I use both 1 year and 5 year lagged version of war incidence variables (*war_inci_l1* and *war_inci_l5*, respectively) to check the effect of armed conflict more accurately. The data of *armed_force* is taken from World Bank's *World Development Indicators* (2012) whereas I take data regarding on the civil war onset from the UCDP/PRIO main armed conflict onset dataset, 1946-2011 (2012).[4] The hypothesis of rent-seeking theory in my paper is stated

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4) http://www.pcr.uu.se/research/ucdp/datasets/ucdp_prio_armed_conflict_dataset(search date: 04/23/2012)

as below.

> H₅ : By spending resource revenue, governments build over-developed military system to repress popular demand for democratization. Also, onset of civil war in the resource-dependence countries may be harmful for democracy in Southeast Asia.

Lastly, to test the modernization effect on the level of democracy as Ross (2001) did I include several indicators to check whether extraordinary social and cultural underdevelopment correlate with the democratic underdevelopment. In detail, I use seven additional control variables: occupational diversification for women, enrollment of education system, level of health care system, level of urbanization, and level of infrastructural capacity. According to modernization theorists, economic development triggers urbanization, growth of mass education and growing organizational networks which not only transform the society's social structure and contribute to democracy (Gasiorowski 1995: 882). Inglehart also mentions that rising occupational diversification and educational development "leads a workforce that is independent mined and has specialized skills that enhance its bargaining power against elites" (Inglehart 2000: 92). First, to measure occupational specialization I use the number of female employees in both secondary (*Women_in_industry*) and tertiary (*Women_in_service*) industry as a fraction of female in the economically active population. Also, in terms of measuring the level of educational development, I use the enrollment rates of both secondary

(*secondary_enrollment*) and tertiary (*tertiary_enrollment*) educational institutions. I additionally include life expectancy of population (*life_expect*), the number of urban population as a percentage of total population (*urbanpopulation*), and telephones subscribers per 100 people (*Telephone_100*) to measure the level of nutrition, urbanization, and infrastructural capacity respectively. All samples that are used in these variables come from the World Bank's *World Development Indicators*(2012). The hypothesis of the modernization theory in this study is stated as below.

> H_6 : The underdevelopment of social and cultural change due to the resource dependence reduces the likelihood of transition to more democratic regime.

In this paper, I mainly ran with a random-effects OLS regression with panel-corrected standard errors (PCSEs) using Stata 11.0. Beck and Katz point out that existing FGLS (feasible generalized least square) regression with time series cross-sectional data set usually create "substantial overconfidence" in terms of calculating standard error (Beck et al. 1995: 640). Instead, they suggest the combination of OLS with PCSEs which allows more accurate estimation for time series data sets. I follow their suggestion when I use natural resource rents as my independent variable. Because no time period are to all common when I use natural resource exports as independent variable, however I unwillingly use FGLS regression with an assumption that panels are heteroskedastic in this case. And I did not find the autocorrelation in each model.

3. Results

The results of the basic model are presented in <Table 3>. Laos is excluded when I run a regression with resource exports whereas Burma could not be shown up when I run a regression win a resource rents as an independent variable. According to results, I find that both two variables regarding resource dependence are highly and negatively significant on level of democracy. For example, the second column of this table shows that 1% point increase of resource exports decreases the (revised) *Polity2* score as 0.135 points. The magnitudes of significance in both variables are also stable when I include other control variables. Moreover, high levels of GDP per capita robustly have a positive effect on development of democracy in Southeast Asian countries. Though it needs further research, this result seems to bolster "endogenous democratization" theory which economic development increases the likelihood of democratic transition.

It is noticing that <Table 3> also shows Islamic countries are more democratic compared to non-Islamic countries except when I include log of surface area and population as other control variables. Compared to Islam in other regions, Islam in Southeast Asia is more syncretistic and secular. Clifford Geertz, for example, points out that the majority of Javanese Muslim is '*abangan*' who are heavily influenced by animistic ceremonies and traditional religious thoughts (Geertz 1960: 4-6). Moreover, in Indonesia, these nominal Muslim have continuously support not Islamic parties but secular parties which protect social harmonization of

Indonesia in regular elections. Also, though UMNO (United Malay National Organization) and it's BN (Barisan Nasional, National Front) play as a hegemonic party, Malaysia which is another Islamic country also hold regular election unlike other sultanistic regimes in Middle East.

