

# **RENT-SEEKING BEHAVIOUR IN LOCAL GOVERNMENT BUDGET IN INDONESIA**

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# RENT-SEEKING IN LOCAL GOVERNMENT BUDGET IN INDONESIA

## Abstract

Prior studies on government budget expenditure and its impact on government performance have demonstrated mixed results. Improper or inappropriate budget allocations can lead to opportunistic attempts to utilize these resources; this type of opportunism is known as rent-seeking behaviour. The objective of the study is to examine the determinants of rent-seeking, including such factors as grants from central government, local original revenue, natural resources revenue, population size, political factors and audit of government financial statement.

While the majority of existing literature in this field surveys agency problems in the central government or at a national level, the current study contributes to the literature by investigating the agency problem in local government. In a decentralized government, where the authority is delegated to a local leader and local members of parliament, rent-seeking behaviour potentially arises as both of these parties have a conflict of interest. There is often a political motive when these parties run for election.

Rent-seeking may potentially have an adverse impact on local government performance, and auditing has been shown to be an effective tool in reducing the agency problem and minimising rent-seeking. The current study addresses this issue by examining the role of auditing in minimising rent-seeking.

This study employs the approach used by Park (2008), which is a revised model of the Katz and Rosenberg (1989) method, to measure potential rent-seeking. The data used in this study are the regional budget data (Anggaran Pendapatan dan Belanja Daerah/APBD) for the years 2007 to 2012 and also the reports of local financial audits for the years 2006 to 2011.

The results of the study show there were some budget sectors that may have been regularly optimized for rent-seeking. In association with the determinants of the behaviour, there were some factors that influenced the potential rent-seeking significantly. The increase of local original revenue, natural resources and the election of legislative members are found to have a substantial impact on potential rent-seeking. However, the other result of this study shows that audit had an adverse effect on rent-seeking; this finding demonstrates the critical role of the audit to prevent the rent-seeking behaviour.

From the perspective of agency theory, the results of the study provide an indication that rent-seeking behaviour does exist in local governments, since the leader of the government and the members of parliament have particular interests in utilizing the budget. In line with this theory, one of the ways to limit agency costs is by conducting an intensive audit. It is essential for local governments to strengthen their auditing activity in order to prevent high levels of dissipation of local budgets.

**Keywords:** Rent-seeking, local government budget, the grant from central government, local original revenue, natural resources revenue, population size and audit report

## Student Declaration

I, Priyo Hari Adi, hereby declare that the PhD thesis entitled “*Rent-Seeking Behaviour in Local Government Budget in Indonesia*” is no more than 100,000 words including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.



Priyo Hari Adi

Melbourne, 1 October 2018

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## List of Abbreviations

Below are abbreviations that are used in this study

- APBD : Anggaran Pendapatan dan Belanja Daerah (Local Government Budget)
- LG : Local Government
- FD : Fiscal Decentralization
- GL : Government Leaders
- LMs : Legislative Members
- DBH : Dana Bagi Hasil (Revenue sharing)
- DAU : Dana Alokasi Umum (Unconditional/grant transfer from central government)
- DAK : Dana Alokasi Khusus (Conditional transfer from central government)
- PAD : Pendapatan Asli Daerah (Local original revenue)

# CHAPTER 1 : INTRODUCTION

## 1.1. RESEARCH BACKGROUND

One of the most significant discussions in local governments relates to changes to local budgets. Changes in government budgets are made in response to the dynamics of local needs, the resources of governments and other determinant factors. The influencing factors of budget expenditure might become very complex as the budget has different strategic roles to achieve various goals (Khan and Hildreth (2002)). In general, the government budget represents local governments' policies for delivering public goods and services relating to the improvement of public prosperity. Changes in the amount of budget and/or the composition of certain budget functions are often required as a consequence of policy changes.

However, budget abuse may arise if it is focused solely on individual or group interest. The budget is susceptible to a variety of possible opportunistic behaviours by budget actors seeking to benefit themselves (Katz and Rosenberg 1989, Scully 1991, Abdullah and Asmara 2007). These private motives, whether for political or private advantage, may cause ineffective and inefficient allocation of funds, because the budget will not be positively optimized for local wealth or local priorities.

The issue of budget misuse has been of great concern to scholars since such behaviour leads to ineffective and inefficient government. Some empirical studies have demonstrated that the main causes of poor government performance relate to budget misallocation and inefficient expenditure spending (Alesina and Perotti 1996, Tanzi and Davoodi 1998, Mauro 1998, Gupta et al. 2005, Zhang 2006).

A great number of interests can be accommodated by a very basic behaviour term: rent-seeking, which explores the effort of individuals or groups to obtain benefit (transfer of income) without making a productive contribution (Fischer 2006). Krueger (1974) was the first to identify and label such rent-seeking behaviour, however the terminology was originally derived from Tullock (1967) that exposed the intention of people to favour themselves through political mechanisms. Rent-seeking tends to produce waste (nothing) because it transfers the resources to unproductive activities (Tullock 1967, Katz and Rosenberg 1989, Scully 1991, Del Rosal 2011). Rent-seeking is more an attempt to capture specific income rather than to provide goods or services at the expected level.

As indicated above, some empirical studies demonstrate that changes in budget composition are the result of this rent-seeking behaviour. A study by Katz and Rosenberg (1989) was the

first that attempted to measure this behaviour using the changes in budget composition. Other studies relating to the rent-seeking followed, including that of Scully (1991), Scully (1994), who criticized the Katz and Rosenberg (1989) model; Schnytzer (1994), who exhibited the effectiveness of the Katz and Rosenberg model in countries with different political systems; Demirbas (1999), who investigated rent-seeking in developed and developing countries; and Park (2008) who investigated the budget sectors targeted for rent-seeking and the determinants that affected rent-seeking behaviour in Korea.

One of the motivations for rent-seeking is political. The motive has been demonstrated by Park (2008), who argued that more extensive rent-seeking behaviour occurs in the more democratic political systems of government.

Some studies view corruption as identical to rent-seeking since the focus of behaviour is to earn additional return and neglect the market mechanism (Lambsdorff 2002, Murphy et al. 1993, Colombatto 2001, Mauro 1995, Mohtadi and Roe 2003, Mauro and Driscoll 1997, Mauro 1998). However, Ngo (2008) states that rent-seeking has a broader meaning than corruption. Corruption is one of the forms of rent-seeking; therefore, inserting the issue of corruption in the discourse of rent seeking becomes very relevant.

One of the issues that may contribute to this behaviour is lack of control in government financial management. Hence, the implementation and strengthening of government financial management systems may play an important role in preventing rent-seeking in the context of government budgeting. Fiscal decentralization theoretically provides many benefits for local government management, one of which is limiting opportunistic behaviours among government officials because of the stronger public control mechanism. The idea of decentralization is central to the studies of Oates (1972) and Seabright (1996), which emphasize the importance of local jurisdictions being closer to the public to obtain a better understanding of local requirements. In turn, this will enable the local government to provide the appropriate policies to meet those needs and to efficiently allocate the resources required.

The theory of fiscal decentralization is derived from the assumption that the differences in local preferences cannot be satisfied by uniform provision, as is the case in centralized governments. Hence central governments should provide greater authority to local jurisdictions to allow them to determine local output in order to provide better local welfare (Oates 1972). In other words, as suggested by Seabright (1996), the most important aspect of decentralization is the increase in local jurisdiction decision-making; as the public control mechanism is stronger, the public can reward, or conversely to condemn, the government regarding the goods and services provided.

However, the results of studies show that fiscal decentralization does not always result in a better performance of local government as theorized. Some studies have shown that the implementation of fiscal decentralization has positively influenced local performance across various economic indicators (Akai and Sakata 2002, Adam et al. 2008, Stansel 2005, Zhang and Zou 1998, Lin and Liu 2000, Zhang 2006). The results of these studies showed that fiscal decentralization positively influenced local economic growth; a higher degree of fiscal decentralization encouraged local governments to improve their local economic performance. Yet, several studies have indicated the opposite result regarding the impact of fiscal decentralization on local economic performance (Zhang and Zou 1998, Thornton 2007, Bodman 2011, Hammond and Tosun 2011, Rodríguez-Pose and Ezcurra 2011).

In decentralized governments, both legislative and government leaders have great opportunities to seek rent because they have the authority to determine and change policies that, in turn, change the composition of the budget. At least, there are two important interests related to the usefulness of the budget: first, seeking opportunities to obtain *self-benefit* by behaving corruptly in corruptible projects (Mauro 1998). Second, using the budget as a device to obtain political benefits (Keefer and Khemani 2004), especially when they are running for the election in the forthcoming period.

The measurement of fiscal decentralization is by the ability of the local government to collect their own resources rather than those received from central government (see Akai and Sakata 2002, Adam et al. 2008, Stansel 2005, Zhang and Zou 1998, Lin and Liu 2000, Zhang 2006). The higher the share of local resources in local funding, the higher the degree of fiscal decentralization, or conversely the degree of fiscal decentralization is lower when the composition of transfer from central government is higher. This is in line with the goal of fiscal decentralization to increase the local-reliance in funding their spending. Therefore, the availability of local funding, both from local original resources and transfers from the central government play a pivotal role in the occurrence of rent-seeking.

Considering that rent-seeking behaviour has a negative impact on local governance, it is very important to determine ways to diminish it. Some researchers emphasize the importance of transparency to increase the accountability of government agencies in order to anticipate the possibility of deviant behaviour among government officials and politicians in managing government budgets (Tanzi 1998, Ades and Di Tella 1999, DiRienzo et al. 2007).

Public access to information released by the government creates a control mechanism on the performance of local government. Increased transparency is expected to minimize the deviation from the budget as such transparency forces budget officials to be more aware of



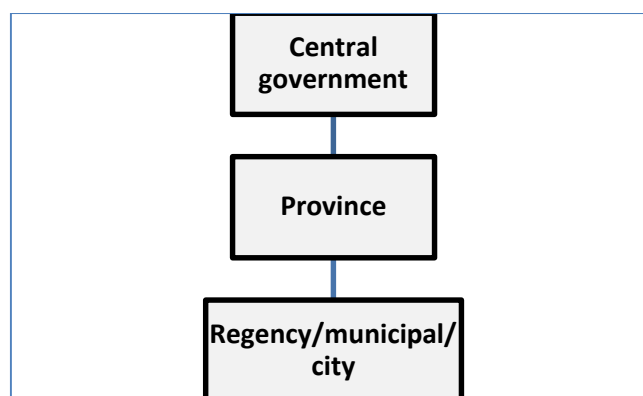
the use of the budget and this avoids negative public assessments (DiRienzo et al. 2007). Such negative assessments would be counterproductive, lowering the public level of trust and support for the government. This is critical if the politicians and local government leaders seek re-election. The increase of public access to government information becomes pivotal to creating a good control mechanism, preventing negative behaviour in using the budget. The need for transparency in all aspects of government becomes essential to increase government accountability and the level of public trust. The need is consistent with the argument of Tanzi (1999) that the main cause of poor government management is lack of transparency and internal control mechanisms.

In short, a study of rent-seeking in decentralized systems of government is relevant to determine whether the local governments have allocated the resource efficiently and effectively. The increasing role of the budget authorities in local government (local leaders or parliamentary members) triggers opportunistic behaviour in utilizing the budget, either to increase their own financial welfare or to maintain support from their constituents (since they are directly elected by the public). Abdullah and Asmara (2007) argue that politicians support a certain project not for its priority, but for the opportunity to obtain bribes. As a result, it is very difficult for the local government to improve its performance. There are some factors considered as the determinant of this behaviour; the existence of political reasons, the availability of funding resources or lack of control in resources management may stimulate the behaviour.

## **1.2. CONTEXT OF THE STUDY (LOCAL GOVERNMENTS IN INDONESIA)**

Indonesia has been implementing regional autonomy (decentralization) since 2001 with the release of Law No. 22/1999 *Regional Governments* and Law no. 25/1999 *Financial Balance between Central Government and Regional Governments*. According to these laws, the central government would delegate all authority to regional governments, except in the areas of military and defence, fiscal and monetary, religion, judicial, and foreign affairs.

Regional governments consist of province (in Indonesia known as provinsi), and regency/municipal/city (kabupaten) governments. Each province has several regencies/municipalities, which means that the provincial governments hold a higher position than regencies/municipalities; while regencies and municipalities are on the same level. The division of governments is illustrated in Figure 1.1 below.



**Figure 1.1 Division of local governments in Indonesia**

According to the latest data from the Internal Affairs Ministry of the Republic of Indonesia, until the end of 2011, there were 33 provinces, 399 regencies and 98 municipalities/cities. This study focuses on regencies/cities because in the fiscal decentralization era, these local governments now have greater autonomy than previously. At a higher level, the provincial governments do not have the authority to intervene in regencies/cities setting and using their own budgets.

One of the important things in this era of fiscal decentralization is the pivotal role played by both the members of the legislative (parliament) and local leaders. At the beginning of decentralization, the role of the legislative members was dominant since they had the right to elect and dismiss local government leaders<sup>1</sup>(Romli 2008, Fitriani et al. 2005). Romli (2008) stated that this dependency could cause a manipulation of public interest as the government leader might seek to accomplish the interests of certain government group(s), particularly the elite(s) in the local parliament. Therefore, it might be difficult for local government leaders to reject legislative recommendations in the allocation of resources. The budgeting process provided a chance for the legislative members to behave opportunistically in optimizing their own interests since they had the power to accept or reject the budget proposed by government leaders. In other words, local parliament had great bargaining power in any political deals that benefited them (Sjahir et al. 2013, Romli 2008).

From the agency relationships point of view, government leaders were the agents of parliament since the leaders were in a weak position, less independent and could easily be dictated to by legislative members in the decision-making process. A study conducted by Abdullah and Asmara (2006) confirmed the existence of opportunistic behaviour among local

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<sup>1</sup> Law No.22/1999, Article 34, Verse 1 states that the local government leader and its deputy are selected through an electoral mechanism in local parliament. Furthermore, according to Article 50, Verse 1, local parliament also has the right to dismiss the local leader.

parliament members (in Indonesia) in using the budget. Brodjonegoro (2004) stated that one of the major issues of decentralization in Indonesia was the collusion between the local executive and legislative, which triggered corrupt behaviour and, in turn, halted local performance.

A study conducted by Rinaldi et al. (2007) showed a considerable amount of corruption occurred involving legislative members. Rinaldi et al. (2007) reported on empirical data published by the Provincial Prosecutor's Office in Indonesia, with 256 corruption cases from 2002 until 2006 in regional governments in Indonesia, involving 947 members of regional parliaments. This means that in each case (on average), there were about 3-4 legislative members involved in corruption. The study exhibited that corruption is instigated collectively, not individually. It also provides a strong indication of the existence of a substantial rent-seeking in local governments.

In order to overcome this problem, the central government revised Law no. 22/1999, creating Law no. 32/2004. In this new legislation, the legislature has less power than provided in previous laws because the local government leaders are selected through a direct electoral mechanism. Under this current law (Law no. 32/2004), the local parliament no longer has the power to dismiss the local leader; this can only be done with the authority of the president. The local parliament may propose the dismissal of a local government leader, however, the proposal must be legalized by the Supreme Court. The direct election of local government leaders might contribute to local government being more accountable; however, this electoral system reduces the absolute power of the local parliament (Brodjonegoro 2004). This new pattern of government relationships may alter the level of responsibility and accountability of the budget authorities (the local government leader and the local parliament) from the public perspective. This change will hopefully decrease the legislative opportunistic behaviour resulting from optimizing their discretionary powers (Abdullah and Asmara 2007).

Both local government leaders and legislative members are now in the same position as agents of the public. The local government leaders may have similar interests to legislative members in seeking to accommodate their constituent needs, especially when they want to be re-elected. On the other hand, they also have their individual interests to gain a return on their political investment since they expend extensive resources to campaign for election. This problematic situation leads to the possibility of larger amounts of the budget possibly being wasted because of rent-seeking motives, either by local government leaders or legislative members. A study conducted by Sjahrir et al. (2013) provides empirical evidence of budget shifting among local leaders in certain budget areas to persuade voters. This makes it hard

for local governments to improve their performance since resources are not efficiently and effectively allocated.

Unfortunately, it seems that the existence of the revised law (Law no. 32/2004) did not reduce the corruption cases involving government officials. The Minister of Internal Affairs of the Republic of Indonesia states that based on the data of his Ministry, until 2014, there were 343 corruption cases that involved regional leaders (Asril 2015). Even though they are not so dependent on the parliament anymore; the regional leaders may have a new issue to maintain their constituents as they are directly elected by the public.

The vast number of corruption cases that occurred during the implementation of fiscal decentralization in Indonesia, involving both legislative members and local government leaders, represents an important signal related to the increased occurrence of rent-seeking behaviour in local government. Rinaldi et al. (2007) described how such behaviours may occur within the management of government budgets (see Table 1.1).

**Table 1.1 Modes of Corruption**

Parliament	Executive
1. Increasing the number or amount of line items for council members' allowances and facilities	1. Misuse of excess funds
2. Channelling budget funds for parliament members through a fictitious foundation	2. Violation of regional payment requests and disbursement procedures
3. Forging official travel documentation	3. Embezzlement of budget funds
	4. Manipulation in the procurement process

Source: Summarised from Rinaldi et al. (2007)

Fisman and Gatti's finding (2002) identified the importance of raising local original revenues in order to reduce corruption. However, Abdullah and Asmara (2007) have found interesting empirical evidence that local revenue has significantly impacted on both legislators' and executives' opportunistic behaviours. The results of this study provide an indication of budget optimization by exploiting the revenue from local resources. Therefore, the parliament tends to push the local government leaders to optimize local governments' resources by increasing the local revenue. The greater the local revenue collected, the greater the opportunity for legislative members and executives to seek rent.

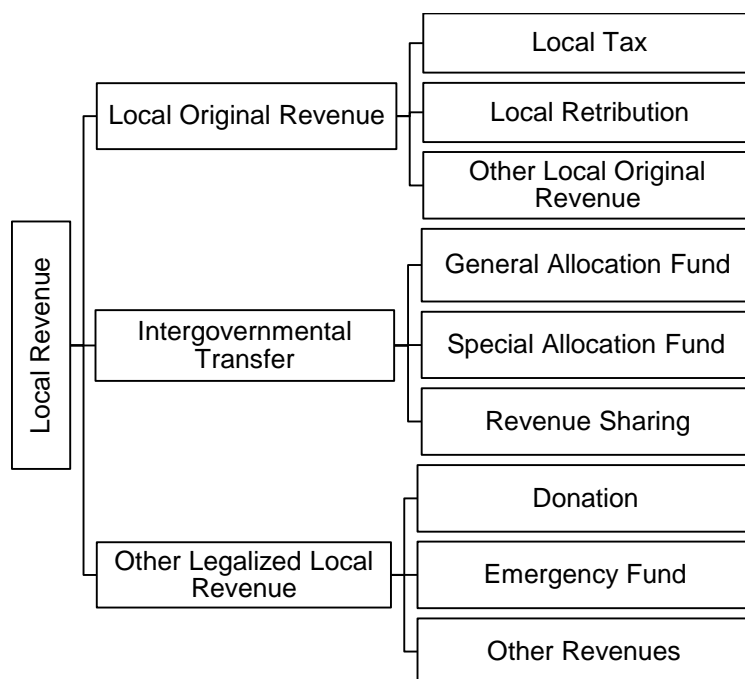
The movement from centralization to decentralization in the Indonesian local government system was too early and considered a *big bang* approach because of the short preparation time in implementing such a system in a large country with complicated geographical conditions (Hofman and Kaiser 2002, Brodjonegoro 2005, Fitriani et al. 2005). Fiscal decentralization started when local governments began trying to recover from the financial crisis that started in 1997. Some local governments were ready to be decentralized since they

had enough fiscal capacity - either local (revenue) resources or qualified human resources to manage the resources (Skoufias et al. 2011). Conversely, others still faced difficulties since they lacked good resources and did not have enough competent human resources. Consequently, the implementation of fiscal decentralization began with the issue of fiscal disparity among regional governments.

To overcome the fiscal disparities, the central government intervened through intergovernmental transfers. Intergovernmental transfer is a common policy that occurs in all countries regardless of the system of local government. Transfer of funds is intended to address the fiscal gap between central and local governments (vertical disparities) and fiscal disparities among local governments (Prud'homme 1995, Brodjonegoro 2001, Bird and Smart 2001, Martinez-Vazquez and Searle 2007, Werner 2012, Martinez-Vazquez and McNab 2003). The regional government is expected to optimize the management of these resources, resulting in an increase in fiscal capacity, with dependence on central government increasingly reduced and the area becoming increasingly more independent (Sidik et al, 2002).

