

## Oil Rent and Economic Growth in Indonesia

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### Abstract

This study aimed to analyze the effect of direct and indirect oil rents for Indonesia's economic growth through trade openness, human capital, quality of institutions and genuine savings. This study uses secondary data for the period 1980 to 2010, sourced from several institutions such as the BPS, World Bank, BP Migas, and the PRS Group. The method of analysis used in this research is the analysis of the path (path analysis), which assisted with the package SPSS version 16.00.

In this study found that the oil rent has no direct negative effect on economic growth in Indonesia, and has an indirect negative effect on economic growth in Indonesia through the quality of institutions. From the research each oil rents increased by 1 point will cause a decrease in the quality of institutions in Indonesia by 0.6 points. And any increase or decrease in the quality of institutions by 1 point, would cause an increase or decrease in Indonesia's economic growth by 0.5 points. So the results of this study indicate that the quality of the institution serves as a transmission mechanism of the resource curse in Indonesia.

This research also found that the oil rent significant positive effect of trade openness and trade openness significant negative effect on economic growth. So we can conclude that trade openness is not a transmission mechanism negative relationship between oil rents and economic growth in Indonesia. The results of this study support empirical research Rosser (2007) that Indonesia can avoid the resource curse in Indonesia and one way is to prevent the Dutch disease. The results of this study showed no evidence of a negative indirect effect of oil rents on economic growth through human capital and a genuine saving.

**Keywords:** Oil Rent, Trade Openness, Human Capital, Quality Institution, Genuine Saving, Dutch Disease, Resouces Curse

### I. Introduction

Much of the research in the world says that countries with abundant natural resources negative economic growth, such as Sachs and Warner (1995a / b, 2001), Gylfason (2001a, 2004, 2007, 2011), Auty (2001). Conversely, during the period 1970 to present, the countries that do not depend on natural resources, experienced more rapid economic growth than countries that produce oil and gas. The phenomenon of slow development in the presence of an abundance of natural resources is known as the resource curse hypothesis.

In 2001, the oil and gas sector contributed 11.8% of the GNP. In 2007 these contributions has decreased to only 7.7% of the total GNP (IEA, 2008). For the trade sector, in early 2001 the total exports of oil and gas Indonesia around 22.1% of total export earnings Indonesia. In 2007 due to rising crude oil prices, oil and gas exports Indonesia decreased by 19.4% of the total export earnings (IEA,2008).

Is this natural resource abundance is a blessing or a curse for Indonesia. Dutch Disease Based on the theory proposed by Corden and Neary (1983), one of the symptoms of Dutch Disease is the deindustrialiasi, because a boom in oil and gas sector will lead to uncompetitive manufacturing sector. Indonesia's manufacturing sector growth in the range of 10% to 15% between 1988 to 1997, then dropped to minus 20% in 1998. In 2000 to 2007 the growth of Indonesia's manufacturing sector will be in the range of 5% (BPS,2008).

## II. Objectives of the Study

Based on the background that has been described, the aim of this study is to examine and analyze the effect of oil rents on trade openness, human capital, institutional quality, genuine saving and economic growth in Indonesia. And research has conceptual framework as listed on the Figure 1.