   Though I find some results discord with my hypotheses, other variables also have statistical significances on the level of democracy. First, the first control variable which represents the period of the 'third wave of democratization' shows that Southeast Asian countries were rather suffered from the underdevelopment of democracy when I use resource rents as an independent variable. This result may reflect the implication that not only the democratization process in Southeast Asia was not consistent but also the external influence for democratization was not effective. Furthermore, the seventh column of the <Table 3> clearly mentions that population density has a negative effect on the political regime. This result is coincides with pre-exiting arguments which population size is positively significant in terms of democratic underdevelopment or civil war onset in resource rich countries (Ross 2001; Fjelde 2009). Also, though the statistical significance is relatively low, I find an interesting result that historical heritage from British colonial period has antidemocratic effect on former colonies of Britain. In terms of explaining this result, Bernhard et al. (2004) provide a meaningful hint. Although they admit that British colonialism generally played a constructive role for post-colonial democracies, they suggest that existence of the negative relationship between state and civil society such as ethnic

and religious fragmentation in former British colonies is more harmful for democratic success compared to other colonialisms (Bernhard et al. 2004). Take into the consideration that former British colonies especially Burma and Malaysia had suffered from severe religious and ethnic conflicts, their finding also can be applied in the Southeast Asian context.

<Table 3> Basic Model with Geographic and Historical Control Variables

Dependent Variable: *Polity 2 Scorein* Polity IV

Variables	Coefficient (StandardError)							
Log of GDP per capita	0.468*** (0.178)	0.860*** (0.317)	0.484*** (0.180)	0.754** (0.303)	0.979*** (0.178)	1.798*** (0.323)	0.770*** (0.204)	1.471*** (0.343)
Resource exports	-0.129*** (0.009)		-0.132*** (0.010)		-0.149*** (0.009)		-0.134*** (0.0099)	
Resource rents		-0.159*** (0.016)		-0.146*** (0.015)		-0.217*** (0.019)		-0.159*** (0.014)
Dummy for Islam	4.988*** (0.726)	1.988*** (0.481)	5.008*** (0.733)	1.573*** (0.468)	−1.418+ (0.928)	-1.534*** (0.527)	5.150*** (0.764)	2.497*** (0.680)
Dummy for Mainland	−1.232+ (0.787)	-0.642 (0.721)	-1.126 (0.798)	-1.025 (0.755)	-6.571*** (0.711)	-3.448*** (0.655)	-1.668** (0.815)	-1.104 (0.822)
Third wave of democratization			0.559 (0.491)	-1.609** (0.650)				
Log of population density					-2.002*** (0.225)	-1.936*** (0.133)		
Colony Dummy: United Kingdom							−1.165+ (0.738)	-2.939* (1.512)
Constant	−2.150+ (1.457)	-5.873** (2.691)	−2.365+ (1.451)	-4.450* (2.603)	9.015*** (1.510)	-0.208 (2.442)	-3.621** (1.477)	-9.232*** (2.268)
Observations	297	313	297	313	297	313	297	313
States	10	10	10	10	10	10	10	10
χ^2	235.75	145.52	231.52	179.19	439.02	281.17	210.24	359.26

$p^+ < .15, p^* < .10, p^{**} < .05, p^{***} < .01$

<Table 4> Rentier State Theory

Dependent Variable: *Polity 2 Score in* Polity IV

Variables	Coefficient (StandardError)			
Log of GDP per capita	0.448** (0.185)	1.104*** (0.380)	-0.955*** (0.250)	-0.286 (0.407)
Resource exports	-0.135*** (0.010)		-0.291*** (0.0438)	
Resource rents		-0.161*** (0.015)		-0.571*** (0.199)
Dummy for Islam	5.170*** (0.726)	3.044*** (0.479)	2.550*** (0.758)	4.700* (2.495)
Dummy for Mainland	-0.788 (0.795)	1.090⁺ (0.699)	-4.969*** (0.848)	-2.631** (1.039)
Government Consumption	0.012 (0.047)	-0.057 (0.049)		
Tax Revenue (% of GDP)			-0.130 (0.094)	-0.007 (0.154)
Constant	−2.193⁺ (1.510)	-7.946*** (2.949)	15.00*** (2.182)	6.308*** (1.980)
Observations	284	279	127	161
States	8	9	9	9
χ^2	201.15	194.64	149.76	647.15

$p^+ < .15, p^* < .10, p^{**} < .05, p^{***} < .01$

In addition, <Table 4> shows the results of regression testing of the rentier state hypothesis. In this table, Laos, Burma and East Timor are excluded in the resource export analysis with *Government_Consumption* variable and Burma and East Timor are omitted in other models. I find that both variables which measure resource have still significant and negative effect on the democratic regime. However, both *Tax_Revenue* and *Government_ Consumption* are not statistically significant in terms of level of democracy. There are two ways to interpret this result.