However, due to its nature as a grant, a transfer from central government does not often reinforce to local government the need to creatively explore and administer its local resources to increase local income. Local governments tend to maintain central government transfers instead of seeking alternative revenues from its local capacity (Bird and Smart 2001, Brodjonegoro and Ford 2007, Nanga 2005). Due to the extent of funding, intergovernmental transfers have become an important source of local government funding. However, in the long-term such transfer will not positively encourage the local governments to strengthen their self-reliance on funding their expenditure.

In Indonesia, based on Law no. 33/2004, local revenue consists of local original revenue, intergovernmental transfers and other local revenue, each of which have their component resources. Local original revenue (known as *Pendapatan Asli Daerah/ PAD*) consists of local tax, local retribution and other local revenue. The intergovernmental transfer consists of three forms: general allocation fund (known as *Dana Alokasi Umum - DAU*), special allocation fund (known as *Dana Alokasi Khusus - DAK*), and revenue sharing (see Figure 1.2).



**Figure 1.2 Local revenue and its components**

Local original revenue should ideally be a major source of local revenue. Other revenue sources are relatively volatile and tend to be out of the control (authority) of local government (BAPPENAS 2002, Adi 2005). However, the contribution of this revenue is relatively small when compared with intergovernmental transfers, especially with grant transfers (general allocation fund)<sup>2</sup> from the central government. Among the forms of intergovernmental transfer, the general allocation fund represents a significant part of local government funding (Brodjonegoro and Ford 2007, Lewis 2013, Hirawan 2006, Statistics Indonesia 2007, Statistics Indonesia 2008, Statistics Indonesia 2009, Statistics Indonesia 2010, Statistics Indonesia 2011). Local original revenue still makes a modest contribution to the total of local revenue, particularly when compared with the general allocation fund, which has a share up to 60.7% of the total revenue (Statistics Indonesia 2007). A previous study conducted by Hirawan (2006) also confirmed this statistic, given that during the first five years of fiscal decentralization, general allocation funds contributed 74.5% to the total local revenue. Using time series data (from 2003-2009), Lewis (2013) explored data of 453 local governments and provided a similar finding of general allocation fund domination in local funding. During this period, it seemed that there were no remarkable changes in the proportion of this transfer in local government

<sup>2</sup> The General Allocation Fund is a *grant* transfer from the central government in which the local government has the authority to allocate the resources based on the local priority. In this study these terms (*general allocation fund* and *grand transfer* from central government) will be used respectively.

funding. The contribution of this revenue was 62.8% in 2003 and declined to 58.5% in 2009; meaning that the percentage declined only 4.3% in six years.

For regions rich with natural resources, revenue sharing is the main source of local funding rather than grants from the central government. Revenues from natural resources are received and managed by the central government and are then transferred to the producing region through a sharing mechanism with most of that revenue belonging to the related local government (Brodjonegoro 2001, Brodjonegoro and Ford 2007, Mahi and Brodjonegoro 2003). As shown in Figure 1.2, revenue from natural resources, based on Law no. 33/2004, is included in revenue sharing (as the part of intergovernmental transfer). The revenue sharing itself consists of revenue sharing *from tax* and *revenue sharing from natural resources*. Therefore, a local government with large natural resources will receive the other form of intergovernmental transfer (grant transfer –general allocation fund) in smaller amounts rather than other governments with less or without natural resources.

For example, the local government in the provinces of Riau and East Kalimantan; the share of general allocation funds is relatively small at 11.17% in Riau and 9.5% in East Kalimantan. Most regions and cities in these provinces are very rich because of their natural resources, such as oil, gas, and forestry. Table 1.2 below provides the composition of the components of intergovernmental transfers in regions and cities in 18 provinces (out of 33 provinces)

**Table 1.2 Composition of intergovernmental transfer component in local governments grouped by each province in 2010**

Province	General Allocation Fund	Special Allocation Fund	Revenue sharing -Tax	Revenue sharing - Natural Resources
Aceh	74.057%	8.544%	9.613%	7.024%
North Sumatra	81.208%	7.728%	9.828%	0.209%
West Sumatra	84.723%	8.000%	6.064%	0.428%
Riau	15.231%	1.758%	15.192%	67.614%
Jambi	67.342%	8.204%	11.279%	12.173%
South Sumatra	51.739%	6.332%	10.094%	31.132%
Bengkulu	80.924%	8.895%	8.087%	0.474%
Lampung	78.265%	9.289%	6.848%	3.994%
West Java	67.795%	9.515%	19.133%	2.697%
Central Java	82.810%	7.135%	8.302%	0.626%
Jogjakarta	81.606%	7.208%	9.741%	0.282%
East Java	81.112%	5.848%	9.673%	2.215%
West Kalimantan	81.610%	8.085%	8.367%	0.919%
Central Kalimantan	78.085%	6.446%	9.292%	5.593%
South Kalimantan	63.701%	7.635%	8.941%	18.586%
East Kalimantan	11.657%	2.082%	20.981%	65.145%
North Sulawesi	79.188%	11.857%	6.562%	0.678%
Central Sulawesi	82.156%	8.669%	7.589%	0.226%
Mean	74.127%	7.657%	10.044%	7.124%

Source : Realization of Local Government Budget Report (Statistics Indonesia 2012)

As seen in Table 1.2, the contribution of revenue sharing from natural resources in regions or municipalities in both provinces (Riau and East Kalimantan) really dominated the intergovernmental revenue; 67.614% in Riau and 65.145% in East Kalimantan.

There are a number of studies which have demonstrated that the amount of the resources (local own revenue, general allocation fund and revenue sharing from natural resources) had significant impact on the aggregate of government spending, particularly the capital expenditures (Kang and Setyawan 2012, Adi 2005, Lewis 2013, Mukhtaruddin et al. 2013). The question arises in association with the revenues -whether the local governments use the resources effectively to promote the local performance; increasing local economic growth or public welfare. Research related to the implementation of decentralization in Indonesia and its impacts on local performance has provided various findings.



Fiscal decentralization encouraged local governments to improve regional performance; higher economic growth or better public wealth (Adi 2005, Nurkholis and Brodjonegoro 2003, Utarna and Brodjonegoro 2003, Brodjonegoro 2009), however a later study conducted by Pepinsky and Wihardja (2011) found no significant improvement in local government performance. Simatupang (2009) evaluated the impact of fiscal decentralization on the education and health sectors and found that there have been better development in education, but not in health. Mahi (2003) used a direct approach to examine the effect of the revenue sharing from natural resources and also the effect of the general allocation fund on local growth, and discovered that the general allocation fund positively prompted local growth. However the natural resources revenue brought an adverse impact on growth.

The various findings of local government performance regarding the implementation of fiscal decentralization strengthen the importance of the investigation of the effectiveness and the efficiency of budgets used in local government. The different results of the impact of local revenue resources (between local general allocation fund and revenue sharing from natural resources) as shown by Mahi (2003) identify the likelihood of particular budget functions being optimized for rent-seeking motivation.

As explained previously, one of the ways of reducing the agency problem is by developing sustainable monitoring mechanisms to ensure that agents perform as stated in the employment contract with the principal. The governments should maintain a strong internal control to avoid improper budget usage. An empirical study confirmed that there was an eight percent decrease in missing expenditure when a government announced the possibility of increasing audit activities (Olken 2005). Audit mechanisms are beneficial since they encourage governments to be more transparent and accountable (Djankov et al. 2008). In turn, this hopefully reduces corruption or similar behaviours in the budget process (Olken 2005, Djankov et al. 2008, Shah 2006)

According to Government Law No.15 (2004b) Audit of State Finance, regional financial reports must be audited by the Audit Board. This obligation forces regional governments to perform well and be more responsible in using the budget and, in turn, hopefully, reduce the possibility of rent-seeking behaviour.

Although not necessarily illegal, rent-seeking behaviour may lead to illegal and unethical outcomes. This may influence the unfairness of local government financial reports. A local government with such a report may face difficulties since this will decrease public support, such as in paying taxes. Politicians and bureaucrats who intend to secure their position need to push the local government to produce a quality financial report.

### 1.3. RESEARCH GAP

Fiscal decentralization theoretically leads to a better local government performance. Several previous studies confirmed the positive contribution (Akai and Sakata 2002, Adam et al. 2008, Stansel 2005, Zhang and Zou 1998, Lin and Liu 2000, Zhang 2006). However, other findings demonstrate that fiscal decentralization did not lead to a better outcome. Conversely, it has a negative impact on local performance (Zhang and Zou 1998, Thornton 2007, Bodman 2011, Hammond and Tosun 2011, Rodríguez-Pose and Ezcurra 2011)

The mixed findings of about the impact of fiscal decentralization on local government performance indicates the existence of other variable(s) influencing the performance. One of which related to how the local government manages their resources, both the one(s) received from central government and obtained from their own local resources. Related to the negative impact of fiscal decentralization, there is a possibility that the resources of the local governments are not used efficiently and effectively. The authors identified one of the possible causes of unexpected performance as the existence of rent-seeking behaviour within local authorities. An extensive study by Martinez-Vazquez and McNab (2003) concluded that the relationship between decentralization and local performance (economic growth) should not be viewed directly; conversely it is necessary to investigate the existence of other factors that mediate the relationship. Martinez-Vazquez and McNab (2003) identified two unaddressed questions in association with the impact of decentralization; those are whether decentralization will encourage the local government to be more efficient and also reduce the occurrence of corruption or not. The influence of decentralization in improving local government budget allocation and in strengthening the government accountability is believed to positively impact on the local government performance.

Previous studies about rent-seeking by Katz and Rosenberg (1989), Scully (1991), Schnytzer (1994), Katz and Rosenberg (1994), Scully (1994), Demirbas (1999), Park (2008) focused on the behaviour at the country level. Most of the studies were the continuation of Katz and Rosenberg (1989) which endeavored to investigate the likelihood of rent-seeking behaviour using the government budget. The latter examinations by Schnytzer (1994) and also by Park (2008) found the difference in the rate of the possibility of rent-seeking amongst countries with diverse political systems. One of the findings by Schnytzer (1994) was this behaviour might arise in the countries with a federal system and also in countries that implemented democratic political systems.

This research will focus on the indication of rent-seeking in decentralized government. The implementation of fiscal decentralization is essentially a manifestation of democracy at the lower levels of government. Political interest in the local governments may increase as the representatives selected by the public have to satisfy constituents to maintain their position. Therefore, the likelihood of the rent-seeking behaviour using local budgets will also escalate for this reason.

#### **1.4. RESEARCH OBJECTIVES**

The main motivation for this study was the fact that the implementation of decentralization has not directly impacted on regional governments' performance improvement. Related studies have argued for both positive and negative impacts of decentralization on local performance (Adam et al. 2008; Akai & Sakata 2002; Bodman 2011; Hammond & Tosun 2011; Lin & Liu 2000; Stansel 2005; Rodríguez-Pose & Ezcurra 2011; Thornton 2007, Zhang & Zou 1998; Zhang 2006).

As a budget has various functions, changes in the budget composition do not necessarily increase social welfare, but it may correspond with the efforts of local budget authorities (parliament and local leader) in optimizing their welfare or in maintaining their political position. Hence, there is the possibility of the occurrence of rent-seeking behaviour in local government. Rent-seeking behaviour often creates difficulties because the regions cannot perform optimally.

This research focuses on changes in budgets that lead to the possibility of rent-seeking behaviour, particular the behaviour of government officials and legislative members reflected in their management of local government expenditure budgets. This research sought to identify the factors that influence rent-seeking behaviour in local governments in Indonesia and the patterns of budget expenditure allocation based on these factors. It also explores the impact of financial report auditing on controlling such behaviour. These findings will provide important indications to explain why governments perform inefficiently in economic terms.

The implementation of fiscal decentralization cannot be viewed only regarding a better mechanism to increase public welfare, but it is also associated with the escalation in prominence of particular individuals or groups at the local level, either for increasing prosperity or pursuing political goals. As this behaviour can adversely affect the performance of local governments, it needs a firm control mechanism from the central government, particularly regarding the management of local resources transferred to or owned by the local government.

## **1.5. RESEARCH QUESTIONS**

Fiscal decentralization in Indonesia commenced in 2001 and was believed to be an effective way of reducing the possibility of corrupt behaviour. Unfortunately, during the period of fiscal decentralization, there have been a significant number of corruption cases involving legislative members and/or local government leaders. The shift of power (from central government authorities to local governments) opens the likelihood of rent-seeking behaviour in utilizing lucrative local budgets.

It is important to understand why such a phenomenon occurs in the situation where the public actually has a greater opportunity to act as a control mechanism over local government. This study has been developed through the following major research questions:

1. What is the size of potential rent-seeking as measured by the changes in budget function?
2. What factors influence potential rent-seeking behaviour in local government authorities?
3. What is the pattern of potential rent-seeking behaviour based on local resources?

## **1.6. CONTRIBUTION OF THE STUDY**

### **1.6.1. Contribution to knowledge (academic contribution)**

This study sought to provide further evidence of how the budget actors use their authority to maximize their interests, employing rent-seeking behaviour. According to agency theory, government authorities (executives and legislatives), as well as company managers, face conflicts of interest; giving good services to the public while often seeking to benefit themselves. The high motivation to undertake rent-seeking behaviour in budgeting is an indication of an attempt to maximize the self-interest of budget actors.

The present study contributes to knowledge by explaining rent-seeking behaviour using agency theory and the concept of fiscal decentralization. The study demonstrates that fiscal decentralization is one factor that leads to such opportunistic behaviour. This behaviour occurs because of an increase in local agencies' interests, for example the local government leader and the local members of parliament.

An additional contribution of this study to agency theory is identifying the role of the auditing mechanism. Agency theory stipulates that implementing continuous monitoring and control to prevent or limit rent-seeking behaviour creates agency costs (Jensen and Meckling 1976, Adams 1994). Audit procedures force local governments to consistently focus on their main

objectives and increases their awareness of the effective and efficient use of financial resources. The study investigates auditing as a determining factor in reducing rent-seeking behaviour in local governments.

### **1.6.2. Contribution to empirical literature**

The other contribution of this study is to enrich the empirical literature related to the investigation of the existence of rent-seeking behaviour in local government. Rent-seeking has been widely discussed and studied in public finance, however, the one associated with decentralized local governments is limited

The study investigates the causes of an observed increase in rent-seeking behaviour after the decentralization of financial autonomy in Indonesian local governments. Fiscal decentralization is one of the main concepts in the public finance literature that emphasises the importance of delegating the authority for revenue and expenditure management to the federal/local government (Musgrave 1959, Oates 1968, Oates 1972). Decentralization provides many advantages, including increased efficiency of resource use: being closer to the public, the local government possesses more information about the public's preferences and the provision of public goods (Musgrave 1959, Martinez-Vazquez and McNab 2003, Oates 1972, Samekto 2012). Logically, the implementation of fiscal decentralization should reduce the likelihood of rent-seeking behaviour since the public has more opportunity to monitor and control the local government (Tiebout 1961, Oates 1972, Bird and Vaillancourt 1998, Brodjonegoro and Asanuma 2000).

However, there is some empirical evidence that fiscal decentralisation does not improve local government performance (Zhang and Zou 1998, Thornton 2007, Bodman 2011, Hammond and Tosun 2011, Rodríguez-Pose and Ezcurra 2011). This indicates that the availability of resources managed by local governments not only can lead to positive performance, but also can trigger a local government to be inefficient and ineffective in using those resources.

The results of the study contribute to the empirical literature by explaining how the local resources (proxied by budgets) available in local governments can motivate opportunistic behaviour and create a conflict of interest, particularly for those who have the authority for budget allocation.

A significant contribution of this research is investigation of the role of the audit report in controlling the rent-seeking behaviour of budget actors. The study by Rinaldi et al. (2007) did not specifically explore the significance of the role of the audit in revealing and controlling this rent-seeking behaviour in Indonesia. This study will investigate whether there are differences

in the pattern of rent-seeking behaviour due to the differences in demographics and the income resources of local governments in Indonesia.

### **1.6.3. Contribution to public sector (practical contribution)**

The practical contribution of this research is to provide an overview of the factors that influence the negative behaviour of the legislative and executive in the preparation of budgets in local government in Indonesia. The findings of this study will provide an understanding and an awareness of the importance of controlling the government, by evaluating the performance of local governments. The local government has to be more intensive in conducting the performance audit in addition to the financial audit. The performance audit can be conducted by both by external and internal auditors since the essence of performance audit is the assessment of economic aspects, efficiency, and effectiveness of the allocated resources, which provide benefits for all related parties. Importantly, the local governments should be able to determine precise indicators to measure the performance of the budget allocated to each sector.

Finding the determinant factors of rent-seeking behaviour will hopefully inspire the need for the selection of appropriate candidates for the legislative and as local government leaders, controlling the use of the budget, to prevent or minimize the possibility of rent-seeking behaviour. Also, importantly, the results of this study provide insights into the significance of the audit of financial statements as an important instrument to control local budget actors. The information of the budget functions that are potentially utilized for rent-seeking will be beneficial for the government or the other stakeholders (particularly the public) to increase the control mechanism over the budget process and also in the stage of implementation of the functions. The local government can also conduct a further investigation to ascertain the proper spending of the budget functions and even the impact on local government's performance.

## **1.7. METHODOLOGY**

This study will use regional budget data (APBD) for the year 2007 to 2012 and the reports of regional financial audits for the years 2006 to 2011. Although fiscal decentralization has been implemented since 2001, the structure of local regional budget reports has changed several times, with the new standard format only created following the issuance of the Act no. 24 the year 2005 Governmental Accounting Standards. The data are published by the Indonesia Finance Minister. Other data used are Regional Gross Domestic Product statistics and Revenue per Capita published by the Indonesia Statistical Bureau.

To detect potential rent-seeking behaviour in local government expenditure budgets, this study employed the formula developed by Katz and Rosenberg (1989) as modified by Park (2008). Katz and Rosenberg (1989) assumed that every change in budget allocation was the consequence of rent-seeking. This model was revised by Park (2008), arguing that every change in the allocation was not necessarily due to rent-seeking. In his model, Park (2008) applied a residual approach by examining other factors that cause budget changes; the amount of the budget influenced by these other factors was then excluded, and the rest assumed to be the result of rent-seeking.

However, Park's approach still has a weakness since it directly assumes that the resultant residual is the consequence of rent-seeking. Following the definition of rent-seeking, which emphasizes waste dissipation or the unproductive outcomes (Tullock 1967, Fisher and Sweeney 1998, Hartle 1983), the residual should be measured by its impact on local government performance to determine whether the residual is necessarily waste (indicating rent-seeking) or, conversely, generates productive outcomes. For this reason, a revised model was applied, based on Park's (2008) approach, by determining the elasticity of the residual of the budget on local performance.

This study identifies the changes in capital expenditure according to functional areas of expenditure in regional government budgets in Indonesia. The budgets contain nine sectors of functional expenditure as follows: *public service, security and order, economy, environment, housing and public facilities, health, tourism and culture, education, and social protection*. This study uses multiple regression analysis to find the impact of the dependent variables used to rent-seeking behaviour. The study also uses structural equation modeling for further analysis. Using this approach, it is possible to investigate simultaneously the impact of the determinant factors used in this research and find the fit model of rent-seeking based on these factors (Hooper et al. 2008).

## **1.8. ORGANIZATION OF THE THESIS**

This thesis is organized as follows. **Chapter 1** has provided the background to the study, the research problem and research objectives. This chapter also identifies the contribution of the study, both from academic and practical points of views.

As this study is related to the implementation of decentralization, this chapter has also provided an overview of the implementation of fiscal decentralization in Indonesia.

**Chapter 2** reviews the literature related to the broad issue of rent-seeking behaviour that takes places in the decentralization era. This chapter begins with the theoretical basis that explains

the possibility of rent-seeking behaviour by government officers and legislative members using expenditure budgets. It reviews why budget allocation plays an important role for both budget actors to optimize their individual or political interests. Chapter 2 also explores the agency relationship between parliament and local government leaders in the decentralization era. In this chapter, the determinant factors that influence the behaviour are also explored, including local demographic factors and regional factors. Finally, this chapter also provides a discussion of the importance of audit reports in limiting the possibility of rent-seeking behaviour.

