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Assessing Natural Resources Curse Hypothesis at the Local Level in Indonesia:
The Evidence of The Missing Money

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List of Acronyms

ADB	*Asian Development Bank*
BAPPENAS	*Badan Perencanaan Pembangunan Nasional (National Planning Agency)*
BPD	*Bank Pembangunan Daerah (Regional Development Bank)*
BPK	*Badan Pemeriksa Keuangan (Supreme Audit Board)*
BPR	*Bank Perkreditan Rakyat (People's Credit Bank)*
BPS	*Badan Pusat Statistik (Central Bureau of Statistics)*
BUMD	*Badan Usaha Milik Daerah (State-Owned Regional Company)*
BUMN	*Badan Usaha Milik Negara (State-Owned Company)*
CPI	*Construction Price Index*
CSO	*Civil Society Organization*
DAK	*Dana Alokasi Khusus (Specific Allocation Fund)*
DAU	*Dana Alokasi Umum (General Allocation Grant)*
DBH	*Dana Bagi Hasil (Shared Revenues)*
DBH-SDA	*Dana Bagi Hasil Sumber Daya Alam (Natural Resources Shared Revenues)*
DPRD	*Dewan Perwakilan Rakyat Daerah (Local Parliament)*
GDP	*Gross Domestic Products*
GRDP	*Gross Regional Domestic Products*
HDI	*Human Development Index*
KEMENKEU	*Kementerian Keuangan (Ministry of Finance)*
KPK	*Komisi Pemberantasan Korupsi (Corruption Eradication Commission)*
LG	*Local Government*
PAD	*Pendapatan Asli Daerah (Own Source Revenues)*
PD	*Perusahaan Daerah (Regional Enterprises)*
PDAM	*Perusahaan Daerah Air Minum (Regional Water Company)*
PMK	*Peraturan Menteri Keuangan (Minister of Finance Regulations)*
PNS	*Pegawai Negeri Sipil (Permanent Civil Servants)*
PODES	*Survey Potensi Desa (Villages Potency Survey)*
SILPA	*Sisa Lebih Pembiayaan Anggaran (Carryover Budget)*
SKPD	*Satuan Kerja Pemerintah Daerah (LG Internal Unit)*
SUSENAS	*Survey Sosial Ekonomi Nasional (The National Household Socioeconomic Survey)*
UN DESA	*United Nations Departement of Economic and Social Affairs*
UNDP	*United Nations for Development Programme*

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Abstract

The natural resources abundance in a region is likely would contribute to the welfare of the people. However, initial observations on some natural resources-rich regions in Indonesia revealed a different fact: the resources-rich regions are mostly ranked in the lowest level of social welfare development indicators.

This research seeks to find the evidences of natural resources curse at the local level in Indonesia. It focuses in the two channel of the curse: the economic disruption and the political economy model. To find the evidences of the economic disruption symptoms, it examines the effect of the natural resources extraction to other economic sectors and level of employment. Under the political economy model, it focuses on the utilisation of revenue from natural resources extraction and the budget priorities of LGs. When the analysis shows the evidences of the curse, the investigation continues to find the missing money from the natural resources revenue. This research's hypothesis is that decentralization tends to push resource-curse symptoms to sub-national levels, where the cases can be because of the lack capacity of local governments to address the problems.

This research finds little evidence of the curse mechanism through the economic disruption model with the small correlation between natural resources extraction to the local economy. Moreover, the analysis suggests that inspite of received huge revenue windfall from natural resources-rents, the resources-rich LGs failed to deliver better public services compare to those without. The study measures the public service provisions outcomes in human development, infrastructure quality, and poverty level. Inappropriate investment and the misuses of funds are two main causes of the money gone. There are also some initial evidences of the local leader's behaviour in creating the patronage political system to continues to stay in power.

Relevance to Development Studies

The main focus of many resource curse literatures is to explain the relationship between natural resources abundance and economic growth. The main hypothesis is that the abundance of natural resources brings slower economic growth. There is little attention to examine the resources curse hypothesis at the local level, especially under a decentralized framework. It is important because the LGs tend to have lower capacity to address the problems. Therefore, in order to weaken or prevent the curse from occurring at the local level, it is important to know the mechanism through which natural resources revenue affect the local development.

Keywords

Natural resources curse hypothesis, revenue sharing, decentralisation, local government, Indonesia.

Chapter 1
Introduction

1.1 Background of the Study

The natural resources curse is a known paradox in economics where the non-renewable natural resources endowments have detrimental developmental effects for the country that depends on the revenue from the extraction of it. These negative outcomes including slower economic growth, autocratic democracy, conflict and civil war. Many evidences have supported this hypothesis. Sachs and Warner (1995) showed that economic growth in oil exporting countries is only around 1.3% per year, lower than the average of other developing countries which is grew by 2.2% per year.

Indonesia was able to avoid this curse, despite heavily dependent on the natural resources for its development during 1960's and 1990's. Under the Suharto presidency, significant declined in the poverty head count, infant mortality rate, and illiteracy rate, were achieved from the reinvestment of natural resources revenue in the infrastructure, education, capital-intensive industry, and agriculture (BPS et al. 2001, Veasna and Kojima 2007: 2). However, poor natural resources management policies and the ambitious development programme have made natural resources was not efficiently managed (Ascher 1999).

Furthermore, with regard to the emphasized on the decentralization in developing countries, the resources-rents are not only accrued to the central government, it also favouring local governments (LGs) through the sharing arrangement of resources-rents. The redistribution of resources-rents among different levels of governments is complicated due to political, macroeconomic stabilization, and efficiency issues (Ahmad and Mottu 2002: 3). In Indonesia, the resources-rents are shared among central government, provincial governments and LGs. Different percentages are use for different type of resources. In the oil and gas revenues sharing, the largest part goes to the central government, followed by the producing region in which resources are extracted, the provincial government, and small percentages divided to the other districts in the same province.

However, the higher shared of revenue for the resources-rich regions do not always identical with the conditions of its inhabitants. In 2003, Mimika, a well-known district for its rich gold mine, had the poverty rate of 32.75%, almost doubled compared to the national average of 17.42%. Another ironic example is Aceh, a province with plenty of oil and natural gas resources and yet, in 2003, 29.76% of its populations were still live in poverty (BPS 2003). Therefore, it is important to assess the utilisation of the natural resources revenues in a decentralized framework, to find out the LGs' policies of reinvesting the resources-rents in their region. This paper aims to examine the existence of the natural resources curse and the mechanisms by which the curse may affected the economy and public service provisions at the local level.

1.2 Presentation of the research

1.2.1 The Research Problem

The natural resources abundance in a region is likely would contribute to the welfare of the people. However, initial observations on some natural resources-rich regions in Indonesia revealed a different fact: the resources-rich regions are mostly ranked in the lowest level of social welfare development indicators, such as human development index and poverty rate. The regions with high level of poverty are dominated with the natural resources-rich regions. Indonesia Human Development Report 2004 revealed that in 2002, despite of higher GRDP per capita, the resources-rich regions still have relatively higher poverty rate compared to the national poverty rate level and to other provinces without such endowments. Aceh and Papua are the extreme cases, with 29.8% and 41.8% respectively of their total population were still under the poverty line, while the national average which is only 18.2% (BPS et. al 2004).

This phenomenon would imply that the natural resources revenues have not been invested properly in public services provisions for the people. Therefore, it is relevant to questioning where have the revenues from the natural resources extraction gone? The question has become more important under the decentralized framework, which gives a lot of power, responsibility and also discretion to LGs to manage their social welfare policy.

1.2.2 Significance of the Study

The main focus of many resource curse literatures is to explain the relationship between natural resources abundance and economic growth, with the main hypothesis that the abundance of natural resources brings slower economic growth. There is little attention to examine the resources curse at the local level, especially under a decentralized framework. The issue related to sharing natural resources-rents is a sensitive political issue within a country. The arguments in favour of natural resources revenue sharing basically in order to compensate the social and environmental cost of the extraction. The counter argument standing on the unavoidable effects of the revenue instability which may cause macroeconomics problems and fiscal disparities among regions. The volatility of the resources revenues may causes the transfer becomes unpredictable, and thus may threatened the minimum level of public services by the LGs (Ahmad and Singh 2003: 3). The study of resources curse at the local level is important since LGs tend to have lower capacity to address such problems. Therefore, in order to prevent the curse from occurring at the local level, it is important to know the mechanism through which natural resources abundance affects the local development.

1.3 The Research Objectives and Questions

The objective of this paper is to examine the existence of the natural resources curse and the mechanisms by which the curse may affected the economy and public service provisions at the local level in Indonesia. Through a methodological mix in descriptive statistics, policy and public expenditure analysis, this study assess the premise that the resources-rich LGs have failed to utilize the revenue from natural resources extraction for the welfare of the people. This research addresses the following questions:

"How do the natural resource revenues affect the local economy and public service provisions?"

1. Does the natural resources exploitation in a region, negatively affect the local economy?
2. Do the natural resources revenues, negatively affect the local revenue mobilization?
3. How do the natural resources revenues affect the allocation of the public expenditure and the service provisions outcome? Is there any evidence of the resources curse?
4. When there are evidences of the natural resources curse, where has the natural resources revenue gone?

1.4 The Data and Methodology

1.4.1 Data

The research relied on secondary data, including regulations, government documents, audit report, national household survey, journals, books, and other sources of information relevant to the research. These documents and materials are reviewed in order to check and balances the accuracy of data gathered in the documents. Most of the data are obtained from government institutions, including Ministry of Finance (Kemenkeu), Central Bureau of Statistics (BPS) and Supreme Audit Board (BPK). Several international organizations, such as World Bank and ADB also provide relevant data for the study. This study also obtains information from several websites (mostly presented in Bahasa).

1.4.2 Methodology

Many econometric analyses in the natural resources curse research literatures fail to explain the channel through which natural resources abundance brings the negative development outcomes. Many of them do not reveal the mechanisms by which the curse may happen. Therefore, a deeper understanding on the causal mechanism is needed in order to obtain a comprehensive answer on how the natural resources endowments may turn into a curse. Based on that reasoning, this study employs basic descriptive statistical to justify the evidence of natural resources curse and reviews the LGs' public expenditure to find the mechanism by which resources revenues are channelling through public service provisions.

This research utilises data from thirty LGs at the same level of per capita Gross Regional Domestic Product (GRDP), fifteen of which are the resources-rich while the other fifteen are without such endowments. The justification to use per capita GRDP is to measure the similar level of development. This study uses purposive sampling with three level of sampling frame.

- First frame: the total 438 municipalities in Indonesia in 2004 were divided into three categories. The first group consists of 161 LGs with the low level of GRDP per capita of under 5 million rupiah/year. The second group consists of 177 LGs with middle level GRDP per capita between 5 million to 10 million rupiahs. The third group is 100 LGs with the high level GRDP per capita of more than 10 million rupiah/year.
- Second frame: within the group of high per capita GRDP, this study divides the LGs into another two groups based on the natural resources endowments in the regions. This study employs two ministerial decrees[1] to classify a region into resources-rich or resources-poor group and finds that there are 45 LGs that endowed with abundance of natural resources and the rest 55 LGs are resources-poor.
- Within each of the group in the second frame, this study selects 15 LGs based on the relatively completeness of local budget data, audit reports, and socio-economic indicators. In the resources-rich regions, this study also looks into the shares of GRDP from the mining and quarrying sector to total GRDP and the portion of natural resources shared revenues in the local budget[2]. In average, the resources-rich regions have the share of mining and quarrying GRDP above 55% of their total GRDP and portion of natural resources shared revenue above 30% of their LGs' revenues.

Table 1. The Grouping of LGs

First Frame			Second Frame		Third Frame	
GRDP Per Capita (Rupiah/Year)	Group	District/ City	Resources-Rich	Resources-Poor	Resources-Rich	Resources-Poor
Less than 5 Million	Low	161				
5 - 10 Million	Middle	177				
More than 10 Million	High	100	45	55	15	15
Total		**438**	**100**		**30**	

Source: Own construction

[1] The grouping of LGs in the second frame based on the "Minister of Energy and Natural Resources decree No.356/K.80/MEM 23/2004 on the Producing Regions Classifications and Basic Calculation of Shared Revenues from Oil and Gas and General Mining in 2004" and the "Minister of Finance decree No.275/KMK.06/2004 on the "Estimation of Oil and Natural Gas Shared Revenues in 2004".

[2] Under the shares of mining and quarrying GRDP, 2 LGs (Indragiri Hulu and Pelalawan) have less than 10% of share in mining and quarrying to total GRDP. However, the two ministerial decrees above declared that they are included in the classification of the natural resources producing regions and their LGs received the natural resources shared revenue above 40% of their total revenue.

1.5 Limitations

This research methodology is expected to reveal the evidence of the natural resources curse hypothesis at the sub-national level. However, there are certain limitations that need to be acknowledged:

- Inconsistency format and data accuracy
  Data collected from various sources possibly inconsistent and may differ significantly. For instance, the population data from BPS and LGs' offices contain large variations.
- Different spending outcomes.
  The spending outcomes use in this research may be inappropriate outcomes. For example, the student per teacher ratio may be more appropriate to measure the spending outcome in education rather than mean of years schooling.
- Time lag between spending and outcomes.
  The outcomes of the current year spending are reflected in the socio-economic indicator of the subsequent year. However, for capital spending such as infrastructure, takes more than one year to complete.
- Incomplete details of local budget
  Many LGs did not report their detailed budget items to the Ministry of Finance. Lack of this data hinders this research in choosing the right indicators for the quality of service provisions.
- Mix between central government and LGs spending
  There is a mix between non-earmarked and earmarked grants in the local budget; thus may results in a mix in the spending of particular function, such as education and health.

1.6 Navigating Through this Research Paper

This paper starts with the introductory chapter. Chapter 2 presents the theoretical and analytical framework for the research. Chapter 3 discusses the natural resources-based development and decentralisation practices in Indonesia. Chapter 4 examines the evidences of natural resources curse in the local level and gives the statistical justification for the evidences. Chapter 5 focuses on the analysis of the mechanism by which LGs allocated the resources rents in their budget. The final chapter presents the conclusions and policy recommendations.

Chapter 2
Theoretical and Analytical Framework

This chapter provides the theoretical framework of the natural resource hypothesis in research literatures. Later on, these research literatures form the analytical framework for this study. Chapter two divided into four sections. First section presents the country level evidences of the natural resources curse. Second section reviews the literatures on natural resources curse theory and its limitations. Third section discusses the natural resources curse under decentralized framework. The final section provides the analytical framework for this study.

2.1 Paradox of Plenty

It is a striking fact that many countries that endowed with abundance natural resources wealth such as oil, natural gas, coal, gold, cooper and other valuable minerals are often failed to have a better economic growth compare to those without. As an irony, most of people live in the natural resources exporting countries tend to have low quality of life. To add more paradox, natural resources-rich governments tend to have worse performance in political development than the others without. This phenomenon is also known as the "paradox of plenty" and cited in many research literatures as the natural resources curse.

The natural resources curse mostly get attention in the last five decades, as many examples of countries abundance with natural resources did not experience rapid economic growth. The starting point was in 1960's, when the huge natural gas reserves discovered in the Groningen, Netherlands. In this example, the finding of natural resources affected the inflation of currency value and contraction of other economic sectors, especially manufacturing sector and therefore lowering economic growth. The same observation was also happened in the Great Britain in the late 1970s. Under the Tory party government, the export of offshore oil appreciated the Pound value and downgraded the competitiveness of British industry in international market (Davis 1995: 1768-1769; Herbertsson et al. 2000: 2; Stijns 2005: 109).

In Africa, many unsuccessful stories from natural resources exporting countries such as Nigeria, Angola, Sudan and Congo that endowed with oil, diamonds and other valuable minerals, yet do not able to transform those endowments for the people's welfare. Meanwhile, Japan, Singapore and Korea are able to build their domestic economy without being natural resources exporting countries (Frankel 2010: 3). However, Chile, Malaysia, Botswana, and some other oil exporting countries are successful in exploiting their oil reserves in an efficient manner (Rosser 2006: 7; Kolstad and Wiig 2008: 1). This becomes a puzzling question, why some natural resources endowed countries are able to overcome this phenomenon while another are fallen into the curse?

2.2 Theory of the Natural Resource Curse

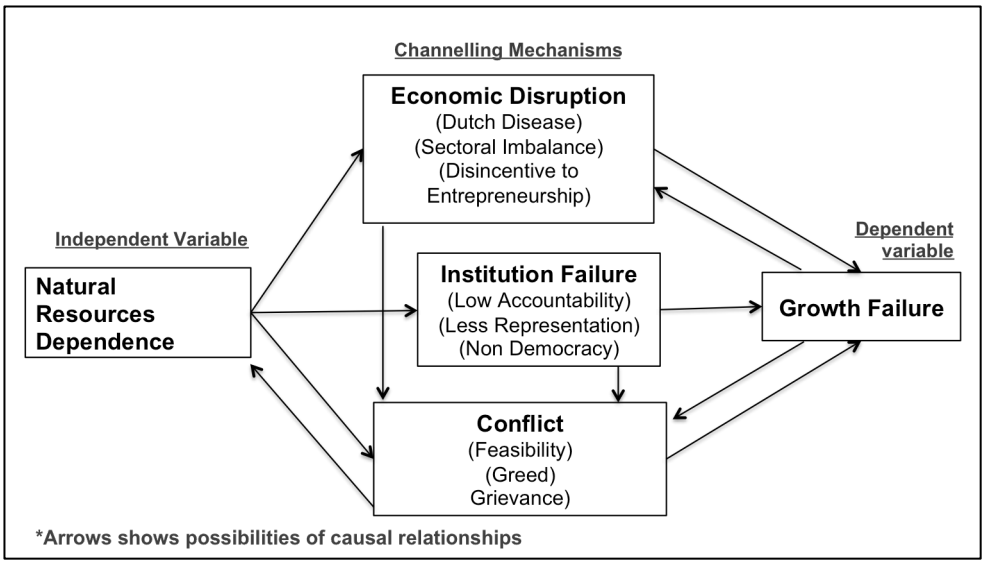
The evidences have shown that the natural resources possession may become disadvantages for the country that endowed with it. Later on, this phenomenon was captured in many researches and theories were developed to explain the nature of the 'resource curse'. In general, 'resource curse' defined as the collection of negative outcomes that derives from the possession of natural resources. The key theories of the natural resources curse is that the negative socio-economic outcomes is not derives from the natural resources themselves, but from the revenue from the natural resources extraction. In addition, although there is no linear relationship between the quantity of natural resources extracted and the negative development outcomes, the harmful effects of the curse may increase as the dependency on the resources-rent increased (Sala-i-Martin and Subramanian 2003: 11; Isham et al. 2005).

2.2.1 What Makes the Resources Curse?

As a collection of negative outcomes, resources curse may affect a country in different ways. The initial researches on natural resources curse emphasizing the economic disruption model as the channelling mechanism. Auty (1993), Sala-i Martin and Subramanian (2003) observed the effect of the natural resources related revenue on the economic growth. They find that the natural resources-based economy tends to have lower economic growth. One of the famous economic disruption models of natural resources curse is the "Dutch disease", a phenomenon in the declined in the manufacturing sector in Netherlands after the discovery of large natural gas pocket in Groningen in the late of 1950's. The later researches highlighted the effect of resources dependency on the political economy of a country with the inclusion of institutional factors (Arezki and Ploeg 2008). Ross (2001: 328) finds that natural resources induce the less democratic political systems. In addition to the two previous channelling mechanisms, the more recently literatures highlighted the relationship between the natural resources endowments and the conflict/civil war (Collier and Hoeffler 2005: 625).

In his research, Tadjoeddin (2007: 6-7) presents these three channelling mechanisms under the simplified framework, connecting between the natural resource dependency and the growth failure. Within what he called the 'augmented' resource curse, he presents the relationship between natural resources dependence, as the independent variable, and the growth failure, as the dependent variable, through these three channelling mechanisms. Figure 1 presents the possible causal relationships among the variables within the natural resources curse framework.

Figure 1. "Augmented Resources Curse"



- Source: Tadjoeddin 2007: 6

Under the economic disruption model, there are several symptoms of natural resources curse, namely "Dutch disease", the imbalance in the economic sectors and the "entrepreneurs rent-seeking" or disincentives to entrepreneurship. The Dutch disease is when the booming in natural resources sector creates the contraction in others economic sector, especially manufacturing and agriculture sector (Hausmann and Rigobon 2002: 4; Davis 1995: 1768). Through the mechanism of relative prices, the exports of natural resources bring large amount of foreign currency that appreciates the currency exchange value. Furthermore, it increases the real income and changes the domestic prices (Kolstad and Wiig 2008: 2; Davis 1995: 1768). The increase in wages encourages demand on non-traded goods and drawing economic resources out of tradable sectors. At the same time, it increases the investment in the non-traded sectors, consequently decreases productivity of manufacturing and agricultural (Torvik 2009: 251; Tadjoeddin 2007: 6). In the long run, the deindustrialization and deagriculturalization weaken the industrial "learning by doing" and make exported traded-sector products uncompetitive in international market (Krugman, as cited in Davis 1995: 1769). In addition, the booming in government sector also possibly happens under the "Dutch disease" symptoms (Davis 1995: 1769).

