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**THE RESOURCE CURSE: NATURAL RESOURCE  
ABUNDANCE ON THE GOVERNMENT  
TRANSPARENCY AND ECONOMIC EXPANSION**

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## **Abstract**

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The thesis analyzes the effect of ‘resource curse’ in ASEAN and OECD countries between 1990 and 2016. So far, there has not been empirical research that proved resource-rich economies in ASEAN and OECD countries had less transparency in their governmental system than the resource-poor ones and tested whether this lack of transparency has reduced their economic growth. By deploying ordinary least square regression, this paper’s results show a robust negative causal relationship running from oil and food resources export revenues to transparency. Furthermore, the decrease in economic expansion that is affected by the shortage of transparency is a result of ‘point’ (oil, ores, and minerals) resources revenues.

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## 1. Introduction

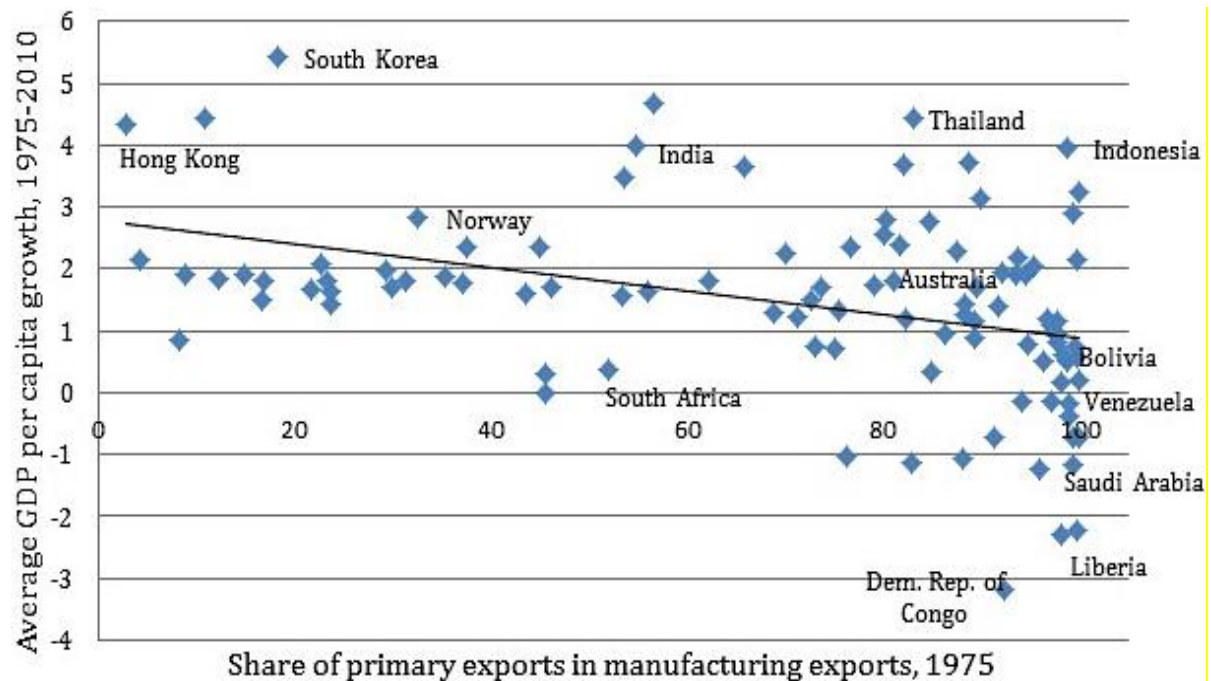
Some evidence in the past research concludes that resource-abundant countries most likely fall in the phenomena of 'resource curse'. Rotemberg and Woodford (1996) suggested the event of an overvalued oil price in the period of the 1970s affected the abnormal increase of income in the oil-rich countries, the unexpected gain in income occurred in these countries may be expected to happen regarding their domestic savings and fiscal revenues. However, compared to other developing countries, both of them argued that these countries have not inevitably outshined economically. Therefore, Usui (1997) studied this paradoxical occurrence in the setting of Dutch disease; he refers to where export revenue may have adverse effects on tradable sectors. He added that Dutch disease impacts internally like the national economy, but also affects the external area (non-tradable goods) that could lead to a real appreciation of the currency.

Furthermore, another derivative of 'resource curse' classification is the Nigerian disease model. This model analyzes the resource benefits from export are necessarily neglected by governments in favor of a lack of institutional capacity to manage the revenues of resource export efficiently (Williams, 2011). As a result, he argued that these studies often lead to corruption and rent-seeking behavior. Isham *et al.* (2005) added that there is a difference between the types of natural resources that could lead to 'resource curse', it is generally classified into 'point' resources like oil, ores and minerals; and 'diffuse' resources namely food and agriculture. Research explained the term of 'point' natural resources; it consists of more geographically specific, which is easier for governments to have authority on them and rent-seeking behavior is more likely to happen (Auty, 2001). Robinson *et al.* (2006) elaborated on the argument regarding 'diffuse' resources, which are geographically diverse; consequently, it is hard to maintain ownership and authority for this specific resource type.

To elaborate on how economic growth diverges in the resource-rich and resource-poor countries, World Bank (2011) illustrated it in Figure 1. It elaborates to what extent the difference between growth winners and growth losers regarding their institutional

arrangements. Also, Figure 1 shows average yearly economic growth from 1975 to 2010 against the share of primary exports in respective countries.

**Figure 1: Correlation between GDP growth and resource dependence**

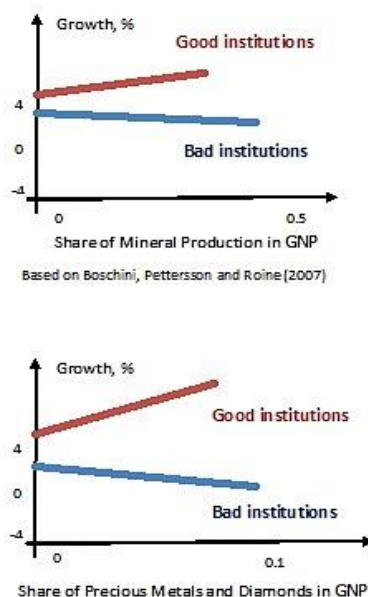


Source: World Bank (2011), cited in *Free Policy Briefs*

As the graph above, there is a robust negative relationship between a country's rents of primary exports and its consequence in the economic growth. However, World Bank (2011) argued that there are counterexamples to the earlier research, as Norway is one of the wealthiest economies concerning their GDP *per capita*, it is still the second largest of natural gas and the fifth largest of oil exporter. Other OECD member countries, like Australia and Chile, have economically performed well, not only due to resource wealth but also to some extent, it has an impact.

Moreover, Boshini *et al.* (2007) confirmed the prior research on the importance of resource type that influences the problem. They stressed that merely more valuable and concentrated geographically namely metals and diamonds, could impact an institutional system. The following figure illustrates the result of their research by exhibiting the marginal effects on different resource type in the relationship with institutional quality.

**Figure 2: Different types of resources on the institutional quality**



Source: *Boschini et al. (2007)*, cited in *Free Policy Briefs*

The upper graph shows a positive effect on good institutions with mineral exports production and an adverse impact on poor institutions; the below figure shows that it has steeper consequences when it comes to metals and diamond production.

At a theoretical approach, efficiency level of institutions has not specified the level of transparency yet. In the past decade, the transparency movement has raised awareness as Islam (2006) added that international organizations argue that transparency is a requirement for a better institution and a suitable measurement for corruption. Indeed, transparency can multiply the problems associated with resource-abundant countries (Kolstad & Wiig, 2009). They also argued that this lack of transparency could make corruption more attractive and generate principal-agent problems in a country (this means that it is between government and its citizens as well as the elected officials and the bureaucracy). Also, Williams (2011) stressed that through these resource revenues by decreasing the importance of national taxation can excavate democracy system in the country. Therefore, this thesis aims to bridge this gap empirically by examining the effects of natural resource abundance on specifically government transparency as well as to the country's economic prosperity.

Thus, if this tremendous natural resource extraction dangers to shift the political and economic condition of countries who export the resources, and investments in ‘point’ resources will only expand resource exhaustion and escalate corruption, then it is essential to analyze the ‘resource curse’. Hence, the research question is:

*To what extent does the natural resource abundance hinder the quality of government transparency and the national economic growth?*

This thesis creates a few additional contributions. First of all, I believe there have not been previous studies that have analyzed the different effects of each type of natural resources on transparency as well as economic growth in ASEAN and OECD countries. The ‘point’ resource components of natural resources could be presumed to affect government transparency and economic growth negatively. Secondly, the thesis will focus on these multinational organizations, which are classified in the Association of Southeast Asian Nations (ASEAN) and in the Organization for Economic Co-operation and Development (OECD), to see whether these countries could have impacted by the ‘resource curse’. Thirdly, as this thesis aims to investigate whether the abundance of natural resources has direct effects on institution’s transparency that subsequently is affecting economic growth in the country. Therefore, additional variables were taken into account whether country’s trade openness will have a positive or negative effect on the transparency and whether real effective exchange rates will affect growth beyond the trade openness of the respective country. Rodrik (2008) added that undervaluation of the currency impacts economic growth in developing countries. Finally, this thesis employs a recent data set (1990-2016) and carries out some robustness tests to verify the results validity.

The rest of this thesis structured in the following: In the second section, it presents the literature review that will summarize previous research findings that bring together the main arguments in this thesis. The theoretical framework will show in Section 3 where it outlines the hypotheses regarding the resource-rich economies on transparency and economic growth. The data along with the econometric analysis to explain the methods used in testing the postulated hypotheses will demonstrate in Section 4. Section 5 will be presenting the findings, while Section 6 will discuss the policy implications. The conclusion regarding the research question, discussion on the shortcomings and possible approaches for further studies will reveal in Section 7.