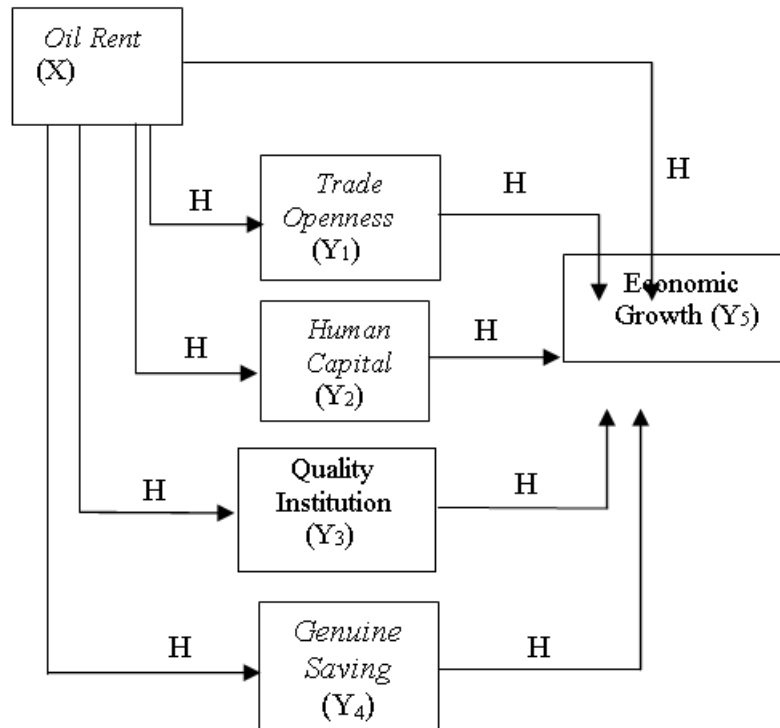


Figure 1  
Conceptual Framework for Research

## III. Research Methods

### 3.1 Types and Sources of Data

The data used in this study is a secondary data in the form of annual time series data, ranging from 1980 to 2010. The data obtained from statistical publications following institutions: Statistik Central Bureau (BPS), the Ministry of Energy and Mineral Resources (ESDM), the World Bank, UNDP, the International Energy Agency (IEA), and the Organization of Petroleum Exporter Countries (OPEC).

### 3.2 Method of Analysis

To analyze the effect of oil rent, to the trade openness, institutional quality, human capital, genuine saving and economic growth in Indonesia, the method of analysis used in this study is the method of path analysis. Path Analysis was developed by Sewall Wright (1934). Path analysis is used when in theory we are confident dealing with problems relating to cause and effect. The goal is to explain the direct and indirect effects a set of variables, as a variable causes, to the other variable is a variable effect.

## 4. Path Analysis Result

### 4.1 Test the hypothesis

Path Analysis in this study processed with SPSS software Version 16. Regression coefficient values were used in the analysis are the standardized beta coefficients. The test results of path coefficients, direct effect between variables can be seen in Table 3.

Table 1  
 Hypothesis Test Result in Each Path

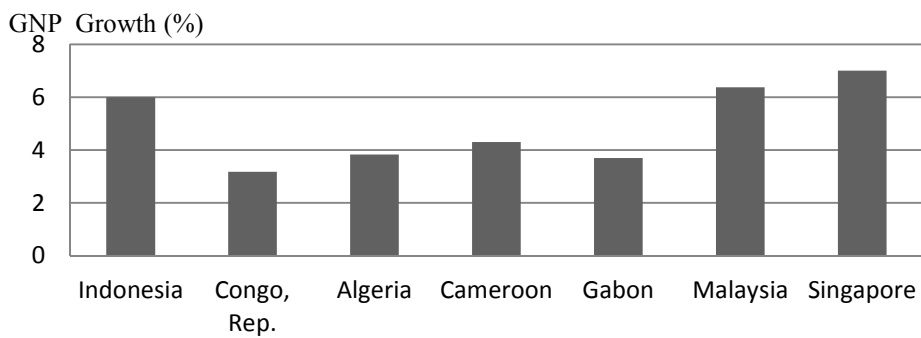
Effect Between Variable	Path Koeficient (Beta)	P-Value	Significant Test
<i>Oil rent</i> → <i>GNP</i>	0,324	0,279	no significant
<i>Oil rent</i> → <i>Trade Openness</i>	0.418	0.009	significant
<i>Trade Openness</i> → <i>GNP</i>	-0.339	0.004	significant
<i>Oil rent</i> → <i>Human Capital</i>	0.661	0.000	significant
<i>Human Capital</i> → <i>GNP</i>	0.625	0.040	significant
<i>Oil rent</i> → <i>Kualitas Institusi</i>	-.0,635	0.000	significant
<i>Kualitas Institusi</i> → <i>GNP</i>	0.478	0,010	significant
<i>Oil rent</i> → <i>Genuine Saving</i>	-0.084	0.670	No significant
<i>Genuine Saving</i> → <i>GNP</i>	0.022	0.895	No significant

## 5. Research Result

### 5.1 Effect of Oil Rent to Economic Growth

The results of the estimated effect of oil rents directly to economic growth in Indonesia showed no significant positive effect. Positive effect suggests a direct relationship between oil rents and economic growth. This means that an increase in oil rent in Indonesia will not affect the increase in economic growth in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that oil rents significant effect on economic growth in Indonesia is unproven and unsupported by the facts. Based on the results of statistical tests oil rent direct effect on economic growth above, hypothesis Gylfason (1999,2001,2004), which states that natural resource abundance negatively affect economic growth, not shown to occur in Indonesia. The findings of this study do not support the empirical study Auty (1990, 2001), Gelb (1988), Sachs and Warner (1995, 1999, 2001), Karl (1997), who also suggested a negative relationship between the abundance of natural resources with economic growth. The findings of this study support the theory of economic growth, Adam Smith (1776) which states that economic growth can not just rely on natural capital, but also on the development of physical capital and human capital.