First, this might be a result from the lack of data. I fail to guarantee enough sample size for both variables, especially

Government_Consumption variable. This variable reduces the sample size about 100 observations compared to basic models. Second, compared to other resource rich states, Southeast Asian states are relatively too 'weak' to perform diverse governmental activities as rentier states. Based on the Joel Migdal's framework regarding on the relationship between society and state, Southeast Asian states are usually treated as the typical cases of the 'weak' states with few exceptions (McCargo et al. 1996: 218-219). Because diverse social actors such as military, monarch and religion heavily influence on the state's activities, even relatively authoritarian states are 'weak' in terms of their ability to govern and tax.

The results of hypothesis testing of the rent-seeking theory are stated in <Table 5>. Both resource exports and resource rents variables are negative and highly significant on the level of democracy. The coefficients of armed force personnel variable are also negatively significant at the 0.01 level in both cases. Thus, I find that resource dependence might be correlated with building up the high level of military strength, which causes underdevelopment of democracy. This result corresponds with not only hypothesis in this study but existing literature on resource dependence.

In terms of both *war_inci_l1* and *war_inci_l5* however, the coefficients of these variables are highly questionable and against to my hypothesis: both lagged civil war incidence variables have highly positive and significant effects on development of democracy. In other words, political repercussions from the civil

war onset might be positive on democracy in Southeast Asia. For analyzing this result, study of Derouen Jr. et al. (2009) may be useful. They find that longer peaceful occur after repeated violent conflicts happened in Southeast Asia. To bolster this, they focus on the role of the third parties which engage in meditation or offer security guarantees to both sides of civil wars. In other words, third parties in Southeast Asia could have ability to produce the condition for enduring peace by learning the dynamics of civil wars (Derouen Jr. et al. 2009).

<Table 5> Rent-seeking Theory

Dependent Variable: *Polity 2 Score* in Polity IV

Variables	Coefficient (StandardError)					
Log of GDP per capita	0.167 (0.353)	1.199*** (0.425)	0.945*** (0.206)	1.787*** (0.288)	0.823*** (0.198)	1.917*** (0.201)
Resource exports	-0.079*** (0.012)		-0.133*** (0.010)		-0.130*** (0.009)	
Resource rents		-0.136*** (0.017)		-0.166*** (0.021)		-0.171*** (0.0225)
Dummy for Islam	-0.547 (0.760)	-1.600** (0.693)	4.325*** (0.764)	2.991*** (0.731)	5.113*** (0.722)	2.891*** (0.636)
Dummy for Mainland	-1.782* (0.975)	−2.246 (1.737)	-0.412 (0.831)	2.049*** (0.616)	0.727 (0.796)	2.217*** (0.676)
Armed Forces Personnel	-1.000*** (0.206)	-1.377*** (0.123)				
Civil war incidence_L1			1.146* (0.682)	3.007*** (1.100)		
Civil war incidence_L5					1.234* (0.679)	3.046*** (0.939)
Constant	5.220** (2.618)	-5.042 (3.908)	-5.635*** (1.702)	-14.82*** (2.456)	-5.441*** (1.671)	-15.78*** (1.738)
Observations	149	192	273	273	279	294
States	10	10	9	9	9	9
χ^2	168.01	1448.23	231.16	255.40	179.07	142.41

$p^+ < .15, p^* < .10, p^{**} < .05, p^{***} < .01$

Lastly, Table 5 and 6 show the results of regression to test the modernization effects in the context of resource dependence. Among several control variables, only variables represent female employment in the tertiary industry, enrollment of tertiary educational institution and life expectancy are highly significant and positively associated with the level of democracy. Other variables, especially regarding on secondary school enrollment, urban population and telephone

<Table 6> Modernization Theory (1)