## **2. Literature Review**

### **2.1 Resource Curse**

One crucial finding by World Bank (1994) in economic prosperity area is resource-abundant nations have tendency to develop less rapid than states with a lower level of natural resources. It gives examples that economic development losers, such as Nigeria, Zambia, Venezuela, Saudi Arabia, Sierra Leone, and Angola are all resource-abundant economies, which are still left behind until now. In comparison, Asian tigers like, South Korea, Hong Kong, Taiwan, and Singapore are all resource-poor countries that perform relatively well. Relatively, World Bank argued that resource-rich economies are one-step behind than the less resource reserve countries. However, it concluded that we should not jump to the conclusion that 'resource curse' impact all resource-rich economies. World Bank also gave the contrary evidence from many growth winners: Canada, Norway, Botswana, and Australia are resource-abundant countries, yet they are well-developed economies. Furthermore, five out of eighty-two countries included in a World Bank research study, those belong to the top eight economies concerning natural resource wealth and the uppermost fifteen countries regarding their GDP *per capita*.

In contrast, Sachs and Warner (1995) found that the resource abundance leads to a deterioration of institutional quality, which subsequently is reducing economic prosperity, was empirically unimportant. They argued that the natural resource abundance is not a sufficient parameter to analyze the role of institutions, this is because of the lack of evidence for institutional deteriorate caused by natural resource abundance. They claimed that natural resources raise the standard for institutional arrangements so that 'resource curse' merely happens in countries where poor institutions occur.

Lane and Tornell (1996) found that inefficient institutions cause the failing economic condition after the unexpected oil gain in Nigeria, Mexico, and Venezuela, which ultimately was inviting grabbing activities in these countries. They added that there are disarrangements in the governmental system, such as corruption, the weak rule of law and malfunctioning bureaucracy. Acemoglu and Robinson (2000) gave an example in Congo, the great natural resource wealth, including 15 percent of the world's copper reserves, vast amounts of gold, zinc, diamonds, and oil gave the former president (Mobutu) a constant flow of income to assist sustaining his power and position. They added that higher resource rents make it more

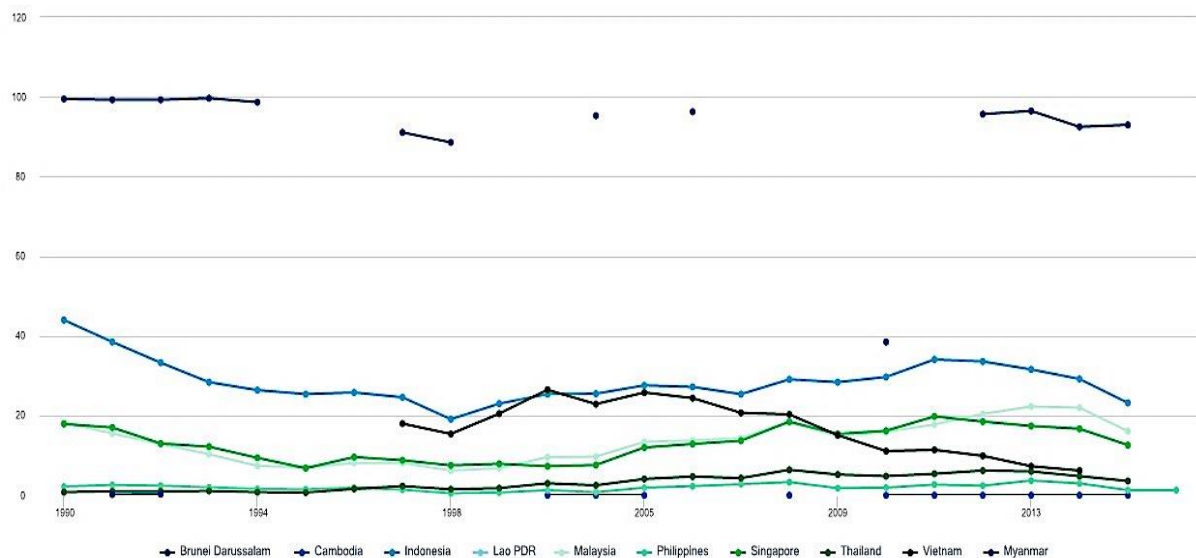


convenient for dictators to buy off political problems and resource abundance increases the political benefits of buying votes.

## 2.2 ASEAN

The Association of Southeast Asian Nations (ASEAN) has ten member countries. Amongst the ASEAN members, Laos, Vietnam, and Cambodia are agriculture-based economies with a high proportion of gross domestic product (GDP) comes from the production. Singapore is the most urbanized country in ASEAN. Hence, its contribution to the agriculture activity to its GDP is not until 5 percent (ASEAN, 2002). The research added that Indonesia, Malaysia, Brunei, Myanmar, and Thailand are five countries in ASEAN with the most substantial inheritance of both individual income and total oil resource.

**Figure 3: Oil reserves in Southeast Asia**



Source of Data: *World Development Indicators*

On a national level, the organization has stimulated the formation of two national platforms to increase awareness in cooperation in the field of politics, security, trade and investment, agriculture and sustainable development (ASEAN, 2002). On the other hand, as a matter of fact, ASEAN is a community with different levels of political and economic conditions. Similarly, social divergence in these countries triggered by their difference in infrastructural and urbanization levels. In addition, while the economic outlook in Indonesia and Philippines

are uncertain, the economic prosperity in Malaysia, Thailand, and Singapore are promising (ASEAN, 2005).

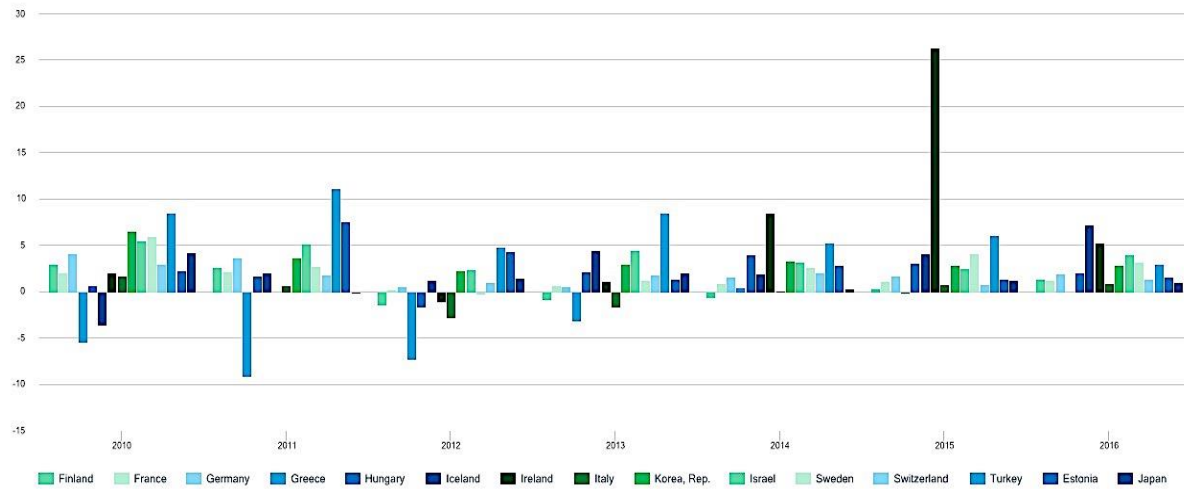
Poor system and corruption are familiar in Southeast Asia. Kenny (2007) possessed that substantial infrastructure project in ASEAN is often inviting corrupted governance, due to their capital-intensive type. He added that in Indonesia, a financial review of roads built in a village reported missing materials amount to 24 percent of total expenditure and assumed the parties involved corrupted it. Kenny also explained that most of the medium-sized enterprises in ASEAN countries expect to lose at least 11 percent of its budget for infrastructure projects on bribing system.

Nehru (2012) argued the theory behind the 'resource curse' is worrisome for ASEAN due to economic divergence and weak institutions. For instance, Brunei and Singapore are the most developed economies, Brunei as the power of oil, while in manufacture, technology innovation, and exclusive services taken by Singapore. He believed that Indonesia has (on average) small fiscal deficit, steady growth, but poor government system and external debt burden. On the other side, Malaysia and Thailand stay in excellent condition and grow steadily, while Laos and Cambodia pushed by their resource-rich production and the effect of rapidly increasing adjacent markets. For Vietnam, Nehru added that it continues to run the high external current account and fiscal deficit, but it has a large state enterprise sector.

### **2.3 OECD**

Bassanini and Scarpetta (2001) found that there is no evidence for developed economies grows at a slower rate than emerging economies. However, evidence of this convergent situation has been weakening in OECD countries. They argued that this could show that nations may persistently show divergences in growth rates and living standards because of differences in resources, framework conditions, saving rates and technological advances. Figure 4 demonstrates the deviations in GDP growth (annual percentage) among OECD members, whereas the vertical axis is the OECD countries and the horizontal axis is the year proposed.

**Figure 4: Comparison of GDP growth for OECD members**



Source of Data: *World Development Indicators*

Jiménez-Rodríguez and Sánchez (2005) described that the divergence in the economic conditions of OECD countries could show regarding how natural resources impact their stage of growth. In regards with OECD oil exporters, it indicates that Norway advantages from oil price increased, on the other hand, in the United Kingdom a rise in oil prices is shown to have a negative impact on GDP growth. These opposite results for oil-rich countries traced, which is a significant appreciation in the real exchange rate for UK pound sterling.

Karl (2005) explained the effect of oil export production on the political economics of two countries, which are Mexico and Norway, only Norway that highly produced oil correlates with positive growth unlike for Mexico. Karl added that countries whom focusing on oil production and declining in other economic activities, creating high subsidies for oil companies and prioritizing oil profits above the other public goods. In contrast, she argued that the resource curse is by no means inevitable in some OECD members – Australia, Chile, Canada and the United States; as they are still leading in mineral and manufacturing productions and have consistent improvement in their *per capita* national income.