**Chapter 3** presents the methodology used in this study. The chapter includes the data variables and measurement, the rent-seeking measurement, as well as the model of analysis that was used to answer the research questions.

The next three chapters, 4-6 present the results of the study and the analysis.

**Chapter 4** consists of the descriptive statistics of the observed local government budgets during the period 2007 to 2012, including the amount and the composition of each budget function. This chapter explores the budget fluctuation (changes), particularly those that correspond with the possibility of budget optimization in specific events and the general election of local government leaders and parliament members. This chapter also presents the descriptive statistics of the data regarding the determining factors of budget allocation in local government in Indonesia during the period 2005 to 2006. After measuring the impact of these factors, the rent-seeking behaviour in the budget allocation that is indicated by the residual value of variables of the equation is then identified. The chapter also explores the composition of the budget sectors that bring greater opportunities for the budget actors to behave opportunistically.

**Chapter 5** explores the descriptive statistics of the determinant factors of rent-seeking behaviour, starting with the degree of decentralization. These are represented by the ratio of grant transfers from central government as well as the income collected from local resources, such as local original revenue and natural resources revenue sharing. The composition of local government revenue is also explored to provide a general insight into how local governments use their revenue in funding their expenditure. It also describes audits of local government financial reports to determine the level of accountability in using expenditure budgets and the occurrence of rent-seeking behaviour.

**Chapter 6** provides a discussion of the research questions regarding the impact of determining factors on rent-seeking behaviour, as well as the impact of regional factors and audit reporting.



**Chapter 7** presents the conclusion of the study, the theoretical and practical implications of the results, and recommendations. It will also reiterate the limitations of the study, and suggest further areas of study to advance the research.

## **1.9. DEFINITION OF KEY TERMS**

**Rent-seeking** is *the expenditure of resources and effort in creating, maintaining or transferring rent*. These expenditures can be legal, as with most forms of lobbying, queuing, or contributions to political parties. But, they can also be illegal, as in the case of bribes, illegal political contributions, expenditure on private mafias, and so on. The processes are of tremendous significance because the resources used up are a social cost, and they determine the types of rents that are created and maintained in a particular society (Khan et al. 2000)

**Regional/local** is the unit of community that has area boundaries and has the authority to regulate and administer the affairs of government and public interest by its own initiative based on the aspirations of the people in the context of the Republic of Indonesia (the Law no. 32/2004). According to the law, regions in Indonesia are divided into:

Province (Provinsi) is a locale that is led by a governor. A province consists of some regencies (kabupaten) and municipals/cities (kota).

A regency (Kabupaten) is a locale that is led by a resident (in Indonesia known as Bupati) and a city (kota) is a locale that is led by a major (known as Walikota). Regencies and cities are at the same level of local government. Law no. 32/2004 does not explicitly mention the difference between regencies and cities, however, there are some factors that determine a locale becoming either a kabupaten or kota, based on area, population, and economic factors.

**Local government leader** is the leader of the local government of regencies or cities. So the term refers to a resident or major (see the explanation above about regencies and cities).

**Local government** represents government affairs by the regional government and parliament according to the principles of autonomy and the duty of assistance to the principle of autonomy in the system and the principle of the Republic of Indonesia, as defined in the Constitution of the Republic of Indonesia Year 1945 (Law no. 32/2004).

**Local revenue** enhances regions net worth in the corresponding fiscal year. Based on Law no. 34/2004, local revenue is divided into:

**Local original revenue** is local earned income levied by regional regulation in accordance with legislation. As indicated earlier, in Indonesia this revenue is known as Pendapatan Asli Daerah (PAD)

**Intergovernmental transfer** is income derived from the state budget allocated to the regional district to fund the implementation of decentralization. It is known as dana perimbangan which consists of:

**Revenue sharing** (in Indonesia known as Dana Bagi Hasil), herein after referred to as revenue, are funds sourced from the central government budget revenues allocated to regions. These are allocated based on a percentage to fund the needs of the region in the context of decentralization.

**General allocation funds** (in Indonesia known as Dana Alokasi Umum), herein after referred to as revenue, are funds sourced from the central government budget revenues allocated to equity inter-regional financial capacity to fund local needs in the context of decentralization.

**Special allocation funds** (in Indonesia known as Dana Alokasi Khusus), herein after referred to as revenue, are funds sourced from the central government budget revenues allocated to a particular area in order to help fund special activities of the region in accordance with national priorities.

**Other legalized local revenue** is local income other than local revenue and intergovernmental transfers. This income is sourced from donations, emergency funds and other resources.

**Local parliament or legislative** is known as Dewan Perwakilan Rakyat Daerah (DPRD). DPRD consists of public representatives whose members are selected through electoral public mechanisms. Members come from diverse political parties, sanctioned by the law. The number of members varies among local governments, depending on such factors as population.

## 1.9. LIMITATIONS OF THE STUDY

The study investigates rent-seeking behaviour and the determinant factors as explained previously in the secondary data. The data used in this research are local government financial (budget) reports from 2007 until 2012. Related to the general election, in respect of the selection of legislative members and local leaders, the data does not represent the

composition of the legislative members who intended to be candidate in the forthcoming election.

Further, the study requires complete budget report data released by local governments in the observed years (2007-2012); therefore, the present study might not represent all local governments. One of the reasons is that there are some new local governments which are the result of the splitting of other local governments during the period.

Another limitation related to the data is that the budgets are annual. Hence, the assumption is that rent-seeking behaviour exists throughout the year; it does not specifically indicate the exact time when rent-seeking occurs in local governments utilizing the local budget.

Finally, the study uses a quantitative approach so that it will be focusing on generalization of rent-seeking existence rather than detailing the causes of the behaviour that is usually conducted in qualitative research.

# **CHAPTER 2 : LITERATURE REVIEW - AGENCY PROBLEMS IN LOCAL GOVERNMENTS, BUDGET CHANGES AND RENT-SEEKING BEHAVIOUR IN BUDGETING**

## **2.1. INTRODUCTION**

Changes are common in government budgeting; however, there is a likelihood of budget optimizing for specific purposes beyond achieving the government's goal related to public well-being. As indicated in the previous chapter, changes can lead to rent-seeking behaviour. Such behaviour may occur for several reasons, one of which can be explained in the context of the agency relationship.

Agency relationships in government are quite different from such relationships in the private sector because the relationship pattern in government is based on the political system (Shapiro 2005). The complexity of government structures leads to the possibility of multiple roles, with players becoming both principal and agent simultaneously.

As stated by Shapiro (2005), the opportunistic behaviour of government officers or other interest groups may become greater if they are able to play the role of agents. This discussion relates to the use of budgets to accomplish the diverse interests of certain government parties. Several studies have been conducted to investigate rent-seeking behaviour using expenditure budgets. As outlined in the previous chapter, the first attempt to do this was by Katz and Rosenberg (1989), with a revised model proposed by Park (2008). These models are discussed in this chapter to explore the efficacy of applying them in this study.

This chapter consists of three sections. The first section presents a review of the literature on the related theory that supports the existence of rent-seeking behaviour in government, specifically in local government. The second section outlines the literature relating to the measurement of rent-seeking using expenditure budgets, and the last section explores the literature in respect of factors that determine rent-seeking behaviour and the role of audit in limiting that behaviour.

## **2.2. THE DEFINITION OF RENT-SEEKING BEHAVIOUR**

Rent-seeking behaviour may occur because of many factors, such as the availability of resources, the political mechanism and control mechanisms. This section explores the determinant factors of rent-seeking behaviour, classified into two major groups. The first group

relates to local factors, including population density (Goel and Nelson 2009), the availability of local natural resources, local revenue and also the transfer fund of central government (Bird and Smart 2001, Brodjonegoro and Ford 2007, Martinez-Vazquez and Searle 2007). The second group relates to audit reports of local government financial statements, as the instruments of accountability (Djankov et al. 2008).

Fischer (2006) and Murray (2012) defined rent-seeking behaviour as an individual or collective effort aimed at acquiring self-advantages that are not supported by adequate productive contributions. Rent-seeking is more an attempt to capture specific income rather than to provide goods or services at the expected level.

Khan and Sundaram (2000: 70) defined rent-seeking broadly as follows:

*Rent-seeking is the expenditure of resources and effort in creating, maintaining or transferring rent.* These expenditures can be legal, as with most forms of lobbying, queuing, or contributions of political parties. But they can also be illegal, as in the case of bribes, illegal political contributions, expenditures on private mafias, and so on. The processes are of tremendous significance because the resources use up are a social cost, and they determine the types of rents that are created and maintained in a particular society.

In simple terms, rent-seeking refers to the interest of specific group(s). Hartle (1983: 539) argued that rent-seeking is the behaviour of interest groups to obtain self-benefit through manipulating government resources. He provided a comprehensive definition of rent-seeking as follows:

... investments of real resources undertaken by individuals or groups (coalitions) of individuals with similar interests in the expectation of obtaining an increase (avoiding a decrease) in their income wealth as a result of securing (blocking) changes in legal rights; or maximizing the benefit (minimizing the cost) of earlier policy changes that created non-exclusive rights.

In line with this statement, Murray (2012: 15) provided the following definition of rent-seeking:

Rent-seeking is traditionally understood in economics, and now common language, is an activity undertaken by potential beneficiaries of government policy (those who receive rents from a policy decision) in order to ensure policy decisions are made in a way favourable to them. The resources

devoted to these activities are usually known as the costs from rent-seeking.

In this review the term rent-seeking costs has this exact meaning.

Based on these definitions, those with power in government, such as legislative members or leaders of the government, have great opportunities for rent-seeking because of their authority in making and changing policies. Power is used by politicians (legislative members) to optimize their utilities by allocating specific resources that could potentially provide opportunities for profits (Garamfalvi 1997).

Politicians have two main interests relating to the use of budgets: first they will seek opportunities in the areas of spending that provides possibilities for corrupt behaviour (Mauro 1998); second they will utilize their budget for both political and individual purposes, for example to fulfil promises made during their campaigns (Garamfalvi 1997). Regional leaders will have similar interests because they are directly elected in public elections, so they have responsibilities to their voters (Alt and Lassen 2006). However, the opportunistic behaviour by local leader(s) to increase personal welfare may exist in local government (see Henderson and Kuncoro 2010, Rinaldi et al. 2007).

The interesting part of the definition by Khan and Sundaram (2000: 70) is the idea that rent-seeking behaviour can happen legally. This means that such behaviour exists as the result of interpretation of the law by budget actors, especially with the sections that relate to their rights in budgeting (Hillman 2011). In this context, the budgeting phase becomes crucial for the rent-seekers in deciding on the allocation of the budget in ways that will open up opportunities for them to obtain benefit for themselves. Such rent-seeking can lead to political corruption because it relates to the abuse of power for private benefit. Politicians and bureaucrats have the responsibility for allocating resources based on the priority of local fiscal need which can enforce local productivity to increase the local government performance. However, on the other hand, they have an interest in securing their political position and in returning their political investment.

However, following the definition by Khan and Sundaram (2000: 70), rent-seeking behaviour will result in social cost. Such loss may be incurred because the resources used in rent-seeking serve more in terms of distribution rather than in providing something productive for the public (Hillman 2011). Even though the budget actors may allocate all the money legally, rent-seeking behaviour can still be detected through the output produced; that is, it tends to be waste rather than something that triggers productive activities. This argument is in line with Del Rosal (2011) who states that rent-seeking is harmful as it shifts the allocation of resources

unproductively: it creates excessive social cost that is higher than the cost to conduct the rent-seeking activities.

On the other hand, rent-seeking is not necessarily wasteful. It is very important to detect the motivation for government policy when examining resource distribution. Lobbying by politicians and interest groups may lead to bribery, which provides benefits for politicians. However, it also brings the possibility of additional resources for government (Hillman 2011). Lobbying is a legal activity, because it is a part of a politician's duties.

### **2.3. AGENCY THEORY AND CHANGES IN REGIONAL GOVERNMENT BUDGETS**

The agency theory that was first introduced by Jensen and Meckling (1976) defined the relationship between the owner of a business (the principal) and the management (the agent) given the authority to run the business. This theory was derived from three previous theories: the theory of economics, the theory of sociology and the theory of decision. The relationship was based on a contract (*nexus of contract*) where the principal delivers the authority for the business management to agents. This means that the agent will act on behalf of the owner to perform services and to make the best decisions for the principal. In this relationship, the principal expects welfare increases as indicated by higher investment (ownership) and/or increasing levels of benefits derived from the company. Meanwhile, the agent seeks adequate compensation for his contribution to improving the performance of the company.

The agency problem arises because each party tends to optimize its self-interest, so there is the possibility that the agent may not play the role of manager as expected by the principal. The difficulties may be more complex since the agent has more strategic information about the company than the principal does. This asymmetric information tends to lead to the opportunistic behaviour of the agent, especially when the principal cannot satisfy the agent's expectations regarding compensation and incentives. Adams (1994) asserted that there are two possible issues that may arise related to this asymmetric information: *moral hazard* and *adverse selection*.

The moral hazard problem arises because both the principal and the agent have a similar interest to maximize their wealth using the contract. However, since the agent has more information, the principal is not able to monitor whether the agent has performed as expected or not. Therefore, it is possible for the manager (agent) to act against the principal's expectations in order to comply with their own interests. For example, managers may demonstrate the positive performance of the company by using *creative accounting*, such as income smoothing, capitalization of assets and other cosmetic efforts to alter the company's

financial statements (Amat and Gowthorpe 2004). These may lead to inefficient and ineffective use of company resources.

Adverse selection relates to the manager (as the agent) not providing sufficient information about the company's strategic decisions. The principals are therefore not able to judge whether the manager has made the right decisions for the company. To minimize this behaviour, the principal can conduct regular monitoring and provide appropriate compensation or other incentives to the agent. These efforts create additional expenditure, known as *agency costs*. Jensen and Meckling (1976) argued that agency cost is basically the total amount of three components: monitoring expenditure, bonding expenditure, and residual loss. Monitoring expenditures relate to the effort of the owner to conduct proper monitoring mechanisms to help them ascertain whether everything is on the right track, based on the contract (Adams 1994). On the other hand, to convince the principal that the agent has performed consistently with the contract, the agent may conduct an internal audit. Such action will incur additional cost known as bonding expenditure. Adams (1994) stated that the reason why the manager conducts this action is that they intend to maintain their position and also to obtain remuneration (and/or other facilities) as expected. The last component of agency cost is residual loss which refers to the decline of principal welfare as the result of the divergence of the principal's decision and the agents'.

The issue of agency is not unique to private organizations; it also applies to government organizations. However, principal-agent relationships within government organizations may vary according to differences in the systems of government or political factors. For example, in the democratic government system where the politician and/or the government leaders are selected through electoral mechanisms, the agency relationship occurs between the public and the parliament, and also the public and the government leaders (Wolfers 2002).

In discussing the implementation of agency theory, three important things need to be noted: first, who is acting as agent or principal; second, what are the agency problems that may arise in these relationships; and third, what monitoring mechanism needs to be undertaken to overcome the problems in government agencies.

Defining principal and agent in a government setting is not a simple matter since, as indicated, it really depends on the political system of a country. According to Shapiro (2005), the political system of a country may be a very complicated network because of the diversity of stakeholders with the possibility of being principal and/or agent at the same time. Shapiro (2005: 271) commented on this complexity, as follows:



The political system can, of course, be understood as a complex network of principal-agent relationships composed of citizens, nation states, elected officials, lawmakers, members of the executive branch, administrative agencies, courts, international organizations, ambassadors, bureaucrats, soldiers, police officers, supervisory officials, civil servants, patronage appointees, and even those who monitor other agency relationships inside political institutions and in the market. These actors concurrently play principal and agent roles within and across political organizations.

This comment indicates that a government organization is very dynamic because various stakeholders, with the possibility of role changing, will have an impact on different points of interest. Since one stakeholder may concurrently become principal and/or agent, diverse interest will exist; a stakeholder may deliver his authority to another party, which means he forces the party to fulfil his interest, however, he probably acts for a particular purpose because of his role as an agent (Shapiro 2005).

In a democratic system, where the government leader or the representative members are selected through electoral mechanisms, the public have the highest authority, so they play the role of the principal in the context of the agency relationship; both parliament and the government leaders are the agents (Brodjonegoro and Asanuma 2000, Bergh 2004). It seems then that parliament and the government leader are in the same position in terms of the agency relationship; however, the pattern may be different when the government leader is not elected directly by the public, but by the parliament. This mechanism will lead to a different pattern in the relationship, with the government leader acting as the agent of the parliament, and the parliament acting as both the principal and the agent.

Decentralized government is an example of the implementation of democracy in a lower tier of government. The parliamentary members are selected through direct election. However, the local government head may be selected through either a direct or an indirect election. Furthermore, related to this representative democracy, Groenendijk (1997: 222) defined the relationship between voters and politician as follows:

Without doubt, the relationship between voters and politicians in a representative democracy can be considered to be a principal-agent relationship. Voters want politicians to look after their interests, and in exchange provide these politicians with their votes and thus with positions. Of course, politicians have their own interests, which may diverge from the voters' interests.

The legislature, both individually and collectively, face a difficult situation, because of the obligation to meet the expectations of constituents, while losing their power as the principal of the government leader. Legislative members have a moral responsibility to their constituents as they are elected directly through the electoral mechanism. They need to demonstrate good performance by fulfilling their political promises, but at the same time, they probably seek a return on the high political investment expended during their campaigns. This situation may become more difficult when they wish to be re-elected. In this context, the budget has a very important role in overcoming these agency matters (Akhmedov and Zhuravskaya 2004, Abdullah and Asmara 2007).

As already discussed, agency theory focuses on the existence of asymmetric information that creates moral hazard and adverse selection. In local government, legislative members and government leaders, as the agents in this relationship, have more information about actual performance, motivation and real objectives than the public (Abdullah and Asmara 2007). This may trigger the budget actors to engage in rent-seeking behaviour. Two possible strategies that may be used by the budget actors to optimize their interest are changing the amount of the budget and/or shifting the distribution of the money allocated from one sector to another (Dobell and Ulrich 2002).

Agency conflict may exist between executive and legislative members. The executives intend to optimize their roles as agents since they have more information about the productivity of spending than legislative members have (Grossman and Helpman 2008). In a democratic system where the public elect both legislative members and government leaders, the possibility of using the resource to fulfil these various interests may be more prevalent. One possible way of overcoming the agency problem in local government between the agents would be to create an agreement to provide mutual benefits for both.

Agency conflict may arise in government budgeting. Legislative members are principals for the government, but they are also agents for the public (Wolfers 2002). However, regional leaders are the agents of the public since they are elected by the public. Both legislative members and regional leaders have the same responsibilities to their voters. Voters are becoming more rational; they will scrutinize politicians and not elect a candidate who has shown poor performance. However, Wolfers (2002) argues that agency problems may arise since the public cannot observe all the politician's actions and effort choice. Wolfers' (2002) statement highlights the politician's scope to pursue his or her personal agenda rather than that of the constituents.

In the context of the relationship between principal and agent in government, information plays a significant role in a wide-range of strategic decisions. The issue of asymmetric information to the public, as already discussed, may become more problematic when there is no reliable control mechanism within the organization: the legislative members may abuse their authority in budgeting to optimize their political and private interests.

Politicians and bureaucrats should not ignore the involvement of the public in decision-making because the public has become increasingly critical in scrutinizing government policies. Petterson-Lidbom (2006) stated that the public are more critical and selective in choosing their candidates. Therefore, the public will pay more attention to candidates' performance, both before and after an election. An agency problem arises because of asymmetric information (Brender and Drazen 2009). Legislative members will focus on strategic issues to gain public sympathy, such as budget allocations for the education and health sectors.

#### **2.4. THE POSSIBLE COLLUSION BETWEEN LOCAL LEADERS AND LEGISLATIVE MEMBERS**

Wolfers (2002) does not explicitly confirm the position of the government leader in this relationship. The pattern of the relationship among the three parties (the legislative members, the government leader and the public) may be different depending on the selection mechanism for the legislative members and the government leaders. The two possibilities of these are: first, only the legislative members are directly selected by an electoral mechanism, but the selection of the government leader is under the legislative members' authority. The second possibility is that both the legislative members and the government leader are directly selected by the public.