Dependent Variable: *Polity 2 Score* in Polity IV

Variables	Coefficient (StandardError)							
Log of GDP per capita	-0.426 (0.344)	-0.228 (0.287)	-1.753*** (0.475)	-3.205*** (0.553)	3.005*** (0.313)	3.864*** (0.390)	2.206*** (0.310)	2.254*** (0.531)
Resource exports	-0.154*** (0.026)		-0.143*** (0.022)		-0.169*** (0.010)		-0.171*** (0.013)	
Resource rents		-0.246*** (0.036)		-0.454*** (0.070)		-0.245*** (0.026)		-0.199*** (0.0298)
Dummy for Islam	3.941*** (0.761)	6.101*** (1.164)	4.899*** (0.870)	11.24*** (1.687)	-0.816 (1.211)	-2.855*** (0.557)	1.432 (1.360)	0.875 (0.628)
Dummy for Mainland	0.235 (1.115)	2.507** (1.093)	4.099*** (1.559)	12.17*** (1.988)	-4.527*** (1.119)	-4.426*** (0.709)	-0.840 (1.283)	-0.500 (0.692)
Women in industry	-0.054 (0.050)	-0.004 (0.046)						
Women in service			0.137*** (0.048)	0.341*** (0.059)				
Secondary Enrollment					-0.089*** (0.018)	-0.069*** (0.020)		
Tertiary Enrollment							-0.030 (0.032)	0.113 *** (0.035)
Constant	7.089** (2.852)	1.921 (2.446)	6.346** (2.549)	5.366** (2.600)	-9.878*** (1.711)	-17.68*** (2.849)	-19.85*** (1.570)	-15.84*** (3.311)
Observations	157	161	157	161	197	227	169	209
States	8	9	8	9	9	9	8	9
χ^2	61.99	216.16	92.07	68.77	346.02	125.66	301.47	167.46

$p^+ < .15, p^* < .10, p^{**} < .05, p^{***} < .01$

<Table 7> Modernization Theory (2)

Dependent Variable: *Polity 2 Score* in Polity IV

Variables	Coefficient (StandardError)					
Log of GDP per capita	-1.401***	0.291	0.955***	2.382***	2.470***	4.476***
	(0.319)	(0.370)	(0.275)	(0.448)	(0.268)	(0.577)
Resource exports	-0.108***		-0.131***		-0.162***	
	(0.010)		(0.009)		(0.008)	
Resource rents		-0.149***		-0.177***		-0.265***
		(0.017)		(0.020)		(0.028)
Dummy for Islam	5.175***	1.919***	3.449***	-0.251	3.120***	0.591
	(0.676)	(0.472)	(0.996)	(0.571)	(0.499)	(0.477)
Dummy for Mainland	0.146	-0.914	-3.283***	-4.034**	-0.997*	-1.451^{+}
	(0.749)	(0.729)	(1.185)	(1.705)	(0.530)	(0.899)
Life Expectancy	0.440***	0.122*				
	(0.061)	(0.065)				
Urban Population			-0.047**	-0.121***		
			(0.022)	(0.044)		
Telephone lines					-0.291***	-0.485***
					(0.027)	(0.056)
Constant	-18.84***	-9.953**	-1.954	-9.075***	-12.33***	-25.98***
	(2.591)	(3.915)	(1.450)	(2.171)	(1.703)	(3.601)
Observations	297	313	297	313	233	281
States	10	10	10	10	10	10
χ^2	262.65	152.36	251.02	217.09	466.29	193.11

$p^{+} < .15, p^{*} < .10, p^{**} < .05, p^{***} < .01$

line subscribers are negatively significant on democracy. I assume that there are two ways to explain these results. First, occupational diversification, nutritional development and level of education growth are the main and valid causal mechanisms of the modernization theory. Second, as I and other scholars (for example Ross 2001; Smith forthcoming) mention, small countries with dense population tend to less democratic than large ones. In the context of Southeast Asia, city-states such as Brunei and Singapore which have the most urbanized and systemized society are less democratic compared to other lager countries in Southeast Asia.

Ⅳ. Conclusions

By using the cross-national time series analysis, I test existing theories of the relationship between natural resource dependence and political regime in Southeast Asian countries. The first finding of my study is that resource dependence has a strong and negative influence on the level of democracy in Southeast Asian countries. All the models that I assume show the clear statistical significance on the negative correlation between them. Therefore, I verify that the essential argument of the resource dependence study is also available in Southeast Asian context. This study also confirms that a positive correlation between economic development and democracy also exists in Southeast Asia.

On the other hand, however I also get results that are against to my hypothesis. For example, first, I find that Islamic countries are more democratic compared to non-Islamic countries in Southeast Asia. This result may be explained by the unique characteristic of Islam in Southeast Asia which is more flexible in terms of according with other social constituents compared to Islam in other regions. Moreover, the statistical results show that causal mechanism of the rentier state theory may not be valid in Southeast Asian countries which are constructed by the 'weak states'. Some representative indicators of modernization theory also do not have enough statistical significance to interpret Southeast Asian resource politics. Though these results might be able to be explained by existing literature, they provide meaningful point to conduct future research.