### **3. Theoretical Framework**

According to the literature review, a set of hypotheses formulated on the impact of natural resource abundance on government transparency and economic growth in ASEAN as well as OECD countries. The 'resource curse' hypothesis predicts that resource-rich economies or nations that are highly dependent on their natural resources have a lack of transparency in their governmental institutions and move slowly in growth. Additionally, the past empirical reports serve as partial assistance for a negative relationship between natural resource profits and institutional quality. As this thesis focuses on the abundance of natural resources may lead to low transparency in the government system, the first hypothesis is therefore as follows:

*Hypothesis 1: Resource-rich countries in ASEAN and OECD are less transparent than other countries*

In the above discussion, the majority of empirical and theoretical research, which have studied the effect of the primary export revenues, directly affect inefficiency in the institutions. Some political economy theories concluded that a situation with a lack of transparency and accountability, a 'resource curse' would happen where the resource is abundant as there is no effective system to monitor the government officials' activities. Interestingly, in intuitive, it can be confirmed empirically that countries with abundance in natural resources with good institutions have performed quite well, while others with poor quality have not performed well economically. On the other hand, one probable downside argued by Mehlum *et al.* (2006), it is that the government system is exogenous to resource abundance. However, Robinson *et al.* (2006) argued that the previous argument is not entirely true due to the resource rents can impact the quality of a country's institutions. Hence, in this thesis' topic, it could be understood that a shortage of government transparency significantly impacted by the resource revenues. Thus, a second hypothesis formulated is:

*Hypothesis 2: Resource-rich countries in ASEAN and OECD are less transparent as a direct result of their resource revenues*

Finally, this thesis examines the impact of natural resources revenues on economic growth. To check the significant resource revenues could lead the government trying to cover the specific level of these rents, where this will have a broad adverse impact on the economy altogether. Williams (2011) described that these revenues treated as a tax on the revenues, but the

downside is the government officials who receive it not the government, and any deadweight losses to the overall economy may become eventually very little due to this manipulation. He added yet this is not often to happen. There are possible ways to affect the broader economy by a lack of transparency, namely when the government does not commit to being transparent in their actions concerning the data release to its citizens, which is not only existing in resource-abundant countries (Williams, 2009). He also added regarding the difficulty of releasing and gathering information; it would be hard for the private market participants to construct investment and consumption decisions. Therefore, it may be logical to speculate a negative relationship between natural resource abundance and economic growth. Thus, the third hypothesis postulated in the following:

*Hypothesis 3: Resource-rich countries in ASEAN and OECD are less transparent, and this lack of transparency has a negative effect on economic growth*

## **4. Data & Econometric Analysis**

### **4.1 Data**

The variables that used in this paper outlined in this section. Table A in the appendix section provides summary statistics of all variables used. This assessment analyzes the connection between natural resources, transparency and economic prosperity on the within-country variation in all of these interest emerging economies – 10 ASEAN and 35 OECD countries for the period span of 1990 until 2016. The panel data deployed is formed by the data availability as well as the period where the sample countries are sensitive to a significant Asian financial crisis in the 1990s, peaking in the year of 1997, which impacted a worldwide economic meltdown due to financial contagion. Table B in the appendix presents all of the countries employed. The statistics composed of an unbalanced group of annual observations.

#### *The Dependent Variables*

**Government Transparency** – the first dependent variable – is employed by the *E-government Development Index* to enhance transparency. The index used is 0 to 1 index, with 1 representing the highest level of transparency. Bertot *et al.* (2010) suggested that e-government and social media would improve transparency in the country regarding standard developing

measurement for transparency. Open e-government concept is not a requirement but a necessity to acquire national citizens' demand for more accountability, openness, and transparency (Ganapati & Reddick, 2012). Data on e-government were obtained for each nation from the *United National E-government Knowledge Database*. This recently developed database provides extensive coverage across United Nations member states, to serve a performance rating of member countries' governments compared to one and the other (United Nations, 2016). The database has started since 2003 and had some gaps in 2006, 2007, 2009, 2011, 2013, and 2015. The last data set used for the year 2016. Eight observations of e-government obtained for each country being lagged for one period, thus totaling 227 observations.

**GDP Growth** – the second dependent variable – is employed in the second regression analysis. It is annual percentage growth rate of GDP at market prices based on constant domestic currency. The aggregates of GDP growth based on U.S. dollars in 2010. Based on World Bank (2011), GDP is the sum of gross amount added by all production in the economy and any product taxes and deducted by any subsidies, which are not including in the production of the goods. The GDP growth calculated without taking into account deductions for depreciation of assembled assets or reduction of natural resources. GDP growth itself plays a role as a dependent variable for the second analysis to see the best aggregate measure of economic activity in the respective countries, unlike *GDP per capita* growth that does not account the overall financial health of a nation. Kolstad and Wiig (2009) explained that the economic growth analysis aims to see whether the inadequacy of transparency regarding the revenue earned from natural resource may consequently have a negative impact on the overall economy, both directly from asymmetrical information and indirectly, through institutional qualities like corruption. The data obtained from *World Development Indicators*.

Research once described that the higher transparency in one country, the greater would be the investment, which ultimately can affect the economic growth (Williams, 2009). Humpreys *et al.* (2007) explained that from 1997 to 2000 countries with abundance in the natural resource have performed less in economic condition than the states with less plenty in natural resource. They added that it could show that political economy and governance are essential when it comes to vulnerability in countries regarding 'resource curse'. Bevan *et al.* (1999) summed up that Indonesia grew much better than Nigeria in the progress of its resources and successfully leave the 'resource curse' hypothesis due to the rapid economic growth in the continent of Asia whereas trade and investment are greater than in Africa, to understand that Nigeria's

neighbors struggled in economic condition. A combination of lack of transparency and abundance in natural resource plays a role to analyze the presence of ‘resource curse’ (Rosser, 2006).

### *The Independent Variables of Interest*

**Primary Commodity Exports.** One of the main topics in this paper is that resource abundance could impact a direct negative condition on transparency. To test this hypothesis, the first regression model uses a variable of primary interest: *Primary Commodity Exports* (a proxy of resource revenues) as a proportion of country’s GDP. These estimates formed from methods described in *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium* (World Bank, 2011). Furthermore, I would like to separate the type of resources, aim to see the different impacts of transparency and economic growth as confirmed by Williams (2011). He emphasized that several essential factors may be relevant to transparency on natural resources, which is how specifically ‘point’ resources (fuel, ores, and minerals) revenues negatively affect transparency or whether any natural resources can affect rent-seeking behavior that ultimately causes transparency to decrease. That is why, to test the hypothesis of whether specific type of natural resources, four additional variables are added to compare, namely: *Fuel, Ores and Minerals* (proxies of the ‘point’ resources, which hypothetically cause negative effect on institutions); *Food, Agriculture* (proxies of the ‘diffuse’ resources, which hypothetically have a more insignificant impact on institutions). These data on natural resources revenues obtained for each country and year from the *World Development Indicators*. There will be lags (of varying degrees) in the natural resources employed. The ‘point’ resources predicted to have a negative relationship with transparency, while ‘diffuse’ resources variables predicted to have a positive relationship with transparency.

**GDP per capita.** This variable has a role as an independent variable in the second regression analysis and acts as a control variable in the first equation. It highlights that income might affect transparency and economic growth. It is in U.S. Dollars at prices in today’s value. The natural logarithm of this variable will be used to analyze the elasticity of GDP *per capita* regarding transparency. The data obtained from World Bank Data and OECD Data. The overall economy is mostly affected by the lack of data release or information released by the government regarding private market investors on their decisions in investment and consumption (Williams, 2009). Research from Mehlum *et al.* (2006) concluded that those

good institutions induce entrepreneurs to invest in the country, which will impact living standard in the society increases.

### *Control Variables*

Data on these eight variables have been identified by prior research, as potential factors that could affect transparency and economic growth obtained. All variables take one-period lags. They briefly explained below:

***Executive Constraints.*** *The Political Constraint Index Dataset* (POLCON), under the production of Witold J. Henisz, measures the magnitude of challenges in the administrative sector of government. The index features the executive, judicial and legislative sections of government in the respective countries. It analyzes weak to a substantial degree through 0 to 1 scale. The statistics employed from *Governance Assessment Portal*. Karl (2005) described that natural resources dependent countries for the livelihood of the people are one of the problematic states economically, socially unstable and conflicted government. Williams (2009) elaborated that how higher revenues of primary exports will directly impact a less efficient of the executive and lower transparency.

***Gross Secondary Enrolments.*** Both genders and independent of age computed as a proportion of the population of official secondary education age for the data of gross secondary enrolments. The research is collected to see how education impacts government transparency. The statistics computed from the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics. This level of education is expected to improve the transparency since there is an improvement in education level involves greater skills and knowledge in the population. Williams (2011) argued that the supply side of the transparency is the quality of the data that are produced by the government needs high levels of education and the demand side is educated citizens, which they demand more information when they are well-educated. At the same time, UNESCO (2016) insisted that it is vital to put sufficient transparency within the government to enable the civil society to play their full part in development, namely, education. Therefore, a positive relationship expected between education enrolment and transparency.



**Government Consumption.** Government's final expenditure presented as a proportion of GDP. Data employed from *World Development Indicators* dataset. A high amount of natural resource may lead to higher government expenditure; this could be the case due to 'buy off' interest groups (Williams, 2011). However, the higher spending of the government can also cause by the rise of general welfare spending, i.e., for online infrastructure, increasing government transparency (Pina *et al.*, 2010). They also added that citizens use Information and Communication Technologies (ICTs) to empower them to observe government performance and accountability, to increase interactivity between government and its citizens through the Internet.

**Country's Openness.** The ratio of trade (imports and exports) to country's GDP used as a proxy of country's openness variable. Data on the sum of trade as a percentage of GDP collected from *World Development Indicators*. Countries undertaking on trade negotiations are not only looking for the accessible in market opportunities, however, to reduce market opacity that will build up regulatory transparency, which can be seen already in OECD countries and large emerging economies in these past years (Lejárraga & Shepherd, 2013). Surely, openness and transparency centrally define the commitment a government chooses as the basis of how it shares information with its citizens (Alemanno, 2013). On the other side, he added that openness would increase the technology spread from well-developed economies to developing countries that could consequently promote the economic growth of a nation. Hence, I expect to have country's openness positively correlated to transparency and economic growth.