Based on the first possibility, only the legislative members are public representatives with the responsibility for proving the effectiveness of their performance to their constituents. Through having the authority to select the government leader, they can control the government to a certain degree. Related to these responsibilities, the legislative members must pay great attention to government policies and the impact of these policies on spending. The parliament has the right to refuse spending that provides little benefit to the public (Wolfers 2002). However, collusion between the legislative members and the local leader can occur for two reasons; first, the legislative members need a return on their political investment and also the guarantee of their incumbency in the following election and, second, the local leader has to secure their position.

The second possibility, where both the legislative members and the government leader are selected by the public, creates a different pattern in the principal–agency relationship. Both

the legislative members and the government leader are now in the same position; all of them are agents of the public. This relationship opens up a larger possibility for the occurrence of rent-seeking behaviour since both of them have similar responsibilities to their constituents. This results in the possibility of using a larger budget to meet the interests of both parties. Hillman (2011: 3) stated that, in such democratic systems, the amount of resources spent in political competition becomes larger since parties in government need to maintain their self-image and also to secure their position, especially during their incumbency in the following period.

In decentralized governments, both of these possible relationships may exist. Collusion between the local leader and the parliament in utilizing local resources may occur, as they all have to maintain their interests. Fiscal decentralization has shifted the locus of corruption to the local government level. The responsibility for authorization of budget expenditure and management may lead to abuse of the budget and create space for collusion between the local leader and the parliament to accomplish their diverse interests using these resources. Kumorotomo (2011) found empirical evidence that decisions in local government budgeting are more of a political bargaining process, rather than an effort to determine budget allocation based on regional priorities.

## **2.5. RENT SEEKING AND CORRUPTION**

As stated previously, rent-seeking had a broader meaning rather than corruption (Ngo 2008), corruption is one of the practices of rent-seeking. However, some scholars stated corruption was indistinguishable from rent-seeking and both terminologies had been frequently used interchangeably in their articles (see Mauro 1998, Mauro and Driscoll 1997, Colombatto 2001).

Colombatto (2001) argued that the corruption associated with the exploitation of power to infringe the existing contract. The existence of corruption can be viewed as well in a principal-agent framework, in which one of them attempts to find the likelihood of generating and extracting rent. The possibility may take place because of the absence of competition, and also a poor control mechanism.

Corruption is defined as the abuse of public power to provide private benefit (Shleifer and Vishny 1993). It is an illegal action as it shifts the property rights of the public to the third party. In a public sector organization, this behaviour may exist in the form of bribery, theft and fraud. Different from corruption, rent-seeking is not necessarily illegal, it can be legal (see Khan and Sundaram 2000). Yet, both rent-seeking and corruption lead to ineffective resource allocation, which will be harmful to performance. According to this point of view, it is apparent that corruption can be included as one of the forms of rent-seeking as it has some similar

characteristics of rent-seeking; it associates with the optimization of power, transferring resources and will potentially be detrimental for local outcome.

Most of studies related to corruption used perception of corruption (released by international bodies) as the proxy (Mauro 1995, Mauro 1998, Tanzi and Davoodi 1998, Warburton 1998, Tanzi 1998), however several studies tried to employ other ways to detect the existence of corruption. Ferraz and Finan (2009) attempted to determine the existence of corruption in local government using audit reports. The valuation of corruption is derived from the portion of the resources from central government transferred to local government that related to fraudulent purchasing, excess funding and also over-valued procurement of goods and services. Applying audit reports to investigate the existence of corruption helped to distinguish the part of the resources that is free from opportunistic behaviour.

A study conducted by Olken (2009) investigated corruption, by measuring the perception of corruption in a road development project. In that study, the researcher constructed a comprehensive measurement by using an independent team, which consisted of engineers and surveyors involved in the project. In this study, the researcher also organized a survey by interviewing the villagers (around the projects) to estimate the cost of the project. The independent team also calculated the estimation of road cost by quantifying the material purchased. The difference between the villagers' assessment of the road cost and the engineers' calculation were labeled as 'missing expenditure' that reflected the indication of corruption.

The measurement of corruption by Ferraz and Finan (2009) and Olken (2009), seemingly focused on the valuation that is the part of the budget spending that does not relate to goods or services. The term 'missing expenditure' refers to a specific interest that may be waste rather than providing benefit to the local government. This valuation is in line with the definition of rent-seeking that emphasized the accomplishment of self-benefit which is not supported by productive contribution (Fisher and Sweeney 1998, Murray 2012).

## **2.6. RENT-SEEKING POSSIBILITIES IN DECENTRALIZED GOVERNMENTS**

### **2.6.1. The possibility of rent-seeking in decentralization**

Decentralization is intended to improve governance at the local level by transferring some authority from central government to local government. This is based on the understanding that the local government has more knowledge of local needs and capacity, so they are able to make better decisions about the policies that should be prioritized and what related

strategies and resources are needed. Decentralization also brings the public closer to the government with more opportunities to criticize and control government policies (Tiebout 1961, Oates 1972, Bird and Vaillancourt 1998, Brodjonegoro and Asanuma 2000).

Fiscal decentralization will increase the efficiency and productivity of public resource allocation, improve public services and, in turn, will hopefully impact favourably on the level of public welfare (Ye'an and Quan 2008, Adam et al. 2008, Martinez-Vazquez and McNab 2003). Public welfare may also be stimulated by improvement in the quality of public policies associated with delivering goods and services (Rodríguez-Pose and Ezcurra 2011). Fiscal decentralization will also encourage the local government to compete against other local governments in providing a better quality of local public services, accelerating the government's motivation to achieve local goals (Tiebout 1956, Musgrave 1959, Smith 2012).

Adam et al. (2008), Ye'an and Quan (2008) stated that the fiscal decentralization provides some advantages to local government and the community since this governance system opens opportunities for efficient and effective resource allocation, the improvement of public service and a stronger public control mechanism. The legislative and the executive become closer to the public, especially with their constituencies. Such a closer relationship, with a stronger control mechanism, should make the government more careful in using the local resources and increase the level of their services to the public. In turn, this will hopefully improve the local performance.

Rondinelli et al. (1989) highlighted the importance of infrastructure budget allocations: they will not only contribute positively to the prosperity of the public, but will also encourage worker productivity, create an efficient market and also enhance work opportunities and business. This opinion is in line with Musgrave (1959), a theorist of public finance, who emphasized three main objectives in budget policy: first to allocate the resources efficiently to accomplish public needs, second to organise the distribution of income and wealth; and third to maintain stable economies. For example, as the local government aims to be efficient, the government is encouraged to allocate the budget resources appropriately to meet the public needs; and also prioritise capital expenditure, to promote productivity, rather than on current expenditure. One of the considerations in allocating resources relates to how the local government can minimize the output distribution of the goods provided to other area(s); the efficient allocation will be harmful when it does not benefit optimally the locality (see Oates 1968).

There have been numerous of studies that support the theory that fiscal decentralization improves local growth (Akai and Sakata 2002, Adam et al. 2008, Stansel 2005, Lin and Liu 2000, Zhang 2006). Lin and Liu (2000) investigated the impact of fiscal decentralization in

China on local government economic growth. Economic growth was measured by the growth of per capita GDP while the proxy of fiscal decentralization was measured as the marginal retention rate of revenue collected from local resources. This study also utilized some control variables, such as fiscal capacity, the rate of population in rural areas, total population, and also growth rate of per capita fixed asset investment. The results of the study confirmed that fiscal decentralization, both in lagged 1 and 2 years, had a positive impact on local economic growth.

Adam et al. (2008) investigated the influence of fiscal decentralization in public sector efficiency in OECD countries, focusing in the education and health services; the main sectors that the local governments should provide well to the public. The interesting idea of that study is the proposition that the relationship between fiscal decentralization and public sector efficiency should not be viewed linearly, but in a U-shaped relationship. Adam et al. (2008) provided an evidence of the benefit of fiscal decentralization in increasing local government efficiency in both two sectors, however the degree of fiscal decentralization should be maintained as the increase at a certain point will reduce the efficiency.

Using the number of country government per 100,000 resident and also the number of public school system per 100,000 resident as the measurement of fiscal decentralization, Stansel (2005) found a similar finding that fiscal decentralization had a positive impact on economic growth. In his research, Stansel (2005) employed growth in the log of population and growth of log real per capita money income.

However, some scholars have argued against this positive view of fiscal decentralization, arguing that fiscal decentralization can negatively impact on local economic growth. Zhang and Zou (1998) highlighted similar decentralization impact on local performance. They used labour growth and tax rates as indicators of local performance and found that labour growth positively influenced local economic growth, but not significantly. Zhang and Zou (1998) also found that the degree of fiscal decentralization had a negative impact on economic growth, but again, not significantly. Another finding, again insignificant, was that an increase in the tax rate negatively influenced growth. This finding provides an important indication that local government policy of tax increases may be counterproductive since it will negatively impact on local performance. Considering the (local) tax as one of the main resources of local government funding, this empirical evidence provides a further question as to why local governments perform badly, even though they have greater funding.

Thornton (2007) provided empirical evidence that fiscal decentralization does not relate significantly to economic growth. In this study, he used the average of a local tax to total local

revenue as the proxy of fiscal decentralization, and some control variables, namely per capita income at the beginning period, average local investment and human capital. In a separate equation (without fiscal decentralization), all of the control variables had a positive impact on economic growth, the impact became insignificant when fiscal decentralization was included as a variable in the equation.

Another study by Bodman (2011) differentiated between local governments by the number of electoral mechanisms used to select the intermediate and lower tiers of government. He divided these mechanisms into three parts: the local government with no election for these tiers, the local government with only one electoral mechanism, and those with elections for both intermediate and lower tiers of government. His findings indicated that governments with more electoral mechanisms tended to have lower growth. This is very interesting because the government with more representatives should ideally perform better since representatives have the responsibility of performing well for their constituents. According to this study, there is no guarantee that more electoral mechanisms will impact favourably on local performance. More electoral mechanisms do not trigger representatives to be more aware of their responsibilities to the public; for example, by encouraging and supporting the government to increase public well-being. This finding also indicated that a more decentralized government does not mean more improvement in local government performance.

Table 2.1 below provides a summary of the research relating to the impact of fiscal decentralisation.



**Table 2.1 Results of research on the impact of fiscal decentralization**

Study	Dependent Variable (Economic Growth)	Independent Variable (Fiscal Decentralization)	Result
<b>Zhang and Zhou (1998)</b>	Real growth rate of income	Degree of FD; total labour force and tax rate; degree of openness, inflation rate, and investment rate	<ul style="list-style-type: none"> <li>• Labour growth has positive impact on growth but insignificant</li> <li>• Tax rate (both provincial and central tax) has adverse effects, but insignificant to growth</li> <li>• The degree of FD has negative association with growth</li> </ul>
<b>Stensel (2005)</b>	Economic growth, growth in the log population and growth in the log real per capita money income	The number of general purposes government per 100,000 residents and the number of public school per 100,000 residents	<ul style="list-style-type: none"> <li>• The number of county governments per 100,000 residents related significantly to both population growth and growth of per capita income</li> </ul>
<b>Thornton (2007)</b>	Average real GDP growth per capita	Average tax revenue of sub-national government. Three control variables in economic growth: initial per capita income at the beginning year, average investment to GDP ratio in the period, and human capital	<ul style="list-style-type: none"> <li>• FD and economic growth do not relate significantly.</li> <li>• The control variables are statistically significant, but when the equation included the independent variable, the impact of the variables becomes insignificant</li> </ul>
<b>Bodman (2012)</b>	GDP per capita in constant local currency units and components of growth in the capital stock, human capital and Total Factor Productivity (TFP) growth	The number of sub-national jurisdictions in the intermediate and lower tiers of government, electoral decentralization (0 if there is no subnational election, 1 if local or intermediate levels are elected, and 2 if both of the officers are elected)	<ul style="list-style-type: none"> <li>• The decentralized indicator related negatively with all economic indicators</li> <li>• Countries with more electoral mechanisms tended to have lower growth</li> </ul>

Adam et al. (2008) and Duflo et al. (2005) emphasized one important factor that could contribute to the negative effects of fiscal decentralization: the increasing role of specific interest groups (legislative members and bureaucrats) due to the increased authority over local budgeting. Fiscal decentralization ideally brings the public closer to the government and increases the public control mechanisms over the government. Nevertheless, fiscal decentralization also triggers both legislative members and government officials to behave opportunistically by exploiting budgets for their own interest. A study conducted by Shleifer and Vishny (1993) arrived at the conclusion that decentralization triggers rent-seeking behaviour, which is reflected in an increase in corruption.

Adam et al. (2008) and also Duflo et al. (2005) emphasized one important aspect that may contribute to the negative effects of fiscal decentralization, which was the increasing role of specific interest groups, particularly members of the (local) parliament and local bureaucrats.

As indicated earlier, in decentralization governance, both of these groups have stronger power than in centralized governments, especially in local budgeting.

Therefore, local jurisdictions should not be conservatively viewed as solely benevolent agents focused on increasing public welfare, but also as agents of specific interest groups. A progressive approach has established the theory of fiscal decentralization in conjunction with the public choice theory. The existence of political institutions has substantially affected the development of fiscal decentralization theory (Kurnia 2012, Fischer 2006, Smith 2012). The objective of fiscal decentralization to bring the public closer to the government and increases the public control mechanism does not necessarily bring positive impact on local performance. However, fiscal decentralization also benefits adversely since it also triggers both legislative members and government officials to behave opportunistically by exploiting budgets for their interest.

### **2.6.2. Rent-seeking behaviour using budget expenditure**

As previously mentioned, the budget plays a significant role in maintaining the legislative members' and government leaders' interests, both for political and individual reasons. Government officials and/or members of the legislative who seek rent in government budgets prefer to choose expenditure, because it provides lucrative opportunities to find rent and is difficult to monitor (Mauro and Driscoll 1997, Mauro 1998).

Evidence suggests that local government budget authorities tend to benefit themselves by using the budget. Studies conducted by Mauro (1998), Dobell and Ulrich (2002), Brender and Drazen (2009), Keefer and Khemani (2004), Tanzi and Davoodi (2006), Abdullah and Asmara (2007), and Iqbal and Daly (2013) confirm the use of budgets by politicians and/or bureaucrats for their own interest, either for self-welfare or political interest. The findings of these studies show the substantial role the budget plays in accommodating the needs of both the authorities and their constituents. Power utilization to accomplish self-interest may become a common phenomenon, especially when the authorities have limited resources to cover the needs.

Both legislative members and the government leader have an obligation to accomplish their political promises during the campaign, particularly to their constituents. However, they will probably find the opportunity to favour themselves individually or collectively in terms of their political investment; for the resources spent to become a member of the parliament or the government leader. The obligation to satisfy the public can be more beneficial when they are running for a forthcoming election. They have an excellent opportunity to allocate the budget to the sectors based on the public's preferences to obtain a political benefit. The selection of

the budget sector allocations has become imperative to meet those interests (Eslava 2005, Mourao 2008, Akhmedov and Zhuravskaya 2004).

Some scholars have identified certain types of expenditure that are preferred by budget actors to optimize their own interests since these bring an excellent opportunity for rent-seeking. Legislative members and local government leaders prefer to choose capital or particular project expenditure rather than the operating expenditure because these budgets are relatively uncontrollable (Tanzi and Davoodi 2006). Decisions around budget allocation on particular projects may not be based on priorities, but on the opportunity to obtain bribes (Abdullah and Asmara 2007, Mauro 1998).

Some sectors are manipulated because they are relatively difficult for the public to monitor or understand. However, the spending on these areas will have an impact on the increase of public trust and support for the government. A study by Tanzi and Davoodi (1998) attempted to find the empirical evidence of escalating public investment because of corruption. The authors presume that corruption tends to boost the scale of the development of projects in certain areas which possibly causes the decrease in budget allocation to other areas such as education and health. There is a possibility of collusion between certain interest group(s) in government and the contractor(s) in order to win the bidding of the government's project. As the consequence, the contractor should pay a certain percentage or amount of the project's value to the interest group. The escalation of the spending on capital projects also reduced the allocation of the budget on other public service areas, such as operations and maintenance (Tanzi and Davoodi 1998, Tanzi and Davoodi 2006). This behaviour may decrease productivity which in turn will be harmful to economic growth. The study provides the evidence that there is a significant correlation between public investment and corruption indices; there is a strong indication that this sector brings the budget actors a lucrative opportunity for rent-seeking. The important finding of this study is the evidence of substantial decreases in economic growth caused by the behaviour.

A similar study by Mauro (1998) investigates the evidence of budget composition changes related to the existence of corruption in government. Mauro (1998) states that the government does not always deliver the services or goods expected by the public, as politicians may intervene in the budget allocation decision for their particular interest. This study focused on certain areas related to the occurrence of corruption; education, health and defence. This study emphasizes the importance of finding the relationship between the composition of budget expenditure rather than on the overall budget as the determinant of local government performance. Certain levels and types of the budget sector(s) are believed to have a substantial effect on economic growth. Therefore, the study of the relationship between

corruption and budget composition changes are relevant to find the answer to the causes of poor performance of the government since it might transfer the proportion of the budget of productive sectors to corruptible areas. Mauro (1998) assumed that the possibility of rent-seeking is larger on capital expenditure or military apparatus rather than on books or wages for educators. Similarly, in the health sector the remuneration for medical personnel provides less opportunity for corrupt behaviour than the procurement of health infrastructure or equipment. The result of the study indicates that there is a negative relationship between the existence of corruption with the composition of budget expenditure on the education sector measured as the ratio of GDP or as a share of total government consumption expenditure. The other finding shows that corruption also influences the decline in budget allocations for the health sector. The study provides evidence that most corrupt countries tend to reduce the composition of the budget on education or health and shift the composition to other area(s), because the education and health sectors bring limited opportunity for rent-seeking behaviour.

The above studies provide empirical evidence that budget expenditure plays an important role in serving legislative members' interests. It seems that the legislative members may attempt to maximize their authority in budgeting for their own interest. The legislative members have a significant role in local government spending; they have the authority to reject the budget expenditure that does not provide a positive return for the government. Legislative members have a strategic role in evaluating and controlling the government's policies and the consequences of budget expenditure, however, the right to refuse the budget creates opportunities for the members to use the budget in optimizing their own interests.

Bradbury and Stephenson (2003) conducted research that investigated the relationship between the number of commissioners in county governments and the local expenditure. This study also emphasized the influence of the political institution's role in local government budgeting, particularly in decisions about the allocation of resources. The political institution in this study refers to the legislative members, however to some extent it also investigates the role of city and county (leaders) in that strategic decision. The studies employed a simple multiple regression approach to finding the effect of the number of commissioners on local government expenditure. The researchers used two measurements of local expenditure budgets: total expenditure and net expenditure to find further evidence about the type of budget(s) that have been affected: welfare, hospital and health spending; police and correction; natural resources and highway; and highways. The result of the study shows that the number of commissioners had a positive impact on the total expenditure. The positive influence of the number of commissioners was also robust across the four components of the budget.

Scully (1991) affirmed that rent-seeking behaviour using expenditure budgets would bring three important consequences. First, is an increase in budget expenditure; as the budget expenditure experiences growth, the opportunity to obtain more benefits, from certain types of expenditure budget sectors, will be greater. The second implication relates to the possibility of budget reallocation, shifting resource allocations from particular budget sectors to other sectors that provide greater opportunities for rent-seeking. This may occur when the total budget remains constant over time. The increase of the budget, albeit insignificantly, can be rationally explained as inflation or due to wage increases, or similar matters. In this situation, the rent-seeker will shift the budget allocation to sectors that provide the highest benefit and are less controllable. The third implication is diverting the productive budget to unproductive sectors. This might happen when there is no possibility of rent-seeking either through proposing a larger budget or by shifting to more lucrative areas. As the resources used in this approach are withdrawn from productive activities, this will directly impact on local economic performance.

Other research conducted by Keefer and Khemani (2004), Tanzi and Davoodi (2006) and Abdullah and Asmara (2007) confirm the previous research (Dobell and Ulrich 2002, Brender 2003, Bradbury and Stephenson 2003) related to the possibility of using the budget for the legislative members' own interests. All of the studies provided evidence that legislative members tended to take advantage of their authority in local government budgeting. Keefer and Khemani (2004), Tanzi and Davoodi (2006) and also Abdullah and Asmara (2007) provided further evidence that legislative members generally choose budget spending sectors that bring more lucrative opportunities for benefiting themselves and that are relatively uncontrollable. The education and health sectors are the primary sectors that should be provided to the public, therefore most governments allocate spending in this area at a higher proportion than other areas. However, the budget allocation for these areas are frequently reduced, shifted to other areas (particularly capital projects), because the education and health sectors provide less opportunity for rent-seeking.