In spite of the wealth of its natural resources, Indonesia performed very well in terms of the economy in the three decades before the Asian economic crisis in 1997. Indonesia's economic performance achieved can be seen in Figure 2, where Indonesia has high average economic growth from 1970 to 2012 by 6%, which is greater than Gabon, Congo, Algeria and Cameroon. Although it is clear that Indonesia is not growing as fast as some neighboring countries (such as South Korea, Taiwan, Singapore and Hong Kong).

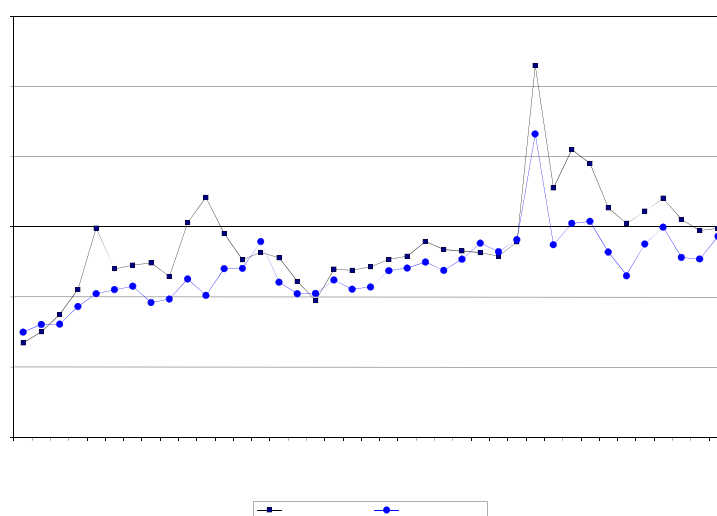


Souerce: World Bank, 2012

Figure 2  
 Economic Growth Indonesia, Singapura, and Other Countries

The estimation result, direct effect oil rents on trade openness in this study showed a significant positive effect. Positive effect suggests a direct relationship between oil rents and trade openness. This means that an increase in oil rent in Indonesia will have an impact on increasing trade openness in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that oil rents significant effect on trade openness in Indonesia is proven and supported by facts.

The results of studies that suggest that oil rents significant positive effect on trade openness in Indonesia, do not support the theory of Dutch Disease. This means that Indonesia is not affected or not affected by Dutch Disease, namely economic disease that causes a decrease in the growth of manufacturing exports drastically due to the discovery of natural resources. The results of this study do not support the model and empirical studies Gylfason (2002, 2004, 2011) that suggests that one mechanism transimisi the resources curse is a Dutch Disease and the availability of foreign capital. During the period 1970-2008, Indonesia's exports grew at a faster rate than GDP. This proves that Indonesia has been successful in increasing the relative size of the export. Figure 3 shows that in the period 1970-2008 Indonesia's exports have increased, so have not seen any symptoms of Dutch disease occurs during the period.



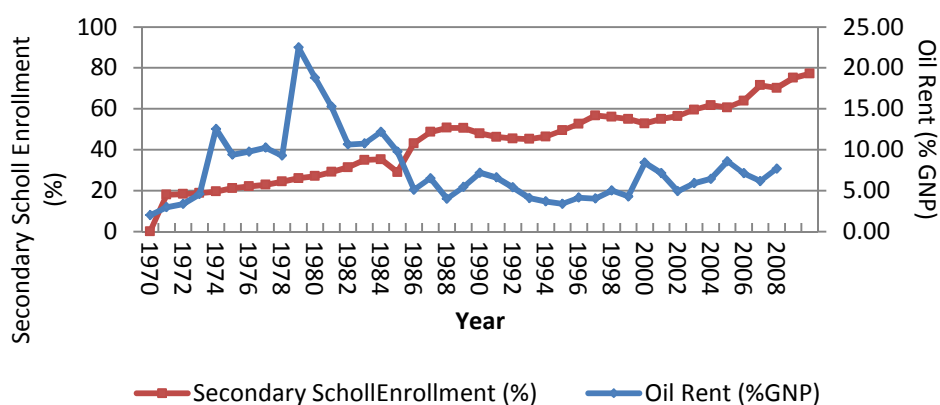
Source : World Bank, 2011

Figure 3  
 Export Import Indonesia (1970-2009)

The estimation of the direct effect trade openness on economic growth in this study showed a significant negative effect. Negative influence showed the opposite relationship between trade openness and economic growth. This means that an increase in trade openness in Indonesia will have an impact on the decline in economic growth in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that trade openness significant effect economic growth in Indonesia is proven and supported by facts.