**Population Growth.** This variable represents annual growth rate from the previous period to the current period, expressed in percentage. The population based on the de facto definition where it counts all residents irrespective of their legal status or citizenship in these 45 nations. Data on population growth derived from *World Development Indicators*. A few theoretical analyses emphasize that high increase in the population may create pressure on the low level of natural resources, reduce private and public arrangement (World Bank, 1994). Often, population growth is related to the food problems, for instance, malnutrition and hunger. If this happens rapidly, it will affect the economic turmoil to rise (Becker *et al.*, 1999). On the other hand, there is evidence that shows population growth has a positive effect on Indonesia's economic growth (Putra, 2011). He argued that the needs of the labor force are relatively high in Indonesia; hence low-skilled and high-skilled people mostly employed in many industries. Therefore, this factor supports economic development in Indonesia.

***Institutional Quality.*** IQ is a proxy that shows a perception of the quality of public sector, civil service and the level of its independence from political constraints. Also, how the quality of policy formulated and the implementation as well as the credibility of the government's devotion to formulated systems. The scale is -2.5 to 2.5 from weak to robust criteria. This data collected from *Worldwide Governance Indicators* (WGI) dataset, a branch of World Bank statistics. The database starts from the period of 1996 to 2015, with the lag in the years of 1997, 1999 and 2001. Sachs and Warner (1995) considered that rent-seeking hypothesis that is caused by natural resource abundance might lead to a deterioration of institutional quality, which ultimately hurts economic growth. The argument by Sachs and Warner is inconsistent with another research employed in Norway, which is considered, as one of the European poorest countries in the early 20th century yet now is one of the wealthiest European countries (Mehlum *et al.*, 2006). They argued that the growth of Norway be recently profoundly affected by its oil export and natural gas export, and then is regarded as one of the least corrupt countries in the world.

***Real Effective Exchange Rates.*** This variable represents the nominal exchange rate – a measure of the value of one currency over a weighted average of some foreign currencies, divided by a price deflator (World Bank, 2011). Data on this variable adopted from *International Monetary Fund* database. Macdonald (2000) suggested that if the productivity growth in a country's productive sector has a higher demand than its trading partners, an appreciation of its real effective exchange rate be affected. Additionally, past research experienced the negative impact of depreciation on output growth in five out of eleven countries, while in the six of the states given, currency depreciation improves their economic growth, namely: Indonesia, Myanmar, and Philippines (Christopoulos, 2004). It implies that developing economies' growth could easily impact by exogenous changes, depending on the types of changes that come from its major buyer (AbuDalu *et al.*, 2014). Adjustments in GDP growth happen merely if the change regarding trade triggers a shift in local employment and output, the impact of a change in the trade sector is not automatic, unlike the exchange rate effect (Barro, 1997).

Once all control variables included in the regression analyses, data availability is taking into account and resulting 839 observations are available for each variable, except *Institutional Quality*, which amounts to 578 observations.

## 4.2 Econometric Analysis

Above three hypotheses explained were first tested using Ordinary Least Squares (OLS) regressions as this thesis tries to analyze the impact on the natural resource revenues on the country transparency and economic growth. Fornell and Larcker (1981) suggested that unobservable confounding variables, which differ across time, might exist. Also, taking into account the difference in size and growth in the sample countries. Thus the regression analyses employ both country and time fixed effects. On the other note, in this paper, the residuals of all regression models fulfill the homoscedasticity and normal distribution criteria.

Based on the previous research, there is a tendency for higher revenues of natural resource exports could lead to less accountability from the executives and inefficient transparency. It is therefore important to take account range of factors that are also influencing the release of data and information to statistical examination. According to above theories, Equation 1 will be used to investigate the first and second hypotheses, the core regression analysis of this thesis is:

$$GT_{it} = \beta_0 + \beta_1 NATRES_{it-1} + \beta_2 Z_{it-1} + \gamma_{it-1} + \varepsilon$$

**(Equation 1)**

Where  $i = 1, \dots, 45$  and  $t = 1990, \dots, 2016$  denote the country and year proposed respectively.  $GT$  is the *E-government Development Index* (as a proxy of transparency),  $NATRES$  is the natural resources employed,  $Z$  is a number of control variables that were hypothetically influenced transparency.  $\gamma$  is a set of time dummy variables to describe for common aggregate shocks and to command for each country heterogeneity.  $\varepsilon$  is the error term. Attentively, the coefficient  $\beta_1$ , regarding the explanations above, should be negative.

The panel data employed is from 1990 until the recent year, 2016. The initial sample size consists of 45 countries (see Table B for a list of these countries), highlighting the emerging countries of interest – the Southeast Asian nations as well as OECD members. As I am interested in the causal relationship between natural resources and transparency, all variables that deployed lagged by one period.

The subsequent question is how low level of transparency seen in ‘point’ resource-rich countries is responsible for many other areas of the economy. In a different meaning, blocking some information released regarding a lack of transparency to increase the revenues from natural resource export will ultimately impact some areas of the economy. Hence, the third hypothesis tested in Equation 2; it will be used to analyze whether reduce of economic growth in one country, which affected by the resource rents that suffered from omitted variable bias (government transparency). Some of the previous variables that employed in Equation 1 will be included, again to see how various transmission mechanisms will operate in the regression analysis. Using the same sample period and sample countries as Equation 1, the second regression analysis is:

$$\begin{aligned}
 \mathbf{Growth}_{it} = & \beta_0 + \beta_1(\mathbf{Log})\mathbf{GDPPC}_{it} + \beta_2\mathbf{POPG}_{it} + \beta_3\mathbf{OPEN}_{it} + \beta_4\mathbf{SEC}_{it} + \\
 & \beta_5\mathbf{XCONST}_{it} + \beta_6\mathbf{GOVC}_{it} + \beta_7\mathbf{NATRES}_{it} + \beta_8\mathbf{REER}_{it} + \beta_9\mathbf{IQ}_{it-1} + \gamma_{it-1} + \varepsilon
 \end{aligned}
 \tag{Equation 2}$$

Where  $i = 1, \dots, 45$  and  $t = 1990, \dots, 2016$  denote the country and year proposed respectively. *Growth* is annual percentage of GDP growth; *(Log)GDPPC* is the log of initial per capita; *POPG* is the percentage of population growth over each period; *OPEN* is the sum of exports and imports as percentage of GDP; *SEC* is a proxy of gross secondary enrolments; *XCONST* is the executive constraints index; *GOVC* is a proxy for government expenditure; *NATRES* is a number of the natural resources employed such as fuel, ores and minerals, agriculture raw materials, food exports; *REER* is a proxy of real effective exchange rates; and lastly, *IQ* is the institutional quality.  $\gamma$  is a set of time dummy variables to describe for common aggregate shocks and to command for each country heterogeneity.  $\varepsilon$  is the error term. Attentively, the coefficient  $\beta_1$ , regarding the explanations above, should be positive.

A robustness test will be performed to verify the results validity. First of all, natural resources separated into primary commodity exports and different type of resources, namely: ‘point’ and ‘diffuse’. In theory, primary exports specifically have an ambiguous effect on the transparency. From the evidence of early research, Ross (2001) analyzed that it did appear the ‘point’ resources to affect transparency negatively in general, which may turn effect that not all resources would have this effect on transparency. That is why it is relevant to examine whether a specific type of resources influences country's institution. Next, it is also useful to remove

the year lag of the dependent variable, as the lag alone already ‘soaks up’ a significant proportion of the variation in *Government Transparency* and *GDP Growth*. Then, the natural logarithm of all variables will be carried out to analyze the elasticity of transparency and economic growth. Osborne (2012) emphasized that using a logarithm degree assists the analysis to be normalized from the error term, and then ultimately improves the robustness of OLS regression estimation. Finally, it is theoretically possible that reverse equality may exist. However, when switching the *NATRES* variable to be dependent variable and *Government Transparency* as the independent variable is never significant.

## 5. Results

### 5.1 Government Transparency Regression Analysis

As explained in the theoretical framework, the first step to be analyzed here is whether resource-rich countries are less transparent. Due to other factors that influence transparency other than natural resources, Table 1 included the control variables and lagged by one period: *The log of GDP per capita*, *Executive Constraints*, *Gross Secondary Enrolments*, *Government Consumption* and *Country’s Openness*.

Table 1 provided the results when *Government Transparency* regressed to *Primary Commodity Exports* and the control variables. The analysis regressed for seven models, starting with only natural resources and transparency and then adding the control variables. As I would like to see the effect in ASEAN economies specifically, I also did remove OECD countries in the fourth model. Allegedly, the impact on resource rents to transparency is statistically significant in Model 1. Thus, the first hypothesis, countries in ASEAN and OECD with abundance in natural resources are less transparent, is not rejected, which means that natural resources have a negatively significant relationship with transparency. In Model 2, I am adding several variables: *The log of GDP per capita*, *Executive Constraints*, *Gross Secondary Enrolments* and *Government Consumption*. In the variable of government expenditure as a percentage of GDP, it shows that there is significant (at 1 percent) negative relationship with the transparency. It understood that rich in natural resources could lead to increase the government consumption, this overspending might affect public sector negatively and trigger it to release less information.

Next to Model 3, adding one more variable - *Country's Openness*, this leads to a more significant effect on natural resources (p-value is from 0.015 to 0.011) on transparency. Moreover, the results in Model 3 are consistent with the prior models. Additionally, in these three models, it cannot be seen that *Executive Constraints* contribute negatively to the relationship between natural resource abundance and transparency. In other meaning, resource-rich economies in ASEAN and OECD are less transparent, not necessarily there are issues in the country's executive stability.

In the fourth and fifth models, I removed OECD countries, taking into account most of OECD countries are transparent and resource-poor countries, may bias the results. Model 4 shows that when the OECD countries removed from the sample, the coefficient of *Primary Commodity Exports* falls from -0.007 to -0.001 and the relationship is not significant anymore. The first analysis of this, it might be ASEAN countries have high tendency to not release their information or data not necessarily because of the resource revenues, but the overspending of government expenditure. Andersen and Aslaksen (2008) argued that the resource revenues less impact resource-rich countries that have a parliamentary democratic system. Hypothetically, overall effect resource abundance depends on the political institutions and constitution arrangement that are rational and accountable (Robinson *et al.*, 2006). Ross (1999) explained the major oil exporters in ASEAN countries, except Myanmar, are (on average) democratic and transparent, and they have respect to the rule of law with moderate to secure civil society.