At the other hand, entrepreneurs rent seeking and economic sectoral imbalance basically is the results of the incentives from the highly potential rents offered by natural resources economic activities (Baland and Francois 2000). The natural resources discourage the entrepreneurs to involved in the more productive economic activities; hence there would be a reallocation of the skills and resources towards natural resources extraction activities (Baland and Francois, as cited in Tadjoeddin 2007).

The second channel of natural resources curse is through the political economy of the country, with the inclusion of the institutional factors (Arezki and Ploeg 2008). The natural resources-rents give the government many opportunities, such as increasing the public spending, lowering taxation level, increasing government financial asset, source of working capital to be lending to the private sector, and as a source of payment the government's debt (Collier et.al 2009: 20). However, the dependency on natural resources endowments may harm the quality of governance and democracy in a country (Ross 2001; Haber and Menaldo 2010). The resources-rich governments, with larger sources of revenue from the natural resources-rents tend to impose low level of taxes to the people. Therefore, in the sense of 'no representation without taxation' (Luciani 1987: 75), there would be less demand to hold government to account, which in turn makes the resources-rich government become less sensitive to the needs of the people (Huntington 1991: 65). Ross (2001) finds that natural resources induce the rise of authoritarian political systems. The possibility of the rise of patronage systems is also high as the government has the unearned natural resource-rents as the sources to pay for the support (Caselli and Cunningham 2009: 643; Kolstad and Wiig 2008: 3). The low-level of taxes is also another forms of patronage political systems in which the government try gain some popularity (*ibid*). However, on the other side, there is also greater possibility of the oppositions to challenge the government for power (Caselli and Cunningham 2009: 630).

The third channel of natural resources disruption effect on growth highlighted the conflict, with the three main variables: "grievance", "greed" and "feasibility" (Murshed, as cited in Tadjoeddin 2007: 7). Grievance is the motive towards the justice seeking. The way in which a community is treated unfairly to get the share from their region's resources wealth may induce the conflict on the grievance basis. Under the greed motive, the individuals or groups utilizes the conflict in order to gain more potential wealth from natural resources. The feasibility argument stated that conflict would still occur where it is feasible, regardless of the motivations (Collier, Hoeffler and Rohner, as cited in Tadjoeddin 2007: 7). Such conflicts with regard to the natural resources abundance are separatism, rebellion and also civil war (Collier and Hoeffler 2005).

2.2.2 Limitation of the Resources Curse Theory

Although evidences have shown the phenomenon of the 'paradox of plenty', the theory of natural resources curse still has some limitations. Based on the research by Kolstad and Wiig (2008) and Yanguas (2008: 13-15) the limitations of the resources curse literatures:

1. Diversity in measuring the resources abundance. Some researchers using natural resources reserves, such as Stijns (2005), while the others using the resources-rents as the proxy to measure resources abundance. The measurement of the resources rents also takes a lot of diversities. Sachs and Warner (1995) using the 'share of exports of primary products in gross national products'. Brunnschweiler (2008: 403) utilizes an alternative proxy for resources abundance, which is the 'index of natural wealth per capita'. Different proxy results in different outcomes. According to Lederman and

Maloney (as cited in Kolstad and Wiig 2008: 10), these diversities make natural resources curse considered as 'missing' or 'elusive' theory.

2. Many researchers examine the empirical evidence between natural resources possession and the collection of negative outcomes and neglect the mechanism by which natural resources can turn 'from blessing into a curse'.
3. The nature and others distinct features of a country need to be considered in analysis of the resources curse. The general empirical cross-country comparison needs to be extended into the particular context of the country.
4. Many research literatures on natural resources curse focus on the national level. Given the fact that there is emphasized on the decentralisation, and potential risk accompanied with the sharing arrangement of natural resources-rents to LGs, the study of resources-curse at sub-national level is important for policy prescriptions.

In addition, recent literatures disputed the existence of natural resources curse. The slower socio-economic and political development does not correspondence with the abundance of natural resources. It depends on the quality of institutions within the country (Mehlum, Moene and Torvik, as cited in Tadjoeddin 2007: 8).

2.2.3 Natural Resources Curse under Decentralized Framework

The above review of natural resources curse theories suggests that the main cause of the curse does not lie in the physical abundance of the natural resources. It is the revenues that come in the form of foreign exchange from the exporting of natural resources that brings the volatility in the national economic and creates political instability. The country experiences have shown that there are countries that succeeded to maximize these revenues for the wealth of the people while others were failed and fallen into the curse. The interesting questions to be raised are: What is the affect of the existence of natural resources extraction to the local economy? What is the effect if these revenues were shared to the sub-national governments?

Natural Resources Extraction and Local Economy

The existence of natural resources in a region may produce local economic disruption. Bahl and Tumennasan argue that on the local level there is a similarity of the spending effects from natural resources to the local economy as it happened in the Dutch disease model (2002: 12). They argue that there are two important channels of the local economic disruption under this model. First, the movement of resources from traded sector, such as manufacturing and agriculture, to the non-traded sectors, such as public administration and services. Second, the employment shares are larger in the natural resources extraction sector because the opportunity to get higher payment (Bahl and Tumennasan 2002: 13). These effects on the local economy create the sectoral imbalance in the local economic structure, which in turn decrease the productivity in the local manufacturing.

The Assignment of Natural Resources Revenues to Local Government

The issue related to sharing natural resources-rents is a sensitive political issue within a country. The arguments in favour for sharing natural resources revenues to LGs have several rationales (Bahl and Tumennasan 2002: 11-15). First, non-renewable natural resources are the heritage of the regions; therefore they have a right to claim the share of revenues from 'selling their heritage[3]'. Second, the cost reimbursement argument states that a region has to be given a share of rents to compensate the social and environmental cost of the natural resources extraction. Third, to rationalizing the local source of revenue and avoid the informal taxes in the resources extractive sectors[4]. Fourth, to prevent the ethnic conflict and separatism that threatens national unity.

The counter argument against the natural resources revenue sharing standing on the unavoidable effects of the revenue instability which may cause macroeconomics problems and fiscal disparities among regions. The volatility of the resources revenues have made the transfer becomes unpredictable, and thus may threatened the minimum level of public services by the LGs (Ahmad and Singh 2003: 3). It may increase the income inequality and regional disparities because not all the regions are endowed with abundance of natural resources (Ahmad and Mottu 2002: 14; Bahl and Tumennasan 2002: 3; Ross 2003). The resources-rents also may endanger the local political stabilization because of the increasing competition or demand for revenue redistribution (Ahmad and Singh 2003: 3). Increase in transfer also may attract wrong kind politicians to enter the local politics in order to get shares from resources-rents for self-enrichments (Awortwi et al. 2010: 26).

In addition, the natural resources curse is likely occur in the resources-rich with lower capacity of the LG. The weak capacity of the LGs to address the windfall revenue may cause problems in resources mobilization and inefficiency spending (Bahl and Tumennasan 2002). In the local revenue mobilization, the windfall revenue may become a disincentive for the resources-rich LGs to exploit their revenue assignments power (Ahmad and Mottu 2002: 3, Prud'homme 2003: 25). They are likely to have low level of local tax effort by generating little revenue from their local tax base in compare to the portion of

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[3] The heritage argument is contentious since oil, gas, and minerals are the results of million years evolution, without any contribution of the current inhabitants. Therefore, no body owns the natural resources and everybody should benefit from it. In addition, in Indonesia, the national constitution regulated that natural resources are controlled by the state and used for the wealth of the entire citizen.

[4] In natural resources extractive sector, the informal taxation defined as the mechanism of the public goods and services provision finance by the enterprises or traders in the natural resources extractive sector but coordinated by the government and enforced socially rather than through the formal legal system, such as *'gotong royong'* in Indonesia, and *'harambee'* in Kenya (Prud'homme 1995: 211, Olken and Singhal 2011: 2).

natural resources shared revenue (Bornhorst et al. 2008; Bahl and Tumennasan 2002: 10). In the spending side, the inefficiency may happen because of LGs lack of capacity in budget planning and operation, therefore they could not absorbs the windfall revenue to finance the necessary development projects. The low capacity of the local assemblies in the review of budget proposal also hinders LGs to maximize the public fund for the public service provisions.

The presence of natural resources revenue in the local budget, with full discretion for LGs to decide the spending priorities, may distort the public investments. The districts head may put high priorities on the short benefit investments that visible and give them benefit for political support (*ibid*). This indicates that the political agency model, which emphasized on the political corruption, both for personal and political benefits (Khemani, as cited in Awortwi et al. 2010: 26-27), is also applied to the natural resources curse. All these are the risks from the sharing of natural resources revenue to sub-national level, hence, may threaten the LGs' service provisions and affected in the welfare loss at the cost of the people.

Natural Resources Curse or Central Government Transfer Curse?

The review of counter arguments for natural resources revenue sharing arrangement shows that under decentralized framework, the natural resources curse has similar symptoms with the central government transfer curse hypothesis which highlighted the curse from the significances of central government transfer. Both type of transfer are potentially affect the accountability and fiscal behaviour of LGs. A research by Leite and Weidmann (as cited in Bahl and Tumennasan 2002: 13) finds that natural resources abundance encourage high level of corruption. Brollo et al. (as cited in Awortwi et.al 2010: 26) argue that the large transfers from central government are translated into high level of corruption in the LGs. This similarity is because of, conceptually, the natural resources revenues are arrived in the local budget through the intergovernmental fiscal transfer systems.

Box 1. Central Government Transfer and Fiscal Autonomy of LGs

Central Government Transfer and Fiscal Autonomy of Sub-National Governments	
Revenue-Sharing	Nationwide tax base and rates. A fixed proportion is allocated to Sub-National Governments, according to the derivation or some needs or resource base formula.
General Purposes Grants (Block Grants)	Are determined by the central government, but Sub-National Government are free to determine how the grant should be spent. The amount received may have an equalization component.
Specific or Conditional Grants	The central government specifies the expenditure program for which the funds should be spent.

Source: Ahmad and Mottu 2002: 9

Logically, the central government transfer curse happens as the result of the block grant transfer, the transfer that comes with full LGs' autonomy over the spending. At the other hand, the decentralized natural resources curse specifically refers to the potential curse that comes as the LGs received large portion of shared natural resources revenue. Although the LGs have full autonomy over the spending on both types of transfer (no-conditionality), the block

grants amounts are determined by the central government, while the natural resources revenue-sharing is calculated on the derivation basis according to certain percentages in which LGs can claim for the share of it. Hence, the natural resources-curse may happen when the LGs depend on the higher portion of the natural resources revenue in compare to the block grant transfer. Specific Allocation Grants, at the other side, less potentially causes the typical curse because the central government has specifies conditionality over the spending, hence LGs accountable to the central government for the utilisation of the grants. In short, the nature of the transfer, the arrangement in which natural resources distributed to the locality, the features of intergovernmental fiscal transfer policies of a country, and the fiscal autonomy or discretion over the spending of revenue may give the clarity on the real cause of the curse.

2.3 Analytical Framework for the Study

This paper examines the existence of natural resources curse at the LGs in Indonesia through the economic disruption and the political economy model. The other channelling mechanism through the 'conflict' is left in the analysis not because they do not exist. This is due to the relative importance of the economic disruption and political economy model in the Indonesian LGs in terms of the people's welfare and public service provision context.

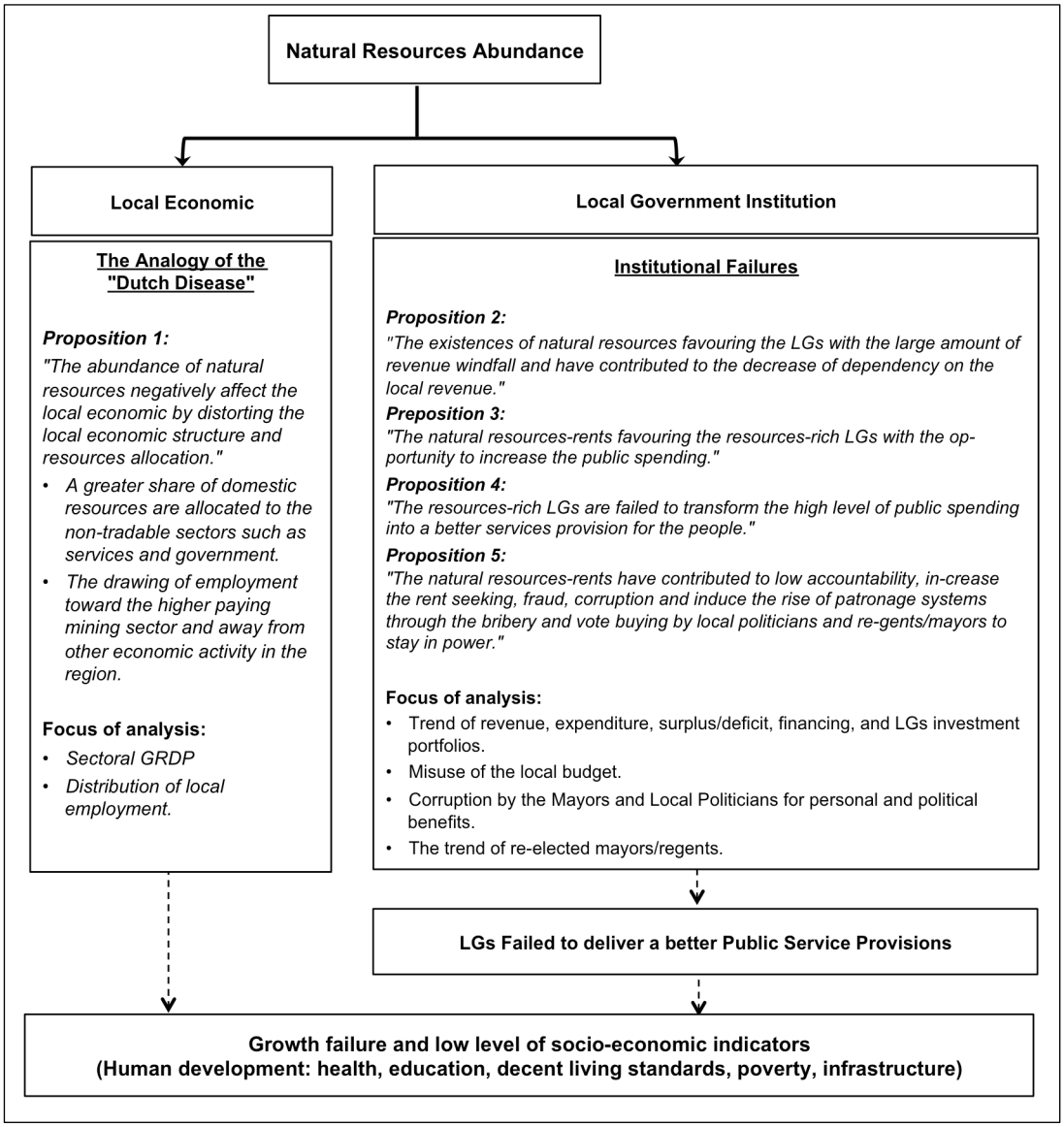
In the local economic disruption, this study focuses on the concentration of the economic sectors and the distribution of local resources. In the political economy model, the analysis focuses on the effect of the natural resources revenue on the LGs' service provisions. It focuses in the public revenue and expenditure review. In the revenue side, the paper analyses the sources and trend of the local tax effort. In the expenditure side, the paper examines the spending priorities of LGs. The next stage of analysis observes the quality of the spending in education, health, poverty reduction and infrastructure. The comparison of these indicators in the resources-rich and resources-poor LGs will then be justify as the evidence of the curse. When there is evidence of the natural resources curse, this study figures out where has the natural resources revenue gone?

Concretely, this study examines five propositions of the natural resources curse hypothesis at the local level:

1. The abundance of natural resources negatively affects the local economic by distorting the local economic structure and resources allocation.
2. The existences of natural resources favouring the LGs with the large amount of revenue windfall and have contributed to the decrease of dependency on the local revenue.
3. The natural resources-rents favouring the resources-rich LGs with the opportunity to increase the public spending.
4. The resources-rich LGs are failed to transform the high level of public spending into a better services provision for the people.
5. The natural resources-rents have contributed to low accountability, increase the rent seeking, fraud, corruption and induce the rise of patronage systems through the bribery and vote buying by local politicians and district heads to continue to stay in power.

This research's hypothesis is that decentralization tends to push resource-curse symptoms to sub-national level, where the cases can be worse because lack of capacity of LGs to address the problems.

Box 2. The Mapping of Analytical Framework



Source: Own construction

Chapter 3
Natural Resources-Based Development and Decentralisation Framework in Indonesia

This chapter puts the discussions on the resources curse in this study into the Indonesia context. It emphasizes the importance of natural resources as a source of financing under the new order regime led by Soeharto. The discussions continue in the next section into the Indonesia's fiscal decentralization, specifically related to the sharing arrangements of natural resources-revenue among different level of governments. In this section some distinct features of intergovernmental fiscal transfer in Indonesia will be outlined. The final section presents the current local political setting under the new decentralization framework.

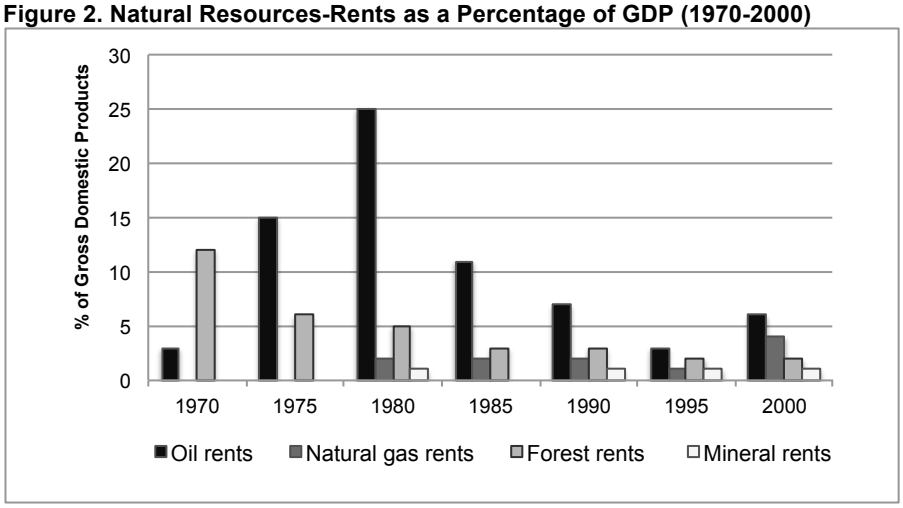
3.1 Natural Resources-Based Development in Indonesia

3.1.1 Natural Resources Dependency under New Order Regime

Natural resources have significant role in Indonesia's development. Since 1966, under the Suharto presidency, Indonesia's economy was heavily dependent on the oil, natural gas, timber, nickel, gold and some other valuable minerals (Tadjoeddin (2007: 11-12). The legislation of three important laws in 1967 (law on Foreign Investment, Law on Mining and Law on Forestry) allowed many foreign companies to exploit Indonesian's natural resources reserves. The major foreign oil and gas companies are concentrated in Aceh (Exxon Mobil), Riau (Caltex) and Kalimantan Timur (Shell). The national oil company, Pertamina, also have operation based in these provinces.

The figure 2 shows the importance of natural resources revenue in Indonesia's GDP during 1970 to 2000. In the mid of 1980's, as the export share of oil declined, the export share of natural gas, timber and minerals were become more important sources of national GDP. In the mid of 1990's, Indonesia was the largest exporter of natural gas, accounted for around 30% of the total export, while minerals and forestry products taken 19% and 10% respectively (Resosudarmo, as cited in Tadjoeddin 2007). The figure shows that during the last three decades, the role of natural resources export in GDP has declined, particularly the export share of oil and natural gas. After the booming price of oil in 1980's, the share of export of oil in Indonesia's GDP has declined continuously. The similar pattern of decline in share of export revenue in GDP also occurred in the export of mineral and forestry products.

Figure 2. Natural Resources-Rents as a Percentage of GDP (1970-2000)



Source: World Bank

The international financial organizations acknowledged the role of the Suharto's regime in transforming the natural resources into significant socio-economic development in Indonesia (World Bank and ADB, as cited in Tadjoeddin 2007). The significant improvements from 1960's to 1990's are reflected in socio-economic indicators such as relatively low inequality and stable Gini coefficient, declined in the level of poverty head count, dropped in infant mortality rate, and increased in literacy rate (BPS et al. 2001). The Asian financial crisis in 1997 and the political pressure for reformation have forced the president Soeharto to resign in 1999. This is considered as the end of the natural resource-based for development in Indonesia.

3.1.2 Natural Resources Curse Hypothesis under New Order Regime

Under the new order regime, despite heavily dependent on the oil, gas, and timber revenues, Indonesia was able to avoid the Dutch disease with a relatively higher economic growth during 1967 – 1997, compared to other oil-exporting countries (Rosser 2004: 1, Gelb and Glassburner 1988). This influenced by two factors: 'the institutional policy by the Suharto' and the 'Indonesia's geo-politic and geo-economic environment' (Rosser 2004: 20). The new order regime prioritized and allocated high portion of spending for the infrastructure development, education, and capital-intensive industry without leaving the importance of agriculture (Veasna and Kojima 2007: 2).