### **2.6.3. Measuring rent-seeking behaviour in budget expenditure**

Rent-seeking, especially in government budgets, is hard to measure because the resources used can be undetectable. However, there are some opportunities to measure indications of this behaviour (Hillman 2011). Various studies have been conducted to show the budget role in optimizing the individual interests of particular groups. Keefer and Khemani (2004) provided empirical evidence of legislative members maximizing their own interests by using the budget. Research conducted by Brender (2003) provides powerful evidence that legislative members attempt to maximize their authority in managing budget composition, especially during an

election year when seeking to maintain their position. Similar research shows the important role of budget expenditure in meeting both political and individual interests (Abdullah and Asmara 2007, Grossman and Helpman 2008, Mixon and Wilkinson 1999, Santiso 2004)

Research studies regarding the *extent* of rent-seeking have also been attempted by scholars. Katz and Rosenberg (1989) introduced a measurement model to investigate rent-seeking behaviour using expenditure budgets. These researchers attempted to establish an approach to measure rent-seeking using two main assumptions: first, every change in the proportion of the budget is the result of rent-seeking; second, the total amount of wasted budget equals the total change in the proportion of the total budget allocated to different interests. Further measurement by Katz and Rosenberg (1989) related to the social cost or waste produced in rent-seeking as a proportion of total income. Using this approach, they tried to investigate the inefficient spending in each amount of income earned by the government. The study used sample data from 20 countries, mixed between developed and developing countries. The study provided descriptive evidence of the smaller size of rent-seeking in developed countries than in developing or less developed ones. Furthermore, Katz and Rosenberg (1989) attempted to examine the rent-seeking proportion of Gross National Product confirming a correlation between the total amount of rent-seeking and the percentage of waste induced.

As already discussed, the model of Katz and Rosenberg (1989) is limited by its assumptions since not all changes in budget allocations indicate rent-seeking behaviour. Scully (1991) argued that Katz and Rosenberg's (1989) formula was biased since they constructed the total changes of budget allocation as a rent-seeking measurement, which probably underestimates in both upward and downward directions.

Scully (1991) attempted to revise the Katz and Rosenberg (1989) model to measure the social cost of rent-seeking by dividing the total budget changes (as proposed in Katz and Rosenberg's (1989) approach) with economic growth<sup>3</sup>. In his approach, Scully (1991) assumed the importance of finding the impact of budget changes on government performance; which is partially measured by economic growth. In this study, Scully extended the Katz and Rosenberg (1989) model by estimating rent-seeking not only in terms of the proportion of each budget sector, but also in the amount of the budget. Scully (1991) argued this approach assists in determining the real amount of the budget that is being optimized for rent-seeking. In this study, Scully (1991) employed the data of federal, state and also all local governments.

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<sup>3</sup> Economic growth is measured by calculating changes in the current year's gross domestic product (GDP) compared to GDP in the year before (Scully, G. W. 1991. 'Rent-seeking in US government budgets, 1900–88.' *Public Choice*, 70:1, 99-106.

One result of the study is that the estimation of rent-seeking in federal government was larger than the state and local governments.

Katz and Rosenberg (1994), however, criticized Scully's (1991) approach. Using the same data from their previous study, Katz and Rosenberg (1994) adopted the Scully model (1991) to measure the dissipation of rent-seeking in government performance, and confirmed a substantial difference to their previous research. Katz and Rosenberg (1994) stated that Scully's model (1991) potentially brought substantial bias that may provide a significant difference in results compared with the Katz and Rosenberg (1994) approach. However, Katz and Rosenberg (1994) invited researchers to compare their model with Scully's model (1991) to determine the accuracy of measuring rent-seeking and the waste produced.

These models were discussed by Schnytzer (1994), Adam et al. (2008), Allard (1995) and (Demirbas 1999). Schnytzer (1994) conducted a study using Katz and Rosenberg (1994) to find out whether the model was suitable for countries with diverse political systems. Schnytzer (1994) concluded that the pattern of budget allocation within distinct political systems might be different from one to another and, as a result, Schnytzer (1994) demonstrated that the model was not applicable to cover countries with various political systems. Adopting the model without considering a country's political system could mislead and create an inaccurate result in relation to rent-seeking.

Schnytzer (1994) also commented that it was critical to differentiate between changes due to disorder, changes that remained constant and changes that had occurred because of the existence of government social or development policies. Considering this comment, it is necessary to separate the changes in each budget sector to distinguish the ones with constant changes and the others showing a fluctuating trend. Such distinctions will help to indicate which budget sector changes can be explained rationally and which cannot, perhaps showing rent-seeking behaviour.

Schnytzer (1994) also highlighted the importance of examining the budget to distinguish between productive and unproductive budget sectors. An investigation is required to determine whether there is a movement of budget allocations from productive areas into sterile areas, especially in a given period. This may again be an indication of the budget being used for personal interest. This will have an impact on the portion of allocations to productive sectors, and will directly impact economic growth.

Using a simple econometric approach, Allard (1995) showed that adopting the Katz and Rosenberg (1989) model would bring out at least two principal issues; first whether the

changes will constantly occur in extended periods of time and second whether the related benefit will be temporary or stable. The other issue should be considered in implementing this approach is the likelihood of changes in the pattern of the budget that may not be the same in areas with different political systems and cultures.

These findings are similar to those of Schnytzer (1994), particularly in first identifying any trend in budget expenditure to find patterns in budget changes. If the budget irregularly changes, it may indicate a change in policy or some particular interest in budgeting, one of which is rent-seeking. Secondly, when the budget changes remain constant or change insignificantly, the possibility of rent-seeking may be indicated by shifting the allocation to sectors that provide more opportunities to obtain benefits.

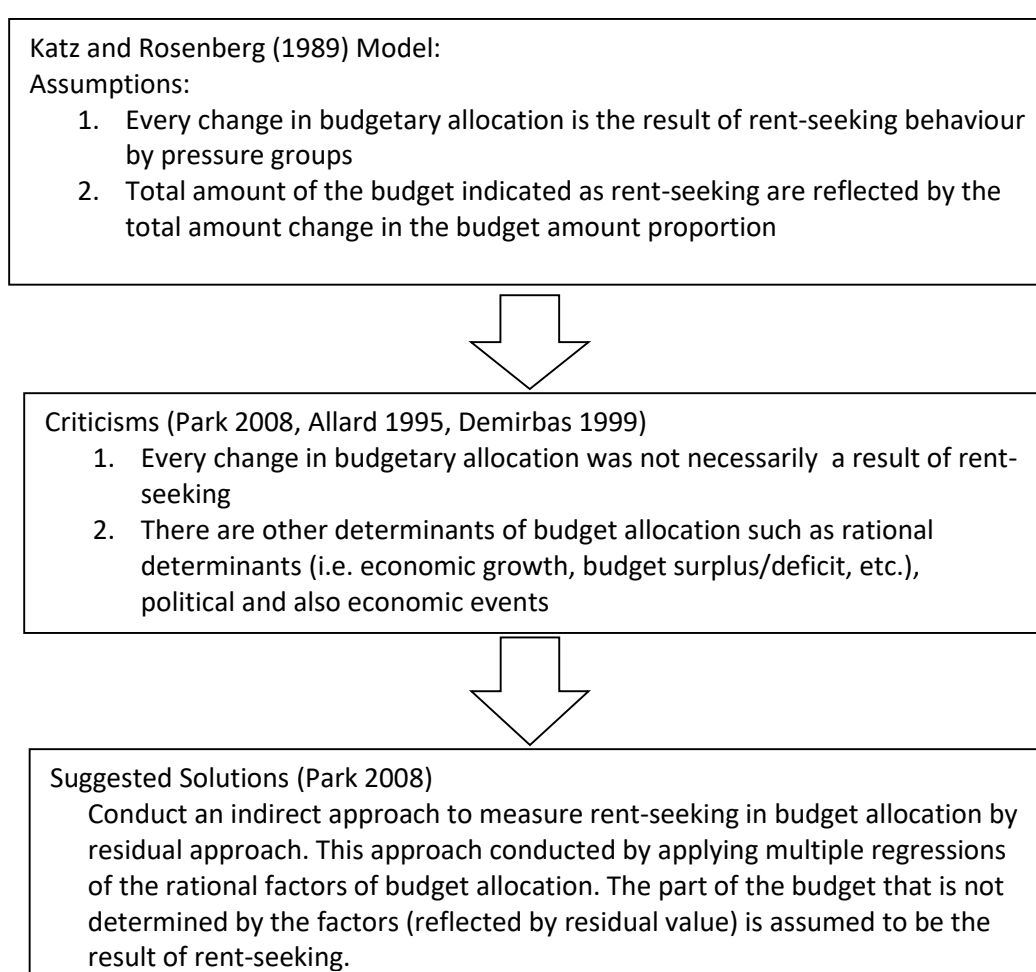
Another study conducted by Demirbas (1999) that continued using the Katz and Rosenberg (1994) model, used a different period of data and distinguished between developed and developing countries. The findings of the study confirmed a real difference in rent-seeking patterns between those countries, with total budget changes being higher in developing countries than in developed ones.

A meta-analysis study conducted by Del Rosal (2011) endeavoured to compare the model proposed by Katz and Rosenberg (1989) and by Scully (1991). Related to the study of Katz and Rosenberg (1989), Del Rosal (2011) stated that the basic assumption of the model was very genuine, however, Katz and Rosenberg (1989) had proposed a challenging model that applied accounting approaches in measuring rent-seeking. Related to Scully (1991), Del Rosal (2011) commented that the proposed model still had a weakness because it provided little evidence of the impact of rent-seeking on economic growth. Del Rosal (2011) argued that the primary problem with the model is that they could not explicitly explore the real waste in expenditure. Nevertheless, it is always backed up by strong assumptions about what is called 'waste' in this behaviour.

A model by Park (2008) is more progressive as it emphasizes the necessity of including other factors that may be a material consideration for the allocation of the budget, such as annual incremental trends, political and economic events, and rational determinants. This suggestion is in line with the work of Pasour (1987), which states the importance of focusing on facts outside of economic reasons in order to understand whether a particular activity might become harmful or beneficial. This provides a stronger argument to first separate rational factors in budget allocation before determining the parts that are influenced by rent-seeking motives.



Park (2008) employed an indirect approach by using residual estimation in measuring rent-seeking effects in budget allocation. The author applied multiple regression using three group determinants as independent variables: first the rational determinant which consists of growth rate, inflation, estimated revenue and current surplus/deficit; second the political and economic determinant; and third the incremental determinant which is the budget in the prior year. The part of the budget which is not affected by those three determinants (the residual value) is then assumed as the result of rent-seeking. This model is more rational because it includes the other determinant factors suggested by other scholars, such as Naert (1990), Haan (1997) and Aert (2010). The criticism of Katz and Rosenberg's (1989) model and the alternative revised model introduced by Park (2008) is illustrated in Figure 2.1 as follows.

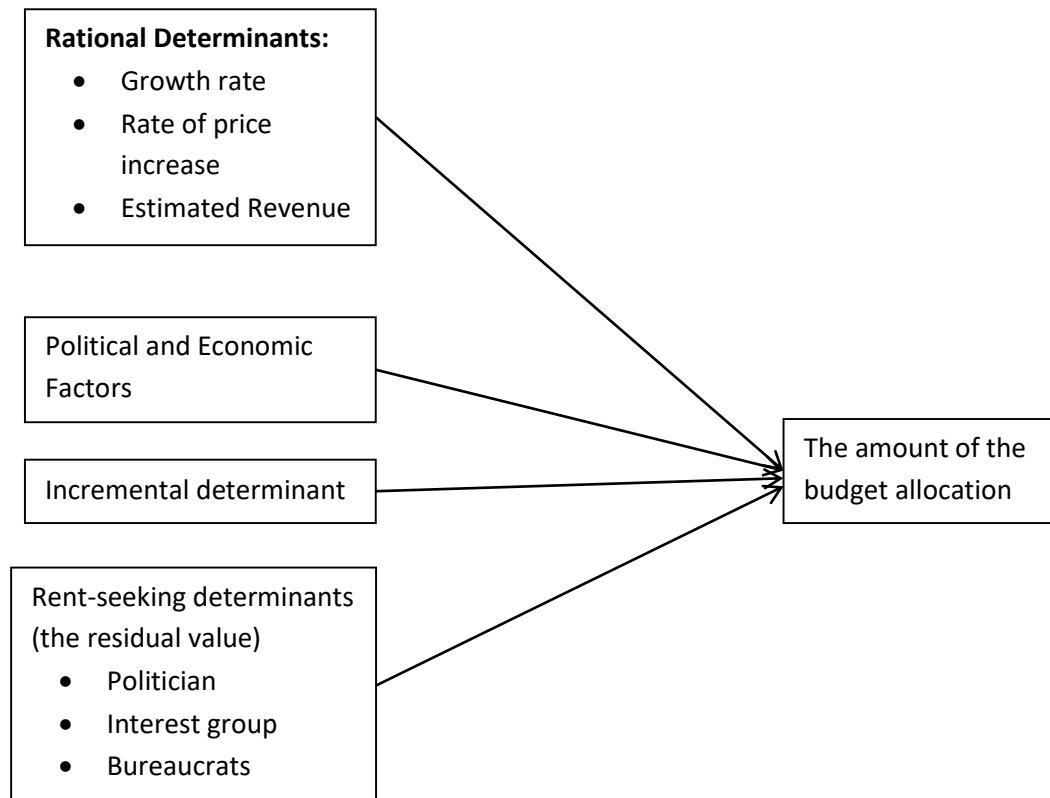


**Figure 2.1 Criticisms of the Katz and Rosenberg model and suggested solutions**

Park (2008) attempted to reduce the number of rational factors in the budget allocation that should be considered in exploring rent-seeking motivations. By excluding the portions of the budget that are influenced by those rational factors, this approach becomes more realistic, because it distinguishes the amount of the budget that is influenced by rational factors from

the remaining amount that is determined by unknown factors. The latter could possibly indicate rent-seeking behaviour.

An illustration of the relationship between the factors, the budget allocation and rent-seeking behaviour is provided in Figure 2.2.



**Figure 2.2 Relationship between determinant factors of budget allocation and rent-seeking (Park, 2008)**

Figure 2.2 suggests how to measure rent-seeking by using the approach developed by Park (2008) as an improvement on the previous methods developed by Katz and Rosenberg (1989). Rent-seeking measurement using this approach will provide insight into the real composition of the budget employed by the budget actors for their own interest. Looking at the trends in the rent-seeking budget activities will help to determine whether or not there is a distinct pattern of rent-seeking in a particular time.

The studies (Katz and Rosenberg 1989, Park 2008) both indicate the role of government expenditure in rent-seeking behaviour. Nevertheless, the measurement by Park (2008) using the residual value as the result of rent-seeking still suffers a weakness as the residual does not directly indicate whether it has an adverse impact, or conversely, positive impact on government performance. In line with the definitions of Hillman (2011), Khan and Sundaram

(2000), Murray (2012), and Fischer (2006), which emphasize the existence of unproductive results from rent-seeking, the residual amount produced from the Park (2008) measurement should be measured against the performance of government.

## **2.7. DETERMINANTS OF RENT-SEEKING IN LOCAL GOVERNMENT BUDGETS**

As described previously, prior study of the impact of the implementation of fiscal decentralization on local performances demonstrated mixed findings. Therefore, there is an indication of indirect relation between fiscal decentralization and its impact. Decentralization does not directly promote local performance; other factors must be considered as determinants. The previous empirical studies indicate three such determinants: the availability of resources, regional demographics and political factors (Fisman and Gatti 2002).

### **2.7.1. The availability of resources**

#### *2.7.1.1. Transfer from the central government*

One of the primary goals of fiscal decentralization is to increase self-reliance in local government funding. The local government is forced to be more productive, particularly in collecting income from local resources. Based on that goal, the local original revenue should be the primary funding of local government. Unfortunately, local governments do not often experience improvement in their own resources. Instead, they tend to rely on steady transfers from the central government (Bird and Smart 2001, Brodjonegoro 2001, Widarjono 2006, Brodjonegoro and Ford 2007, Martinez-Vazquez and Searle 2007)

One of the common problems arises regarding the implementation of fiscal decentralization is the fiscal disparities among the local governments; some local governments have strong fiscal capacity to finance their fiscal needs, conversely others still struggle to find the alternative funding resources. Therefore, to address fiscal disparities within regions, the central government provides financial grants, known as intergovernmental transfers. This funding is intended to address fiscal disparities and to force local governments to be more productive so that they can increase their fiscal capacity (Bird & Smart 2001; Brodjonegoro 2001; Martinez-Vazquez & Searle 2007).

Fiscal decentralization is believed to be a way of reducing corruption, since it will strengthen the public control mechanism relating to government. Fisman and Gatti (2002) confirmed the relationship between decentralization and corruption; a high level of decentralization reduced the possibility of corrupt behaviour. In their study, Fisman and Gatti (2002) used the share of central government transfers to measure the degree of decentralization: a government with a

high proportion of central government transfer in their funding indicates having a low degree of fiscal decentralization. Following the evidence demonstrated by Fisman and Gatti (2002), such a local government has a high possibility of the existence of opportunistic behaviour.

As stated above, the objectives of intergovernmental transfers are to overcome fiscal disparities, both vertical (between the central government and local governments) and horizontal (between local governments) (Martinez-Vazquez and Searle 2007, Bird and Smart 2001, Brodjonegoro and Ford 2007). Transfers from the central government ideally should stimulate the local government to allocate resources to productive sectors and also bring opportunities to increase their local public services and create service improvements (Kuncoro 2009). The local governments also have the opportunity to allocate resources to infrastructure that supports productive activities, thus increasing public welfare. These allocation strategies would bring positive public feedback even if they are associated with a rise in local taxes. In turn, the local governments will be able to increase their local fiscal capacities: to decrease their dependencies on the central government and be able to fund their own fiscal needs.

There are two types of intergovernmental transfers: conditional and unconditional (Brodjonegoro 2001). The conditional transfer is provided by the central government to local government for specific purposes. In this transfer, the central government has determined the use of the funds; the recipient government has no right to allocate the transfer for any other expenditure. With an unconditional transfer, the local government, as the beneficiary, has the authority to use the funds based on their own allocation policies. This transfer is considered a grant allocated to close the gap in fiscal disparities between local governments (Brodjonegoro 2001). It is hopeful that the recipient local government will spend the transfer on areas that stimulate productive activities (Martinez-Vazquez and Searle 2007, Kuncoro 2009, Bird and Smart 2001).

However, some scholars have provided empirical evidence that intergovernmental transfers do not stimulate local governments to increase local revenue. A study by Gemmell et al. (1998) indicated that the central government does not provide a significant impact on increasing revenue. The local government tends to find loopholes for how to retain funds from the central government. This could explain why governments do not perform well: first, they allocate the budget but not to a productive sector; second they attempt to increase the budget expenditure in order to obtain a larger transfer from the central government.

Tsui (2005) examined the impact of intergovernmental transfers on fiscal disparities finding no empirical evidence that such transfers would overcome the gaps in local government fiscal capacities. Instead, he argued that transfers had the opposite effect on fiscal disparities, which

means that the more intergovernmental transfers received; the more fiscal disparities occurred. In conclusion, he argued that intergovernmental transfers, overall, did not have an impact on fiscal equalization.

Gemmell et al. (1998) provided empirical evidence that an increase in intergovernmental transfers did not impact on local original revenue. Local governments attempted to raise their expenditure in order to obtain a larger amount of transfers, however, this did not positively increase the local original income. There are two possible causes for this: first, the budget expenditure was allocated to unproductive sectors; and second, even though allocated to productive sectors, the spending was ineffective and lead to dissipation.

A study of fiscal decentralization in Indonesia conducted by Hirawan (2006) sought to investigate the effectiveness of the central government transfer on stimulating local governments to increase their local revenue. Hirawan (2006) confirmed that during the first five years of decentralization, there was no significant improvement in the local original revenue contributions. The transfer from the central government tended to increase from year to year and still dominated the government budget, where its contribution reached 74.5% of the total local revenue. The indication was that local governments did not significantly increase their local original revenues, as this would have reduced funding from the central government.