The results of the estimated effect of oil rents directly to the human capital in this study showed a significant positive effect. The positive influence suggests a direct relationship between oil rents and human capital. This means that an increase in oil rent in Indonesia will have an impact on improving human capital in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that oil rents significantly influence human capital in Indonesia is proven and supported by facts.

These findings do not support the model and empirical studies Gylfason (2004) which states the negative effects of natural resource abundance on economic growth through human capital. In Indonesia, oil rent has been accompanied by a rise in secondary school enrollment rate (Figure 4). It appears that oil rents a positive contribution to the human capital in Indonesia, so that human capital as the transmission mechanism of the resources curse raised by Gylfason, does not apply to Indonesia.



Source : World Bank, 2011

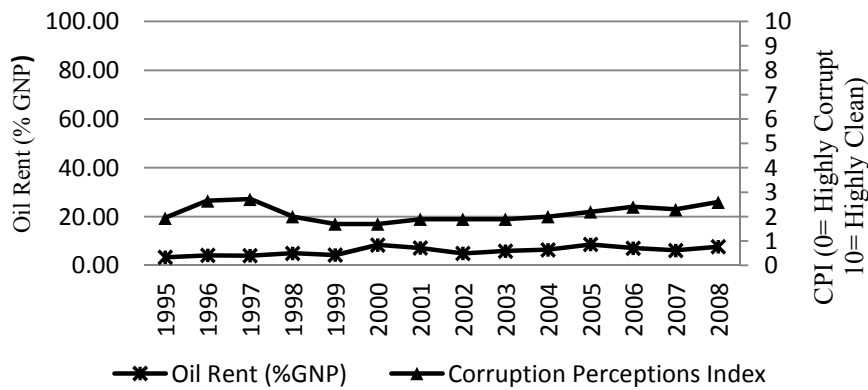
**Figure 4.**  
**Oil Rent and Scholl Enrollment in Indonesia(1990-2009)**

The results of the estimated direct effect of human capital on economic growth showed a significant positive effect. This means that an increase in human capital in Indonesia have an impact on economic growth in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that human capital significantly influence economic growth in Indonesia is proven and supported by facts.

The results of the estimated direct effect oil rent on the quality of institutions in Indonesia showed a significant negative correlation. That is an increase or decrease in oil rent in Indonesia contributed to the decline or increase in the quality of institutions in Indonesia. Thus, by testing the hypothesis, the hypothesis that oil rents significantly influence the quality of institutions in Indonesia are proven and supported by facts.

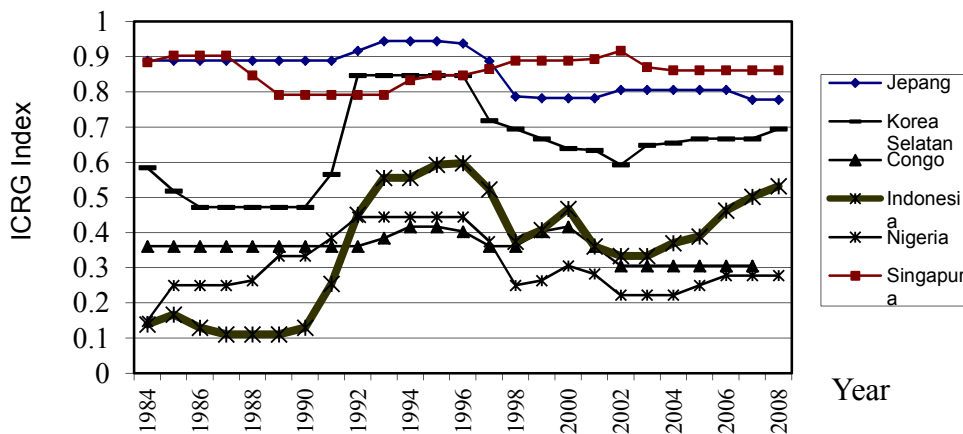
The findings of this study support the rent seeking theory developed by (Gordon Tullock, 1967), Staple Trap Model (Auty, 2007), Theory of Production and Grabber friendly Institutions (Mehlum et al., 2006), which basically states that the high mineral rent and concentrated to make the leaders less accountable to citizens and more prone to do rent-seeking, corruption and political patronage. This can happen because the oil and gas