However, focusing on the natural resources management, Ascher reveals that behind this entire success story, natural resources endowment was not efficiently managed due to poor natural resources management policies. He finds that oil and timber are used as the extra-budgetary sources to finance the ambitious development programme of the Suharto's regime (Ascher 1999: 59). He gives example of the reforestation funds policy in 1980, managed by the Ministry of Forestry. The funds are a royalty intended for funding the replanting the forest. However, in practice, the Ministry of Forestry sent the money into central government treasury account (*ibid:* 72-73). Central Government then used this revenue to finance the capital-intensive industry, such as the establishment of the national state aircraft industry (*ibid*: 80).

3.2 Fiscal Decentralization and Sharing of Resources Wealth

Natural resource endowments are not evenly distributed within Indonesia. There are only few regions that are endowed with abundance of natural resources. Map 1 shows that there are only six out of 33 provinces in Indonesia that are highly endowed with abundance natural resources. In these provinces, the Gross Regional Domestic Products per capita are relatively higher than average national level. Therefore, the inequality between resources-rich regions and others is relatively high (Dixon and Danya 2009: 210).

Box 3. Natural Resources-Rich Provinces in Indonesia

Provinces	Main Resources	GRDP Per Capita*)
Aceh	Natural Gas, Timber	5,553.90
Riau	Oil, Natural Gas, Timber	7,778.92
Kepulauan Riau	Oil, Minerals	22,757.30
Kalimantan Timur	Oil, Natural Gas, Minerals, Timber	17,469.78
Papua	Oil, copper, gold, natural gas, timber	5,351.15
Papua Barat	Oil, copper, gold, natural gas, timber	9,096.46
Indonesia Average		***4,949.02***

**)GRDP per Capita 2003 at Constant Price (Thousand Rupiahs)*

Source: Own Construction based on BPS data

3.2.1 Fiscal Decentralization in Indonesia

To understand the mechanism of the resources curse at the local level, it is important to understand the policies under decentralization framework in a country. In Indonesia, the sub-national level of government consists of provinces and LGs. After the decentralization took place in 1999, significant responsibilities have been decentralized to sub-national governments, known as the "obligatory sectors" including health, education, public works, and environment. The responsibilities that remain on the central government are intended for the national interest, such as national defense, international affairs, justice, religion, and monetary and fiscal policies. The provincial government in this sense have the main function to coordinates the local governments in their jurisdiction and performs government functions that affect to more than one local government (World Bank 2003: 7).

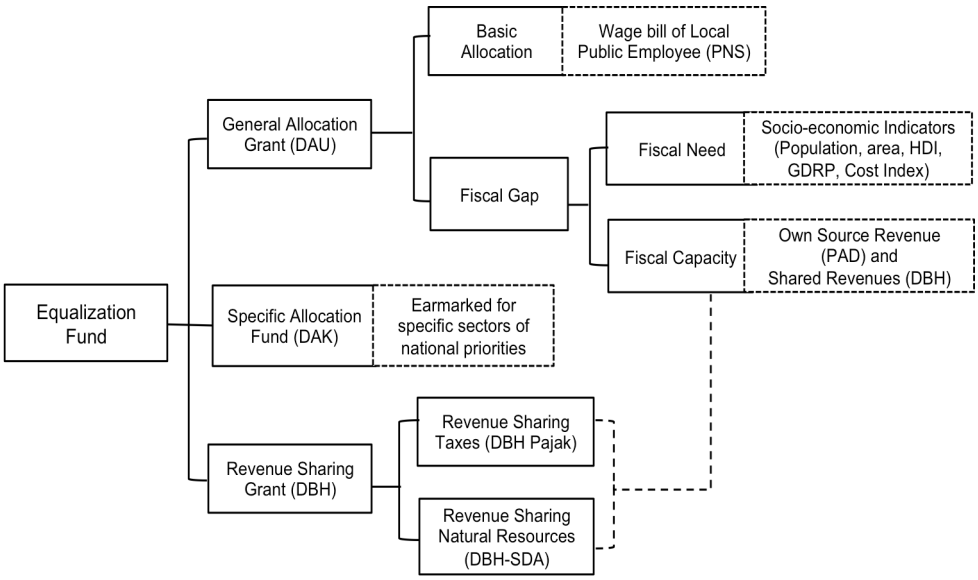
With regard to the local development financing, Law 33/2004 has mandated several sources of LGs revenues: Own source revenues (PAD), Other Revenues, and Equalization Fund. Own source revenues is the locally raises revenue from the taxes, user charges, profit of regional government corporation, and other legal source of local revenues. Other revenue is the revenue from other sources outside of locally raise revenues, such as grants, emergency fund, financial assistance from the province or from other LG, adjustment fund; and special autonomy funds. The equalization fund as a part of intergovernmental transfer policies aim to address the problem of vertical imbalance between central and sub-national governments, and horizontal inequalities among sub-national governments.

Equalization fund consists of three types of grant: General Allocation Grant ('Dana Alokasi Umum/DAU'); Special Allocation Fund ('Dana Alokasi Khusus/DAK'); and Revenue Sharing ('Dana Bagi Hasil/DBH'). Under the revenue sharing, the revenues from taxes and natural resources-rents are shared among central, provincial and local governments. The LGs have full autonomy over the spending of DAU and DBH, while not in the case of DAK which is conditional grant and earmarked for financing the needs which cannot be incorporated in the DAU and also to provide funding for activities which relate to national priorities (*ibid*). It means that LGs have meaningful discretion power to use their judgement in allocating the DAU and DBH to meet the public interest.

As shown in the box 4, DAU is allocated across LGs by formula, consist of basic allocation plus the fiscal gap. Basic allocation is calculated based on the local civil servant salary within a region, while the fiscal gap is the difference between fiscal need and fiscal capacity. The fiscal need is total financing for minimum public service standard for the people within a region, while fiscal capacity represents the ability of LG to finance their fiscal need. The calculation of fiscal gap is important in order to ensure the equal level of minimum public service that people may enjoy in every regions of Indonesia. A special feature in the DAU is that it is linked with the amount of revenue sharing (DBH). Under this provision, the revenue sharing is a deduction of the amount of DAU allocated to the regions. In this way, the regions with high fiscal gap can obtain more resources and therefore reduce the horizontal imbalances among regions.

However, prior 2008, there was a hold-harmless provision in the allocation of the DAU. The provision basically states that the DAU in the current year at least equal with the amount of DAU in the previous year. The justification of this provision is to cover the basic allocation component, in other words to ensure that there is no reduction in local civil servant's salary level. The application of hold-harmless provisions has benefited the resources-rich regions and therefore has distorted the revenue equalization function of DAU.

Box 4. Intergovernmental Fiscal Transfer in Indonesia



Central Government Transfer and Spending Autonomy of LGs in Indonesia

General Allocation Grants (DAU)	The amount of DAU are determined by the central government by a formula, concists of basic allocation (PNS salary) and fiscal gap. LGs have full discretion to determine how the grant should be spent. However, many LGs feels that the DAU are only sufficient to finance the routine expenditure since the limited amount of funding through DAU.
Specific Allocation Funds (DAK)	The LGs do not have the autonomy to determined how the allocation of the fund, because the central government has specifies the expenditure program for which the funds should be spent and the conditionalities over the spending. The LGs accountable to the central government for the utilisation of the grants,
Revenue-Sharing (DBH)	LGs have full discretion to determine how the grant should be spent. The central government gives full autonomy to the LGs over the DBH spending (no-string attached). Under DBH-SDA, a proportion of natural resources-rents is allocated to LGs, according to the derivation basis and the sharing arrangements formula.

Source: Law 25/199 and Law 33/3004

Equalization fund as the components of intergovernmental fiscal policies dominate as the main source of revenue among sub-national governments in Indonesia. The amount of the transfer to the provincial and municipal governments has increased significantly over the first decade of Indonesia decentralization. Table 2 provides the amount of transferred to LGs in the form of DAU, DBH and DAK during 2001 and 2010. The data illustrates the significant increase of 360% in total amount transferred over the ten years. In addition, over the periods, the average composition of intergovernmental fiscal transfer shows that the transfer are dominate with the DAU (67%), followed by the DBH (28%), while DAK, accounted for only 5% of the total transfer from central government. The table shows that during a decade of decentralization, the dependency of central government transfer still high.

Table 2. Transfer to Sub-National Governments (trillion rupiah)

Intergovermental Transfer	Year									
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
DAU	60.3	69.2	77	82.1	88.8	145.7	164.3	179.5	186.4	195.8
DBH	20.7	25.5	31.4	37.9	50.5	64.9	62.9	78.9	68.1	76.59
DAK	0	0	2.7	2.8	4	11.6	16.2	21.2	24.8	20.59
Total	**81**	**94.7**	**111.1**	**122.8**	**143.3**	**222.2**	**243.4**	**279.6**	**279.3**	**293**

Source: Kemenkeu

3.2.2 Sharing Arrangement of Natural Resources Revenue

Under the new order regime led by Suharto, there was no sharing arrangement of natural resources-rents to the sub-national governments, resources revenue was accrued to the central government (Ahmad and Mottu 2002: 13). As Suharto stepped down, the decentralization laws transferred significant responsibilities to sub-national governments, along with the transfer of revenue assignments and the significant discretionary power. Despite the new laws have accommodated the sharing of natural resources revenue, the right to tax earning of these resources is retained by the central government (*ibid*). The sharing arrangement in natural resources revenue in Indonesia is based on the producing area and geographical characteristic in which the resources are located. Different percentages are use for different type of resources. In the oil and gas revenues sharing, the largest part goes to the central government, followed by the producing region in which resources are extracted, the provincial government, and small percentages divided equally to the other districts in the same province (Bahl and Tumennasan 2002: 11).

The shared revenues from natural resources (DBH-SDA) are non-earmarked grant, with the exception of 0.5% earmarked for education and the share from reforestation fund which is earmarked for reforestation project. It means that the beneficiaries LGs have the meaningful discretionary over the spending. However, according to law 33/2004, LGs receive additional 0.5% from oil and gas as an earmarked grant to fund expenses in education. Moreover, to deals with the special autonomy status of Papua and Aceh, the calculation for the two provinces is using different formulas.

Table 3. Natural Resources Revenue Sharing Arrangement

No	Type of Natural Resources	Natural Resources Revenue Sharing Arrangement (%)				
		Central Govt.	Producing Province	Producing Disctricts	Divided equally to the other districts within the province	Special Autonomy Law on Aceh and Papua
A.	**Oil and Gas Sector**					
1.	Oil	84.5	3.1	6.2	6.2	70
2.	Natural Gas	69.5	6.1	12.2	12.2	70
B.	**Non Oil and Gas Sector**					
1.	Mining Sector					
	- Land Rent	20	16	64	0	80
	- Royalty	20	16	32	32	80
2.	Forestry Sector					
	- Forest Product Royalty (PSDH)	20	16	64	0	80
	- Forest Concession License Fee (HPH)	20	16	32	32	80
	- Reforestation Fund	60	0	40	0	40
3.	Fisheries Sector	20	0	0	80	80
4.	Geothermal	20	16	32	32	32

Source: Law No 33/2004; Law No 21/2001; Law No 11/2006; Government Regulation No 55/2005.

3.3 The Local Political Setting and Accountability

The decentralization in 1999 involved the political aspects with the transfer of power to Local Assemblies ('Dewan Perwakilan Rakyat' or DPRD) in electing the governors, mayors and regents. There was also the initiation of Regional Regulation by the local leaders and the assemblies, including the local budget (Rasyid 2003, as cited in Choi 2007: 7). The next phase of decentralization in 2004 shifted the election of LGs leader from the parliamentary to the direct election systems with the legislation of Law No.32/2004. Under both types of local election, the political party played important role. First, under the local assembly election, the members of majority party in the local assembly are likely to give vote for their own parties' candidates although in many elections the results are unexpectedly different because the indication of vote-selling and bribery (Choi 2007: 9). Second, with the direct election system, only political parties or coalitions with minimum 15% of the members in local assemblies or minimum 15% of the vote in the local elections are eligible to submit the candidates for local leaders (Article 59 Law 32/2004, as cited in Choi 2007: 12). Moreover, after the judicial review by the Constitutional Court in June 2007, the current local election frameworks allowed the independent candidates to run for local leaders election.

Moreover, in line with the fiscal decentralization, the design of political decentralization also has implications for local governments' accountability because it affects the relation between LGs and other actors, including central government, local assembly and the people. Under the fiscal decentralization, the revenue assignment gives the power of taxing to the LGs. Within this assignment, the LGs are able to mobilize source of financing for local development, while on the other side, the people are now demand for participation in the budget scrutiny. In addition, despite highly dependent on the central government transfers, the LGs in Indonesia have autonomy and discretion for decision-making and enacted the local development priorities. It gives flexibility

in the way LGs allocated the budget. It is assumed that the LGs are in the position that knows better about the needs of the people in their area. Therefore the people now directly elect their local leaders. Under this setting, the LGs are expected to be more accountable, downward to the people. However, with weak internal control and audit systems, and without the strong oppositions political party mechanism in Indonesia, the detrimental effects of development are likely to occur in the regions due to the unethical behaviour and abuse of discretionary power of LGs, such as fraud, corruption, poor cash management, and collusive practices in procurement (Baltaci and Yilmaz, as cited in Yilmaz et al. 2008: 24).

Chapter 4
The Analysis of the Decentralized Natural Resources Curse

This chapter has four sections. The first section provides the sample of the LGs and timeframe of the study. The second section presents the analysis on the effect of natural resources and local economy. Third section analyses the effect of the natural resources shared revenue to the local budget. Fourth section analyses the comparison of the quality of the spending in the resources-rich and resources-poor LGs.

4.1 The Endowed and the Less Endowed Regions

This study investigates the existence and the mechanism of natural resources curse at the local level in Indonesia within the decentralized framework. The analyses in this study based on data from thirty regions with the same level of per capita GRDP. Fifteen regions are endowed with abundance natural resources, while the other fifteen are without such endowments. The selected regions presented in table 4 shows that natural resources endowments are not distributed equally across Indonesia. The resources-rich regions are mostly concentrated within East Kalimantan and Riau provinces, whereas the resources-poor regions with high per capita GRDP are mostly located on Java.

Table 4. Selected Sample of Local Governments

Resources-Rich regions				Resources-Poor regions			
No.	Local Government	Province	Island	No.	Local Government	Province	Island
1	Tanjung Jabung Barat	Jambi	Sumatra	1	Badung	Bali	Bali
2	Kutai Barat	East Kalimantan	Kalimantan	2	Tangerang	Banten	Java
3	Kutai Timur	East Kalimantan	Kalimantan	3	Cirebon	West java	Java
4	Kutai Kartanegara	East Kalimantan	Kalimantan	4	Kudus	Central Java	Java
5	Berau	East Kalimantan	Kalimantan	5	Gresik	East Java	Java
6	Aceh Utara	Nanggroe Aceh Darussalam	Sumatra	6	Surabaya	East Java	Java
7	Mimika	Papua	Papua	7	Kediri	East Java	Java
8	Sorong	West Papua	Papua	8	Barito Kuala	South Kalimantan	Kalimantan
9	Indragiri Hulu	Riau	Sumatra	9	Kotawaringin Barat	Central Kalimantan	Kalimantan
10	Pelalawan	Riau	Sumatra	10	Asahan	North Sumatera	Sumatra
11	Bengkalis	Riau	Sumatra	11	Mojokerto	East Java	Java
12	Siak	Riau	Sumatra	12	Denpasar	Bali	Java
13	Natuna	Riau Island	Sumatra	13	Labuhan Batu	North Sumatera	Sumatra
14	Musi Banyuasin	South Sumatera	Sumatra	14	Toba Samosir	North Sumatera	Sumatra
15	Sawahlunto	West Sumatera	Sumatra	15	Makassar	South Sulawesi	Sulawesi

Source: Own construction

The resources abundance indicators for the resources-rich regions are the high shares of natural resources economy based in their total GRDP and the large portion of natural resources shared revenue in their local budget. In average, the resources-rich regions have the share of mining and quarrying GRDP above 55% of their total GRDP and portion of natural resources shared revenue above 30% of their LGs' revenues.

4.2 Extractive Resources and Local Economy

To find the evidences of natural resources curse symptoms under the economic disruption model, this study analyses the shift in the local economic structure (GRDP) and the sectoral distribution of employment.

4.2.1 Extractive Resources and Local Economic Structure

The analysis begins with the examination of trend in the local economic structure during 2003-2007, measured by the per capita sectoral GRDP and share of sectoral GRDP. The GRDP measures the economic activity level and reflects the aggregate of gross value added within a region. The per capita GRDP shows the value added per capita, while sectoral share of GRDP reflects the relative importance of a sector in local economy. Table 5 presents the trend of these two indicators within five main sectors in both groups of regions. An independent-samples t-test was conducted to compare the averages of both groups. The hypothesis being tested here is whether the abundance of natural resources leads to the contraction in manufacturing sector and booming in public administration sector.

Average sectoral per capita GRDP

Comparing per capita sectoral GRDP, the resources-rich regions have higher per capita GRDP from 'mining' and 'agriculture', while less contribution from 'manufacturing' and 'trade'. The t-test results show that the averages from mining, agriculture, and trade sectors in both groups are statistically significant at 5% level of significance, while not in the case of manufacturing. A finding shows a difference with the hypothesis: the resources-rich regions have lower average per capita GRDP from public administration sector. Although t-test calculation shows that the differences are not statistically significant, the lower values in public administration sector would imply that the level of per capita value added from government sector are lower in the resources-rich regions.

In the growth indicator, both groups show positive growth rates in every sector, with the exception of mining and agriculture in the resources-rich regions. It is interesting that in the resources-rich group, while the mining sector contracted (-17.30%), the manufacturing grew by 3.22%. In the resources-poor group, although the mining sector boosted by 19.41%, the manufacturing also grew 4.25%. These mix results show that the changes in mining sector do not correspondence to the manufacturing. In addition, the growth in public administration sector in both groups shows that the contribution from government was increased as the decentralization took place. However, the fact that resources-rich grew slower suggests that the increased in government contribution in resources-rich regions is slower than in resources-poor regions. This would imply that the abundance of natural resources does not hamper the manufacturing and does not boost the public administration sector in the resource-rich regions.

Table 5. Extractive Resources and Local Economic Structure[5]

No.	Economic Sectors	Average Sectoral Per Capita GRDP (Thousand Rupiah)						Average Share of Sectoral GRDP to total GRDP (%)					
		2003	2004	2005	2006	2007	Growth	2003	2004	2005	2006	2007	Growth
1.	**Mining and Quarrying**												
	Resources-rich	24,291	21,009	23,628	21,032	20,090	-17.30%	56.57	56.21	55.71	54.84	53.54	-1.37%
	Resources-poor	33	36	39	40	40	19.41%	0.38	0.39	0.41	0.41	0.41	1.56%
	P(T<=t) two tail	0.013	0.004	0.017	0.007	0.009		0.00001	0.00000	0.00000	0.00000	0.00001	
	Confidence (1-α) : 95%												
	Significance (α): 5%												
	Conclusions	Significant	Significant	Significant	Significant	Significant		Significant	Significant	Significant	Significant	Significant	
2.	**Manufacturing**												
	Resources-rich	1,336	1,334	1,340	1,376	1,379	3.22%	9.22	9.30	9.31	9.37	9.53	0.84%
	Resources-poor	6,971	7,187	7,117	7,176	7,267	4.25%	36.44	35.51	34.98	34.11	33.58	-2.02%
	P(T<=t) two tail	0.106	0.110	0.105	0.104	0.105		0.00010	0.00018	0.00019	0.00023	0.00030	
	Confidence (1-α) : 95%												
	Significance (α): 5%												
	Conclusions	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant		Significant	Significant	Significant	Significant	Significant	
3.	**Trade, Restaurant and Hotel**												
	Resources-rich	1,103	1,141	1,192	1,269	1,300	17.89%	5.80	5.96	6.14	6.41	6.77	3.96%
	Resources-poor	3,412	3,625	3,802	4,031	4,215	23.53%	24.69	24.88	25.21	25.53	25.91	1.21%
	P(T<=t) two tail	0.011	0.011	0.013	0.013	0.012		0.00000	0.00000	0.00000	0.00000	0.00000	
	Confidence (1-α) : 95%												
	Significance (α): 5%												
	Conclusions	Significant	Significant	Significant	Significant	Significant		Significant	Significant	Significant	Significant	Significant	
4.	**Agriculture**												
	Resources-rich	2,998	2,915	2,915	2,944	2,891	-3.59%	17.83	17.63	17.62	17.68	17.82	-0.02%
	Resources-poor	1,186	1,274	1,297	1,318	1,304	9.94%	14.39	14.63	14.55	14.62	14.51	0.21%
	P(T<=t) two tail	0.003	0.006	0.007	0.008	0.007		0.583	0.636	0.625	0.623	0.592	
	Confidence (1-α) : 95%												
	Significance (α): 5%							Not	Not	Not	Not	Not	
	Conclusions	Significant	Significant	Significant	Significant	Significant		Significant	Significant	Significant	Significant	Significant	
5.	**Public Administration and Services**												
	Resources-rich	594	604	625	653	675	13.54%	4.42	4.49	4.66	4.83	5.02	3.23%
	Resources-poor	657	693	714	757	780	18.72%	6.38	6.48	6.51	6.68	6.67	1.14%
	P(T<=t) two tail	0.645	0.527	0.543	0.508	0.521		0.282	0.280	0.323	0.335	0.393	
	Confidence (1-α) : 95%												
	Significance (α): 5%												
	Conclusions	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant		Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	

Source: Own calculation

[5] The measure of growth used in this study is the average annual growth rate, which is the average rate at which an indicator grew each year, calculated as follow:

$$growth_{AverageAnnualGrowth} = \left(\frac{Final\_Value_{Indicator}}{Initial\_Value_{Indicator}} \right)^{1/(numberofperiods-1)} - 1$$

Average share of sectoral GRDP

Under the average share of sectoral GRDP, not surprisingly that the resources-rich regions have higher share in 'mining' and 'agriculture', while resources-poor regions have higher share in manufacturing and trade. The share of agriculture is higher in resources-rich regions, while public administration share is higher in resources-poor regions. The t-test results show that except for agriculture and public administration, the differences between averages of the two groups are statistically significant at 5% level of significance. This would imply that the relative importance of the public administration sector in both groups is slightly equal.