Nanga (2005) attempted to investigate the behaviour of local governments in using the grant transfer from central government in local finance. Based on the investigation, local governments tended to increase their spending expenditure, however the local governments did not increase the revenue from local resources. The transfers failed to encourage local governments to be more productive. Nanga (2005) argued that a transfer from central government tends to de-motivate the regional government in terms of self-sufficiency, because the large amount of funding brings the opportunity to spend more, however it was not supported by effort to increase their local tax.

The above studies seem to investigate the impact of transfers using only an *input-output* approach, but they do not focus on the possible ineffective allocation or dissipation in the budget, which could cause poor local government performance. Local governments have the opportunity to utilize the transfers for their own interests, both political and individual. This may occur because they have the budget authority, but limited resources to satisfy their constituents' expectations. As a result, the transfers may dissipate since they are allocated to projects or infrastructure that provides more lucrative opportunities for budget actors to seek rent (Mauro and Driscoll 1997, Mauro 1998, Tanzi and Davoodi 2006).

Related to the ineffectiveness of transfers from central government to improve local self-reliance, Brodjonegoro and Ford (2007) stated that fiscal equalization policies very often only play an important role in overcoming financial problems on the expense side, not on the revenue side. It is very difficult to achieve the objective of decentralization to increase local self-reliance when the nature of the intergovernmental transfer does not stimulate the local government to become more independent. Further examination is required to determine whether the expenditure funded from the transfer promotes better performance in local government, or conversely, stimulates more waste that is harmful to performance. The study of the impact of intergovernmental transfer ideally should relate to rent-seeking behaviour, because with the large amount received, it may trigger the budget actors to abuse their power in allocating revenue for specific interests (Mauro 2004).

In the studies of the effect intergovernmental transfers, local original revenue and natural resources show how these funding resources play a significant role in the existence of rent-seeking behaviour in local governments (Abdullah and Asmara 2007, Gylfason 2001, Leite and Weidmann 2002, Larson 2002). The budget actors who engage in rent-seeking seem to attempt to benefit themselves with resources that are received in a large amount. Local governments seemingly do make an effort to sustain their resources. This phenomenon indicates the possibility of different patterns of rent-seeking behaviour based on the revenue side. It is very important to distinguish between local governments that really depend on transfers from the central government and local governments that rely on their original revenue resources.

This related to the ineffectiveness of revenue resources in improving local performance study reflected the possibility of the existence of negative behaviour in the agency relationship, as stated by Jensen and Meckling (1976), that since the agent may have more information than the principal does, the agent may not deliver the information sufficiently for decision making. The local government, as the agent, tends to propose larger amounts of transfers by increasing their expenditure budget. The central government, as it has less information about the needs and the capacity of the local government, will hardly reject the budget proposal if they do not have supported rational reasons (Brodjonegoro and Ford 2007, Mahi and Brodjonegoro 2003, Tommasi and Weinschelbaum 2007).

#### *2.7.1.2. Local original revenue and natural resources revenue*

One of the objectives of fiscal decentralization is that local government can optimize the funding using local original resources. In the long-term, hopefully they will have the revenue

as the main resources to fund local expenditure. Transfers from central government will ideally decline in line with the greater ability of local government to collect their original revenue.

Regarding the horizontal fiscal disparities, it is common for a local government with substantial local resources, such as local taxes and natural resource income, to have lower fund transfers from the central government than other local governments with inadequate local resources (Martinez-Vazquez and Searle 2007, Bird and Smart 2001). Logically, changes in revenue will have an impact on budget expenditure. The interesting issue arises as to whether the government has a similar pattern of spending from any resources, both the revenue received from the central government and collected from original resources. The difference in the spending pattern is known as the flypaper effect<sup>4</sup> (Hines and Thaler 1995, Widarjono 2006, Kuncoro 2007, Kang and Setyawan 2012, Mukhtaruddin et al. 2013). The information obtained from such studies is how the budget sector dominantly impacts on the decision of local spending.

Kang and Setyawan (2012) examined the flypaper effect in local government budgeting in Indonesia. The background of the study is the phenomenon of the high dependency of the local government on transfers from central government. Kang and Setyawan (2012) use both cross-section and time-series data analysis, covering 188 local governments from 2006 to 2008) for a cross section analysis, and 484 local governments from 2001 to 2008 for a cross-sectional analysis. The study provided empirical evidence that both transfers from central government and local original revenue had a positive impact on local government spending. However, the other finding showed that there was no evidence that central government transfers had a more powerful influence than local original revenue in budget expenditure. There was no evidence of flypaper effect on local budgeting in Indonesia.

Another study conducted by Abdullah and Asmara (2007) intended to investigate the effect of local own revenue on the opportunistic behaviour of the legislature in local budgeting. The researchers used the total change of budget on the education sector, health sector and

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<sup>4</sup> Flypaper effect is a phenomenon of local government to utilize the intergovernmental transfer more on local spending rather than using local original revenue Kang, Y. & Setyawan, D. 2012. 'Intergovernmental Transfer And The Flypaper Effect—Evidence From Municipalities/Regencies In Indonesia.' *KDI School of Pub Policy & Management Paper*:12-06, Kuncoro, H. 2007. 'Fenomena Flypaper Effect pada kinerja keuangan pemerintah daerah kota dan Kabupaten di Indonesia (Flypaper Effect Phenomenon on Local Government Financial Performance in Indonesia).' *Simposium Nasional Akuntansi X*, 1-29, Mukhtaruddin, M., Anastasia, P. & Hasni, Y. 2013. 'Regional Revenue And Infrastructure Expenditure: Is There A Flypaper Practices?' Paper presented at Proceedings of Asian Pacific Conference on International Accounting Issues, Widarjono, A. 2006. 'Does Intergovernmental Transfers Cause Flypaper effect on Local Spending?' *Economic Journal of Emerging Markets*, 11:2.

infrastructure as the indicator of opportunistic behaviour in which the education and health were measured negatively while the infrastructure was a positive change. This measurement relied on the prior studies that indicated the intention of shifting the proportion of the budget from education and health sectors to other sectors that provided more opportunity for rent-seeking. The results of the study confirmed that local original revenue had a significant influence on opportunistic behaviour.

The higher magnitude of local original revenue in budget spending provides another insight to the budget authorities' preference in opportunistic behaviour in local government. One of the reasons for the evidence is that there is a possibility of a reduction in transfers from central government with the better capability of local government in collecting revenue from own resources. The other possibility of the higher significance of local original revenue is the superior power of the legislature in spreading the budget from the resources.

Some local governments (in Indonesia) are rich with natural resources, hence there is a similar possibility of rent-seeking because of these resources. The availability of large income from natural resources has become the primary financing source to promote economic growth, however it also related to slow economic growth. Gylfason (2001) presents a number of reasons why the natural resources become counterproductive to growth, including: first, the availability of the resources is susceptible to rent-seeking motives for example giving certain privileges to investors (in order to obtain bribe) and also altering the allocations to certain sectors; second is the government may be over confident with its richness, tending to abandon improvements to human development, such as providing good-quality education and health services.

Kolstad and Søreide (2009) asserted that one of the main causes of bad economic performance of resource-rich countries is a high level of corruption. A list of countries with their gross of domestic product (GDP) relied on natural resources demonstrated a low level of corruption control, such as Algeria, Gabon, Yamen, Kazakhstan, Azerbaijan etc. Similar to Gylfason (2001), Kolstad and Søreide (2009) contended the modus of corruption in such rich countries as being rent-seeking and patronage. Natural resources become an effective resource, both for politicians and government officers, to increase their prosperity or to manage the sustainability of their authority. One of the examples is using the public-fund more on sector(s) that offer social-benefit, rather than on ones that support economic performance. The consequence is a higher possibility of inefficient allocation which in turn can harm economic growth.



### 2.7.2. Regional factors

Regional characteristics provide an important contribution to the possibility of this opportunistic behaviour (see Abdullah and Asmara 2007, Gylfason 2001, Kolstad and Søreide 2009). Each area may have different resources, with some rich in natural resources such as petroleum. This difference brings an indication of the possibility of different financing patterns. The opportunists will see this as an important factor that must be considered in rent-seeking.

Previous studies have reported that population is one of the important factors of budget determination. Studies conducted by Tayeh and Mustafa (2011) and Okafor and Eiya (2011) in Jordan and Nigeria found evidence of the significant influence of population in determining public expenditure growth. The government must increase the budget allocation as a consequence of an increase in population.

However, population size has also been considered one of the determinants of corruption, since it relates to the capability of the government to provide adequate public goods and services (Alesina and Spolaore 1995). A country with a large population not only needs a lot of resources (expenditure); it also requires an appropriate system to deliver those resources efficiently and effectively in the form of public goods and services. An inappropriate system will lead to excessive or dissipated resources and raise the chance of abuse of authorities in maintaining those resources.

Areas with high population levels have a tendency to increase local taxes; conversely, areas with low population levels will find other potential sources that enable local authorities to optimize their utilities. Goel and Nelson (2009) investigated the factors that determined corruption. They used four regional demographic factors in their investigation, one of which was *state population size*. They showed that the greater the state population, the greater the likelihood of corruption in that state. One of the reasons for this was that the greater population would provide opportunities for formulating relationships between bribe-takers and bribe-givers.

A study conducted by Fisman and Gatti (2002) also provided empirical evidence of a higher corruption rate when the population increases. Knack and Azfar (2003) presented a similar finding of the correlation between population size and corruption.

The other possibility is that some local governments may have small populations, but enough natural resources. A local government with such characteristics may reveal a different pattern of rent-seeking than local governments with a high population and limited natural resources (see Abdullah and Asmara 2007, Gylfason 2001, Kolstad and Søreide 2009).

### 2.7.3. Political factors

One of the factors considered to be a determinant of decentralized government performance is political. In the first generation of fiscal decentralization theory, the local jurisdiction is ideally assumed as a generous steward that always provides the best effort in delivering goods or services to the public (Kurnia 2012, Oates 2005, Weingast 2009). However, this theoretical affirmation is not always appropriate since local authorities have diverse interests that need to be satisfied, including self-welfare or political benefit.

Bhattacharyya and Hodler (2010) emphasized the importance of a strong democratic institution to limit the opportunity for corrupt behaviour among politicians. A bad politician can be a generous politician in a strong democratic institution, so if he believes that he will still remain in his position without the strong political support of the public, the higher the possibility for the politician to optimize himself. In decentralized governance, where the parliament members and/or the local leaders are selected through electoral mechanisms, similar issues probably occur, particularly in areas with rich natural resources.

Political issues often relate to inefficient government. Weingast et al. (1981b) examined the causes of the inefficient allocation of government projects. In the study, they introduced a model which is known as the 'law of  $1/n$ '. The primary idea of this law is that the major cause of inefficient government is the increasing of the number of legislature members; the government becomes inefficient because it has to distribute evenly to the districts of the politicians' constituents.  $1/n$ , where  $n$  is the number of districts, exhibited that the decision of the allocation of the budget on government projects should consider the politician interest in 'n' districts. The policy of budget allocation relied on distribution aspects rather than economic considerations; as a result, it can be unfavourable to government performance. Weingast et al. (1981b) showed the substantial effect of the existence of democratic institutions in determining government projects. The legislature size will escalate the total spending as it demands larger projects. However, it does not guarantee an improvement in economic growth. Several studies confirmed similar findings regarding the positive impact of the increase of legislature size on government spending, such as Bradbury and Stephenson (2003), Baqir (2002), Gilligan and Matsusaka (2001).

One of the weaknesses of Weingast et al. (1981b) is that the study focused on the impact of legislature size on the total government spending, not on the specific individual project. Primo and Snyder (2008) conducted a study to investigate the relation between distributive politics and 'law of  $1/n$ '. Following the law, Primo and Snyder (2008) contended that the amount of the project received by a district could be smaller if the quantity of the districts escalates. As the

government has limited resources, the increasing number of politicians in parliament with their specific constituents (in particular areas) raises an issue of the allocation of the budget, particularly for the distribution of capital projects.

One of the reasons associated with political motivation is the opportunity of re-election (Ferraz and Finan 2007b). The second generation fiscal decentralization theory has provided an insight into the local jurisdiction, not only as a benevolent agent, but also as an opportunist, who seeks self-benefit using their power.

Studies provide empirical evidence of budget utilization by government jurisdictions in order to maintain their political position. An early study related to the budget fluctuations prior to political events was conducted by Rogoff (1990) who proposed a political budget cycle as a medium to detect the possibility of electoral manipulation. In his model, Rogoff (1990) assumed that the public had a high preference toward local government expenditure, particularly related to public goods and services provided by the government. The empirical evidence of this study confirms the high escalation of budget composition change in this sector in the year prior to the election.

Brender (2003) demonstrated that budgeting power really pushes legislative members to behave opportunistically. In his research, Brender (2003) analysed the period before and during an election year and showed that there were changes in budget composition. The politicians shifted budget expenditure to areas prioritized by their constituents. The results of this study provide evidence of the budget significance in serving both constituent preferences and legislative members' political interests.

Another study by Eslava (2005) emphasized the importance of budget allocations to sectors to obtain public votes in elections in Columbia. In this study, Eslava (2005) analysed the effectiveness of budget composition changes in gaining public support during elections. The results of this study indicated that in the year prior to the election, there was a substantial increase in the composition of certain budget areas that aligned with public preferences.

An exploratory study by Kumorotomo (2009) examined the likelihood of budget optimizing in local government budgets in Indonesia. In 2009, when elections were held, it was detected that most of the local governments had not submitted their budget plans to the central government for ratification. There was a propensity among budget authorities to procrastinate in order to insert their interests into the budget.

A similar study conducted by Drazen and Eslava (2010) investigated the possibility of budget composition changes in targeted areas, often known as *pork barrel spending*. The basic

assumption of this study was that voters have their own budget preferences to evaluate the incumbent. Therefore, a policy to increase total budget expenditure will not necessarily influence the public vote. On the other hand, voters dislike budget deficits; they will penalize the incumbent who causes deficits through policy. Accordingly, the policy of increasing the composition of particular budget sectors will be more effective in attracting voters. In this study, Drazen and Eslava (2010) provided evidence of the incumbent's higher chance of winning the election when associated with shifting the composition of the budget to the sectors preferred by the public.

A study conducted by Brender and Drazen (2010) showed that an increased deficit in an election year would negatively influence fiscal deficits in the next election and, in turn, the fiscal deficit would impact negatively on the incumbent being re-elected. The result of this study indicates that the voters seem more rational in choosing their candidates. They will not vote for candidates who exploit the budget for their political interests. This reality suggests that budget actors, who are public agencies, face a difficult situation: to optimize their political interests on behalf of their constituents while serving their own personal interests relating to the budget.

## **2.8. THE IMPACT OF AUDIT REPORT**

As explained previously, one of the ways of reducing the agency problem is by developing sustainable monitoring mechanisms to ensure that agents perform as stated in the employment contract with the principal. This mechanism can involve internal or external auditing. Internal auditing is usually conducted to convince the principal that everything done in the organization is still in accordance with the contract while external auditing usually comes from the owner's (principal's) initiative to investigate whether the agent has performed well in accordance with the contract. Tanzi and Davoodi (1998) suggest the importance of the development of a strong controlling or auditing institution in government, otherwise some particular interest will have a very strong influence in the government's strategic decision, especially related to budget allocations. Furthermore, Tanzi and Davoodi (1998) emphasize, as there are diverse interests in the government, a strong-developed auditing and controlling system will limit the opportunity for shifting the budget allocation to a particular project(s), either in determining the site, the amount or the scheme of the budget.

In an increasingly scrutineering society, the government must be more transparent in the use of budget expenditure to show its responsibility and accountability in using public money. Therefore, the government should provide public access to all information released regarding the government's activities and budget consequences (Tanzi 1998, Ades and Di Tella 1999,

DiRienzo et al. 2007). This will hopefully encourage the public to help control government policies. For the government, this public control mechanism will raise awareness of budget use, avoid misuse and, in turn, increase public trust.

Accordingly, governments should maintain strong internal controls to avoid improper budget usage. An empirical study confirmed that there was an eight percent decrease in missing expenditure when a government announced the possibility of increasing audit activities (Olken 2005). Audit mechanisms are beneficial since they encourage governments to be more transparent and accountable (Djankov et al. 2008). In turn, this hopefully reduces corruption or similar fallacious behaviours in the budget process (Olken 2005, Djankov et al. 2008, Shah 2006)..

In an increasingly scrutineering society, the government must be more transparent in the use of budget expenditure to show its responsibility and accountability in using public money. Therefore, the government should provide public access to all information released regarding the government's activities and budget consequences (Tanzi 1998, Ades and Di Tella 1999, DiRienzo et al. 2007). This will hopefully encourage the public to engage with help control government policies. For the government, this public control mechanism will raise awareness of budget use, avoid misuse and, in turn, increase public trust.

The exposure indicates the critical role of audit in realizing a good governance in the government. Audit is a process by an independent and competent individual to examine and to review of measurable evidences of an entity to ascertain the conformity the evidences provided with the existing provision (Bastian 2014). In local government, the provision is reflected by the regulation issued related the utilization of the resources. Therefore, it can be defined that audit in (local) government is a systematic process to test the validity and the completeness of evidences of financial report produced by the government.

In general, there are two benefit perspectives of financial report; internally and externally. From the internal aspect, the financial report can be a medium of control, tool to evaluate the organizational dan managerial performance, and on the external side, the financial report will be utilized as a medium of accountability of the government to their constituents (Mardiasmo 2006).

Regional governments are concerned to produce financial reports with a certain level of quality which is reflected by the auditor's opinion resulting from the audit of local government financial reports. In a government audit, the auditor's opinion is the statement provided by the auditor about the fairness of the financial statements reported, based on their compliance with

government accounting standards, adequate disclosure, compliance with statutory regulations, and effectiveness of internal control systems (The Republic of Indonesia 2004b). According to Law No.15 year 2005 about Audit of State Finance (The Republic of Indonesia 2004b), there are four types of audit opinions; *unqualified*, *qualified*, *adverse* and *disclaimer*. Rini and Sarah (2015) explain these opinions as follows:

1. Unqualified opinion

This opinion is also stated to be a clean opinion. The auditor concludes that the financial report has been fairly prepared in all aspects and is free from material misstatements related to accounting standards. Therefore, all information in the financial statement can be utilized by users.

2. Qualified opinion

This opinion is issued when the auditor finds sufficient evidence of material misstatements; however, this does not impact significantly on the financial report. The auditor also expresses the opinion that there is no proof of material misstatements which influence substantially, but not in a widespread manner, the financial statement. Consequently, the users still can use all the information in the financial statement, except the information containing a substantive misstatement.

3. Adverse opinion

This report is the opposite of an unqualified opinion, as the auditor states that the financial report has not been fairly prepared and contains material misstatements which, individually or in aggregate, have a substantial impact on the financial statement. As a result, all of the information in the financial statement is not reliable and cannot be utilized by the users.

4. Disclaimer opinion

This opinion is released when the auditor cannot obtain sufficient relevant evidence of material misstatements because of the limitations of the auditing work and so the auditor states that the impact of the misstatements is material and pervasive in the financial statement. Accordingly, the auditor recommends that the users do not use any of the information in the financial report.

These material misstatements can exist due to an intentional element, which is known as *fraud*, or unintentionally, known as *error*. Bastian (2014) states that an audit report will result

in the auditor's recommendation to the government to conduct certain corrections and adjustments to the financial statement. However, the auditor can forward the report to the authorities if they find a criminal aspect (an intentional act) of the finding. These consequences may increase the government's awareness for improving the preparation of financial statements so as to produce fair and true reports.

Audited financial reports have a major role as a monitoring instrument in demonstrating the government's responsibility and accountability in the budget spending associated with its policies. An audited financial statement communicates the performance of an organization in using its resources efficiently and effectively. The public has an interest in such reports to discover government policy in determining priorities in the allocation of budget expenditure, the strategies to achieve the goals and the resultant outcomes. From this perspective, an audit report becomes an important instrument for local budget authorities, both executive and legislative, to demonstrate their performance in budget management, especially if they have a particular interest, such as increasing their number of voters in a forthcoming election.

A study by Human Rights Watch (2007) recommended the publication of local government performance data to encourage good governance and transparency. A favourable perception of the quality of financial reporting will affect behaviour. Audit reports could be a reference for government officials in preparing the budget. Someone with a better educational level may have a better understanding of the importance of the audit report. The audit report can be an effective instrument to control the negative behaviour of budget actors (Khan 2006).