The second consideration of this is not all ASEAN countries are not necessarily abundance in fuels, ores, and minerals; which leads natural resource revenues in ASEAN to have an insignificant relationship with transparency. 'Point' resources like oil fields in other countries have high tendency to be dominated by elites as well as oligarchs in the country; it is different in ASEAN whereas oil reserves are more spread over a large geographic area when it compared to the other oil-rich nations (Sovacool, 2010). He elaborated that oil and gas fields in Indonesia diffused across different parts of Indonesia, namely: Riau, Java Sea, East Kalimantan and the western Pacific Ocean, which occupies more than 433,000 square km.

A third analysis of why Southeast Asia has successfully avoided 'resource curse'. Mehlum *et al.* (2006) answered this by describing the extraction of a resource is mostly under partnership scheme, this will ensure the revenues distributed to different stakeholders. They gave examples that foreign international firms can also play a role as buffers against export instability.

Also, the largest oil production in Indonesia is no longer by the state-owned firm (Pertamina), yet it produced by the multinational firms like Chevron, ExxonMobil, Total and ConocoPhillips. Indeed, as of early 2006, Mehlum *et al.* (2006) argued that more than ten international companies and at least 70 subsidiaries have been operating in Brunei, Myanmar, Thailand, Malaysia and Indonesia, this means that oil and gas industries are mostly under the cooperation scheme rather than a competitive model. Nevertheless, the adjusted R-squared in the Model 5 is the highest of all when OECD countries removed and *Country's Openness* added.

Moreover, we predict that there are a few factors that are influencing transparency. As explained above, type of resources has important assumption when it comes to affecting institutional quality negatively. In this thesis, I divide into two types, which are 'point', and 'diffuse' resources, which may cause transparency to obstruct.

To process the issue, which type of resource revenue that will have a negative effect on institutional quality, four adjustment variables were analyzed in Model 6 and 7, replacing *Primary Commodity Exports*. Countries may perform a positive income growth *per capita* when we specify the independent variable of interest into four sections: *Fuel, Ores and Minerals, Agriculture, and Food*. The *Country's Openness* became positively significant to transparency. However, the resources contributing to the lack of transparency are not two of the 'point' resources, but only one of them, which is oil export. Additionally, Food export also has a negative contribution regarding how government releases their information even though the food was assumed to have a positive effect. Thus, for ASEAN and OECD countries irrespective of the proposed type - 'point' and 'diffuse', the oil and food revenues may contribute to hindering the *Government Transparency*.

Looking at these seven models, I can conclude that I do reject the second hypothesis regarding transparency in ASEAN and OECD countries are not directly affected by the *Primary Commodity Exports*, but more significantly causal impacted by the *Government Consumption*.

The paper's results demonstrate the quality of the transparency in the resource-rich economies within the international organizations, which are ASEAN and OECD that tend to be low. This impact is mainly affected by the oil and food resources, which posed differently from the past research that has been done by Williams (2011). The finding of Williams suggested

that the efficacy of transparency running in the economy, mainly caused by the 'point' resources, such as fuels, minerals, and ores. However, it is different from the prior research due to the sample countries hired in this thesis are mostly diffused in ores and minerals exports yet abundant in oil and food exports.

Comparatively, ASEAN and OECD members in the sample years (1990-2016) are more abundant in food exports than the rest of the world. Therefore, although in other countries food resources are treated to be 'diffuse' resources in the past theories, by all accounts it is not the case for ASEAN and OECD countries. One of the recent researches that could confirm this result is Williams (2011), he found that food export has a negative significant (negative effects on transparency) but is not significant.

Additionally, the second hypothesis assumes that the resource export revenues, which initially believed that the high revenues earned from the primary exports might trigger the government to release fewer data to the public, directly affect the lack of transparency. However, this thesis found that the high government expenditure has a stronger negative effect on transparency in ASEAN and OECD governments. Dissimilar to Williams (2011), he discovered that only *Primary Commodity Exports* revenues have direct roles in the quality of the institutions.



**Table 1: Transparency OLS Regression Results**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b> High-income OECD countries removed	<b>Model 5</b> High-income OECD countries removed	<b>Model 6</b> Independent variable: alternative resources	<b>Model 7</b> Independent variable: alternative resources
<b>Constant</b>	0.667*** [0.000]	0.797*** [0.000]	0.677*** [0.000]	0.304 [0.737]	0.555 [0.532]	0.479 [0.066]	0.159 [0.592]
<b>Primary Commodity Exports, <math>t-1</math></b>	-0.006** [0.025]	-0.007** [0.015]	-0.007** [0.011]	-0.001 [0.936]	-0.003 [0.702]		
<b>Log of per capita GDP, <math>t-1</math></b>		0.003 [0.897]	0.013 [0.596]	0.072 [0.561]	0.054 [0.652]	0.028 [0.277]	0.053* [0.056]
<b>Executive Constraints, <math>t-1</math></b>		-0.048 [0.284]	-0.055 [0.221]	-0.005 [0.960]	-0.005 [0.956]	-0.020 [0.661]	-0.027 [0.549]
<b>Gross Secondary Enrolments, <math>t-1</math></b>		0.001 [0.216]	0.001 [0.231]	0.001 [0.366]	0.000 [0.926]	0.000 [0.364]	0.000 [0.432]
<b>Government Consumption (% GDP), <math>t-1</math></b>		-0.011*** [0.000]	-0.011*** [0.000]	-0.020** [0.012]	-0.023*** [0.006]	-0.012*** [0.000]	-0.013*** [0.000]
<b>Country's Openness, <math>t-1</math></b>			0.001 [0.190]		0.001 [0.167]		0.001** [0.030]
<b>Fuel, <math>t-1</math></b>						-0.005*** [0.003]	-0.005*** [0.002]
<b>Ores and Minerals, <math>t-1</math></b>						-0.000 [0.843]	-0.001 [0.763]
<b>Agriculture Raw Materials, <math>t-1</math></b>						0.003 [0.297]	0.005 [0.117]
<b>Food, <math>t-1</math></b>						-0.005* [0.096]	-0.006*** [0.000]
<b>R-Squared</b>	0.392	0.454	0.460	0.767	0.806	0.475	0.489
<b>Adjusted R-Squared</b>	0.392	0.454	0.460	0.767	0.806	0.475	0.489
<b>Observations</b>	227	227	227	74	74	227	227

Notes: P-values are written in parentheses. The regression uses both time and country fixed effects.

\*Significant at 10% level

\*\*Significant at 5% level

\*\*\*Significant at 1% level

## 5.2 Economic Growth Regression Analysis

As explained extensively in theoretical framework, subsequent step to analyze whether ASEAN and OECD resource-rich countries are less transparent and whether this condition will ultimately impact their stages of economic growth. Due to specific other factors, which influence GDP growth, the core explanatory variables are provided in Table 2 regarding current period as well as lagged by one period. The variables respectively are *the log of GDP per capita*, *Population Growth*, *Country's Openness*, *Executive Constraints*, *Gross Secondary Enrolments*, *Government Consumption*, *'point' resources*, *'diffuse' resources*, *Real Effective Exchange Rates (REER)*, *Institutional Quality* and *Government Transparency*.

Table 2 showed the results when GDP Growth regressed with the natural logarithm of GDP *per capita* and the other variables. The regression was run for seven models, starting with the current model and then adding real exchange rate variable, continuing to the lagged values as well as the institutional factors (transparency and quality of the institutions). Allegedly, in Model 1, there is an effect of 'resource curse' when the current period used in the regression analysis. The *Executive Constraints* and *Fuel Exports* have statistically significant (at 1 percent) relationship with countries' GDP growth. In Model 2, I introduced the additional variable named Real Effective Exchange Rates (REER), the adjustment eventuates in 'diffuse' resource that is agriculture export. In the previous model, the agriculture resource is not significant with the economic growth yet when adding *REER* variable shifts the significant positive relationship between this variable and *GDP Growth*, meaning that in an average increase in agricultural export revenues will eventually support the economic growth in ASEAN and OECD. The revenues of 'diffuse' resources employed to support the rise of the economic growth, unlike the 'point' ones.

Furthermore, in Model 3, I took lag by one period of all variables, the coefficient of agriculture and food resources remain positive and still statistically significant for food export revenues. The p-value of oil increases unlike the p-value of *Ores and Minerals* resources decreases then becomes significant at 5 percent level, which was only significant at 10 percent in previous models. In other words, it shows that the curse in growth, caused by *Ores and Minerals*, more significant to affect the economic growth negatively when one-period lagged taken into account.

Model 4 is the lagged version of Column 2; the additional *REER* variable changed the significance of agriculture production. In this analysis, again, both ‘diffuse’ resources are positively significant to the growth. The agriculture is significant at 5% level; this means that when *REER* variable presents and lagged by one period, agriculture resource rents have a more positive effect on ASEAN and OECD economic growth.

Also, Model 5 shows an additional variable: the quality of institutions in ASEAN and OECD, the evidence of past research confirmed the result whereas *Institutional Quality* variable cannot explain the curse. In this model, ‘point’ resources are no longer significant; this explained that the negative effect of ‘point’ resources revenues are not hindering the growth anymore when quality of an institution considered. However, the insignificant of *Institutional Quality* is not compatible with Mehlum *et al.* (2006) where they assumed that government quality of a country affected directly by how natural resources cause the overall economy.

To that end, Column 6 adds the transparency index to the regression analysis, and it shows effects in resources employed as well as the *Institutional Quality* variable. Specifically, the coefficient of *Ores and Minerals* falls to 0.214 and is now significant; oil is also far significant at 5% level. *Food export* revenue coefficient increases to 0.268 and is statistically significant. Also, the quality of the institutions in this model becomes significant at 10% level and can confirm the research by Mehlum *et al.* (2006), it suggests that although controlling quality of institutions and transparency do not necessarily hinder the obstructive effect on ‘point’ resources on economic growth. Model 7 has slightly similar results when only transparency presents in the analysis (taking out the quality of institution variable). Given the previous results of the first regression, this confirmed that more than one of the major issues of ‘resource curse’ might be when countries lack transparency.