In the growth indicator, the growth of agriculture sector in both groups is relatively stable, while trade sector in resources-rich regions grew faster than in the resources-poor. Surprisingly, the importance of mining in resources-rich group has decreased when the increased occurred in their manufacturing and public administration. In the resources-poor, the manufacturing becomes less important as the share in mining, trade, and public administration sector increased. Although public administration sector in both groups grew positively, the higher growth in resources-rich regions suggests that the importance of this sector in local economy is grew faster than in resources-poor regions.

For hypothesis testing, the above analyses confirm that there is little evidence of the natural resources curse mechanism in creating the contraction in manufacturing and booming in public administration sector as explained in the analogical of the Dutch disease mechanism. This is mainly because the overvalued currency exchange, which is the core of the Dutch disease mechanism of relative prices that causes the manufacturing sector less competitive, does not apply at the local levels since there is no local currency. This suggests that there are other factors that may contributes to the low level of manufacturing in the resources-rich regions, such as the remote location, the quality of infrastructure, etc.

4.2.2 Extractive Resources and Employment

The investigation of natural resources abundance effects on the local economy continues to the local resources, involves the calculation of the share of sectoral employment in local economy. Table 6 shows that in resources-rich regions, the shares of employment in mining sector are less than 5% during the periods, much lower than the shares of employment in the other economic sectors. These small shares are caused by capital-intensive characteristic of extractive industries. In the resources-poor regions, manufacturing and trade shares of employment is not surprisingly higher than in the resources-rich group. The agriculture sector has the highest share of employment in both groups. The share of employment in public administration sector in both groups is not statistically significant with the resources-poor regions have larger share than resources-rich regions. This finding is not proven the hypothesis that resources-rich regions are likely have higher share of public administration sector than the other group.

Under the growth calculation, the mining sector in resources-rich regions has grew (5.06%) lower than the significant increase of 14.32% in resources-poor group. Moreover, the shares of employment in trade and public administration sector in resources-rich regions have increased, while not in manufacturing and agriculture. These would imply that there is indication of labour movement from the manufacturing and agricultural sector to the mining, trade and public administration sector. This finding confirms the hypothesis on the reallocation of resources towards natural resources sector and non-traded sector in the resources-rich regions.

Table 6. Share of Sectoral Employment to Total Employment

No.	Local Economic Sector	Share of Sectoral Employment to Total Employment (%)				Average Annual Growth Rate
		2003	2004	2006	2007	
1.	**Mining and Quarrying**					
	Resources-rich	3.36	3.71	3.77	4.09	5.06%
	Resources-poor	0.44	0.33	0.67	0.74	14.32%
	P(T<=t) two tail	0.004	0.003	0.005	0.019	
	Confidence (1-α) : 95%					
	Significance (α): 5%					
	Conclusions	Significant	Significant	Significant	Significant	
2.	**Manufacturing**					
	Resources-rich	6.86	6.10	6.84	6.37	-1.83%
	Resources-poor	16.68	17.57	16.28	16.94	0.39%
	P(T<=t) two tail	0.006	0.004	0.007	0.006	
	Confidence (1-α) : 95%					
	Significance (α): 5%					
	Conclusions	Significant	Significant	Significant	Significant	
3.	**Trade, Restaurant and Hotel**					
	Resources-rich	11.98	10.86	12.50	13.37	2.78%
	Resources-poor	24.04	25.32	25.29	26.17	2.14%
	P(T<=t) two tail	0.001	0.000	0.000	0.001	
	Confidence (1-α) : 95%					
	Significance (α): 5%					
	Conclusions	Significant	Significant	Significant	Significant	
4.	**Agriculture**					
	Resources-rich	58.82	57.13	52.09	52.10	-2.99%
	Resources-poor	30.27	28.57	25.76	27.27	-2.58%
	P(T<=t) two tail	0.005	0.005	0.004	0.015	
	Confidence (1-α) : 95%					
	Significance (α): 5%					
	Conclusions	Significant	Significant	Significant	Significant	
5.	**Public Administration and Services**					
	Resources-rich	9.71	10.27	12.30	10.34	1.57%
	Resources-poor	15.10	15.23	16.78	14.20	-1.52%
	P(T<=t) two tail	0.048	0.053	0.055	0.095	
	Confidence (1-α) : 95%					
	Significance (α): 5%		Not	Not	Not	
	Conclusions	Significant	Significant	Significant	Significant	

Notes: The percentages indicate the concentration of the employment in each sector. In 2005, BPS did not provide the information on employment at the district level.

Source: Own calculation

Another interesting finding is in the share of employment in public administration sector, which surprisingly has decreased in resources-poor regions, while not in the resources-rich group. This would imply that although the shares of employment in the public administration sector in resources-rich regions is lower than in the other group, it tends to expand faster. This suggests that resources-rich LGs tend to employed more people compared to resources-poor LGs.

To support this statement, table 7 presents the comparison of local civil servants (PNS) data of both groups. The results show that although in average, resources-rich regions have lower number of PNS, the calculation of PNS per thousands population shows that they have higher ratio than the resources-poor group. They also have higher annual growth rates, both in the quantity of PNS and the ratio PNS per thousand population.

Table 7. The Comparison of Local Civil Servants Ratio

No.	Indicators	Yearly Average			Average Annual Growth Rate
		2005	2006	2007	
A. Average Number of Local Civil Servants					
1.	Resources-rich LGs	4,234	4,337	5,206	10.9%
2.	Resources-poor LGs	7,606	7,828	8,549	6.0%
B. Average Ratio Local Civil Servants per 1,000 Population					
1.	Resources-rich LGs	18	17	20	7.5%
2.	Resources-poor LGs	13	13	14	4.5%

Source: Own calculation

The analysis on the effects of natural resources abundance to local resources shows that there is there is little evidence of the reallocation of employment towards mining and public administration sector. However, this effect on the GRDP is muted since despite the decreased in share of employment, the value added from manufacturing sector was still increased. This implies that natural resources abundance at the local level does not significantly distort the allocation of the economic resources in the form of labour.

4.3 Follow the Money: Resources Rents and Local Budget

The previous analysis shows that there is little evidence of the resources curse mechanism through the economic model disruption. In this section, the analysis turns to the effect of the natural resources endowments on the LGs' behaviour. The investigation of the effects of natural resources related revenue on the local budget is conducted through the "follow the money" method, where the natural resources-rents received by the LGs, are converted into the public spending allocation, including for the service provisions to the people.

4.3.1 Follow the Money: LGs Revenue

First, the analysis focuses on the trend in the revenue side of the local budget to investigate the effects of the natural resources rents to the LG revenues. Second, the analysis investigates the effects of the natural resources earnings on the local fiscal effort.

Offset between DBH-SDA and DAU

To examine the trend of the LGs' revenue, the focus of this analysis is the offset between natural resources revenue sharing (DBH-SDA) and the general allocation fund (DAU). As discussed in chapter three, before 2008, there was a hold harmless provision on DAU, regulates that the amount of DAU received by a LG in a fiscal year could not be less than the amount received the previous year. In addition, the wage bills for the local civil servant are also included into the formulation of the DAU. As the implications, the horizontal equalization function of DAU was distorted as the large amount of natural resources revenue received by the resources-rich LGs was not able to reduce the dependency on the central government transfer, in the form of DAU. This is mainly because of "hold harmless" provision and the tendency of resources-rich LGs to employ more local civil servants, as shown in the previous analysis.

Table 8 provides the comparison of trend in the share of DAU and DBH-SDA to total LGs' revenue in the resources-rich LGs during 2003-2007. The table shows that 6 out of 15 resources-rich LGs have reduced their dependency on the DAU as the share of DBH-SDA increased. This group of LGs are Tanjung Jabung Barat, Mimika, Indragiri Hulu, Bengkalis, Musi Banyuasin, and Sawahlunto. They have positive growth on the DBH-SDA and the negative growth of DAU share to the total revenue. The second group with the positive growth on both DBH-SDA and DAU consists of Kutai Barat, Kutai Timur, Berau, Aceh Utara, and Pelalawan. The 4 other LGs are experienced negative growth in share of revenue from DBH-SDA and DAU.

Table 8. The Share of DBH-SDA and DAU to Total Revenue

No.	Districts	Share of DBH-SDA to total Revenue					Annual Growth (%)	Share of DAU to total Revenue					Annual Growth (%)
		2003	2004	2005	2006	2007		2003	2004	2005	2006	2007	
1	Tanjung Jabung Barat	5.3	5.6	2.5	31.9	41.0	66.5	61.9	54.0	51.1	45.1	56.5	-2.3
2	Kutai Barat	44.5	54.8	57.2	55.0	47.9	1.9	18.0	25.2	18.9	27.0	26.0	9.6
3	Kutai Timur	51.1	53.4	47.3	22.9	55.6	2.1	12.6	17.5	12.5	16.1	19.3	11.3
4	Kutai Kartanegara	70.8	12.6	11.0	76.8	62.2	-3.2	11.6	15.0	9.4	7.6	10.3	-2.9
5	Berau	46.4	51.7	30.3	53.1	60.9	7.1	19.5	28.2	20.8	21.9	39.1	19.0
6	Aceh Utara	29.2	21.0	32.3	24.9	30.5	1.0	16.2	21.2	14.0	13.8	19.1	4.1
7	Mimika	27.7	0.4	28.3	56.9	62.7	22.7	39.1	39.6	46.8	21.9	28.5	-7.5
8	Sorong	6.3	10.8	4.5	2.3	1.1	-36.0	88.1	56.4	18.5	17.5	17.0	-33.8
9	Indragiri Hulu	35.6	44.4	67.6	58.6	42.4	4.5	37.5	38.2	23.4	24.2	30.5	-5.0
10	Pelalawan	39.9	51.6	66.2	61.3	58.5	10.0	27.9	27.5	22.8	16.0	32.3	3.7
11	Bengkalis	64.5	59.9	73.2	75.7	80.2	5.6	13.0	16.3	11.6	8.1	12.3	-1.2
12	Siak	63.2	68.1	22.8	75.0	56.9	-2.6	9.2	11.3	7.5	5.5	5.8	-11.0
13	Natuna	46.0	44.3	44.1	14.5	20.5	-18.3	25.1	38.5	32.4	11.5	12.8	-15.5
14	Musi Banyuasin	35.1	33.7	42.3	43.4	39.5	3.0	22.1	16.7	11.4	8.5	9.7	-18.6
15	Sawahlunto	1.1	1.7	0.8	3.2	1.6	10.5	72.8	69.4	150.1	71.4	70.7	-0.8

Source: Own calculation

However, when we look into the money amount of DAU and DBH-SDA (Appendix 1), all of the resources-rich LGs received higher amount of DAU during the periods. The similar trend also occurred in the DBH-SDA, with Sorong as the exception with the slightly decreased of 0.5%. These findings give evidences that the resources-rich LGs was not able to reduce the dependency on the DAU in spite of the increasing amount of DBH-SDA that they received.

Revenue Windfall

Besides the increasing amount of DAU in the resources-rich LGs, another important implication of the introduction of the "hold harmless" provision and the inclusions of the wage bills variable on DAU formula is the potential amount of the windfall received by the resources-rich LGs. It is measured by the ratio of the natural resources revenue sharing to DAU. The larger the ratio means the larger the potential of the windfall revenue received by the resources-rich LG in the form of natural resources transfer. Table 9 presents that, in average, 11 out of 15 resources-rich LGs in the sample received a very significant windfall from natural resources revenue (accounted for more than 100% of their DAU allocation).

Table 9. The Revenue Windfall Ratio

No.	Districts	Revenue Windfall Ratio					Average
		2003	2004	2005	2006	2007	
1	Tanjung Jabung Barat	8.6%	10.3%	4.9%	70.8%	72.6%	**18.6%**
2	Kutai Barat	246.9%	217.1%	301.8%	203.5%	183.9%	**227.2%**
3	Kutai Timur	405.6%	304.8%	377.3%	141.7%	287.2%	**285.5%**
4	Kutai Kartanegara	612.0%	83.6%	117.6%	1006.9%	604.3%	**325.6%**
5	Berau	238.3%	183.3%	145.5%	242.1%	156.0%	**188.8%**
6	Aceh Utara	180.3%	98.9%	230.6%	180.7%	159.8%	**164.0%**
7	Mimika	70.9%	1.1%	60.4%	259.3%	219.8%	**48.6%**
8	Sorong	7.2%	19.1%	24.4%	13.1%	6.2%	**12.2%**
9	Indragiri Hulu	95.1%	116.1%	288.9%	242.4%	138.8%	**160.7%**
10	Pelalawan	142.7%	188.0%	290.7%	383.4%	181.1%	**222.2%**
11	Bengkalis	497.4%	366.9%	630.9%	929.0%	649.8%	**586.7%**
12	Siak	686.6%	601.8%	304.4%	1367.7%	987.0%	**701.4%**
13	Natuna	183.1%	115.0%	136.0%	125.7%	160.2%	**142.0%**
14	Musi Banyuasin	158.9%	201.8%	370.3%	509.2%	406.9%	**300.7%**
15	Sawahlunto	1.5%	2.4%	0.5%	4.4%	2.3%	**1.8%**

Source: Own calculation

The large amount of revenue windfall from natural resources-rents may cause problems in resources mobilization and inefficiency in the spending. In the next analysis, the discussions focuses on the effects of the revenue windfall towards the local revenue mobilization, measured by the local tax effort level, and the public spending allocation. The proposition to be test is whether the windfall favors the private sector through the lower level of taxes and whether it increases the LGs' public spending.

Local Tax Effort

One of the effects of natural resources revenue windfall on the government is that it reduced the level of domestic tax effort. Tax effort reflects the government's efforts to generate income from its potential economic sector. It is

measured by the ratio between the actual locally generated revenue ('Pendapatan Asli Daerah/PAD')[6] with the potential sources of revenue. As an indicator of the potential source of local revenue, this research utilizes the aggregate GRDP. An independent-samples t-test was conducted to compare the level of tax effort in both groups. The results show that there were not significant different between resources-rich and resources-poor in the level of local tax ratio. In general, both groups of LGs have low local tax effort, but it is even lower in the resources-rich regions.

The general trend of low local tax effort arises because of the increased in the central government transfer; or in other words, the transfer becomes disincentives to collect local revenue (Prud'homme 2003: 25). In addition, the fact that the resources-rich LGs have lower tax effort (Bahl and Tumennasan 2002: 10) is also because the 'hold-harmless' provision in DAU allocation has guarantee the minimum amount of block grant transfer to the regions. Therefore, while they enjoyed the increasingly amount of DAU and larger shares of natural resources revenue; they becomes 'rational' by avoiding the political and administrative costs of tax collection. This also shows lack of seriousness to optimize the economic potential in their regions.

The analysis confirms the second proposition of this study: the existences of natural resources favour LGs with large amount of revenue windfall and have contributed to the decrease of dependency on the local revenue. A serious consequence of the high dependency on the external source of revenue is the decreasing LG's accountabilities or the sensitiveness of the LGs to the needs of the people. One of many indicators to measures the accountability is the allocation of the public spending in the budget.

[6] PAD defined as all revenues receive by the LG including local taxes, local retributions, profits from LG owned company, and others legitimate locally generated revenues (for example interest income, penalties and fines to contractor, etc.)

Table 10. The Comparison of Local Tax Effort Ratio

No.	District Name	Local Tax Effort Ratio					Average Ratio
		2003	2004	2005	2006	2007	
A.	**Resources-rich LGs**						
1	Kab. Tanjung Jabung Barat	1.12	1.07	0.85	1.04	1.02	1.02
2	Kab. Kutai Barat	1.74	1.32	0.41	0.75	1.05	1.05
3	Kab. Kutai Timur	0.16	0.17	0.23	0.08	0.15	0.16
4	Kab. Kutai Kartanegara	0.13	0.18	0.21	0.42	0.47	0.28
5	Kab. Berau	0.86	0.90	1.01	2.06	2.67	1.50
6	Kab. Aceh Utara	0.15	0.17	0.40	0.81	0.94	0.50
7	Kab. Mimika	0.12	0.00	0.20	0.50	0.34	0.23
8	Kab. Sorong	0.27	0.28	0.28	0.26	0.32	0.28
9	Kab. Indragiri Hulu	0.20	0.22	0.24	0.34	0.60	0.32
10	Kab. Pelalawan	0.66	0.41	0.59	0.98	1.30	0.79
11	Kab. Bengkalis	0.18	0.10	0.15	0.44	0.42	0.26
12	Kab. Siak	0.50	0.45	0.80	0.96	2.24	0.99
13	Kab. Natuna	0.32	0.11	0.24	1.02	2.29	0.79
14	Kab. Musi Banyuasin	0.19	0.07	0.10	0.30	0.19	0.17
15	Kota Sawahlunto	2.01	2.26	2.88	3.65	4.57	3.07
Local Tax Effort Average		**0.57**	**0.51**	**0.57**	**0.91**	**1.24**	**0.76**
B.	**Resources-poor LGs**						
1	Kab. Badung	5.71	8.10	7.37	6.58	10.80	7.72
2	Kota Tangerang	0.49	0.55	0.55	0.57	0.64	0.56
3	Kota Cirebon	0.65	0.70	0.88	1.04	1.14	0.88
4	Kab. Kudus	0.41	0.41	0.41	0.47	0.49	0.44
5	Kab. Gresik	0.57	0.66	0.74	0.80	0.85	0.72
6	Kota Surabaya	0.64	0.74	0.83	0.85	0.90	0.79
7	Kota Kediri	0.15	0.20	0.21	0.27	0.35	0.24
8	Kab. Barito Kuala	0.46	0.45	0.43	0.59	0.63	0.51
9	Kab. Kotawaringin Barat	0.71	0.81	0.95	1.24	0.75	0.89
10	Kab. Asahan	0.24	0.23	0.22	0.27	0.28	0.25
11	Kota Mojokerto	1.31	1.37	1.43	2.08	2.47	1.73
12	Kota Denpasar	2.38	2.31	2.79	2.86	2.92	2.65
13	Kab. Labuhan Batu	0.40	0.41	0.36	0.44	0.49	0.42
14	Kab. Toba Samosir	0.57	0.57	0.16	0.30	0.29	0.38
15	Kota Makassar	0.89	0.87	0.95	1.07	1.11	0.98
Local Tax Effort Average		**1.04**	**1.23**	**1.22**	**1.30**	**1.61**	**1.28**
Independent Sample t-test							
Mean $_{\text{Resources-rich LGs}}$		0.575	0.514	0.574	0.908	1.238	
Mean $_{\text{Resources-poor LGs}}$		1.039	1.225	1.219	1.295	1.608	
P(T<=t) two tail		0.248	0.194	0.211	0.427	0.628	
Conclusion:							
Confidence (1-α): 95%		Not	Not	Not	Not	Not	
Significance (α): 5%		significant	significant	significant	significant	significant	

Source: Own calculation

4.3.2 Follow the Money: Public Spending Allocation

The analysis in the previous section has revealed that the resources-rich LGs received huge revenue from natural resources, while at the same time also obtained DAU as the block grant in an increasing amount from 2003 to 2007. As a consequence, the windfall revenues have made them less taxing. However, these windfall revenues provide many opportunities for the resources-rich LGs'. One of the opportunities is to increase the public spending (Collier et al. 2009: 20). Therefore, it is relevant to questioning the third proposition: do the resources-rich LGs use the windfall revenue to increase the public spending?

Development and Routine Expenditure

The analysis begins with the comparison between development and routine expenditure in both groups of LGs by using the annual average ratio of development to routine expenditure during 2003-2007. Routine expenditures consist of salaries and operational costs of government, while development expenditures are investments spending, such as the construction of road, health, education facilities and services provisions. The calculation shows that, in average, resources-rich LGs allocated most of their expenditure on the development spending, accounted for 132.9%, more than doubled than the non resources-rich LGs did, which is only 60.9%.