Shah (2006) asserted that governments should maintain strong internal controls to prevent the deviant behaviours of government officials in budgeting. In the context of principal-agency relationships, Adams (1994) emphasized the importance of internal controls in organizations because the principal and the agents have different points of (self) interest. The principals may be aware of the possible existence of asymmetric information that will lead to opportunistic behaviour by the agents. Internal audit is one policy used by principals to maintain agreements with agents, to avoid any non-beneficial matters (for the principal) regarding the optimization of asymmetric information by the agents. Adams (1994) also noted that audits keep agents working efficiently.

Malagueno et al. (2010) stated that the quality of accounting and auditing information plays a significant role in reducing negative behaviours, such as corruption. The possibility for rent-seeking behaviour will decrease when the public has access to accounting and audit information. This will stimulate public control to prevent such negative behaviour in using public money.

Rent-seeking behaviour may occur because of a lack of ethical and moral standards among budget actors (Martinez 2009). That is why it is very important to implement a strong mechanism to control local government use of budgets. According to Government Law No.15 (2004b) Audit of State Finance, regional financial reports must be audited by the Audit Board. This obligation forces regional governments to perform well and be more responsible in using the budget and, in turn, hopefully reduce the possibility of rent-seeking behaviour.

## **2.9. SUMMARY**

Agency relationships in a government organization are complex as each party could be an agent and principal at the same time, depending on the political system or the system of government regulations (Wolfers 2002, Shapiro 2005). As a result, agency problems become greater, given that each party who acts as an agent attempts to behave opportunistically to maximize their utilities.

In a decentralized government, agency relationship patterns at the local level may also be complex because each government authority is likely to maximize their benefits, especially when the prevailing political system forces them to make a substantial political investment in achieving such a position. They are confronted with the dilemma of maintaining power while seeking to get a return on their political investment through profits (Garamfalvi 1997). As a result, the possibility of rent-seeking behaviour will be greater in the midst of limited resources.

The budget becomes a very important instrument in its potential to satisfy this requirement. Consequently, there is a great possibility that the parties who have budgeting authority will insert their own interests into proposed budgets by increasing the composition or amounts of certain sectors to provide maximum benefits (Weingast et al. 1981a, Grossman and Helpman 2008, Brender and Drazen 2009).

The availability of resources is an important factor that can lead to rent-seeking behaviour. Some studies suggest a link between the resources of government and the occurrence of this behaviour. Local government authorities who seek rent tend to retain revenues from resources contributed to the local government. The greater the natural resources revenue collected the greater the risk-seeking behaviour as they have greater authority in budget allocation. In this context, the region may have certain resources that can be relied upon for the amount of revenue available for opportunistic interests. One area may seek to retain revenues from natural resources; other areas may attempt to fight for income through local taxes or transfers from the central government.



As a result, rent-seeking behaviour will not optimize regional development, due to the use of resources for different interests. A strong control mechanism is required to limit the perpetrator's opportunities to exact rents. An audit can be one tool to control the performance of local financial management (Djankov et al. 2008). This mechanism would require local governments to be more careful, both in policy development and budget allocations.

Previous studies on the use of resources managed by local governments focused more on achieving organizational performance, but did not address the deviant behaviour in budget expenditure. These studies reviewed the availability of resources to estimate the performance of the government, rather than to predict the possibility of rent-seeking (see Akai and Sakata 2002, Adam et al. 2008, Stansel 2005, Zhang and Zou 1998, Lin and Liu 2000, Zhang 2006). This is a gap in the literature that is addressed by the current study, which relates agency theory and the decentralization concept with the complexity of interests, and views the availability of resources as a determinant of rent-seeking.

Prior studies show mixed results on the impact of fiscal decentralization on local government performance and indicate possible ineffectiveness of the usage of local resources (see Zhang and Zou 1998, Thornton 2007, Bodman 2011, Hammond and Tosun 2011, Rodríguez-Pose and Ezcurra 2011) with a potential cause being the behaviour of local budget authorities. The identified gap in the literature relates to the availability of resources which can encourage certain parties in local government to benefit themselves instead of increasing the local wealth.

Another gap in prior studies relates to the role of auditing in limiting rent-seeking behaviour. Most of the studies on the role of auditing do not directly relate to rent-seeking behaviour. The current study addresses this gap by establishing a link between rent-seeking and local performance, and identifying auditing as one of the factors that prevent such behaviour.

# CHAPTER 3 : METHODOLOGY AND RESEARCH DESIGN

## 3.1. INTRODUCTION

The primary objective of this chapter is to discuss the research design developed to answer the research questions (as detailed in Chapter 1), which are:

1. What is the size of the potential rent-seeking that determined by the changes of budget function?
2. What factors influence potential rent-seeking behaviour in local government authorities?
3. What is the pattern of potential rent-seeking behaviour based on local resources?

This study develops 6 (six) hypotheses about the influence of determinant factors relating to rent-seeking. The determinant factors are categorized into 3 groups: regional factors (which consist of transfers from central government, local original revenue, natural resources income and population), political factors (which measured by legislative election and local leader election), audit reports. The findings are intended to provide practical data to inform the development of strategies to limit the opportunity of rent-seeking.

The study employed quantitative data analysis to answer the research questions and test the hypothesis.

## 3.2. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

### 3.2.1. Overview of the conceptual framework

This study focused on finding evidence of the impact of significant factors on rent-seeking behaviour in local government expenditure. A considerable amount of literature reports that rent-seeking behaviour relates to maintaining and using resources to obtain self-benefit (Khan and Sundaram 2000, Pasour 1987). Furthermore, researchers have provided evidence of rent-seeking behaviour as the main motive for corruption and bribery in governments (Mauro 1995, Mauro and Driscoll 1997, Shleifer and Vishny 1993, Warburton 1998).

The availability of resources of a local government is critical to rent-seeking. According to a number of prior studies, rent-seeking may take place when local governments have sufficient resources; the greater resources the government has, the more significant is the occurrence of rent-seeking behaviour. In this study, these resources are natural resources, local revenue and transfers from central government (Mauro 1998, Mauro and Driscoll 1997, Bhattacharyya

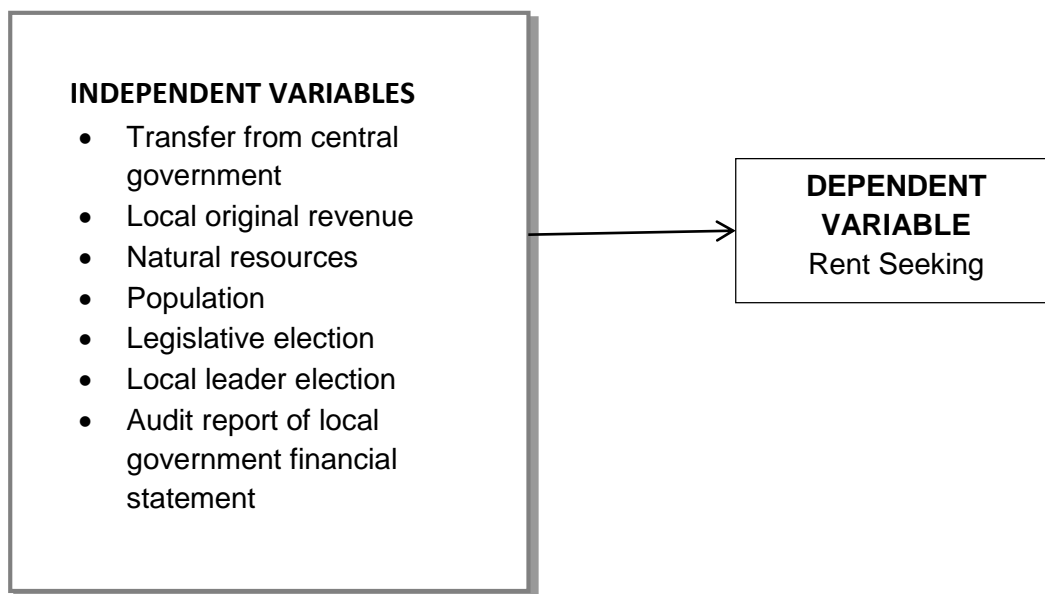
and Hodler 2010, Fisman and Gatti 2002, Abdullah and Asmara 2007, Tanzi and Davoodi 2006).

Population has also become one determinant of rent-seeking. A number of studies have found that there is a higher likelihood of corruption in areas with larger populations (Fisman and Gatti 2002, Goel and Nelson 2009, Knack and Azfar 2003).

Another determinant triggering rent-seeking behaviour is political. Some studies have provided evidence that politicians or government leaders tend to optimize particular budget areas, especially in the years prior to an election (Rogoff 1990, Brender 2003, Brender and Drazen 2010, Kumorotomo 2009, Drazen and Eslava 2010)

An important part of this research relates to the role of auditing in limiting the possibility of rent-seeking behaviour. No prior study has found a direct impact of audit reporting on rent-seeking, however, some studies support the notion that auditing has a significant role to play in decreasing behaviour that is motivated by rent-seeking (Olken 2005, Shah 2006, Djankov et al. 2008).

Based on the relationship between the variables, the conceptual framework was developed and is illustrated in Figure 3.1, showing the independent and dependent variables.



**Figure 3.1 The conceptual framework of the study**

### 3.2.2 Hypotheses development

Seven hypotheses were developed to help answer the research questions relating to the impact of determinant factors on rent-seeking behaviour. These hypotheses were developed in relation to the variables described in Chapter 2 and are discussed as follows.

#### 3.2.2.1. The impact of the availability of resources on rent-seeking behaviour

As stated previously, agency relationships also occur in decentralized government; both legislative members and local leaders are the agents of the public as they are directly selected through the general election (Brodjonegoro and Asanuma 2000, Bergh 2004). Therefore, the agents must be aware of the need to improve the public services in line with the increasingly critical society. Otherwise, it may lead to fewer public contributions (one of which is shown by the drop in tax revenue). Besides, it may also affect changes in public support for the legislative members and the government leader, particularly when they intend to be the incumbent for the forthcoming election (Akhmedov and Zhuravskaya 2004).

The agency issues arise since the agents may strive for opportunities to optimize their self-interest, particularly when they require to have return for their political investment. Hence, the availability of a large amount of resources, combined with budgeting authority, can trigger the budget actors (the legislative members and local government leader) to abuse their power by allocating the revenue to specific interests (Mauro 2004).

The budget has a strategic role as a political tool to achieve the government's goal, however, it is rigid, not flexible as is the case in private organizations (Mardiasmo 2006). Therefore, the budget process (budget) becomes an important means to ensure that the government has released the appropriate policy in allocating resources. As stated previously both government leader and members of the legislature play a significant role in budgeting, in planning, policy formulation and budget approval (Abdullah and Asmara 2007), yet the opportunistic behaviour may occur because both legislative members and government leaders have their own interest that may be different from the government's goals.

The various findings on the implementation of fiscal decentralization all came to the conclusion that local jurisdictions should not be considered generous agents who act as public servants only, but are also agents with diverse interests, either of the individual or specific group interests (Kurnia 2012, Fischer 2006, Smith 2012). This phenomenon can be viewed from the perspective of agency theory; from this point of view, the problem of asymmetric information arises because local authorities (as the agents) have more information about local needs, priorities and objectives than the public (Abdullah and Asmara 2007).

Therefore, the study of the impact of the allocation of local government resources, received from the central government and collected from local original revenue, should ideally relate to rent-seeking behaviour. In terms of the transfers from the central government, research has provided doubt about the effectiveness of the transfer to encourage the local governments to increase local performance. This evidence provides an indication the existence of opportunistic behaviour by local government authorities in using this revenue. As a result, it does not impact on local performance (Gemmell et al. 1998, Tsui 2005, Hirawan 2006).

One of the central ideas in fiscal decentralization relates to equalizing governments, where local governments with weak financial capacities receive larger amounts of transfers from the central government in order to decrease the fiscal disparities between local governments (Prud'homme 1995; Bird & Smart 2001; Brodjonegoro 2001; Martinez-Vazquez & Searle 2007; Werner 2012). However, some empirical studies do not provide evidence of improvement in local government performance even though it has sufficient local fiscal capacity. Ghamkar and Oates (1996) provided empirical evidence that, in order to maintain a large amount of financial transfers, local governments increased the expenditure budget proposed to the central government. As the central government does not fully understand local fiscal capacity, there is a possibility that the local government could inflate local fiscal needs by inflating the need for local expenditure in order to obtain greater funding. This provides greater opportunity for local politicians and bureaucrats to seek rent by corruptly allocating resources to more questionable projects (Scully 1991).

A study conducted by Widarjono (2006) attempted to examine the phenomenon of the flypaper effect in local government. This investigation provided empirical evidence that intergovernmental transfer has a higher impact on local government expenditure than local revenue. The result shows that local governments are more likely to rely on the revenue from the central government rather than other revenues. This may lead local governments to allocate expenditure not to the sectors that promote the local economy or to unproductive areas (Widarjono 2006). Following Tullock (1967), Katz and Rosenberg (1989), Scully (1991), and Del Rosal (2011), the tendency of budget allocation in relation to unproductive activities brings more opportunity for rent-seeking behaviour.

The other factors that trigger rent-seeking behaviour in local governments are local natural resources and local original income in addition to the already discussed transfers from the central government. As stated in the previous section, in fiscal decentralized governments, each local government is pushed to achieve local reliance on their own local resources to fund local needs. Scholars have shown that local governments tend to maintain the resources that

contribute to their local revenue and, the more of a dominant local revenue that is received, the higher the opportunity to maximize profits.

Abdullah and Asmara (2007) undertook research to discover the impact of local revenue on legislative members' opportunistic behaviour. They found differences in preferences between legislative members and executives in allocating local own revenue. The legislative members prefer to allocate the budget to infrastructure and parliament funds, while the executives prioritize education and health areas. With stronger power in budgeting, the legislative members tend to behave opportunistically in maximizing their interests. In the study, Abdullah and Asmara (2007) employed an increase in the budget by legislative members as a proxy for opportunistic behaviour. The result of the study demonstrates the existence of rent-seeking by utilizing local own revenue.

Kang and Setyawan (2012) contrasted the impacts of local regional revenues and transfers from central government on local government spending. The result of the study confirmed that the magnitude of local origin revenue is more influential on local government expenditure than transfers from the central government. Utilizing the revenue for the previous year, it showed that intergovernmental transfers have a stronger effect than local own revenue in determining local government spending. However, using data from the same year, there is evidence that local origin revenue is more powerful in predicting local spending than transfers from the central government. The result of the study emphasizes the domination of local origin revenue in local spending.

Natural resource revenue can also stimulate rent-seeking behaviour. Bhattacharyya and Hodler (2010) investigated the impact of natural resources on corruption and how the quality of democracy could demonstrate the possibility of the existence of this behaviour. The researchers used a game-theory model to find whether the likelihood of corruption increases in an institution with a low level of democracy, or conversely the opportunity declines in a democratic institution. The study confirmed the hypothesis that opportunistic behaviour tends to escalate when the quality of democracy is poor. In decentralized governments with immature democracies, a similar study is needed to discover how local jurisdictions deal with natural resources.

Based on the description on, three hypotheses are developed as follows:

H1: Transfers from central government have a positive impact on rent-seeking behaviour.

H2: Local original revenue has a positive impact on rent-seeking behaviour.

H3: Natural resources revenue has a positive impact on rent-seeking behaviour.

### 3.2.2.2. The impact of population on rent-seeking behaviour

Population should be considered one of the determinants of rent-seeking behaviour. It is logical that a government will increase local spending as the population rises. It needs a lot of resources supported by an effective system in providing public goods and services, otherwise it can lead to wasted resources (see Alesina and Spolaore 1995) and increase the opportunities of power abuse by the budget actors in allocating the resources.

Based on agency theory, as the local authorities have more information than the public, this increase in spending may be exploited in order to seek rent. Besides, in a high population density area, corruption is more likely to occur since there are greater opportunities for bribery (Fisman and Gatti 2002). Ades and Di Tella (1999) stated that the exploitation of the economy of scale to provide public services tends to exist at the lower per capita end of public services, which in turn can lead the escalation of bribery.

Fisman and Gatti (2002) conducted a multi-country analysis to examine the determinants of corruption. One of the factors employed was the size of a country as measured by the total population. The investigation confirmed population as one of the factors that stimulate corruption; a country with a small population tends to be less corrupt than a country with a higher population. The evidence is explained by the rationale that a country with a lower population tends to be more developed than one with a higher population; a less corrupt country is generally correlated with better governance, which in turn improves the country's economic performance.

Another examination by Knack and Azfar (2003) uncovered a greater number of corruption cases in higher population states. The study used the corruption index known as Transparency International's (TI) Corruption Perception Index. The score starts from 0 (indicating the most corrupt) to 10 (the least corrupt). Similar to Fisman and Gatti (2002), this study is also a multi-country analysis using data from 1995 to 1998. The result was as expected that the size of the population has a negative association with the TI, which means an increase in population will lessen the TI; in other words, such opportunistic behaviour tends to escalate when the population increases.

Based on these findings, it is hypothesized that:

H4: Higher population has a positive impact on rent-seeking behaviour.

### 3.2.2.3. The impact of political factors on rent-seeking behaviour

According to agency theory, the agency problem also arises in decentralized governments by the particular interests of local jurisdictions, one of which is political (Kurnia 2012, Oates 2005, Weingast 2009). The political factor should be considered as an essential determinant of rent-seeking in budget allocations, since for a particular politician the budget policies are largely unrestricted. Tanzi and Davoodi (1998) state that political figures in governments have some strategic decisions related to budget: determining the size of the total public investment, the proportion of each sector, and also selecting the allocation of the diverse items of capital expenditure, both in term of the particular projects and their site.

Unlike the challengers, who have to obtain their political costs using private savings or from donations, the incumbents have the advantages of: their authority over the local budget; already being well known through the running of programs; and also having the power to divert the allocation of the budget to the sectors that will potentially increase the number of their voters (Kumorotomo 2009). Politics is one of the factors determining the occurrence of rent-seeking behaviour. Politicians and local government leaders running for forthcoming elections tend to optimize the budget to gain public votes.

Thus, the year(s) before the election become a critical time for incumbents to maintain an increase in public support. A considerable amount of literature confirmed the significance of budget changes in the years prior to elections (Rogoff 1990, Brender 2003, Brender and Drazen 2010, Kumorotomo 2009, Drazen and Eslava 2010)

Based on this, two hypotheses are developed relating to the impact of political factors on rent-seeking behaviour:

H5: Legislative elections have a positive impact on rent-seeking behaviour.

H6: Local leader elections have a positive impact on rent-seeking behaviour.

### 3.2.2.4. The important role of audit reports

One of the recommended ways to prevent agency conflict is by commencing a sustainable audit. The audit activities will encourage the entity to stay always on the right track and perform as expected, in line with the contract, and to accomplish their main objectives (Jensen and Meckling 1976, Adams 1994).

According to the theory, there are two major agency issues which arise, namely moral hazard and adverse selection (Adams 1994). In local governments, the agents (local leaders and legislatures) have advantages as they have more information compared to the public related to



local resources (Mauro 1998). The potential budget abuse can occur since they also have the authority to allocate the resources (Garamfalvi 1997).

Garamfalvi (1997) states that the possibility of opportunistic behaviour may exist in every level of budgeting, starting from the stage of planning to implementation of the budget expenditure. Budgeting opens the opportunity for both local leaders and parliament members to insert their interest in the expenditure budget. Such behaviour is known as *political corruption* since the budget authorities tend to utilise their power in budgeting to allocate the spending not based on public preferences but on the likelihood to obtain self-benefits (see Abdullah and Asmara 2007). However, the possibility of budget misuse in the stage of implementation, which is known as *administrative corruption*, may occur such as manipulation in the process of procurement of public goods (Rinaldi et al. 2007); the budget authorities tend to select partners from whom they (the authorities) can take bribes or commission.

Governments are required to be more transparent and accountable in the use of the budget. Therefore, the related information should be accessible to the public (Tanzi 1998, Ades and Di Tella 1999, DiRienzo et al. 2007). This will encourage the public to actively criticize the policy of the government's budget.

Previous studies have recommended the strengthening of internal controls to prevent the possibility of opportunistic behaviour (Olken 2005, Djankov et al. 2008, Shah 2006). It is, therefore, critical to encourage the local government to be more transparent and accountable in using local resources by releasing financial information to be audited by the supreme audit body. The audit reports of local government financial information will become valuable tools for local governments, promoting their responsible use of public money.