This study has two further academic implications. First, due to the lack of econometric data regarding on the resource dependence in Southeast Asia, this study fail to include all Southeast Asian countries. Especially Burma and Laos which have strong closed economic system hardly participate in the models that I assume. This limitation should be bolstered by historical resources or new sources of data set. Second, we should remind that the cross-national analysis using statistical method provides not a thick descriptive analysis of empirical events but a general causal mechanism which is built by highly abstracted statistical processes. Future studies, therefore should refer to specific case studies which provide empirical evidences of finding of this study.

Appendix: Summary of Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
armed_force	224	2.565109	2.215055	.244111	9.23843
Britain	550	.3636364	.4814836	0	1
dummy_1980	550	.2	.4003641	0	1
dummy_1990	550	.2036364	.4030682	0	1
Government_consumption	346	11.16028	4.723034	3.46037	35.19924
Islam	550	.2727273	.4457672	0	1
life_expect	550	60.34871	11.19732	32.81378	81.2927
log_gdpper~p	411	6.836558	1.596501	3.999363	10.57479
log_popden~y	550	4.489505	1.418514	2.182477	8.859683
Mainland	550	.4545455	.4983829	0	1
natural_exports	339	42.04003	81.69034	0	788.3771
natural_rents	318	12.12784	17.70056	0	120.2859
polity2_revised	484	-2.054982	5.757683	-9	10
Secondary_enrollment	280	48.92644	22.10089	3.62038	107.2863
Tax_revenue	181	12.77001	4.962427	2.00105	24.44509
Telephone_100	355	7.394569	11.36632	.020773	48.313
Tertiary_enrollment	265	11.31312	11.21822	.07758	46.95179
Thirdwave	550	.34	.47414	0	1
urbanpopulation	550	36.68909	26.0091	4.4	100
war_inci_l1	464	.4073276	.4918671	0	1
war_inci_l5	439	.4031891	.4910978	0	1
Women_in_industry	161	18.01491	7.967333	2.7	40.3
Women_in_service	161	47.75093	18.19658	7.9	89.5

Key Words: natural resources, political regimes, Southeast Asia,
cross-sectional time series analysis

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<국문초록>

동남아시아의 정치체제와 자연자원 사이의 상관관계

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이 연구는 1960년부터 2009년까지의 시계열횡단연구(cross-sectional time series) 자료를 이용하여 동남아시아의 각국의 자연자원에 대한 의존도와 정치체제 사이의 상관관계를 밝히고자 하였다. 동남아시아는 중동과 서부사하라 아프리카와 더불어 전 세계에서 가장 자연자원이 풍부한 지역 가운데 하나이나, 관련된 연구는 자료의 부족으로 인해 타 지역에 비해 그다지 축적되어 있지 못한 상태이며, 그나마 단일 사례 혹은 국가에 치중되어 있다. 따라서 본 연구는 기존 자연자원의존도와 정치체제와의 경험적 연구들에서 주장된 인과관계들이 동남아시아에서도 적용될 수 있는지 살펴보고자 하였다.

분석 결과, 본 연구는 동남아시아에서도 한 국가의 자연자원에 대한 의존도의 증가가 민주주의 발전에 부정적인 영향을 끼친다는 것을 발견할 수 있었다. 구체적으로 본 연구에서 자연자원 의존도로 사용하였던 두 가지 지표인 총 수출 대비 자연자원 수출비율과 국민총생산 대비 자연자원 수입비율 모두 민주주의 수준을 종속변수로 상정한 각 모델에서 음의 상관계수를 보여주었다. 기존 연구들에서 다루어졌던 주요 이론들인 지대추구(rent-seeking), 지대국가(rentier state), 근대화(modernization)이론을 대표하는 통제변수들을 사용한 대부분의 결과 역시 기존 문헌의 주장을 뒷받침 하고 있다. 그러나

내전 발발과 이슬람을 비롯한 일부 통제변수들의 경우에는 기존 민주화 관련 연구결과와는 상반된 결과를 나타내기도 하였다. 이러한 동남아시아의 지역적 특수성을 보여주는 결과는 후속 연구에 의미 있는 시사점을 제시해 줄 것이다.

　주제어: 자연자원, 정치체제, 동남아시아, 시계열분석