When looking at the seven models, it concluded that I do not reject the third hypothesis regarding low economic development in ASEAN and OECD caused by the effect of resource rents, which justified by transparency. On average, the ‘point’ resources have a significant negative relationship with economic growth. Additionally, in ASEAN and OECD member countries, GDP growth affected significantly by the *Executive Constraints*.

The second regression analysis argues that there is an obstructive impact from resource revenues to transparency that is ultimately lowering the economic growth. After deploying OLS regression, I found that natural resources do have a role in reducing the speed of growth likewise the research performed by Williams (2011) found. Both ‘point’ resources are responsible for the lower economic growth in the sample countries. Opposed with Williams (2011), another variable has a stronger negative relationship with economic growth, which is *Executive Constraints*. It indicates that in these 45 countries (Table B), limitations within the decision-making power of the executives have a more significant adverse effect on their economic prosperity.

**Table 2: Economic Growth Ordinary Least Square Regression Results**

	<b>Model 1</b> Current PX	<b>Model 2</b> Current PX	<b>Model 3</b> Lagged PX	<b>Model 4</b> Lagged PX	<b>Model 5</b> Lagged PX	<b>Model 6</b> Lagged PX	<b>Model 7</b> Lagged PX
<b>Constant</b>	-10.068* [0.075]	-8.328 [0.209]	-11.751** [0.046]	-7.564 [0.654]	-8.059 [0.327]	-13.770 [0.369]	-8.787 [0.451]
<b>Log of per capita GDP</b>	1.055* [0.052]	0.795 [0.278]	1.177** [0.037]	0.145 [0.937]	0.864 [0.283]	1.016 [0.508]	-0.013 [0.927]
<b>Population Growth</b>	-0.016 [0.937]	-0.053 [0.803]	-0.097 [0.662]	-0.032 [0.925]	-0.012 [0.962]	-0.053 [0.877]	0.049 [0.886]
<b>Country's Openness</b>	0.001 [0.856]	-0.698 [0.999]	0.004 [0.48]	0.014 [0.415]	0.021** [0.029]	0.017 [0.304]	0.014 [0.399]
<b>Gross Secondary Enrolments</b>	0.025** [0.012]	0.025** [0.013]	0.030*** [0.005]	0.022** [0.031]	0.022 [0.113]	0.023 [0.303]	0.022 [0.310]
<b>Executive Constraints</b>	-2.914*** [0.009]	-3.025*** [0.008]	-3.451*** [0.004]	-4.323* [0.055]	-4.100*** [0.008]	-4.264** [0.058]	-4.114* [0.070]
<b>Government Consumption</b>	-0.054 [0.345]	-0.079 [0.184]	-0.080 [0.185]	-0.067 [0.655]	-0.091 [0.284]	-0.063 [0.672]	0.118 [0.420]
<b>Fuel</b>	-0.084*** [0.004]	-0.084*** [0.004]	-0.077** [0.012]	-0.055*** [0.006]	-0.062 [0.155]	-0.061** [0.041]	0.055** [0.046]
<b>Ores and Minerals</b>	-0.083* [0.074]	-0.087* [0.067]	-0.098** [0.043]	-0.209* [0.050]	-0.068 [0.294]	-0.214** [0.045]	0.211** [0.049]
<b>Agriculture Raw Materials</b>	0.101 [0.105]	0.106* [0.095]	0.084 [0.201]	0.108** [0.046]	0.174*** [0.061]	0.106 [0.504]	0.131 [0.409]
<b>Food</b>	0.079** [0.040]	0.070* [0.086]	0.081** [0.048]	0.258* [0.074]	0.088 [0.214]	0.269* [0.063]	0.241* [0.096]
<b>Real Effective Exchange Rates</b>		0.012 [0.364]		0.026 [0.376]			
<b>Institutional Quality</b>					0.960 [0.228]	2.424* [0.054]	
<b>Government Transparency</b>						0.006*** [0.009]	1.751* [0.065]
<b>R-Squared</b>	0.363	0.368	0.341	0.368	0.428	0.365	0.350
<b>Adjusted R-Squared</b>	0.363	0.368	0.341	0.368	0.428	0.365	0.350
<b>Observations</b>	839	839	799	799	799	227	227

Note: P-values are reported in parentheses. The regression uses both time and country fixed effects.

\*Significant at 10% level, \*\*Significant at 5% level, \*\*\*Significant at 1% level

## **6. Policy Implications**

The rejection of the second hypothesis implies that a decrease in government transparency is not directly affected by the natural resource abundance. This evidence can show in the first regression that enormous government expenditure could lead to a low release of information. Considering this information, ASEAN and OECD members should take into account the impact of government spending on the institutions. Therefore, it is worth to discuss the fiscal policies in these countries, for it gives a positive effect on the governance. Primarily, after the economic downturn, better fiscal policy will provide a boost to the stagnant growth that current hits Southeast Asia and several OECD countries.

Parry (2008) noted that transparency could assess within the tight fiscal or budgeting position, budgetary risks and the future steps of the government's fiscal policy. Looking at Table D in the appendix that 8 out of 10 ASEAN countries are ranked at the bottom, meaning that these countries have very low government transparency. Durnev *et al.* (2008) agreed with the previous evidence that fiscal issues have been taken seriously in developed economies, as budgetary matters like corruption are mostly happening in developing countries as the product of low transparency.

Additionally, failing to reject the third hypothesis further implies that there is a significant dependency on natural resources and GDP growth. There is another factor that impacts economic growth within a country, which constraints of power in executives. Cox and Weingast (2015) found that increased executive restrictions significantly reduce the economic turmoil when it comes to lowering a country's risk of getting stuck in poverty trap.

As for policy recommendations, members of ASEAN and OECD have to be aware that government consumption might only effectively affect a partial weight of the national income, meaning that while member countries are trying to improve economic agenda, e.g., infrastructure, they need to be aware that excessive fiscal stance would lead to poor governance. On the other hand, although in most of ASEAN countries, Cox and Weingast (2015) argued that it is more important to have a strong legislature constraining the executive than to subject the power of the executive to fair elections to boost the economic growth. However, this has an important policy implication as international community emphasizes the importance of instituting elections. This thesis suggests that concerning the goal of fostering economic development, creating political stability and increasing the growth will move a

country beyond its past violence or even better served by devising institutions that constrain the executive scope. All in all, an appropriate recommendation to enhance the transparency, which will eventually increase the chance of economic prosperity irrespective of whether the natural resources are curse or blessing.

## **7. Conclusion**

The natural resource abundance dynamics mainly debated whether it is a blessing or a curse; this hypothesis assessed through the following research question:

*To what extent does the natural resource abundance hinder the quality of government transparency and the national economic growth?*

Three hypothetical deductions have been statistically tested using macro data to help answer the research question. It deduced when the first hypothesis is not rejected; there is a negative impact on transparency when resource rents are high, particularly concerning fuel and food exports revenues. However, when I took out OECD countries from the fraction, the ASEAN level of transparency is not significantly affected by the natural resources. Moreover, rejecting the second hypothesis leads us to government expenditure, which directly impacts the lack of transparency in ASEAN and OECD countries.

The final hypothesis posed whether there is (at least partial weight) of negative effect from natural resource abundance to economic growth. Once more, the natural resource does play a role in economic growth. The analysis shows that 'point' resources caused the lower speed of the growth in a country when the transparency index was (also was not) involved in the analysis, it indeed does not explain the 'resource curse' entirely, nor it could explain the accurate measurement for each country. Nonetheless, it also appears that executive constraint is crucial for the weak growth in ASEAN and OECD member countries.

Coming into realization, the result of this paper suffers from several limitations. First, there is no publicly available data for complete *Government Transparency* index and *Institutional Quality* variable. The completeness of data resources may change the conclusion deduced from the hypotheses tested, and therefore give different policy implications regarding the impact on natural resource abundance to the transparency. Second, this paper only accounted for OECD and ASEAN economics; this means that the effect of 'resource curse' captured by the

models is insufficient, given that other countries are more resource-dependent, which then makes the results here do not explain the curse thoroughly.

Further researches that aim to examine similar paradox may as well gather a complete data set to assure an accurate implication from the outcome of the analysis. More variables can also be considered, such as the civil war involved in the period deployed in the study, it consists of the resource-dependent condition may impact a domestic conflict whereas transparency in the country caused. Finally, these two considerations might result in a more representative conclusion.



## Bibliography

AbuDalu, A., Ahmed, E. M., Almasaied, S. W., & Elgazoli, A. I. (2014). *The Real Effective Exchange Rate Impact on ASEAN-5 Economic Growth*. Retrieved May 2017, from International Journal of Economics & Management Sciences: <https://www.omicsonline.org/open-access/the-real-effective-exchange-rate-impact-on-asean-economic-growth-2162-6359.1000174.pdf>

Acemoglu, D., & Robinson, J. A. (2000). *Political Losers as Barriers to Economic Development*. Retrieved May 2017, from Massachusetts Institute of Technology: <https://economics.mit.edu/files/5686>

Ades, A., & Di Tella, R. (1999). *Rents, Competition and Corruption*. Retrieved May 2017, from Harvard University: <https://projects.iq.harvard.edu/gov2126/files/aerentscorruption.pdf>

Ahn, S., & Hemmings, P. (2000). *Policy Influences on Economic Growth in OECD Countries: An Evaluation of the Evidence (Working Paper No. 246)*. Retrieved May 2017, from OECD Economics Department: <http://www.oecd-ilibrary.org/docserver/download/581718238837.pdf?expires=1502039453&id=id&accname=guest&checksum=5C6B025FFD2BEF9836ADA4573EAE22DF>

Alemanno, A. (2013). *Unpacking the Principle of Openness in EU Law: Transparency, Participation and Democracy*. Retrieved May 2017, from SSRN: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2303644](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2303644)