Table 11. The Comparison of Development to Routine Expenditure Ratio

No.	Expenditure Items	Average Expenditure (Million Rupiah)					Average
		2003	2004	2005	2006	2007	
A.	**Resources-Rich LGs**						
-	Development	344,807	262,411	431,627	504,564	971,830	503,048
-	Routine	275,392	233,306	323,602	343,775	662,782	367,771
	Ratio	**125.2%**	**112.5%**	**133.4%**	**146.8%**	**146.6%**	**132.9%**
B.	**Resources Poor LGs**						
-	Development	134,964	145,170	169,278	246,529	283,956	195,979
-	Routine	243,687	265,479	289,930	330,211	461,943	318,250
	Ratio	**55.4%**	**54.7%**	**58.4%**	**74.7%**	**61.5%**	**60.9%**

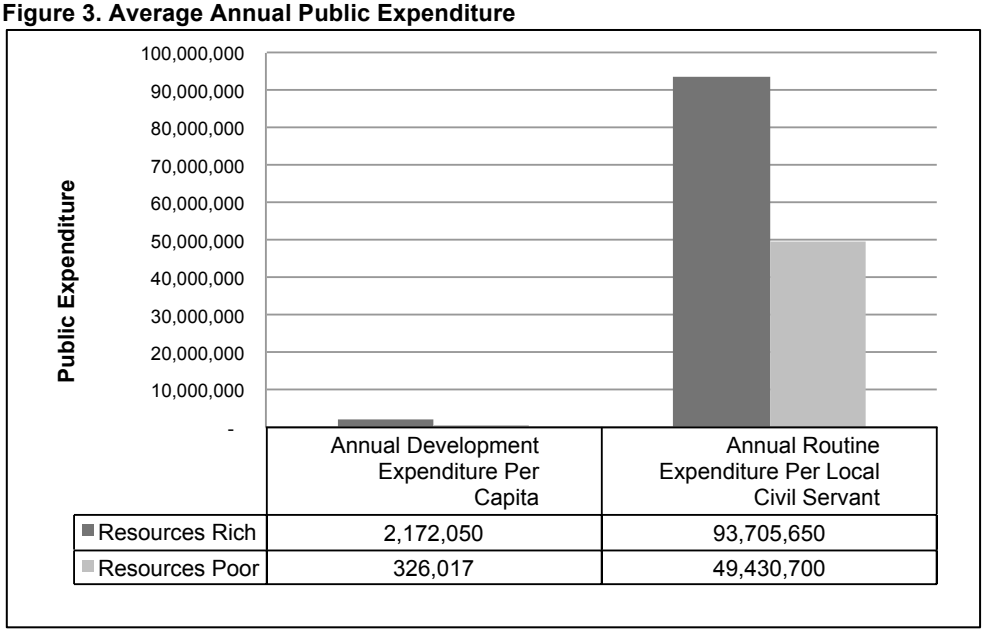
Source: Own calculation[7]

[7] There are 5 resources-rich LGs and 3 resources-poor LGs were excluded from the analysis since their budgets are not available under this format.

However this analysis still does not represent how much LGs spend money for the people. Therefore, the examination continues to the analysis of the ratio of development expenditure per capita and routine expenditure per local civil servant. The population data are available from 2003, while the annual numbers of local civil servants are available from 2005. Therefore, the average annual development expenditure per capita analyse starts from 2003 to 2007, while the average annual routine expenditure per local civil servants ('Pegawai Negeri Sipil/PNS') are analysed from 2005 to 2007.

The figures 3 confirm the fact that the resources-rich LGs have allocated more resources on the development expenditure compare to the non resources-rich LGs. In addition, under the routine expenditure, the resources-rich LGs also spend more money per local public officials. These findings suggests that the resources-rich LGs are using the opportunity from the natural resources revenue windfall to increase their public spending, both in the development and routine expenditure.

Figure 3. Average Annual Public Expenditure



	Annual Development Expenditure Per Capita	Annual Routine Expenditure Per Local Civil Servant
Resources Rich	2,172,050	93,705,650
Resources Poor	326,017	49,430,700

Source: Own calculation

4.4 Is the Money Trickling Down? Natural Resources and Public-Service Provision

Two previous analyses shown that the resources-rich LGs received large amount of revenue windfall from natural resources and spend more on both the expenditures (development and routine) compared to the resources-poor LGs. However, it is not clear whether the spending trickle down to the people or not. Therefore, in this section the investigation continues to examine the effects of the spending/service provisions to the welfare of the local people, namely human development outcome, infrastructure outcome and socio-economic outcome.

The data are obtained from Central Bureau of Statistics (BPS) in the form of household survey data (Susenas). Since BPS conducted the survey at around February, while the budget data reflects the spending during the fiscal year (January to December), the effects of the LGs' spending are reflected in the Susenas of the subsequent year. Therefore, the analysis in this section based on the sample of LGs' expenditure of 2003 to 2007 and linked to Susenas data of 2004 to 2008, when available.

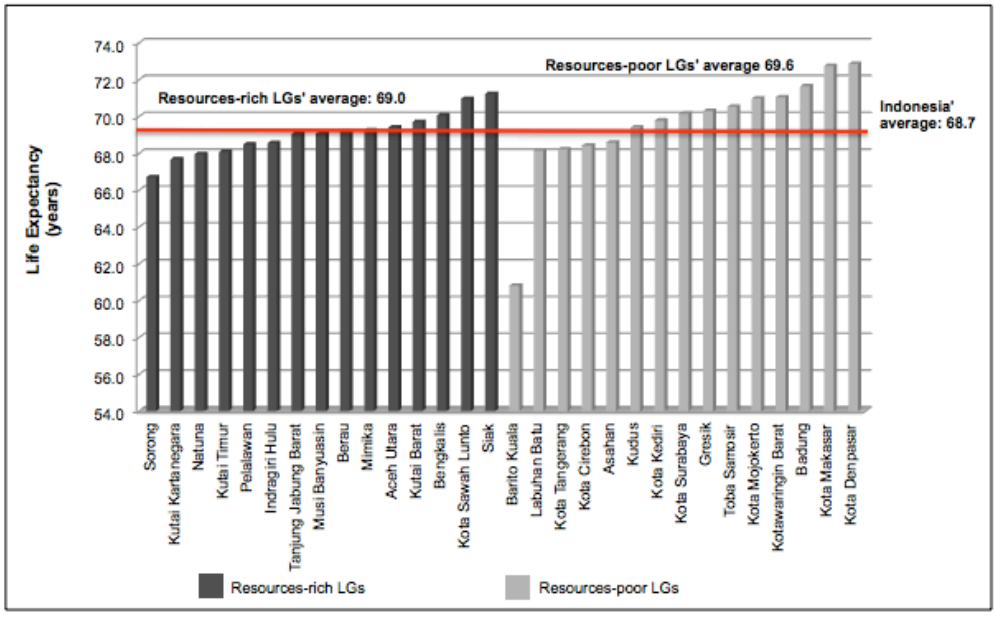
4.4.1 Human Capital Outcome

In order to investigate the effect of the LGs' spending to the human capital formation, this study utilizes the Human Development Index (HDI) (see details in Appendix 2). HDI measures human development achievements based on three dimensions of quality of life: health, knowledge, and a decent living standard (UN DESA 2009). The quality of health measures by the life expectancy indicator. The knowledge dimension measures with the composite index of literacy rate and mean years of schooling. The decent life measures by the level of purchasing power.

Health Outcome

Life expectancy indicator is the average of multi-year arrangement a person could expect to live (*ibid*). This indicator is often used to evaluate the performance of the government in the health sector. Figure 4 below shows the life expectancy index in 2007 for both groups of LGs. It shows that in average, the life expectancy in the resources-rich regions is lower than the figures in the non resources-rich region, although from the individual data, Barito Kuala, a region in the resources-poor group, has lower value than the lowest life expectancy indicators in resources-rich LGs. The figure also highlighted that there are only a few of resources-rich LGs that reach above the national average.

Figure 4. Life Expectancy Indicators 2007

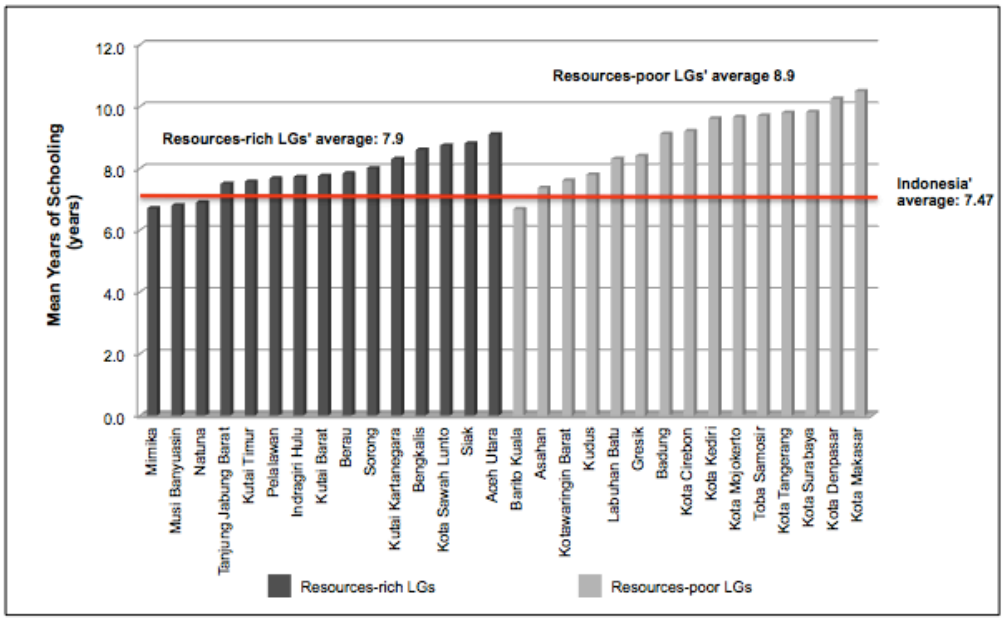


Source: Own construction based on BPS data

Knowledge Outcome

The knowledge dimension consists of literacy rate and mean years of schooling indicators. The appendix 2 shows that there is no significant different between the average of literacy rate in the resources-rich and resources-poor LGs. This is because in promoting the literacy, central government through the Presidential Decree has declared the National Movement on Intensive Illiteracy Eradication in 2004. Therefore, it is more appropriate to focus our attention to the mean years of schooling indicator, which able to shows the LGs performance indicator in education sector. The figure below shows that the average of both groups are above the national average. However, the averages in resources-rich LGs are lower than in the resources-poor.

Figure 5. Mean Years of Schooling in 2007



Source: Own construction based on BPS data

Decent Living

The third dimension of the HDI is the decent living standards. It describes the level of prosperity enjoyed by the people as the impact of economic improvement. The BPS decent living standard indicator measured using adjusted average real expenditure per capita formula based on the 27 main commodities. Appendix 2 shows that once again, the resources-rich regions have lower value than the resources-poor. It would imply that the economic development and the high level of GRDP in resources-rich LGs do not really bring benefits to the people.

Human Development Index

During 2004-2008, both the groups of LGs were above the national average and showing a trend of improvement, as well as the national average HDI. However, the resources-rich LGs' HDI is always below than those in the resources-poor, although in the average annual growth rate of the HDI, they performed better. The average annual improvement of HDI in the resources-rich is calculated 0.91%, above the national average improvement of 0.89%, while in the resources-poor LGs it is only 0.71%. Within the three components of HDI, the index in the resources-rich average also always less than those in the resources-poor, hence under the calculation of HDI, they have lower index. The question being raised: is the difference significant?

Table 12. The Averages comparison of HDI 2004-2008

	2004		2005		2006		2007		2008	
	Resources Rich	Resources Poor	Resources Rich	Resources Poor	Resources Rich	Resources Poor	Resources Rich	Resources Poor	Resources Rich	Resources Poor
Mean	69.2	72.0	70.0	72.5	70.6	73.1	71.3	73.6	71.8	74.0
Standard Deviation (SD)	2.3	3.0	2.3	2.9	2.3	2.8	2.2	2.8	2.2	2.9
Observations (N)	15	15	15	15	15	15	15	15	15	15
Standard Error (SE)	0.594	0.7826	0.5957	0.7596	0.5844	0.7248	0.5587	0.7219	0.5651	0.7405
SE Difference (SED)		0.9825		0.9653		0.931		0.9128		0.9315
Mean Differene (Diff)		-2.7		-2.5		-2.5		-2.3		-2.3
t Value		-2.77		-2.59		-2.65		-2.49		-2.42
Degree of Freedom(df)		28		28		28		28		28
Confidence (1-α)		0.95		0.95		0.95		0.95		0.95
Significance (α)		0.05		0.05		0.05		0.05		0.05
P(T<=t) two tail		0.010		0.0151		0.0131		0.0192		0.0222
Conclusions	Statistically Significant		Statistically Significant		Statistically Significant		Statistically Significant		Statistically Significant	

Source: Own calculation based on BPS data

The answer of the question obtained through the comparison of the averages in both the groups of LGs using the t-test with two independent samples calculation. Table 12 summarizes the results and shows that at the 5% level of significance, during 2004 and 2008, the different between HDI in the resources-rich and the resources-poor are statistically significant. It would imply that the human development in the health and education sector and income of the people in the resources-rich regions is worse than those in the regions without such endowments. With regard to the previous analysis on the effect of the natural resources windfall revenue, this finding suggests that the resources-rich LGs do not able to translate the higher level of public spending into a better service provisions for the welfare of people.

4.4.2 Infrastructure Outcomes

The previous analysis shows that resources-rich LGs spent more in development expenditure, rather than in the routine expenditure. One important component in the development expenditure is the capital spending which utilizes to finance the building of infrastructure, such as hospital, school, bridges, and road. To measures the public service provisions under the infrastructure outcomes, this study utilizes the road quality data. The data gathered from the Villages Potency Survey ('Survey Potensi Desa' or PODES). The index calculated

based on the head of villages' perception on the quality of the roads in the region. The answer structured in the scale ratio from 1 to 4. The lowest number is '1', reflects the best road quality, such as paved road, while the largest number is '4', represent the worst road quality. The ratio in the district level is the average of the village level's scores. BPS held the PODES once in three year; hence the data use in this study is 2003, 2005 and 2008.

Table 13. The Averages comparison of Road Quality (2003, 2005, 2008)

	2003		2005		2008	
	Resources Rich	Resources Poor	Resources Rich	Resources Poor	Resources Rich	Resources Poor
Mean	2.0	1.4	2.0	1.4	1.9	1.3
Variance (Var)	0.1	0.2	0.1	0.2	0.1	0.2
Standard Deviation (SD)	0.3	0.4	0.3	0.5	0.4	0.5
Observations (N)	15	15	15	15	15	15
Standard Error (SE)	0.090	0.113	0.090	0.119	0.098	0.119
SE Difference (SED)		0.145		0.149		0.154
Mean Differene (Diff)		0.6		0.7		0.6
t Value		4.27		4.64		3.82
Degree of Freedom(df)		28		28		28
Confidence (1-α)		0.95		0.95		0.95
Significance (α)		0.05		0.05		0.05
P(T<=t) two tail		0.0002		0.0001		0.0007
Conclusions	Statistically Significant		Statistically Significant		Statistically Significant	

Source: Own calculation based on BPS data

Note: The mean value of '1' shows 'Good' quality of road, while '4' means the 'Worst' quality.

The data on road quality above confirms that, on average, the quality of infrastructure (road) in the resources-rich regions is worse compare to the non-resources rich regions. It is also statistically significant at 5% level of significance. This finding is coherent with the previous findings on the human development outcomes, suggests that the natural resources-rich LGs are not able to provide a better service provisions in infrastructure despite of its large amount of public expenditure under their budget.

4.4.3 Socio-economic Outcomes

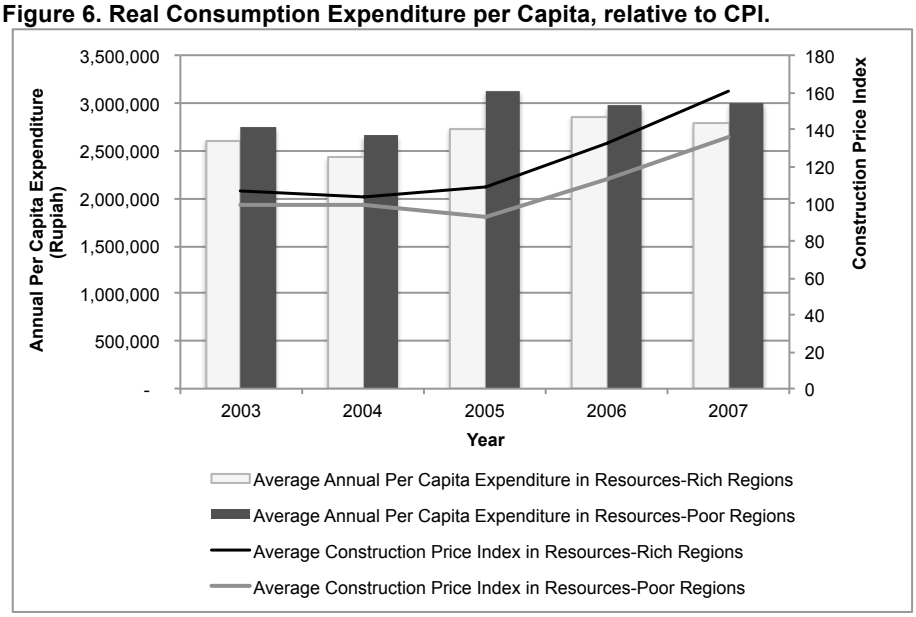
Having failed to find positive correlation between the huge amounts of development spending in the resources-rich LGs and the quality of the spending in the service provisions on education, health and infrastructure, this study investigation continues into the effect of the natural resources revenue on the socio-economic outcomes. The indicators uses in this study are consumption expenditure per capita and poverty headcount ratio.

Consumption Expenditure Per Capita

The average real annual consumption expenditure per capita shows the effects of local economic development on the local population. This indicator reflects the average degree of wealth of the local population. The figure 6 shows the trend of consumption expenditure per capita in both groups of regions. The similar pattern occurs during 2003 to 2007, with resources-rich regions having lower outcomes than the non resources-rich regions. During the

five years, in average people in non resources-rich regions have annual per capita consumption expenditure is 2.9 million rupiah while people in the resources-rich region only spend 2.6 million rupiah for consumption. Moreover, the situation for people who live in the resources-rich regions become worse as the Construction Price Index (CPI), which reflects price of goods and services in the region, is higher than in regions without abundance of natural resources.

Figure 6. Real Consumption Expenditure per Capita, relative to CPI.



Source: Own construction based on BPS data

The analysis once again suggests that the linkage between the natural resources economic based and per capita expenditure is weak; the high level of GRDP per capita in resources-rich LGs, which is mainly contributed by the natural resources sector, do not improve the per capita welfare. The other conclusions on the government's spending effect suggest that the increase in the government spending for development expenditure did not trickle down to the increase in the wealth level of the local people.

Poverty Headcount Ratio

The poverty headcount defined as the ratio of the population whose incomes are below the certain threshold set by the national government. Under this indicator, similar observation with previous analysis occurred, whereas the resource-rich regions dominate the regions with high level of poverty. The difference between the average of poverty headcount in both the groups are also statistically significant at the 5% level of significance. The raw data of poverty headcount in appendix 3 shows that during 2003 to 2007, the average annual decrease in the poverty headcount of resources-rich regions is also less than in the resources-poor, accounted for 0.89% compare to 2.81%. It means that there is no significant improvement in the poverty reduction in the resources-rich regions. This finding suggests that the abundance of natural resources and high level of GRDP per capita does not significantly reduce the level of poverty. In addition, the high level of government's spending in the resources-rich regions does not trickle down and does not lead to the increase in the wealth level of the local people.

Table 14. The Average Comparison of Poverty Headcount Ratio 2003-2007

	2003		2004		2005		2006		2007	
	Resources Rich	Resources Poor	Resources Rich	Resources Poor	Resources Rich	Resources Poor	Resources Rich	Resources Poor	Resources Rich	Resources Poor
Mean	18.0	11.3	17.5	10.4	18.1	10.1	18.3	10.8	17.3	10.0
Variance (Var)	82.8	34.0	84.6	32.5	122.9	31.4	127.0	30.8	116.1	29.1
Standard Deviation (SD)	9.1	5.8	9.2	5.7	11.1	5.6	11.3	5.6	10.8	5.4
Observations (N)	15	15	15	15	15	15	15	15	15	15
Standard Error (SE)	2.350	1.507	2.375	1.471	2.862	1.446	2.909	1.434	2.782	1.394
SE Difference (SED)		2.791		2.793		3.207		3.244		3.111
Mean Differene (Diff)		6.697		7.057		8.028		7.507		7.282
t Value		2.399		2.526		2.504		2.314		2.340
Degree of Freedom(df)		28		28		28		28		28
Confidence (1-α)		0.95		0.95		0.95		0.95		0.95
Significance (α)		0.05		0.05		0.05		0.05		0.05
P(T<=t) two tail		0.023		0.017		0.018		0.028		0.027
Conclusions		Statistically Significant		Statistically Significant		Statistically Significant		Statistically Significant		Statistically Significant

Source: Own calculation based on BPS data

4.4.4 Natural Resources and Development Outcome: The Conclusion

The analysis of the public spending outcome in both groups of LGs suggests that the fourth proposition in this research, which imply that the resources-rich LGs perform worse compare to resources-poor LGs, in delivering a better public services, is likely to be true. The data suggests that the resources-rich LGs, despite their high level of public spending, have failed to transform the natural resources endowment for the welfare of the people. They performed worse in human capital, infrastructure, and socio-economic development compare to those without such endowments. This suggests that the natural resources endowments have turned from blessing into a curse for the resources-rich regions.