wealth remains in the hands of a few politicians and people in the petroleum industry. The lack of transparency, causing uncontrolled graft and embezzlement. In Figure 5. shows that the level of corruption in Indonesia has not shown significant improvement rate with a score between 1 to 3 in 1995 until 2008, and in Figure 6, looks Indonesia institutional quality levels that are far below the level of institutional quality from Singapore, Japan, and South Korea is not an oil producer. Indonesia one group in terms of corruption or poor quality institutions with Nigeria and Congo.



Souerce: World Bank, 2012

**Figure 5.**  
**Oil Rent and CPI in Indonesia (1995-2009)**



Souerce: World Bank, 2012

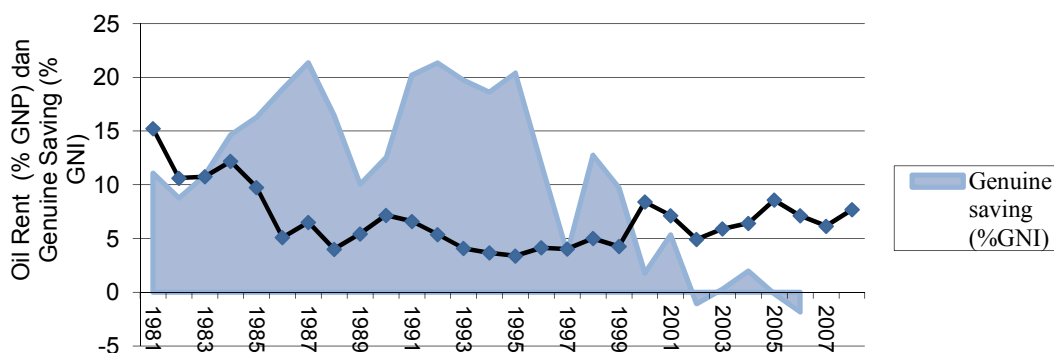
**Figure 6**  
**ICRG Index's Indonesia, Nigeria, Congo, Japan, Singapore, and South Korea (1984-2009)**

The estimation results direct effect, the quality of institutions on economic growth in this study showed a significant positive effect. Positive effect suggests a direct relationship between the quality of institutions and economic growth. It means improving the quality of institutions in Indonesia will have an impact on increased

economic growth in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that the quality of institutions significant effect economic growth in Indonesia is proven and supported by facts.

The estimation result direct effect of oil rent on the genuine saving in this study showed no significant negative effects. This means that an increase in oil rent in Indonesia will not impact on genuine saving decline in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that oil rents significantly effect the genuine saving in Indonesia is unproven and unsupported by the facts.

Figure 7 shows, oil rent negatively related to the genuine saving Indonesia, although it was not statistically significance. Important cause of the negative relationship between oil rents and genuine saving, according to (Auty, 2006), is that the money from the oil and gas is often used in a way that cumulatively transferring input from competitive events for activities that are not competitive.



Source: World Bank, 2012

**Figure 7**  
**Oil Rent and Genuine Saving (1984-2009)**

The estimates results of Direct effect genuine saving on economic growth shows no significant positive effect. Positive effect suggests a direct relationship between genuine savings and economic growth. This means an increase in genuine savings in Indonesia will have no impact on economic growth in Indonesia, and vice versa. Thus, by testing the hypothesis, the hypothesis that genuine saving significant effect on economic growth in Indonesia is unproven and unsupported by the facts.

## 6. Conclusion

1. Simultaneously, it can be concluded that directly, oil rent not significantly affect economic growth in Indonesia. Effect of Oil rent to economic growth in Indonesia indirectly through transmission lines institutional quality is negative and significant.
2. Based on the results of the study that says Indonesia is not affected Dutch Disease, according Karshenas and Hakimian (2005) because it is crowding out other exports by high oil export value is more likely to be true in the case of mature economies with full employment of workers who are fully integrated into the the world economy. A country like the Netherlands or Norway could have this problem faster than Indonesia

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