Andersen, J. J., & Aslaksen, S. (2008). *Constitutions and the Resource Curse*. Retrieved May 2017, from Science Direct: [https://ac.els-cdn.com/S0304387807001058/1-s2.0-S0304387807001058-main.pdf?\\_tid=6bee0561-9784-49cc-8860-16881348a74b&acdnat=1528134259\\_5df2307f16ce023e7104aaec9e2e025e](https://ac.els-cdn.com/S0304387807001058/1-s2.0-S0304387807001058-main.pdf?_tid=6bee0561-9784-49cc-8860-16881348a74b&acdnat=1528134259_5df2307f16ce023e7104aaec9e2e025e)

ASEAN. (2002). *2002-2003 Annual Report of Asean*. Retrieved May 2017, from <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan011675.pdf>

ASEAN. (2005). *2005-2006 Annual Report of Asean*. Retrieved May 2017, from [http://www.asean.org/uploads/archive/ar06/FA%20AR%20ASEAN\\_1.pdf](http://www.asean.org/uploads/archive/ar06/FA%20AR%20ASEAN_1.pdf)

Auty, R. M. (2001). *The Political Economy of Resource-Driven Growth*. Retrieved May 2017, from Science Direct: <https://www.sciencedirect.com/science/article/pii/S001429210100126X>

Bassanini, A., & Scarpetta, S. (2001). *Does Human Capital Matter for Growth in OECD Countries? Evidence from PMG Estimates (Working Paper No. 282)*. Retrieved May 2017, from OECD Economics Department: <http://www.oecd-ilibrary.org/docserver/download/424300244276.pdf?expires=1501943732&id=id&accname=guest&checksum=0806C81E901E5B18861A056B646C60FB>

Barro, R. J. (1997). *Determinants of Economic Growth: A Cross-Country Empirical Study*. Cambridge, MA: MIT Press.

Bevan, D., Collier, P., & Gunning, J. W. (1999). *The Political Economy of Poverty, Equity and Growth*. Oxford: Oxford University Press.

Becker, G. S., Glaeser, E. L., & Murphy, K. M. (1999). *Population and Economic Growth*. Retrieved May 2017, from JSTOR: <https://www.jstor.org/stable/pdf/117096.pdf?refreqid=excelsior%3A329d79f562a2b77b5ed820bcea95df62>

Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). *Using ICTs to Create a Culture of Transparency: E-government and Social Media as Openness and Anti-corruption Tools for Societies*. Retrieved May 2017, from Science Direct:

<https://www.sciencedirect.com/science/article/pii/S0740624X10000201?via%3Dihub>

Boschini, A. D., Pettersson, J., & Roine, J. (2007). *Resource Curse or Not: A Question of Appropriability*. Retrieved May 2017, from Wiley Online Library:

<https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-9442.2007.00509.x>

Christopoulos, D. K. (2004). *Currency Devaluation and Output Growth: New Evidence from Panel Data Analysis*. Retrieved May 2017, from Taylor & Francis Online:

<https://www.tandfonline.com/doi/abs/10.1080/1350485042000254647>

Cox, G. W., & Weingast, B. R. (2015). *Executive Constraint, Political Stability and Economic Growth*. Retrieved May 2017, from SSRN:

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2618059](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2618059)

Edwards, S. (1992). *Trade Orientation, Distortions and Growth in Developing Countries*. Retrieved May 2017, from The National Bureau of Economic Research: <http://www.nber.org/papers/w3716.pdf>

Durney, A., Errunza, V., & Molchanov, A. (2008). *Property Rights Protection, Corporate Transparency and Growth*. Retrieved May 2017, from Virginia University:

<http://admin.darden.virginia.edu>.

Fornell, C., & Larcker, D. F. (1981). *Evaluating Structural Equation Models with Unobservable Variables and Measurement Error*. Retrieved May 2017, from JSTOR:

<https://www.jstor.org/stable/pdf/3151312.pdf?refreqid=excelsior%3A147654b98f9a044e9536d7f634b89f1c>

Ganapati, S., & Reddick, C. G. (2012). *Open E-government in US State Governments: Survey Evidence from Chief Information Officers*. Retrieved May 2017, from Elsevier:

<https://www.sciencedirect.com/science/article/pii/S0740624X12000056>

Isham, J., Pritchett, L., Woolcock, M., & Busby, G. (2005). *The Varieties of Resource Experience: Natural Resource Export Structures and the Political Economy of Economic Growth*. Retrieved May 2017, from World Bank: <https://elibrary.worldbank.org/doi/pdf/10.1093/wber/lhi010>

Islam, R. (2006). *Does More Transparency Go Along with Better Governance?* Retrieved May 2017, from Wiley Online Library: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1468-0343.2006.00166.x>

Humpreys, M., Sachs, J. D., & Stiglitz, J. E. (2007). *What is the Problem with Natural Resource Wealth?* New York: Columbia University Press.

Jiménez-Rodríguez, R., & Sánchez, M. (2005). *Oil Price Shocks and Real GDP Growth: Empirical Evidence for Some OECD Countries*. Retrieved May 2017, from European Central Bank:

<https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp362.pdf>

Karl, T. L. (2005). *Understanding the Resource Curse*. New York: Open Society Institute.

Kenny, C. (2007). *Infrastructure Governance and Corruption: Where Next*. Washington, DC: The World Bank Sustainable Development Network.

- Kolstad, I., & Wiig, A. (2009). *Is Transparency the Key to Reduce Corruption in Resource-rich Countries?* Retrieved May 2017, from Elsevier:  
<https://www.sciencedirect.com/science/article/pii/S0305750X08002246>
- Lane, P., & Tornell, A. (1996). *Power, Growth and Voracity Effect*. Retrieved May 2017, from JSTOR:  
<https://www.jstor.org/stable/pdf/40215916.pdf?refreqid=excelsior%3A411c22d4eeefcff1a7888b744571bcb4>
- Lejárraga, I., & Shepherd, B. (2013). *Quantitative Evidence on Transparency in Regional Trade Agreements (OECD Trade Policy Paper No. 153)*. Retrieved May 2017, from OECD:  
<http://www.oecd-ilibrary.org/docserver/download/5k450q9v2mg5-en.pdf?expires=1502040578&id=id&acname=guest&checksum=1013D99D41499BC16134705DBB0435B1>
- Londregan, J. B., & Poole, K. T. (1996). *Does High-income Promote Democracy?* Retrieved May 2017, from JSTOR:  
<https://www.jstor.org/stable/pdf/25053987.pdf?refreqid=excelsior%3A7ab7d2b61a33041e1cae3dc03a49a753>
- Nehru, V. (2012). *Myanmar's Economic Policy Priorities*. Washington, DC: Carnegie Endowment for International Peace.
- Macdonald, R. (2000). *Concepts to Calculate Equilibrium Exchange Rates: An Overview (Discussion Paper No. 3)*. Retrieved May 2017, from Deutsche Bundesbank Economic Research Department:  
[http://www.bundesbank.de/Redaktion/EN/Downloads/Publications/Discussion\\_Paper\\_1/2000/2000\\_07\\_03\\_dkp\\_03.pdf?\\_\\_blob=publicationFile](http://www.bundesbank.de/Redaktion/EN/Downloads/Publications/Discussion_Paper_1/2000/2000_07_03_dkp_03.pdf?__blob=publicationFile)
- Mehlum, H., Moene, K., & Torvik, R. (2006). *Cursed by Resources or Institutions?* Retrieved May 2017, from Wiley Online Library: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-9701.2006.00808.x>
- Osborne, J. W. (2002). *Notes on the Use of Data Transformations*. Practical Assessment, Research & Evaluation.
- Putra, J. S. (2011). *Why is Facebook so Popular in Indonesia?* Retrieved May 2017, from Tech in Asia: <https://www.techinasia.com/why-facebook-is-so-popular-in-indonesia>
- Pina, V., Torres, L., & Royo, S. (2010). *Is E-government Leading to More Accountable and Transparent Local Governments? An Overall View*. Retrieved May 2017, from Wiley Online Library: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1468-0408.2009.00488.x>
- Sachs, J. D., & Warner, A. M. (1995). *Natural Resource Abundance and Economic Growth (Working Paper No. 5398)*. Retrieved May 2017, from National Bureau of Economic Research:  
<http://www.nber.org/papers/w5398.pdf>
- Sovacool, B. K. (2010). *The Political Economy of Oil and Gas in Southeast Asia: Heading Towards the Natural Resource Curse?* Retrieved May 2017, from Taylor & Francis Online:  
<https://www.tandfonline.com/doi/pdf/10.1080/09512741003624484?needAccess=true>
- Robinson, J. A., Ragnar, T., & Thierry, V. (2006). *The Political Foundations of the Resource Curse*. Retrieved May 2017, from Harvard University:  
[https://scholar.harvard.edu/files/jrobinson/files/jr\\_polfoundations.pdf](https://scholar.harvard.edu/files/jrobinson/files/jr_polfoundations.pdf)