Chapter 5
Where has The Money Gone?
The Evidences of The Missing Money

The analysis so far implies that the resources-rich LGs failed to perform better than the resources-poor LGs. This suggests that the natural resources curse has occurred in the resources-rich regions through the political economy model, involving the LGs' institutional failures factor. The critical question now is: 'Where has the money gone?' The evidence of the missing money can be obtained through the examination of local budget (APBD) to get more evidences on what LGs do with their budget. The analysis narrows down to Aceh Utara and Toba Samosir districts. The former is one of the samples in the resources-rich group, while the later is selected from the resources-poor group[8].

Box 5. Aceh Utara and Toba Samosir Characteristics

Aceh Utara
Type: District / Kabupaten
Province: Nanggroe Aceh Darussalam
Total Population: 493,251 people
Total Area: 3,296.86 km^2
LGs Revenue per Capita: Rp 1,529,835.39
LGs Spending per Capita: Rp 1,487,350.34

Toba Samosir
Type: District / Kabupaten
Province: North Sumatera
Total Population: 167,907 people
Total Area: 2,021.80 km^2
LGs Revenue per Capita: Rp 1,282,533.80
LGs Spending per Capita: Rp 1,232,441.95

Source: Own construction

[8] The justification to focus the analysis on the Aceh Utara and Toba Samosir is because both are districts and located in Sumatera; therefore they do not enjoy the Java-biases national development. They are classified in the same class as the districts with high poverty headcount and high fiscal revenue per capita in the World Bank research (2007: 1999). In addition, based on the 2004 APBD, the per capita LGs' revenue and expenditure in both regions are slightly equal. They also provide sufficient relevant data for the analysis.

The final proposition being tested in this chapter is whether the natural resources-rents have contributed to low accountability, increased the rent-seeking, fraud, corruption and induce the rise of patronage systems through the bribery and vote buying by local politicians and Districts Heads to continue to stay in power.

5.1 Inappropriate Investment

Besides the opportunity to increase the public spending or favouring the private sector through lower taxation level, the natural resources can also be retained as a government financial asset for lending to the private sector or as a source of payment for the government's debt (Collier et.al 2009: 20). The two first channel of natural resources-rents allocation have been discussed in the previous chapter. The windfall revenue has increased the public spending and lowering the local tax effort in the resources-rich LGs group. Therefore, follow the money method in this chapter continues the examination of the LGs reinvesting strategy of natural resources-rents.

5.1.1 Budget Surplus

One of the LGs' sources of investment is the budget surplus. Table 15 shows the surplus in Aceh Utara and Toba Samosir during 2004 to 2007. The table shows that both LGs have a consistent trend of surplus, and Aceh Utara has higher surplus in 2004-2006[9]. The main sources of surplus are over the target of revenue and the efficiency in the spending. However, this trend must be criticized.

In Aceh Utara, previous analysis has shown that they depend on the central government transfer in the form of DAU and DBH-SDA in their budget revenue. The revenue collection average during the periods is above the target by over 115%, with the main contribution from the average percentage of locally generated revenue (PAD) collection. However, previous analysis also showed that resources-rich LGs, including Aceh Utara, have large potential sources of local revenue that have not been optimized to increase their PAD. Therefore, they have lower tax effort as compared to resources-poor. This means that the over target of PAD is mainly because of understated in establishing the target of PAD collection in budget projection. In Toba Samosir, although the average of revenue collection is slightly above 100%, the major contribution comes from the 'other legitimate revenues', such as grants and balancing fund assistance from provincial government, while PAD average collection is 94.9%.

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[9] This finding is consistent with the World Bank (2007: 127) study, stated that the higher surplus occurred in the natural resources-rich regions, such as Aceh, East Kalimantan, Riau, and Papua.

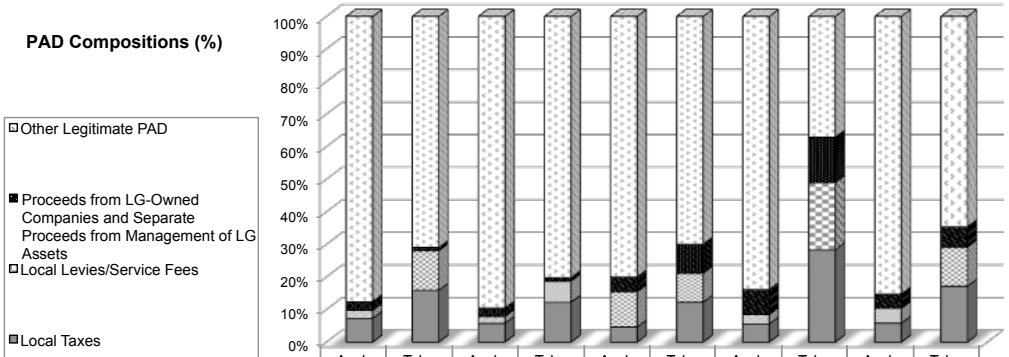
Table 15. Aceh Utara and Toba Samosir APBD 2004-2007

No.	Budget Item	Budget Realization (Millions Rupiah)								Average
		2004		2005		2006		2007		
		Amount	%	Amount	%	Amount	%	Amount	%	
A.	**ACEH UTARA**									
1	**REVENUE**									
1.1.	Locally Generated Revenue (PAD)	38,413	129.2%	55,368	146.7%	112,887	160.0%	101,358	113.5%	137.3%
1.2.	Equalization Funds	703,702	118.6%	1,147,392	140.5%	1,037,670	98.9%	690,563	100.0%	114.5%
1.3.	Other Legitimate Revenue	12,443	100.0%	12,607	122.4%	2,933	101.7%	282,051	88.7%	103.2%
	TOTAL REVENUE	**754,558**	**118.8%**	**1,215,368**	**140.5%**	**1,153,490**	**102.8%**	**1,073,972**	**97.8%**	**115.0%**
2	**EXPENDITURE**									
2.1.	Apparatus Expenditures	196,515	72.2%	166,618	69.4%	220,221	75.2%	441,009	97.7%	78.6%
2.2.	Public Service Expenditures	496,313	66.5%	505,741	68.0%	678,644	65.8%	624,362	51.3%	62.9%
2.3.	Profit Sharing Expenditures and Financial Aid	11,175	93.2%	14,026	56.2%	31,697	68.0%	128	71.9%	72.4%
2.4.	Unexpected Expenditures	29,392	98.0%	4,318	43.2%	4,359	43.6%	7,831	62.6%	61.8%
	TOTAL EXPENDITURE	**733,395**	**69.2%**	**690,703**	**67.8%**	**898,865**	**67.9%**	**1,065,371**	**63.8%**	**67.1%**
	TOTAL SURPLUS / (DEFICIT)	**21,164**		**524,665**		**254,624**		**8,601**		
B.	**TOBA SAMOSIR**									
1	**REVENUE**									
1.1.	Locally Generated Revenue (PAD)	12,006.30	98.1%	11,150.95	101.4%	13,588.09	100.6%	7,029.05	79.5%	94.9%
1.2.	Equalization Funds	189,641.81	100.0%	144,793.63	101.7%	267,365.82	100.0%	327,739.09	97.7%	99.9%
1.3.	Other Legitimate Revenue	13,698.29	109.6%	8,796.09	100.0%	-	0.0%	18,403.92	160.8%	92.6%
	TOTAL REVENUE	**215,346.40**	**100.4%**	**164,740.67**	**101.6%**	**280,953.91**	**100.0%**	**353,172.06**	**99.3%**	**100.3%**
2	**EXPENDITURE**									
2.1.	Apparatus Expenditures	58,382.44	89.0%	46,873.17	84.1%	72,262.00	83.6%	136,621.31	92.0%	87.2%
2.2.	Public Service Expenditures	148,553.19	94.3%	110,199.21	90.5%	179,819.71	90.5%	201,756.72	89.9%	91.3%
2.3.	Profit Sharing Expenditures and Financial Aid	-		10,590.50	88.5%	14,295.10	96.6%	-	0.0%	61.7%
2.4.	Unexpected Expenditures	-		314.91	62.8%	-	0.0%	844.35	99.3%	54.0%
	TOTAL EXPENDITURE	**206,935.63**	**92.7%**	**157,072.38**	**88.5%**	**266,376.80**	**88.5%**	**339,222.38**	**88.4%**	**89.5%**
	TOTAL SURPLUS / (DEFICIT)	**8,411**		**7,668**		**14,577**		**13,950**		

Source: BPK

A detailed examination of the PAD structure in the figure 7 shows that 'Other Legitimate PAD' is the main source of PAD in both LGs. The greatest contributor in the 'Other Legitimate PAD' is the interest income on cash deposits. In Aceh Utara, PAD comprises less than 10% of the total revenue with the greatest contributor is the 'Other Legitimate PAD' (85.3%); while 'Proceeds from LG-Owned Companies' and share of 'Proceeds from LG Assets' make a very insignificant contribution to PAD (4.4%). A small proportion of PAD derives from 'Local Taxes' (5.8%) and 'Service Fees' (4.6%). In Toba Samosir, the greatest contributors of PAD are as follows: Other Legitimate PAD (64.6%), local taxes (17.2%), service fees (12%), and shared of proceeds from LG-Owned Companies and management of LG-Assets (6.2%).

Figure 7. The Comparison of PAD Composition 2004-2007



	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir
	2004		2005		2006		2007		Average	
Other Legitimate PAD	87.59%	70.99%	89.57%	80.25%	80.02%	69.94%	83.84%	37.12%	85.3%	64.6%
Proceeds from LG-Owned Companies and Separate Proceeds from Management of LG Assets	2.68%	0.98%	2.58%	1.08%	4.54%	8.95%	7.70%	13.95%	4.4%	6.2%
Local Levies/Service Fees	2.46%	12.11%	2.12%	6.48%	10.82%	8.88%	2.90%	20.57%	4.6%	12.0%
Local Taxes	7.28%	15.92%	5.73%	12.20%	4.61%	12.23%	5.56%	28.35%	5.8%	17.2%

Source: Own calculation

On the expenditure side, there is a consistent trend of under spending for both LGs with an average of 67.1% in Aceh Utara and 89.5% in Toba Samosir. This may arise because of large transfer from central government, which has improved for almost doubled during a decade since the decentralization began, becomes a disincentive to spend LG's budget. Moreover, under the public service expenditures, although Aceh Utara spent more than three times of the Toba Samosir spending, per capita public expenditure spending for both LGs is still slightly equals.

In addition, the budget realization of public expenditures in Aceh Utara (62.9%) is lower than Toba Samosir (91.3%). This shows the lack of capacity of the LG in budget planning and operation, in order to maximize the public fund for the service provisions. The lack of capacity of LGs can be viewed in the composition of civil servants' education level. In 2007, the local civil servants who hold a bachelor's degree or higher education in Aceh Utara and Toba Samosir are slightly equal, 68% and 62% respectively. However, the issue of capacity is not only on the LGs' side, the capacity of the local assemblies (DPRD) in the review of budget draft needs to be taken into account. In general, the level of education and the capacity of the DPRD member in the review of the budget draft are weak (Blöndal et al. 2009: 27). In Aceh Utara, the 2004-2009 DPRD consists of 40 members, in which 37.5% hold the bachelor degree or higher.

Furthermore, there are some possible external causes of the underspending including the delay in budget approval, the late transfer from central government (World Bank 2007), and the lack of flexibility in the local budgeting regulations (Dixon and Danya 2009: 213). The high amount of unspent budget is the main reason of the surpluses and huge amount of cash reserves in resources-rich LGs.

5.1.2 Cash Reserves

The large surpluses give opportunities for LGs to finance capital-intensive projects such as infrastructure development. However, many of these surpluses remain unspent as the cash reserves, while at the same time, many people do not enjoy the benefits of public goods and services. Therefore, an important question being raised here is: 'How do resources-rich LGs allocate the surpluses?' The answer can be obtained through analysis on the cash reserves flow in budget financing, as shown in table 16.

In Aceh Utara, the carryover cash reserves from previous year were used for three financing activities: paying the loan principal, increasing the participation in regional enterprises, and increasing cash reserves. However, the loan principal is very low and paid-up in 2003. They also invested the surplus in the regional enterprises in which LG has controlling interest. The table shows that in 2006, the portion of the cash reserves outflow invested in this item significantly increased as the inflows of cash reserves increased. The majority of the investment was in the form of deposits. Nevertheless, the rest of surplus was kept in the bank account and calculated as the carryover into the following year. In Toba Samosir, the level of cash reserves is relatively low. They also invested the reserves in the regional enterprises. In 2007, they allocated the working capital loan for the local cooperation. However, the majority of cash reserves remain unspent and calculated as the carryover into the following year.

Both LGs show similar trend of reinvested strategy of surpluses with the exception of deposits in Aceh Utara, and non-permanent investment in working capital loan in Toba Samosir. The ratio of Aceh Utara cash reserves to total expenditure is 92.3% in average, while in Toba Samosir it is only 12.6%. Based on the generally accepted rule, which stated that the LGs' cash reserves should be between 5 and 10% of their expenditures (Wolkoff 1987), Aceh Utara has greatly exceeded this threshold.

Table 16. Financing Outflow and Inflows

Budget Financing Items	Amount (Million Rupiah)							
	2004		2005		2006		2007	
	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir
A. Financing - Inflow:	**570,404**	**10,768**	**555,188**	**17,307**	**1,050,243**	**23,060**	**1,278,376**	**34,482**
- Carryover from previous year	570,404	10,768	555,188	17,307	1,050,243	23,060	1,259,876	34,482
- Sale of Financial Assets	-	-	-	-	-	-	18,500	-
B. Financing - Outflow:	**591,567**	**19,178**	**1,079,853**	**24,975**	**1,304,867**	**37,637**	**1,286,976**	**48,431**
- Participation in Regional Enterprises Share	33,200	-	29,610	2,000	44,976	3,155	63,980	747
- Working Capital Loan	-	-	-	-	-	-	-	1,019
- Acquisition of Financial Assets	-	-	-	-	1,020,000	-	-	-
- Payment of Loan Principal	2,370	-	-	-	-	-	-	-
- Carryover into following year	555,997	19,178	1,050,243	22,975	239,891	34,482	1,222,996	46,665
C. Net Financing	**(21,164)**	**(8,411)**	**(524,665)**	**(7,668)**	**(254,624)**	**(14,577)**	**(8,601)**	**(13,950)**

Source: BPK

The participation in regional enterprises, such as the regional state-owned company (BUMD/BUMS/PD), local water company (PDAM), regional devel-

opment bank (BPD), and micro-finance institution (BPR), is a form of permanent financial investment. In comparison to Toba Samosir that only invested in the BPD, Aceh Utara has diversified their portfolios. Their majority contribution is in the PDAM, BPD, and PD. This confirms the general trend of increasingly LGs' role in the operation of regional enterprises in the resources-rich regions in Indonesia (Saad 2001: 17). This investment may be a rational option to utilize the unspent budget since resources-rich LGs do not have sufficient capacity to absorb the huge amount of transfer in their public spending. However, in Aceh Utara, the investment in PDAM Tirta Mon Pase and PD Bina Usaha do not benefit for the LG since the returns of the investment are very low[10]. The previous analysis on PAD composition shows that the participation in regional enterprises contributed only 4.4% in Aceh Utara and 6.2% in Toba Samosir. Furthermore, the investment in BPD has little correlation to improvement of public service delivery, since they invested most of their funds in treasury notes and central government bonds (Lewis and Oosterman 2011: 156).

Table 17. Permanent Financial Investment of LGs

No.	Permanent Financial Investment per 31 December	Year	
		2006	2007
A.	**ACEH UTARA**		
1	BPD Nanggroe Aceh Darussalam	37,954,050,000	57,954,050,000
2	PD Bina Usaha	50,903,003,655	32,403,003,655
3	Baitul Qiradh	388,620,000	388,620,000
4	BPR Sabe Meusampee	500,000,000	23,500,000,000
5	PDAM Tirta Mon Pase	71,506,589,549	92,486,589,549
-	**Total Permanent Investment**	**161,252,263,204**	**206,732,263,204**
-	**Increase in Permanent Investment**	**30,498,380,000**	**45,480,000,000**
-	**Increase in Total Fix Assets**	**192,107,319,470**	**146,652,532,658**
-	**Ratio of Increase in Permanent Investment to Increase in Total Fix Assets**	**15.88%**	**31.01%**
B.	**TOBA SAMOSIR**		
1	BPD Sumatera Utara	6,120,095,817	6,867,095,817
-	**Total Permanent Investment**	**6,120,095,817**	**6,867,095,817**
-	**Increase in Permanent Investment**	**2,000,000,000**	**747,000,000**
-	**Increase in Total Fix Assets**	**77,229,373,010**	**110,141,181,051**
-	**Ratio of Increase in Permanent Investment to Increase in Total Fix Assets**	**2.6%**	**0.7%**

Source: Own calculation

[10] The weak management and corruption in the regional enterprises contributed to the low return on permanent investment. In Aceh Utara, the Directors of PD Bina Usaha and PDAM Tirta Mon Pase were involved in the corruption case (http://infokorupsi.com 2009, http://www.waspada.co.id 2010). The BPK audit report also pointed out many frauds occurred in the operational of these companies.

Table 17 shows the comparison of the ratio of changes in the financial investments and ratio of changes in total fixed assets. This ratio portrays the general direction of a LG's investment priorities. The basic assumption here is: the various forms of fixed asset such as road, building, hospital, equipment, so on, can be justified as the priorities in the public service provisions. Therefore, the relative ratio of changes in financial investment to fixed assets shows the LGs' priorities in the public services. The table shows that in 2006-2007, the ratio increase in financial investment, relative to the changes in total fixed assets reached 31% in Aceh Utara and less than 1% in Toba Samosir. This means that the priority of investing in financial investments in Aceh Utara is one third of the investment in fixed asset. This finding once again suggests that the Aceh Utara allocated the relatively high portion of surplus in the permanent financial investment in comparison to the provisions of public services.

5.2 Fraud and Abuse of Discretionary Power

Under the political economy model of natural resources curse, the behaviour of the politicians in resources-rich LGs may gives rise to the local patronage political system. The mechanism of the patronage system under this model can be divided into two categories. First, increasing LG's popularity by taxing the citizens less, which in turn lowers the local tax effort and decreases the demand for accountability. Second, the politicians use the natural resources-rents for self-enrichments and to pay for the political support to continue to stay in power (Caselli and Cunningham, as cited in Kolstad and Wiig 2008).

In Aceh Utara, under the first mechanism, a research by Seknas FITRA (2009: 54) shows that from 41-selected districts/city in Indonesia, Aceh Utara ranks the third lowest in the performance of public participation in budget scrutiny. It can be interpreted that the low local tax effort has decreased the public demand for LG's accountability in Aceh Utara. The low accountability, in turns has made the LG of Aceh Utara distorted the development priorities.

Under the second mechanism, although the level of corruption is high across the Indonesia's LGs[11], the hypothesis that the local politicians misuse the resources-rents for self-enrichments and to continue to stay in power still needs empirical evidences. The modus operandi of corruption in decentralized Indonesia is different between the local executive (LGs) and legislative (DPRD), but mostly motivated for self-enrichment (Rinaldi et al. 2007). In addition, the money politic is a common practice in subnational level, since the districts heads need to gain political support from the DPRD, while the budget function power of DPRD gives opportunity for DPRD members to inappropriately exploit the budget for their personal use and to finance their political parties (Rinaldi et al. 2007: 6).

[11] In January 2011, 17 out of 33 Governors and 138 out of 497 Mayors/Regents in Indonesia were suspected involved in the corruption case (Damanik 2011).

Therefore, it is important to find the evidences of the missing money from the natural resource extractions for the short-term personal and political purposes. This study utilizes the BPK reports to find the initial evidence of such bad practices. During 2004 to 2007, BPK has conducted 6 audits in Aceh Utara LG and 5 in Toba Samosir[12]. Table 18 presents the potential of fraud occurred in the local budget for both LGs. The high portion of potential fraud in the operational budget for local parliament and district head in Aceh Utara in comparison to Toba Samosir supports the hypothesis that the resources-rents are most likely to be allocated between local politicians. In addition, during 2004-2007, the potential fraud in operational spending, subsidize, grants, social and political party aid and unexpected expenditure, is the finding with the largest portion, reaching 94% of the total findings in Aceh Utara, and 84% in Toba Samosir. The average ratio of potential frauds to total expenditure in Aceh Utara is also higher, accounted for 3.26%, while it is only less than 1% in Toba Samosir.

Table 18. Potential Frauds in Local Budget

No.	PUBLIC EXPENDITURE ITEMS	Amount of Potential Fraud (Million Rupiah)							
		2004		2005		2006		2007	
		Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir	Aceh Utara	Toba Samosir
1	Operational Spending	868.81	1,007.84	2,207.84	1,002.78	166.51	482.50	14,231.60	1,108.41
2	Subsidies	-	136.46	-	137.46	-	547.17	3,786.20	-
3	Grants	-	-	-	-	-	-	8,635.36	-
4	Social Support Expenditure	-	-	7,363.05	-	64,422.41	291.80	586.36	-
5	Financial Assistance for Political Parties	-	-	-	-	937.40	-	-	-
6	Unexpected Expenditure	171.02	585.06	504.11	-	-	-	7,298.30	-
7	Operational expenses/ Allowances/Facilities:								
	a. Bupati/Wakil (District Head)	1,455.27	-	949.70	15.03	-	-	-	-
	b. DPRD / Local Parliament	2,420.78	11.75	490.31	123.12	-	870.80	-	-
	TOTAL POTENTIAL FRAUD	**4,915.88**	**1,741.11**	**12,670.16**	**1,278.39**	**65,526.32**	**2,192.27**	**34,701.61**	**1,108.41**
	TOTAL EXPENDITURE	**733,394.82**	**206,935.63**	**690,703.23**	**157,072.38**	**898,865.27**	**266,376.80**	**1,065,371.08**	**339,222.38**
	RATIO OF POTENTIAL FRAUD IN TOTAL EXPENDITURE	**0.67%**	**0.84%**	**1.83%**	**0.81%**	**7.29%**	**0.82%**	**3.26%**	**0.33%**

Source: Own recapitulation based on BPK Audit Report

Note: The sign (-) shows that BPK did not find the potential fraud under the specific public expenditure item in their audit.