- Rodrik, D. (2008). *The Real Exchange Rate and Economic Growth*. Retrieved May 2017, from Brookings: [https://www.brookings.edu/wp-content/uploads/2008/09/2008b\\_bpea\\_rodrik.pdf](https://www.brookings.edu/wp-content/uploads/2008/09/2008b_bpea_rodrik.pdf)
- Ross, M. L. (2001). *Does Oil Hinder Democracy?* Retrieved May 2017, from Harvard University: [https://scholar.harvard.edu/files/levitsky/files/ross\\_world\\_politics.pdf](https://scholar.harvard.edu/files/levitsky/files/ross_world_politics.pdf)
- Ross, M. L. (1999). *The Political Economy of the Resource Curse*. Retrieved May 2017, from JSTOR: <https://www.jstor.org/stable/pdf/25054077.pdf?refreqid=excelsior%3A3288fde79d433858d594ba58662ff71f>
- Rosser, A. (2006). *The Political Economy of the Resource Curse: A Literature Survey (Working Paper No. 268)*. Retrieved May 2017, from Centre for the Future State, Institute of Development Studies: <http://www2.ids.ac.uk/gdr/cfs/drc-pubs/summaries/summary%2021-Rosser-ResourceCurse.pdf>
- Rotemberg, J. J., & Woodford, M. (1996). *Imperfect Competition and the Effects of Energy Price Increases on Economic Activity*. Working Paper, NBER.
- Tan, A. T. (2008). *The Security of the ASEAN Energy Supply Chain. Seminar on Sustainable Development and Energy Security*. Institute of Southeast Asian Studies.
- UNESCO. (2016). *UNESCO Series on Internet Freedom: Privacy, Free Expansion and Transparency*. Retrieved May 2017, from UNESCO Publishing: <http://unesdoc.unesco.org/images/0024/002466/246610E.pdf>
- United Nations. (2016). *UN E-government Survey Report: E-government in Support of Sustainable Development*. Retrieved May 2017, from <http://workspace.unpan.org/sites/Internet/Documents/UNPAN96407.pdf>
- Usui, N. (1997). *Dutch Disease and Policy Adjustments to the Oil Boom: A Comparative Study of Indonesia and Mexico*. Retrieved May 2017, from Elsevier: <https://www.sciencedirect.com/science/article/pii/S0301420797000238>
- Williams, A. (2009). *On the Release of Information by Governments: Causes and Consequences*. Retrieved May 2017, from Elsevier: <https://www.sciencedirect.com/science/article/pii/S0304387808000813>
- Williams, A. (2011). *Shining a Light on the Resource Curse: An Empirical Analysis of the Relationship Between Natural Resources, Transparency and Economic Growth*. Retrieved May 2017, from Elsevier: <https://www.sciencedirect.com/science/article/pii/S0305750X10001828>
- World Bank. (2011). *World Development Indicators*. Washington: World Bank.
- World Bank. (1994). *Expanding the Measure of Wealth: Indicators of Environmentally Sustainable Development*. Monograph Series, Environmental Development Studies

## Appendix

### Appendix 1

**Table A: Descriptive statistics**

<b>Variable</b>	<b>Unit of Measurement</b>	<b>No. of Observation</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Min</b>	<b>Max</b>
Government Transparency	Index (0 to 1)	251	0.692	0.134	0.264	0.927
GDP Growth	Annual percentage	839	3.287	3.459	-14.724	15.240
Primary Commodity Exports	Proportion of GDP	839	2.057	3.974	0.000	32.164
Log GDP <i>per capita</i>	Current US Dollars	839	9.683	1.115	5.702	11.674
Executive Constraints	Index (0 to 1)	839	0.477	0.132	0.016	0.778
Gross Secondary Enrolments	Ratio percentage	839	99.611	20.700	17.231	164.812
Government Consumption	Proportion of GDP	839	17.225	5.176	4.484	29.996
Country's Openness	Proportion of GDP	839	90.382	55.916	19.736	439.657
Fuel	Percentage of merchandise exports	839	1.079	1.541	-3.424	4.476
Ores and Minerals	Percentage of merchandise exports	839	9.226	15.133	0.000	99.340
Agricultural Raw Materials	Percentage of merchandise exports	839	3.283	3.880	0.002	29.849
Food	Percentage of merchandise exports	839	11.345	9.634	0.000	60.963
Population Growth	Annual percentage	839	0.815	0.805	-1.475	5.322
Real Effective Exchange Rates	Real value	839	98.810	16.431	204.083	37.305
Institutional Quality	Index (-2.5 to 2.5)	578	1.210	0.683	-0.956	2.431

**Table B: List of countries used in “core” regressions (45)**

Australia	Estonia	Israel	Myanmar*	Slovenia
Austria	Finland	Italy	Netherlands	Spain
Belgium	France	Japan	New Zealand	Sweden
Brunei Darussalam*	Germany	South Korea	Norway	Switzerland
Cambodia*	Greece	Laos*	Philippines*	Thailand*
Canada	Hungary	Latvia	Poland	Turkey
Chile	Iceland	Luxembourg	Portugal	United Kingdoms
Czech Republic	Indonesia*	Malaysia*	Singapore*	United States
Denmark	Ireland	Mexico	Slovak Republic	Vietnam*

\*Association of Southeast Asian Nations (ASEAN) Countries

## Appendix 2

**Table C: Average value of ‘point’ resources (percentage of GDP) in 1990-2015**

<b>Rank</b>	<b>Country</b>	<b>Oil, Ores and Minerals Resources Revenues</b>
<b>1</b>	Norway	63,40
<b>2</b>	Brunei Darussalam	56,50
<b>3</b>	Chile	50,95
<b>4</b>	Austria	45,57
<b>5</b>	Ireland	33,19
<b>6</b>	Canada	23,19
<b>7</b>	Iceland	22,84
<b>8</b>	Greece	22,25
<b>9</b>	Mexico	15,73
<b>10</b>	Malaysia	14,17
<b>11</b>	Singapore	13,33
<b>12</b>	Vietnam	12,32
<b>13</b>	United States	11,43
<b>14</b>	Poland	11,09
<b>15</b>	Netherlands	10,60
<b>16</b>	Estonia	9,37
<b>17</b>	Belgium	8,84

<b>18</b>	Finland	8,58
<b>19</b>	Sweden	7,57
<b>20</b>	New Zealand	7,29
<b>21</b>	Denmark	7,06
<b>22</b>	United Kingdom	6,89
<b>23</b>	Slovak Republic	6,75
<b>24</b>	Spain	6,39
<b>25</b>	Slovenia	5,90
<b>26</b>	Latvia	5,82
<b>27</b>	Portugal	5,80
<b>28</b>	Philippines	5,80
<b>29</b>	Turkey	5,67
<b>30</b>	France	5,23
<b>31</b>	Australia	5,20
<b>32</b>	Czech Republic	4,76
<b>33</b>	Switzerland	4,51
<b>34</b>	Hungary	4,48
<b>35</b>	Germany	4,21
<b>36</b>	Thailand	4,07
<b>37</b>	Israel	4,01
<b>38</b>	Luxembourg	3,75
<b>39</b>	Korea, Rep.	2,67
<b>40</b>	Italy	1,76
<b>41</b>	Myanmar	1,59
<b>42</b>	Indonesia	1,30
<b>43</b>	Cambodia	0,18
<b>44</b>	Japan	-
<b>45</b>	Lao PDR	-

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**Table D: Government Transparency Index in 2016**

<b>Rank</b>	<b>Country</b>	<b>Transparency Index</b>
<b>1</b>	United Kingdom	0,92
<b>2</b>	Australia	0,91
<b>3</b>	Korea, Rep.	0,89
<b>4</b>	Singapore	0,88
<b>5</b>	Finland	0,88
<b>6</b>	Sweden	0,87
<b>7</b>	Netherlands	0,87
<b>8</b>	New Zealand	0,87
<b>9</b>	Denmark	0,85
<b>10</b>	France	0,85
<b>11</b>	Japan	0,84
<b>12</b>	United States	0,84
<b>13</b>	Estonia	0,83
<b>14</b>	Canada	0,83
<b>15</b>	Germany	0,82
<b>16</b>	Austria	0,82
<b>17</b>	Spain	0,81
<b>18</b>	Norway	0,81
<b>19</b>	Belgium	0,79
<b>20</b>	Israel	0,78
<b>21</b>	Slovenia	0,78
<b>22</b>	Italy	0,78
<b>23</b>	Luxembourg	0,77
<b>24</b>	Ireland	0,77
<b>25</b>	Iceland	0,77
<b>26</b>	Switzerland	0,75
<b>27</b>	Poland	0,72
<b>28</b>	Portugal	0,71
<b>29</b>	Chile	0,69
<b>30</b>	Greece	0,69
<b>31</b>	Latvia	0,68



<b>32</b>	Hungary	0,67
<b>33</b>	Czech Republic	0,65
<b>34</b>	Mexico	0,62
<b>35</b>	Malaysia	0,62
<b>36</b>	Slovak Republic	0,59
<b>37</b>	Turkey	0,59
<b>38</b>	Philippines	0,58
<b>39</b>	Thailand	0,55
<b>40</b>	Brunei Darussalam	0,53
<b>41</b>	Vietnam	0,51
<b>42</b>	Indonesia	0,45
<b>43</b>	Lao PDR	0,31
<b>44</b>	Cambodia	0,26
<b>45</b>	Myanmar	0,24

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**Table E:** *Average value of GDP growth (percentage) in 1990-2016*

<b>Rank</b>	<b>Country</b>	<b>GDP Growth</b>
<b>1</b>	Israel	8,57
<b>2</b>	Latvia	6,64
<b>3</b>	Australia	6,54
<b>4</b>	Sweden	6,25
<b>5</b>	France	5,96
<b>6</b>	Japan	5,72
<b>7</b>	United States	5,40
<b>8</b>	Czech Republic	5,23
<b>9</b>	Luxembourg	4,99
<b>10</b>	Mexico	4,74
<b>11</b>	Spain	4,68
<b>12</b>	Cambodia	4,33
<b>13</b>	Myanmar	4,32
<b>14</b>	Greece	4,05
<b>15</b>	Brunei Darussalam	4,03
<b>16</b>	Korea, Rep.	3,79

<b>17</b>	Estonia	3,48
<b>18</b>	Hungary	3,42
<b>19</b>	Lao PDR	3,15
<b>20</b>	Slovak Republic	3,12
<b>21</b>	United Kingdom	2,98
<b>22</b>	Italy	2,73
<b>23</b>	Indonesia	2,62
<b>24</b>	Vietnam	2,52
<b>25</b>	Austria	2,35
<b>26</b>	Iceland	2,32
<b>27</b>	Ireland	2,01
<b>28</b>	Chile	2,01
<b>29</b>	Denmark	1,97
<b>30</b>	Turkey	1,89
<b>31</b>	Finland	1,89
<b>32</b>	Belgium	1,88
<b>33</b>	Thailand	1,73
<b>34</b>	Slovenia	1,72
<b>35</b>	New Zealand	1,70
<b>36</b>	Philippines	1,57
<b>37</b>	Canada	1,56
<b>38</b>	Singapore	1,56
<b>39</b>	Portugal	1,55
<b>40</b>	Poland	1,52
<b>41</b>	Switzerland	1,38
<b>42</b>	Germany	1,33
<b>43</b>	Netherlands	1,14
<b>44</b>	Norway	0,86
<b>45</b>	Malaysia	0,69

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