[12] In Aceh Utara, BPK conducted four audits on Aceh Utara annual financial statements and two special audits on health service sector and aids for political party. In Toba Samosir, BPK conducted 4 annual financial statements audit and 1 special audit on the LG Expenditure.

Besides showing the weaknesses of internal controls over the budget in Aceh Utara, this finding would suggests that their district head may not only use the natural resources-rents for additional income[13], but also likely utilizes the resources-rents in order to win the subsequent election by allocating the rents through the subsidies, social aid and financial support to the voter, besides also increase the allowances and facilities for DPRD members in order to gain the political support from legislatures[14]. Based on the political agency model (Khemani 2010, as cited in Awortwi et al 2010: 26), in a research on the proliferation of LGs in Uganda, Awortwi et.al argue that:

> "They (*local government*) may often prefer short term measurable private benefits (income support, scholarships etc.) over more indirect public goods benefits (like infrastructure)." (Awortwi et al. 2010: 27)

This statement seems appropriate for the Aceh Utara. The comparison between the short-term spending (the total spending in subsidies, grants, financial support, etc.), relative to capital spending shows a high ratio, accounted for 48.90% in Aceh Utara, while 12.59% in Toba Samosir. The first group of spending reflects the short-term benefit and most likely to be used by the local leaders to gain vote, especially from the poor[15]. The capital expenditure is the spending in capital formation, such as the road, hospitals and equipment. This finding would imply that there is a high preference to spend the public expenditure on the spending with short-term political benefit in comparison to the public goods benefits in resources-rich LGs.

In addition, it is interesting to compare the trend of potential patronage political system and the misuse of fund within the resources-rich LGs and resources-poor LGs. It can be seen from the trend of the re-elected districts heads and whether they are involved in any corruption cases (Appendix 4). The data compilation from the credible websites shows that during 2003-2008, from 15 samples of resources-rich LGs, 13 regions have the re-elected district heads and 7 of the re-elected district heads were involved in corruption case. In addition, in total, there are 15 of the district heads were involved in corruption case in the resources-rich during 2003-2008. In the resources-poor LGs, there are 10 LGs with the re-elected district heads and 3 of the re-elected district heads were involved in corruption case. In total, there are only 6 LGs who

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[13] Shown in the table 18 as the fraud in the operational expenses/allowance/facilities for Bupati and DPRD.

[14] Although the analysis has shown that there are indications of patronage political systems raised by the Aceh Utara district head, he was not re-elected for the second period in 2010 election because he has convicted in the corruption case with potential losses of local budget of Rp220 billion (Goldman 2011).

[15] The recipients of the subsidies, grants, social aid and financial supports often fictitious or do not eligible to receive such funds. In some corruption case, the district heads families, cronies, DPRD members, or LG officials established fictitious foundations to get the money from APBD (Rinaldi et al. 2007: 32).

have district heads that were reported involved in corruption case. However, it is still too early and it is not appropriate to conclude that the reason behind every re-elected district heads is only because of money politics.

Table 19. Ratio of Short-term Benefits Expenditures to Capital Expenditure (2007)

No.	Short Term Benefits Expenditure Items	Toba Samosir	Aceh Utara
1	**SUBSIDIES**	**9,208,784,000**	**14,858,284,634**
	- Subsidies to the Companies	9,208,784,000	14,858,284,634
2	**GRANTS**	**-**	**90,548,646,426**
	- Grants to Village Government	-	29,000,000
	- Grants to Regional State Owned Company (BUMD/PD/BUMN)	-	765,000,000
	- Grants to the Private Organization	-	31,340,541,011
	- Grants to Community Groups/Individuals		58,414,105,415
3	**SOCIAL SUPPORT EXPENDITURE**	**3,818,455,200**	**10,011,814,000**
	- Financial support for Community Organization		9,211,814,000
	- Financial support to Political Party		800,000,000
4	**FINANCIAL ASSISTANCE**	**-**	**128,000,000**
	- Financial Assistance to Village Government	-	128,000,000
5	**UNPREDICTED EXPENDITURE**	**844,350,000**	**7,830,957,100**
	- Unpredicted Expenditures	844,350,000	7,830,957,100
6	**SCHOLARSHIP EXPENDITURE**	**-**	**12,084,911,000**
	- Scholarship Expenditures for Civil Servants (PNS) Education	-	1,653,061,000
	- Scholarship Expenditures for Non-PNS Education	-	10,431,850,000
	TOTAL SHORT TERM BENEFITS EXPENDITURES	**13,871,589,200**	**135,462,613,160**
	TOTAL CAPITAL EXPENDITURE	**110,141,181,051**	**276,995,128,781**
	RATIO	**12.59%**	**48.90%**

Source: Own recapitulation based on BPK Audit Report

5.3 The Missing Money Evidence and Natural Resource Curse

The evidences from the discussions imply several mechanism of the missing money from the natural resources-rents. First, LGs put huge amount of money under the permanent financial investments that have proven not profitable. Second, weak internal control allowed high-level of fraud in the local budget. Third, through the increases in operating expenses, allowances and facilities for the district heads and local parliament members, which is also proven to be a kind of fraud. Fourth, by relative highly spending on the expenditure with short-term political benefit as compared to the provisions of public service. In short, the behaviour of the politicians in resources-rich LGs give rise for the potential patronage political system by increasing their popularity through less taxing and allocate some of the resources-rents to the voter and local parliament, while also use the natural resources-rents fro self-enrichments and to pay for the support to be able to continue to stay in power.

The findings in Aceh Utara and the general trend of re-elected and corrupt mayors in the resources-rich LGs have confirmed the political economy model of resources-curse, with the main preposition that the natural resources-rents have contributed to low accountability, increase the rent-seeking, fraud, corruption and induce the rise of patronage systems through the bribery and vote buying by local politicians and district heads to continue to stay in power

Chapter 6
Conclusions and Recommendations

6.1 Conclusions

This paper aims to investigate the existence and the mechanism of the natural resources curse. It assesses the effects of natural resources-rents to the public service provisions at the sub-national level in Indonesia. It focuses on the two channel of resources curse: the economic disruption model and the political economy model. The channelling mechanism through conflict was left in the analysis due to the relative importance of the economic disruption and political economy model in the Indonesian LGs in terms of the people's welfare and public service provision context.

Under the economic disruption model, this study examines the effects of the natural resources existence to the local economy. In the political economy model, the analysis focuses on the effect of the natural resources revenue on the public service provisions. This study finds that the institutional failure under the political economy model has been responsible for the existence of the natural resources curse at the local level rather than the economic disruption model.

There are five propositions of the natural resources curse hypothesis at the local level that are examined in this study:

First proposition: "*The abundance of natural resources negatively affects the local economic by distorting the local economic structure and resources allocation*". This study finds little evidence of the existence of the natural resources curse channeling through local economy, specifically in creating the contraction in manufacturing and booming in public administration sector. In facts, there are evidences of spillover effect from the mining for the improvement of manufacturing sectors. The analysis on resources allocation concludes that there is little evidence of the reallocation of employment towards mining and public administration sector. However, this effect on the GRDP is muted since despite the decreased in share of employment, the value added from manufacturing sector was still increased. This implies that natural resources curse at the local level does not occur through the economic disruption model, specifically under the analogical of the Dutch disease mechanism. This is mainly because the overvalued currency exchange, which is the core of the Dutch disease mechanism of relative prices that causes the manufacturing sector less competitive, does not apply at the local levels since there is no local currency.

Second proposition: "*The existences of natural resources favouring the LGs with large amount of revenue windfall and have contributed to the decrease of dependency on the local revenue"*. The application of hold harmless provision has given the opportunity for resources-rich LGs to maintain the amount of block grant (DAU) transfer. Therefore, the huge shared revenues from natural resources have not decreased the dependency on this DAU. In fact, both sources of revenue become the disincentives for LGs to collect the local revenue. This study finds that the local tax effort in the resources rich LGs is much lower than in those without, accounted for almost doubled. This indicates the resources-rich LGs avoid the political and administrative costs of tax collection (fiscal laziness) and lack of seriousness to optimize the economic potential in their regions.

Third proposition: *"The natural resources-rents favouring the resources-rich LGs with the opportunity to increase the public spending"*. This study confirms that the resources-rich LGs have allocated more resources on the routine and development expenditure compared to the resources-poor LGs. In addition, the calculation of ratio between development and routine expenditure shows that resources-rich LGs allocated most of their expenditure on the development spending, more than doubled than the resources-poor LGs. These findings suggests that the resources-rich LGs are using the opportunity from the natural resources revenue windfall to increase their public spending, both in the development and routine expenditure.

Fourth proposition is the basic hypothesis underlined in the natural resources-curse theory, stated that: "*The resources-rich LGs are failed to transform the high level of public spending into a better services provision for the people*". Despite the high level of public spending in the routine and development expenditure, this study finds that the resources-rich LGs failed to deliver a better public service for the people. In the education, health, infrastructure outcome, the resources-rich LGs have performed worse than the resources-poor LGs. It explains why in the resources-rich regions, the average of per capita expenditure and the poverty level are worse than the people in the resources-poor regions.

Fifth proposition tries to explain the missing money in the public expenditure of the resources-rich LGs, stated that: "*The natural resources-rents have contributed to low accountability, increase the rent-seeking, fraud, corruption and induce the rise of patronage systems through the bribery and vote buying by local politicians and districts head to continue to stay in power"*. Under this proposition, this study compares Aceh Utara and Toba Samosir to get into details on what are the resources-rich and resources-poor LGs do with their budget. The analysis finds that the large natural resources shared revenue has distorted the resources-rich LGs' development preferences and spending priorities. This gives explanation about why the higher level of public spending in the resources-rich LGs resulted in the low quality of the spending in service provisions.

The evidences imply several mechanism of the missing money from the natural resources-rents. First, LGs put huge amount of money under the permanent financial investments that have been proven not profitable. Second, weak internal control allowed the high-level of fraud in the local budget. Third, through increases in operating expenses, allowances and facilities for the district heads and local parliament members, which is also proven to be a kind of fraud. Fourth, by relative highly spending on the expenditure with short-term political benefit as compared to the provisions of public service. In short, the behaviour of the politicians in resources-rich LGs give rise for the potential patronage political system by increasing their popularity through less taxing and allocate some of the resources-rents to the voter and local parliament, while also use the natural resources-rents fro self-enrichments and to pay for the support to be able to continue to stay in power. The findings in Aceh Utara, supported by the general trend of re-elected and corrupt districts heads in the resources-rich LGs, have confirmed the political economy model of resources-curse.

In summary, while the resources-rich LGs gain huge revenues windfall from natural resources extraction, they also still depend on the central government transfer in the form of block grants. These windfall revenues become disincentives to increase their local revenues. Moreover, although allocated more money on the public spending, the evidences show that the quality of the spending in the resources-rich regions is lower than in the resources-poor. This is mainly because of lack of capacity of the LGs to absorb the huge amount of revenue windfall. The lack of capacity have made higher level of unspent budget, and increased the investment in unprofitable portfolios that have little correlation with the public service provisions. The low tax effort also has decreased the LGs' accountability, which in turn has distorted the LGs' behaviour and preferences on spending priorities. In turns, it can be explained the low level of public service provisions in the resources-rich regions. Therefore, these results confirm the hypothesis that decentralization tends to push resource-curse symptoms to the sub-national levels, since the natural resources endowments have turned 'from blessing into a curse' for localities.

6.2 Recommendations

This study points out several weaknesses under the intergovernmental fiscal transfer to the sub-national level in Indonesia. The application of the hold-harmless provision in DAU has distorted the equalization function of general block grant while favoring the resources-rich LGs with significant central government transfer. The guarantee for the minimum amount of DAU in turn becomes the disincentives for LGs to collect local revenue. Therefore, the phasing out of hold-harmless provision in 2008 is expected to increase the local revenue effort and gives opportunity towards a fair horizontal balance within the regions. Under the new DAU formula, the LGs with negative fiscal gaps may not received DAU at all. This major breakthrough in DAU allocation is not favoring the resources-rich LGs since their share of DAU will decrease significantly. Therefore, the central government needs to ensure the timing and disbursement amount of natural resources shared revenue to the resources-rich LGs in order to allow them to have stable sources of local development financing.

This study also recognizes the low capacities of the LGs and local parliament (DPRD) to manage the revenue windfall, which in turn have resulted in the trend of under spending and investment in unprofitable financial instrument. Therefore, another crucial recommendation is the strengthened of LGs and DPRD capacities related to the planning, budgeting and the monitoring the implementation of local budget.

In addition, a main recommendation of this study is the priority should be given to policies that address frauds and the potential of patronage political systems in the resources-rich LG with the quality improvement of LGs' institution. This may involve several actions: the enhancement of the central government monitoring, regular audit by the local audit office and the supreme audit board (BPK), and the most important is building consciousness and the budget scrutiny by the people. Without the improvement in institution, any policies that may succeed in others resources-rich countries, such as the creation of heritage fund arrangement from the natural resources-rents in Norway and Chile, or the creation of stabilization fund, may have failed under the weak institution.

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Appendices

Appendix 1. The Offset between DBH-SDA and DAU

No.	Districts	NATURAL RESOURCES REVENUE SHARING (DBH-SDA)						GENERAL ALLOCATION FUND (DAU)					
		2003	2004	2005	2006	2007	Average Annual Growth	2003	2004	2005	2006	2007	Average Annual Growth
1	Kutai Kartanegara	1,392,549	248,926	350,211	3,248,471	2,006,194	**9.6%**	227,530	297,814	297,814	322,632	331,974	**9.9%**
2	Sorong	16,630	23,007	33,766	33,766	16,322	**-0.5%**	232,510	120,285	138,238	258,374	261,519	**3.0%**
3	Bengkalis	739,267	758,360	1,304,196	1,920,379	1,343,306	**16.1%**	148,630	206,700	206,723	206,723	206,723	**8.6%**
4	Mimika	101,857	1,727	120,579	607,026	487,327	**47.9%**	143,760	155,156	199,499	234,121	221,664	**11.4%**
5	Aceh Utara	268,908	197,697	460,952	361,182	325,808	**4.9%**	149,120	199,896	199,896	199,896	203,868	**8.1%**
6	Kutai Barat	236,299	253,245	352,008	566,105	547,628	**23.4%**	95,710	116,624	116,624	278,152	297,814	**32.8%**
7	Berau	231,880	227,196	186,593	517,764	461,825	**18.8%**	97,320	123,949	128,285	213,836	295,970	**32.1%**
8	Indragiri Hulu	124,200	188,312	300,905	415,799	327,442	**27.4%**	130,660	162,264	104,146	171,520	235,911	**15.9%**
9	Tanjung Jabung Barat	9,725	12,309	6,537	144,285	167,524	**103.7%**	112,720	119,273	133,439	203,894	230,642	**19.6%**
10	Musi Banyuasin	216,200	293,352	538,198	740,039	773,741	**37.5%**	136,100	145,336	145,336	145,336	190,145	**8.7%**
11	Kutai Timur	279,770	314,142	388,829	287,569	720,118	**26.7%**	68,970	103,060	103,060	202,987	250,773	**38.1%**
12	Natuna	177,031	169,665	203,785	185,546	255,375	**9.6%**	96,660	147,584	149,848	147,584	159,405	**13.3%**
13	Sawahlunto	1,175	1,981	1,030	6,582	3,838	**34.4%**	79,070	81,802	197,236	147,938	167,833	**20.7%**
14	Pelalawan	130,533	206,660	361,637	430,658	342,036	**27.2%**	91,460	109,947	124,390	112,312	188,870	**19.9%**
15	Siak	460,433	575,366	290,988	1,307,657	943,623	**19.6%**	67,060	95,609	95,609	95,609	95,609	**9.3%**

Source: Ministry of Finance/Inonesia

Note: The table shows that there is no clear pattern of relationship between DBH-SDA and DAU. In general, DBH-SDA does not seem to be the offset for DAU.
In the extreme example, Kutai Kertanegara who received the largest shared resources revenues also become the most recipient of the DAU.
The amount of DAU in the resources-rich LGs also showing an increasingly trend from year to year showing that the dependency of DAU was not reduced by the large amount of DBH-SDA.
At the other hand, the amount of DBH-SDA fluctuates in each year showing the uncertainty of sources of development that may endanger the level of public services provisions in the resources-rich regions.

Appendix 2. Human Development Indicators 2004-2008

No.	District/City	Life Expectancy (years)					Mean Years of Schooling (years)					Literacy Rate (percentage)					Adjusted Real per Capita Expenditure (Purchasing Power Parity) (Thousand Rupiah)					Human Development Index (HDI)				
		2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
A.	**Resources-rich LGs**																									
1	Tanjung Jabung Barat	68.8	68.8	68.9	69.1	69.3	7.40	7.50	7.50	7.50	7.50	97.9	97.9	97.9	97.9	97.9	602.5	608.0	611.3	615.1	619.8	70.2	70.7	71.1	71.4	71.9
2	Kutai Barat	69.3	69.4	69.5	69.7	69.9	6.80	6.80	7.10	7.75	7.75	88.3	88.3	91.9	95.5	95.5	617.8	618.5	621.4	621.5	623.1	69.1	69.2	70.5	71.9	72.2
3	Kutai Timur	67.6	67.8	67.9	68.1	68.3	7.30	7.30	7.30	7.57	7.61	93.2	93.2	94.8	95.5	95.5	610.2	612.1	613.7	615.7	619.0	69.1	69.3	69.8	70.5	70.8
4	Kutai Kartanegara	66.7	67.5	67.6	67.7	67.8	8.10	8.30	8.30	8.30	8.30	95.8	96.4	96.4	96.4	96.4	619.2	620.8	622.4	622.9	628.7	70.4	71.3	71.5	71.5	72.0
5	Berau	68.5	68.9	68.9	69.2	69.4	7.50	7.60	7.60	7.83	7.86	93.2	93.7	93.7	94.8	95.5	615.7	617.4	622.4	628.9	633.1	70.1	70.7	71.1	72.1	72.8
6	Aceh Utara	68.9	69.1	69.3	69.4	69.5	8.90	9.00	9.10	9.10	9.10	94.4	94.9	96.0	96.0	96.0	575.4	587.2	590.3	601.8	602.2	68.6	69.7	70.4	71.4	71.5
7	Mimika	68.6	68.8	68.9	69.3	69.6	6.30	6.50	6.70	6.70	6.70	84.0	84.2	86.9	86.9	86.9	596.1	598.3	599.8	606.3	606.3	65.7	66.2	67.1	67.8	68.0
8	Sorong	65.3	65.7	66.4	66.7	67.1	7.90	8.00	8.00	8.00	8.00	89.9	90.3	91.4	91.4	91.4	572.8	578.9	580.2	591.1	596.1	64.6	65.5	66.2	67.2	67.8
9	Indragiri Hulu	67.8	68.2	68.4	68.6	68.6	7.10	7.30	7.30	7.72	7.72	92.4	92.8	96.7	97.6	97.7	610.9	631.3	632.9	637.2	642.8	68.9	70.9	72.0	73.0	73.4
10	Pelalawan	67.2	67.6	68.3	68.5	68.6	7.00	7.00	7.30	7.67	7.93	93.6	93.6	93.6	97.6	97.6	610.3	613.8	615.7	618.4	623.7	68.7	69.2	70.0	71.4	72.1
11	Bengkalis	69.4	69.7	69.9	70.1	70.1	8.40	8.60	8.60	8.60	8.86	97.0	97.3	97.3	97.3	97.8	613.6	621.5	621.7	624.0	629.5	71.9	72.9	73.1	73.4	74.1
12	Siak	70.6	70.9	71.0	71.2	71.3	8.80	8.80	8.80	8.80	8.80	94.1	94.1	98.2	98.2	98.2	617.6	627.0	628.1	634.2	639.8	72.6	73.5	74.6	75.2	75.6
13	Natuna	67.0	67.5	67.9	68.0	68.1	6.70	6.70	6.90	6.90	6.90	95.3	95.3	95.7	95.8	95.8	596.3	602.0	604.1	608.0	612.8	67.7	68.4	69.0	69.4	69.8
14	Musi Banyuasin	67.9	68.7	68.8	69.1	69.3	6.70	6.80	6.80	6.80	7.00	95.7	95.9	95.9	95.9	96.3	594.5	594.9	597.6	604.2	610.9	68.1	68.7	69.0	69.6	70.5
15	Kota Sawah Lunto	70.6	70.6	70.8	71.0	71.2	8.60	8.60	8.60	8.74	8.77	97.0	97.1	97.9	97.9	98.4	615.5	617.2	618.6	619.4	622.7	73.0	73.1	73.5	73.7	74.3
B.	**Resources-poor LGs**																									
16	Badung	71.2	71.4	71.6	71.6	71.7	8.60	8.70	8.70	9.11	9.11	85.9	86.6	90.4	91.7	92.2	620.0	622.1	622.8	627.6	631.9	71.2	71.6	72.7	73.6	74.1
17	Kota Tangerang	68.0	68.0	68.2	68.2	68.3	9.80	9.80	9.80	9.80	9.82	97.2	97.2	97.2	98.3	98.3	633.3	633.8	635.9	636.2	639.4	73.8	73.9	74.1	74.4	74.7
18	Kota Cirebon	67.9	68.3	68.4	68.4	68.5	9.10	9.20	9.20	9.20	9.20	96.9	97.0	97.0	97.0	97.0	635.1	636.0	636.7	637.6	642.3	73.3	73.7	73.8	73.9	74.3
19	Kudus	69.0	69.2	69.4	69.4	69.5	7.10	7.30	7.80	7.80	7.80	88.9	89.5	91.8	91.9	92.0	619.0	621.6	625.6	630.0	633.6	69.4	70.0	71.3	71.7	72.0
20	Gresik	69.2	69.8	70.0	70.3	70.5	7.80	8.10	8.40	8.40	8.40	91.8	92.6	94.0	94.0	94.0	620.1	622.1	624.7	628.9	633.9	70.8	71.6	72.5	73.0	73.5
21	Kota Surabaya	69.2	69.5	69.8	70.2	70.4	9.60	9.70	9.70	9.82	9.84	96.1	96.5	96.5	97.9	97.9	631.0	636.0	640.2	642.2	646.7	73.9	74.6	75.1	75.9	76.4
22	Kota Kediri	69.1	69.3	69.5	69.8	70.0	9.00	9.20	9.20	9.61	9.66	96.5	96.8	96.8	96.8	97.4	623.8	623.8	626.7	631.9	636.9	72.7	73.2	73.6	74.5	75.1
23	Barito Kuala	59.1	59.6	60.5	60.8	61.2	6.30	6.50	6.60	6.68	6.68	91.2	91.5	91.5	92.2	92.2	617.1	621.3	622.4	626.8	626.8	63.7	64.5	65.2	65.9	66.1
24	Kotawaringin Barat	70.8	70.9	70.9	71.1	71.2	7.40	7.60	7.60	7.60	7.60	92.6	92.8	93.6	93.6	94.1	616.8	618.5	619.8	621.2	628.3	71.3	71.6	71.9	72.1	72.9
25	Asahan	67.7	68.0	68.4	68.6	68.7	7.10	7.20	7.20	7.37	7.37	94.0	94.2	95.6	96.6	96.7	617.3	618.4	619.4	620.0	624.2	69.7	70.1	70.7	71.2	71.6
26	Kota Mojokerto	70.5	70.6	70.7	71.0	71.1	9.20	9.40	9.50	9.66	9.66	94.9	95.3	96.8	96.8	97.1	632.9	635.5	635.7	638.6	642.4	74.2	74.6	75.2	75.7	76.1
27	Kota Denpasar	72.7	72.7	72.8	72.9	72.9	9.90	9.90	9.90	10.25	10.47	96.1	96.5	96.5	97.0	97.1	615.8	618.3	623.6	630.7	635.4	74.9	75.2	75.7	76.6	77.2
28	Labuhan Batu	66.1	66.8	67.6	68.2	68.7	8.10	8.20	8.30	8.30	8.30	97.9	97.9	98.4	98.4	97.9	619.1	620.3	624.3	626.8	631.6	70.6	71.1	72.0	72.5	73.1
29	Toba Samosir	68.9	69.8	70.4	70.5	70.5	9.70	9.70	9.70	9.70	9.70	96.6	96.8	97.9	97.9	98.2	630.2	631.6	632.6	633.8	638.6	73.8	74.5	75.2	75.3	75.8
30	Kota Makasar	71.9	72.0	72.2	72.8	72.9	10.30	10.50	10.50	10.50	10.50	95.7	96.3	96.3	96.6	96.6	636.3	637.0	638.9	639.8	646.4	76.2	76.6	76.9	77.3	77.9
	Resources-rich Average	**68.3**	**68.6**	**68.8**	**69.0**	**69.2**	**7.57**	**7.65**	**7.73**	**7.87**	**7.92**	**93.5**	**93.7**	**95.0**	**95.6**	**95.8**	**604.6**	**609.9**	**612.0**	**616.6**	**620.7**	**69.2**	**70.0**	**70.6**	**71.3**	**71.8**
	Resources-poor Average	**68.8**	**69.1**	**69.4**	**69.6**	**69.7**	**8.60**	**8.73**	**8.81**	**8.92**	**8.94**	**94.2**	**94.5**	**95.4**	**95.8**	**95.9**	**624.5**	**626.4**	**628.6**	**631.5**	**635.9**	**72.0**	**72.5**	**73.1**	**73.6**	**74.0**
	National Average	**67.6**	**68.1**	**68.5**	**68.7**	**69.0**	**7.24**	**7.30**	**7.44**	**7.47**	**7.52**	**90.4**	**90.9**	**91.5**	**91.9**	**92.2**	**614.1**	**619.9**	**621.3**	**624.4**	**628.3**	**68.7**	**69.6**	**70.1**	**70.6**	**71.2**

Source: BPS

Appendix 3. Poverty Headcount Ratio 2003-2007

No.	District/City	Poverty Head Count Ratio					Average Annual Growth Rate
		2003	2004	2005	2006	2007	
A.	**Resources-rich LGs**						
1	Kab. Tanjung Jabung Barat	17.89	15.57	13.28	12.48	12.79	-8.04%
2	Kab. Kutai Barat	13.69	13.41	13.25	14.81	14.04	0.64%
3	Kab. Kutai Timur	17.24	16.39	15.08	17.66	17.51	0.39%
4	Kab. Kutai Kartanegara	15.64	15.04	14.72	14.44	12.59	-5.28%
5	Kab. Berau	9.65	8.27	7.44	9.33	9.27	-1.00%
6	Kab. Aceh Utara	31.83	29.93	35.14	34.98	33.16	1.03%
7	Kab. Mimika	32.73	30.57	33.23	34.05	32.73	0.00%
8	Kab. Sorong	29.17	31.99	33.19	35.52	33.84	3.78%
9	Kab. Indragiri Hulu	19.24	19.56	17.28	15.97	14.63	-6.62%
10	Kab. Pelalawan	24.88	23.95	22.36	19.80	18.07	-7.68%
11	Kab. Bengkalis	11.19	10.70	8.59	11.56	10.69	-1.13%
12	Kab. Siak	9.37	9.54	7.62	5.45	6.01	-10.50%
13	Kab. Natuna	5.57	5.16	9.35	10.57	8.74	11.93%
14	Kab. Musi Banyuasin	25.54	26.68	36.28	35.52	33.60	7.09%
15	Kota Sawah Lunto	5.73	5.49	5.21	2.86	2.25	-20.83%
	GROUP AVERAGE	**17.96**	**17.48**	**18.13**	**18.33**	**17.33**	**-0.89%**
B.	**Resources-poor LGs**						
16	Kab. Badung	5.27	4.97	5.25	4.57	4.28	-5.08%
17	Kota Tangerang	4.78	4.16	4.39	6.41	4.92	0.71%
18	Kota Cirebon	7.74	7.51	6.91	8.70	8.70	2.96%
19	Kab. Kudus	12.29	11.39	10.93	12.05	10.73	-3.33%
20	Kab. Gresik	23.09	22.96	22.95	25.19	23.98	0.96%
21	Kota Surabaya	9.43	9.20	7.35	8.08	7.98	-4.09%
22	Kota Kediri	14.44	13.57	13.62	13.85	13.67	-1.36%
23	Kab. Barito Kuala	7.99	6.84	7.10	9.07	8.17	0.57%
24	Kab. Kotawaringin Barat	9.24	8.82	8.79	8.88	8.66	-1.60%
25	Kab. Asahan	14.52	12.83	13.29	13.45	13.77	-1.33%
26	Kota Mojokerto	11.75	10.74	10.70	10.72	10.46	-2.86%
27	Kota Denpasar	3.73	2.92	2.16	2.69	2.10	-13.40%
28	Kab. Labuhan Batu	15.66	14.06	12.98	14.65	12.33	-5.81%
29	Kab. Toba Samosir	21.88	20.33	18.99	16.87	15.28	-8.58%
30	Kota Makassar	7.07	6.12	6.19	7.22	5.66	-5.42%
	GROUP AVERAGE	**11.26**	**10.43**	**10.11**	**10.83**	**10.05**	**-2.81%**

Source: BPS

Appendix 4.
Trend of re-elected Mayors/Regents and Mayors/Regents who were Convicted/Suspected/Alleged Involved in Corruption Case

This section presents the trend of re-elected district heads and district heads who were convicted/suspected/alleged involved in corruption case for the selected sample of local governments in this study.

The information was collected during August – November 2011 from credible website. With regard to the information on the issue of corruption and the current status of the head districts, this study obtains information from:

- www.kpk.go.id (Indonesia's Corruption Eradication Commission)
- www.antikorupsi.org (Indonesia Corruption Watch website)
- www.infokorupsi.com (Anti-Corruption Civil Society website)
- www.tempointeraktif.com (National News website)
- www.news.okezone.com (National News website)
- www.seputarbanten.com (News Local website)

Based on the research on 'Fighting Corruption In Decentralized Indonesia' (Rinaldi et al. 2007), the justification to use these sources is because the main sources of information in uncovering the corruption in the local government including the studies conducted by civil society, 'complaints from the community', and complaints from political opponents. However, this study finds that many of the corruption case and fraud also uncovered because of the audit by the National Audit Supreme Board (BPK-RI).

During 2003 to 2008, there is an election for district heads in the sub-national level. Some regions conducted in 2005, some others in 2006 and 2008. This data is limited to the corruption involving the district heads, not including the district heads deputy, local parliament/DPRD, and local governments officials.

A. Resources-Rich Regions

No.	District/City	Periods	Type of Election	Name of Mayors	Re-elected	Involved/Alleged in Corruption Case	Corruption Case	Amount of Money Involved	Status	
1	Tanjung Jabung Barat	2000-2005 2011-2015	Legislative Ellection Direct Election	Drs. Usman Ermulan	Yes	No	-	-	-	http://infokorupsi.com/id/korupsi.php?ac=1070&l=bupati-tanjab-barat-dilaporkan-dprd-ke-kpk
		2005-2011	Direct Election	Dr. Ir. Safrial, Ms	No	Yes	Corruption in Gas Power Plant (PLTG) Investment	7 Billion	Alleged by Local Parliament	http://infokorupsi.com/id/korupsi.php?ac=1069&l=mahasiswa-desak-polda-tuntaskan-kasus-korupsi-dprd-tanjab
2	Kutai Barat	2000-2005 2005-2010	Legislative Ellection Direct Election	Ir. Rama Alexander Asia Ismail Thomas. Sh	Yes Yes	No No	- -	- -	- -	- -
3	Kutai Timur	2000-2003 2007-2008	Legisaltive Ellection Direct Election	Awang Faorek	Yes	Yes	Divestment of LG's shares in PT Kaltim Prima Coal	609 Billion	Suspected	http://infokorupsi.com/id/korupsi.php?ac=8107&l=korupsi-divestasi-kpc-diaudit-bpk-gubernur-kaltim-rugikan-negara-rp-609-m
		2003-2006	Caretaker	Mahyuddin, St, Mm	No	No	-	-	-	-
4	Kutai Kertanegara	2000-2005 2005-2007	Legisaltive Ellection Direct Election	Drs. H. Syaukani, Hr, Mm	Yes	Yes	Corruption on the stimulus fund for DBH, direct appointment Kukar Airport development, the diversion of airport development funding in Budget 2004 and the divert welfare funds people in the Budget 2005.	120 Billion	Convicted	http://infokorupsi.com/id/korupsi.php?ac=696&l=plt-bupati-kutai-kartanegara-dieksekusi-ke-lp-cipinang
		2007-2008	Caretaker	Drs. H. Samsuri Aspar, MM	No	Yes	Corruption Social Assistance funds, operational funds Regent and Vice Regent	27.68 Billion	Convicted	http://infokorupsi.com/id/korupsi.php?ac=9027&l=sidang-kasus-korupsi-dana-bansos-kukar-khairudin-tetap-dituntut-65-tahun
		2008-2010	Caretaker	Sjachrudin	No	Yes	Abuse of power in grant mining permit	N.A.	Suspected	http://infokorupsi.com/id/korupsi.php?ac=4389&l=mantan-bupati-kutai-kartanegara-ditetapkan-sebagai-tersangka
5	Berau	2003-2006	Legisaltive Ellection	Drs. H. Masdjuni	No	Yes	The case of reforestation fund levies and Forest Resource Provision (DR-PSDH) in granting permits Timber Extraction and Utilization of Forest Property / Land Ownership (IPPK-TM)	88 Billion	Suspected	http://m.antikorupsi.org/?q=node/2272
		2006-Now	Direct Election	Drs. Makmur Hapk	Yes	No	-	-	-	-
6	Aceh Utara	2000-2005	Legisaltive Ellection	Ir. Tarmizi Karim Mc	No	Yes	Road construction projects in Aceh Utara	30 Billion	Alleged by CSO	http://news.okezone.com/read/2011/07/31/339/486289/daya-dobrak-kpk-jangan-melemah
		2005-2010	Direct Election	Tgk.Ilyas Al-Hamid	No	Yes	Corruption in Regional Cash Deposit	220 Miliar	Suspected	http://infokorupsi.com/id/korupsi.php?ac=9587&l=bupati-dan-wakil-bupati-aceh-utara-dinonaktifkan
7	Mimika	2000-2005 2005-2010	Legisaltive Ellection Direct Election	Klemen Tinal	Yes	Yes	Regional Asset theft valued at 5 M	5 Billion	Suspected	http://www.tempointeraktif.com/hg/hukum/2008/12/03/brk,20081203-149504,id.html

No.	District/City	Periods	Type of Election	Name of Mayors	Re-elected	Involved/Alleged in Corruption Case	Corruption Case	Amount of Money Involved	Status	Link to News
8	Kab Sorong	2000-2005 2005-2010	Legisaltive Ellection Direct Election	John Piet Wanane, Sh, M.Si	Yes	No	-	-	-	-
9	Indragiri Hulu	2000-2005 2005-2010	Legisaltive Ellection Direct Election	Drs. Thamsir Rachman	Yes	Yes	Local Budget Corruption	116 Billion	Convicted	http://infokorupsi.com/id/korupsi.php?ac=4939&l=mantan-bupati-indragiri-hulu-dan-13-pejabat-lainnya-jadi-tersangka-korupsi
10	Pelalawan	2000-2005 2005-2010	Legisaltive Ellection Direct Election	T. Azmun Jaafar, Sh	Yes	Yes	The issuance of Business License-Timber Forest Product Utilization of Forest Plants.	1.2 Trilliun	Convicted	http://infokorupsi.com/id/korupsi.php?ac=2750&l=ma-vonis-mantan-bupati-pelalawan-tengku-azamun-jafaar-11-tahun-penjara
11	Bengkalis	2000-2005 2005-2010	Legisaltive Ellection Direct Election	Drs. H. Syamsurial	Yes	Yes	Levies Fund Reforestation / Forest Resource Provision	80 Billion	Alleged by CSO	http://infokorupsi.com/id/korupsi.php?ac=1320&l=pengusutan-dugaan-korupsi-bupati-bengkalis-dilanjutkan
12	Siak	2000-2005 2005-2010	Legisaltive Ellection Direct Election	Arwin As, Sh	Yes	Yes	Issuance of business license revenue of Forest	301 Billion	Convicted	http://infokorupsi.com/id/korupsi.php?ac=8799&l=kasus-korupsi-kehutanan-bupati-siak-arwin-as-ditahan-kpk
13	Natuna	2001-2006	Legisaltive Ellection	Drs. H. A. Hamid Rizal	No	Yes	Corruption of Oil and Gas Revenue Sharing	72.5 Billion	Convicted	http://infokorupsi.com/id/korupsi.php?ac=5447&l=dua-bupati-natuna-hamid-rizal-dan-daeng-rusnadi-divonis-koruptor
		2006-2011	Direct Election	Drs. Daeng Rusnadi	-	Yes	Corruption of Oil and Gas Revenue Sharing	60 Billion	Convicted	http://infokorupsi.com/id/korupsi.php?ac=3662&l=rugikan-negara-rp-72-m-bupati-natuna-daeng-roesnadi-dijebloskan-ke-lp-cipinang
14	Musi Banyuasin	2000-2005 2005-2010	Legisaltive Ellection Direct Election	Alex Noerdin	Yes	No	-	-	-	-
15	Kota Sawahlunto	2003-2008 2008-2013	Legisaltive Ellection Direct Election	Ir. Amran Nur	Yes	No	-	-	-	-

Source: Own compilation from various website

B. Resources-Poor Regions

No.	District/City	Periods	Type of Election	Name of Mayors	Re-elected	Involved/Alleged in Corruption Case	Corruption Case	Amount of Money Involved	Status	Link to News
1	Badung	2000-2005	Legislative election	A.A Ngurah Oka Ratmadi, Sh	No	No	-	-	-	
		2005-2015	Direct election	Anak Agung Gede Agung, Sh	Yes	No	-	-	-	
2	Kota Tangerang	2003-2008	Legislative election	Drs. H. Wahidin Halim	Yes	Yes	Corruption on land acquisition for the airport.	2.537 billion	Alleged by CSO (Reported to KPK No.2011-08-000320)	http://www.seputarbanten.com/2011/08/19/wahidin-halim-terbelit-kasus-korupsi-bandara-soeta/
		2009-2013	Direct election							
3	Kota Cirebon	2003-2008	Legislative election	Subardi	Yes	No	-	-	-	
		2009-2013	Direct election				-	-	-	
4	Kab. Kudus	2003-2008	Legislative election	Ir. H. Muhammad Tamzil	Yes	No	-	-	-	
		2009-2013	Direct election							
5	Kab. Gresik	2000-2005	Legislative election	Drs. Kh. Robbach Ma'Sum	Yes	No	-	-	-	
		2005-2010	Direct election							
6	Kota Surabaya	2002-2005	Caretaker	Drs. Bambang Dwi Hartono M.Pd	Yes	No	-	-	-	
		2005-2010	Direct election							
7	Kota Kediri	2003-2008	Legislative election	Drs. H. A. Maschut	Yes	yes	Corruption on the local hospital construction fund.	N.A.	Alleged by CSO	http://infokorupsi.com/id/korupsi.php?ac=9570&l=soal-korupsi-wali-kota-kejari-kediri-mengaku-belum-terima-laporan-bpk
		2009-2013	Direct election							
8	Kab. Barito Kuala	2003-2008	Legislative election	Drs. Eddi Sukarma M.Si	No	No	-	-	-	
		2009-2013	Direct election	Hasanuddin Murad	No	No	-	-	-	
9	Kab. Kotawaringin Barat	2000-2005	Legislative election	Ir. H. Abdul Razak	No	No	-	-	-	-
		2005-2010	Direct election	H. Ujang Iskandar, St	No	No	-	-	-	-
10	Kab. Asahan	2000-2005	Legislative election	Drs. H. Risuddin	Yes	Yes	Corruption on the procurement of local PNS uniform.	923.5 million	Suspected	http://infokorupsi.com/id/korupsi.php?ac=729&l=mantan-bupati-asahan-tersangka-korupsi-pakaian-dinas
		2005-2010	Direct election							

No.	District/City	Periods	Type of Election	Name of Mayors	Re-elected	Involved/Alleged in Corruption Case	Corruption Case	Amount of Money Involved	Status	Link to News
11	Kota Mojokerto	2000-2005	Legislative election	H. Tegoeh Soejono, Sh	No	Yes	Corruption on the funding for proliferation of Mojokerto.	20 billion		http://m.antikorupsi.org/?q=node/4446
		2005-2010	Direct election	Ir. H. Abdul Gani Suhartono, Sh.	No	No	-	-	-	-
12	Kota Denpasar	2000-2005 2005-2010	Legislative election Direct election	Drs A.A Gede Ngurah Puspayoga	Yes	No	-	-	-	-
13	Kab. Labuhan Batu	2000-2005 2005-2010	Legislative election Direct election	Tengku Milwan	Yes	No	-	-	-	-
14	Kab. Toba Samosir	2000-2005	Legislative election	Drs. Sahala Tampubolon	No	No	-	-	-	-
		2005-2010	Direct election	Monang Sitorus, Sh, Mba	No	Yes	Corruption on the Specific Allocation Fund (DAK)	3 billion	Convicted	http://infokorupsi.com/id/korupsi.php?ac=9312&l=korupsi-dak-mantan-bupati-toba-samosir-monang-sitorus-divonis-1-tahun
15	Kota Makassar	1999-2004	Legislative election	Drs.H. Baso Maula Amiruddin	No	Yes	Corruption and gratification on the fire truck project.	4.31 billion	Convicted	http://www.kpk.go.id/modules/news/article.php?storyid=403
		2004-2009	Direct election	Ir. H. Ilham Arief Siradjuddin	No	No	-	-	-	-

Source: Own compilation from various website