The audit report is a valid performance report, which shows how government performs in its use and management of government resources. The audit report can prevent deviant behaviour in utilizing government budgets. However, an unqualified audit<sup>5</sup> report may increase the public trust in the politician and/or the government leader that in turn can help them to guarantee their position in the following period. A hypothesis was developed relating to the impact of the audit report on rent-seeking behaviour, as follows:

H7: The audit report has a negative impact on rent-seeking behaviour.

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<sup>5</sup> According to the Law no. 15 (2004) about *Audit of State Finance*, there are four types of opinion resulting from this audit (in an order): unqualified, qualified, adverse and disclaimer. The types of audit opinion demonstrate the quality (best to worse) of the financial management.

### 3.3. DATA VARIABLES AND MEASUREMENTS

This research uses secondary data in the analysis. The data was gathered from local government annual financial reports, namely APBD (Anggaran Pendapatan dan Belanja Daerah) from 2007 to 2012. Even though fiscal decentralization began in 2001, this research did not employ data between 2001 and 2004 as the policy change related to the selection of government leaders was not made until 2004. It was, therefore, assumed that the impact of the policy change on regional budgets would not be evident until the following year - 2005. Instead of APBD for the period 2007-2012, this study used the reports of local financial audits starting for the years 2006 – 2011.

#### 3.3.1. Groups of data

The data in this study is categorized into two groups: first, the data for detecting rent-seeking behaviour in government expenditure; and second, the data for testing the research hypotheses.

##### 3.3.1.1. Data for detecting rent-seeking behaviour

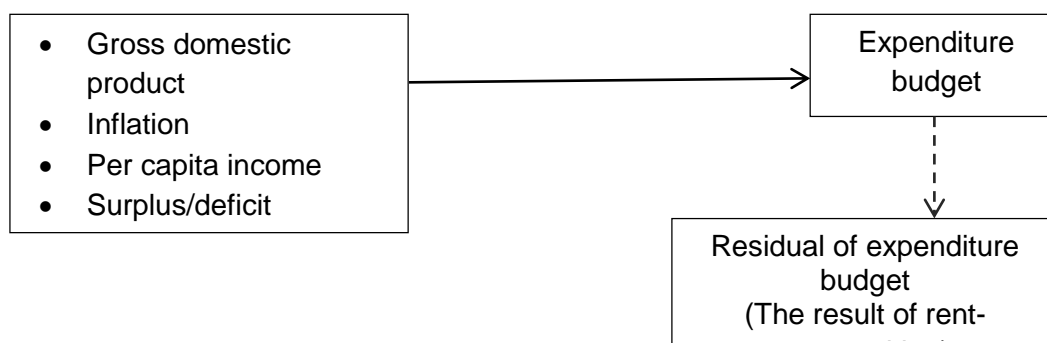
The first part of the data analysis of this study involved identifying the factors that determined budget expenditure allocations. A multivariate approach was used to find out what factors significantly influence budget allocation. A number of steps were taken to measure this behaviour (see more detail in Section 3.4 of this chapter). The related data and measurements are presented in Table 3.1 below.

**Table 3.1 Description and measurement of the determinant variables of budget allocation**

No	Variable(s)	Description	Measurement (scale)
1	Economic Factors GDP	Gross domestic product	The total money value of all goods and services produced during the particular period of time. GDP is usually calculated on the basis of a year.
2	I	Inflation	The percentage of the increase in the consumer price index. However, the data are only available for 66 cities. Therefore, the inflation rate is measured by the increase of GDP deflator. The measurement steps for the inflation rate are as follows:  (i) <i>Measuring GDP Deflator</i> The measurement is as follows:

			$\text{GDP Deflator} = \frac{\text{Nominal GDP}^6}{\text{Real GDP}}$ <p>(ii) <i>Measuring inflation:</i> The measurement of inflation using the GDP deflator is as follows:</p> $\text{Inflation Rate} = \frac{\text{GDP Deflator } t - \text{GDP Deflator } t-1}{\text{GDP Deflator } t-1} \times 100\%$
3	<b>PCI</b>	Per capita income	<p>The average amount of income received by a resident in one year. The formula to measure this income is as follows:</p> $\text{IC} = \frac{\text{GDPT}}{\text{Population}}$
4	<b>SD</b>	Surplus/deficit	<p>This variable refers to the existence of a surplus or deficit in the local government budget. The measurement is calculated by deducting the total local expenditure from the total local revenue.</p>

Adapting Park (2008), rent-seeking behaviour is derived from residual of expenditure budgets that are not influenced by rational determinant factors. The measurement of this variable is expressed in Figure 3.2 below



**Figure 3.2 Determining budget residuals that indicate rent-seeking behaviour**

<sup>6</sup> Nominal is GDP at the current price. This means that nominal GDP in a local context is the market value of total domestic output, both goods and services, at the current prices. The real GDP is GDP at a constant price. The calculation of real GDP must use a particular time, as the base year; this provides the opportunity to measure the inflation distinguished from the price changes.

### 3.3.1.2. Data for testing the hypothesis

The second group of data relates to testing the hypotheses. The data are the proxies of both the determinant factors (independent variables) and the rent-seeking behaviour (dependent variables). The measurement of the data is mostly in scale ratio, except the data of audit reports, which use dummy variables. The data variables and measurements are presented in Table 3.2 below.

**Table 3.2 Description and measurement of the determinant variables of rent-seeking**

No	Variable(s)	Description	Measurement (Scale)
	<b>Experimental Independent</b>		
1	T	Transfers from central government	The amount of transfers from the central government (in Indonesia known as Dana Umum/DAU)
2	LOR	Local original revenue	The amount of income from local original resources. This income is derived from direct and indirect tax collected by the local government.
3	Nat	Natural resources	The availability of natural resources as local income. The total of natural resources income collected by local government.
4	Pop	Population	The population in each local government area.
5	Pol	Political	<ol style="list-style-type: none"> <li>1. Local leader elections</li> <li>2. Legislative member elections</li> </ol> Unit of measurement is the year of the election, both for local leaders and legislative members. The closer the year before the election time, the higher the score will be for the year. As the period between local leader/legislative member elections is five years, the score will be 1 to 5. For example, the time of the election will have a score 5, one year before will have score 4 and so forth.
6	Audit Report	Quality (type) of audit report of local government financial statements	The report will be measured by four type of audit opinions, with a higher score indicating a better report. A disclaimer will be scored 1, adverse opinion will be 2, qualified opinion will be 3 and an unqualified opinion will be 4.
	<b>Experimental Dependent</b>		
9	R	Rent-seeking behaviour	Residual amount resulted from the multiple regression of rent-seeking with the determinant factors. It means that it is the amount of the local budget that is not influenced by the determinants (see Section 3.4 in this chapter)

### 3.3.2. The source of data

Both APBD and audit reports are published by the Indonesia Finance Minister. The other data - local gross domestic product and revenue per capita – are published by the Indonesia Statistical Bureau.

All data are available in hard copies in the institutions and can be accessed through photocopying or purchased. The data used, and the sources of that data are described in Table 3.3 below.

**Table 3.3 Data and source of the data**

No	Data	Source of Data
1	Local government financial reports (APBDs)	The Ministry of Finance of The Republic of Indonesia
2	Audit reports of APBDs	The Ministry of Finance of The Republic of Indonesia
3	Local gross domestic products	The Indonesia Statistical Bureau
4	Local demographic factors	The Indonesia Statistical Bureau
5	The local leader and legislative elections	General Election Commission

### 3.4. ANALYZING THE DATA

The analysis in this study consisted of four steps: evaluating the budget changes; measuring rent-seeking behaviour in local government expenditure; testing the research hypothesis; and finding the pattern of rent-seeking based on local resources. In this study, the Park (2008) model was adopted to measure rent-seeking behaviour, a revision of the Katz and Rosenberg (1989) model. Park's (2008) model will enable the identification of parts of the budget expenditure that may be influenced by rent-seeking motives. However, Park's (2008) measurement still does not demonstrate whether rent-seeking behaviour adversely affects local government performance or vice versa.

#### 3.4.1. Evaluating the budget changes

The measurement of rent-seeking is primarily derived from changes in budget expenditure. Following Schnytzer (1994), who emphasized the importance of distinguishing budget sector changes as an initial indication of rent-seeking, the first part of this analysis explored the changes in each area of the budget, known in Indonesia as budget functions.

Investigating changes raises the possibility of identifying individual budget functions that are exploited by local authorities for certain interests. As the political factor is one of the

determinants of rent-seeking, changes in the budget functions in the year(s) prior to elections became the first focus in investigating the occurrence of this behaviour. Certain interest groups (in this case politicians or local government leaders), may increase the amount or the composition of specific budget function(s) targeted to escalate public support.

A simple examination using a *test-differences* approach provides a preliminary supposition of the targeted budget functions. However, it also identifies the precise budget functions that drop substantially as a consequence of the increase in the targeted ones.

Furthermore, this evaluation also explored any changes by employing the Katz and Rosenberg (1989) approach. There are two basic assumptions in this formula: first, that rent-seeking is enacted by pressure groups by employing the available resources; and, second, that total rent-seeking is equal to the total change in the proportion of budget allocations for different functional purposes (Katz & Rosenberg 1989, 1994; Scully 1991; Park 2008, Del Rosal 2011).

Katz and Rosenberg (1989) proposed that rent-seeking could be measured by totalling the changes in the proportion of the budget allocated to each sector. The approach defined rent-seeking behaviour as the absolute changes of budget expenditure composition for specific purposes (Katz and Rosenberg 1989). They developed the following rent-seeking measurement formula:

$$R(t) = \frac{1}{2} \sum_{i=1}^n |S(t)_i - S(t-1)_i| \dots\dots\dots 1$$

Where  $S(t)_i$  and  $S(t-1)_i$  are the allocation proportions of the budget function  $i$  in years  $t$  and  $t-1$  respectively.  $R(t)$  is the total of absolute budget proportion for different areas from year  $t$  over  $t-1$ . The next step is to multiply the total of absolute changes by a half ( $1/2$ ) to avoid double counting.

**3.4.2. Measuring rent-seeking behaviour in government expenditure.**

As discussed earlier in the thesis, the rent-seeking measurement proposed by Katz and Rosenberg (1989) has been criticized since changes in budget allocations are not necessarily the result of rent-seeking. Park (2008) revised the model by using an indirect approach or residual estimation. In this measurement, Park used three determinant variables of budget allocation: rational; political and economic; and increment of the previous year’s budget. The steps for measuring rent-seeking using this approach are as follows:

1. Measuring the impact of the determinant factors in budget allocation using multiple regression approaches.
2. Finding the residual value as the effect of rent-seeking (by deducting the amount of budget allocation from the quantity of the budget affected by the three determinants).
3. Measuring the (size) of the indication potential rent-seeking by calculating the total of absolute changes in the composition of each budget function in local government budget.

The description of the steps of rent-seeking measurement is as follows.

### **1. *Measuring the impact of the determinant factors in budget allocation***

The determinant factors in budget allocation, as proposed by Park (2008), were employed to measure the estimation amount of the budget of each sector that is influenced by these factors. Park (2008) used three groups of factors as budget allocation determinants:

- A rational determinant, which consisted of growth rate, the rate of price increase, estimated revenue, and current account deficit.
- Political and economic determinants, which refers to significant events, such as International Monetary Fund (IMF) relief loans, or oil crises, etc.
- Incremental determinants.

The model used in this study excludes some of the suggested variables: *current account deficit* and also *political variables* and *incremental determinant*. The current-account deficit is removed because this variable does not exist in local government but in a country (central) government level<sup>7</sup>. Based on earlier studies, rent-seeking behaviour occurs because of the interest in gaining personal benefits (Keefer & Khemani 2004; Tanzi & Davoodi 2006; Abdullah & Asmara 2007; Brender & Drazen 2009), or to obtain political benefit (Mixon & Wilkinson 1999; Brender 2003; Santiso 2004; Abdullah & Asmara 2007; Grossman & Helpman 2008). Therefore, the use of a political variable as a determinant in the allocation of the budget is not appropriate. Based on the previous studies and the theory employed in this study, a political variable is more precise as an influencing factor of rent-seeking rather than as a factor of budget allocation.

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<sup>7</sup>. Current account deficit is a condition in central government where the total value of goods and services imported is greater than the value of exported goods and services (see McCombie et al. 1994).

Furthermore, putting the incremental approach in this model still creates bias. This approach is derived from randomness that defines the budget allocation as the result of unsystematic influences (Mogues and Petracco 2012). The method appears to provide a small space for a variety of interests, but it conceals the various interests that occur gradually over time (Anderson and Harbridge 2010, Mogues and Petracco 2012).

However, this research is extended by adding another determinant factor that has been confirmed in previous studies. One of these factors is surplus/deficit in the local budget. Studies conducted by Fachruzi (2015) and also by Sugiardi and Supadmi (2014) found evidence of the significant influence of budget surplus in determining the public expenditure growth in local government, particularly in capital expenditure. The utilization of surplus in local authorities budget has become an important issue because of the intention of local governments to invest the money in different financial instruments to obtain the interest rather than allocating the fund in sectors that increase local economic growth (Kumorotomo 2011).

The residual value resulting from the equation indicates the amount of rent-seeking that occurred during the observation years and the amount of the budget that was possibly optimized for rent-seeking. This amount may be spread across various budget functions. Park (2008) attempted to find the rent-seeking size in each sector to determine which sectors had been most optimized by the budget actors during the period.

The first step of measuring the impact of the variables on budget allocation is illustrated in multiple regressions as follows:

$$EB = \alpha + \beta_1 GDP + \beta_2 I + \beta_3 PCI + \beta_4 SD + \beta_5 \text{Dummy} \dots\dots\dots (1a)$$

Where EB=expenditure budget, GDP=local gross domestic product, I=inflation, PCI=per capita income, SD=surplus/deficit, and Dummy=dummy variable. The dummy variable employed in this equation covered the effect of the other variable(s).

This measurement step was also applied to the allocation of each sector of the budget expenditure to find the estimated amount of the budget for those sectors. The budgets contained nine sectors of functional expenditure, as follows: *public service, security and order, economy, environment, housing and public facilities, health, tourism and culture, education, and social protection*. The output resulting from this stage indicates which functions of the budget allocation had been optimized by local government leaders or legislative members in rent-seeking. This step is in line with the studies conducted by (Tanzi and Davoodi 2006) that found that some sectors, such as education, health and public service, are utilized for private motives because these areas provide lucrative opportunities for rent-seeking.



Therefore equation (1a) was modified to find the residual of each budget function, as follows:

$$EB_i = \alpha + \beta_1 \text{ GDP} + \beta_2 \text{ I} + \beta_3 \text{ PCI} + \beta_4 \text{ SD} + \beta_5 \text{ Dummy} \dots\dots\dots (1b)$$

Where  $EB_i$  = expenditure budget of function  $i$ .

**2. *Deducting the amount of budget allocation from the amount of the budget affected by the three determinants (finding the residual value)***

After finding the predicted value of the budget allocation for each sector, the next step was to deduct the amount of budget allocation by the predicted one. The step is known as residual analysis, which is a statistical approach to finding the difference between the observed value of the dependent variable ( $y$ ) and the predicted value ( $\hat{y}$ ) which is known as residual. In multiple regressions, the residual is noted as an error variable ( $e$ ). The notation of the residual can be expressed as follows:

$$\text{Residual} = \text{Observed value} - \text{Predicted value}$$

Therefore:

$$e = y - \hat{y}$$

Noticing the expression, the sum and the mean of the residuals are equal to zero. That is,  $\sum e = 0$  and  $e = 0$ . Based on the formula, the residual of both equations 2A and 2B is formulated as follows:

$$e = BA - \hat{BA}$$

**3. *Measuring the indication of rent-seeking***

The next step was to find indications of rent-seeking using the Katz and Rosenberg (1989) method. The modification of this approach, to include Park's (2008) residual value, resulted in the following:

$$R(t) = \frac{1}{2} \sum_{i=1}^n |e(t)_i - e(t-1)_i| \quad (2)$$

Where  $e(t)_i$ ,  $e(t-1)_i$  are the residual of the budget functions in years  $t$  and  $t-1$  respectively.  $R(t)$  is the total of absolute budget proportion for different sectors from year  $t$  over  $t-1$ .

### 3.4.3. Testing the research hypotheses

After identifying parts of the budget reflecting rent-seeking behaviour, the next step was to test the hypotheses. Six factors were examined at this stage: transfers from central government, local original revenue, natural resources, population, legislative elections, local leader elections and audit reports. As previously discussed, seven hypotheses were developed relating to regional factors and audit reporting on rent-seeking behaviour. These regional factors consist of local resources (local original revenue and natural resources), as well as funds from the central government.

In addition, as outlined earlier, a political variable was included to serve as a control to distinguish between the existence of rent-seeking for political motives and for other motives. The equation to express the relationship between the variables (related to the hypotheses) is as follows:

$$R(t) = \alpha + \beta_1 T_t + \beta_2 LOR_t + \beta_3 Nat_t + \beta_4 Pop_t + \beta_5 LegElec + \beta_6 LocalElec + \beta_7 Audit_{t-1} + \varepsilon \dots (4)$$

Where T =transfer from central government in year t, LOR=local original revenue, Nat<sub>t</sub>=natural resources income, Pop=the number of the population, Leg Elec=legislative election, Local Elec=local leader election, audit=audit reports of local government,

### 3.4.4. Finding the pattern of rent-seeking

This stage relates to research question three: What is the pattern of rent-seeking behaviour based on local resources? The intention of this question was to determine what budget functions are particularly addressed for rent-seeking based on local budget funding resources. There is a likelihood of different preferences of budget sectors targeted for rent-seeking because of the diverse nature of the budget.

Therefore, this stage incorporated the equation (4) to detect the budget functions optimized for rent-seeking. The model employed all of the independent variables in the model and the budget allocation of each budget function. The expression of this approach is:

$$R_{i(t)} = \alpha + \beta_1 T_t + \beta_2 LOR_t + \beta_3 Nat_t + \beta_4 Pop_t + \beta_5 LegElec + \beta_6 LocalElec + \beta_7 Audit_{t-1} + \varepsilon \dots (4)$$

Where  $R_{i(t)}$  =rent seeking of budget i.

### 3.4.5. Classical assumption test

Using multivariate analysis requires some initial testing of the data, known as classical assumption testing. This test includes linearity, multicollinearity, heteroskedasticity, normality

and autocorrelation. The objective of this analysis is to find the linear estimator that is free from bias with fewer differences (Lattin et al. 2003).

### 1. Linearity test

The linearity test is needed to find out the right model of regression, whether it should be linear, quadratic or cubic. One method of linearity testing is to identify the individual correlation between the dependent variable and each of the independent variables.

Pearson's correlation determines whether the relationship between those variables is linear or not. A relationship between variables is linear when the correlation coefficient between independent and dependent variables is statistically significant (the value of probability is less than or equal to a specified level of significance); it can be concluded that the relationship is linear.

If the problem of linearity arises in the relationship between the dependent and independent variables, the following steps are taken to resolve the problem:

Transform the variables (to the natural logarithm, square root, etc).

When the values of transformation, both for independent and dependent variables, are significant statistically, this means that the problem of non-linearity can be remedied by transformation of the variables.

Conversely, the problem still exists if the correlation between the variables is not significant.

If the problem still arises, as stated in step 3, the next step is to explore for any other transformed version of the independent variables, such as the square of the independent variable.

However, the model can still be applied when the correlation coefficient for statistically significant transformation is larger than the correlation between untransformed variables.

### 2. Multicollinearity test

Multicollinearity is a linear relationship between the independent factors. The problem of multicollinearity among these variables will impact on the higher value of data variance, and will result in a significant error standard value.

There are some approaches to detect multicollinearity in regression. Two of those are the VIF (Variance Inflation Factor) and the tolerance method (Landau and Everitt 2004). Based on

VIF, the multicollinearity problem exists when it is approaching or is more than 10. Conversely, using the tolerance value, the problem is detected when its value is approaching 0 (Zero).

### 3. Heteroscedasticity test

A heteroscedasticity problem arises when the standard deviation of the variables is not constant. The  $\beta$  (Beta) estimator of OLS regression will not have a minimum variance when this problem exists. As a result, it will produce unreliable standard errors, so the interval estimation or the hypotheses test, based on t/F distribution, will not be reliable for regression analysis (Lattin et al. 2003, Gujarati 2003).

The existence of heteroscedasticity can be detected by using scatter plot graphics between Z prediction (Z PRED) of the independent variables and the residual value (SRESID) of the dependent variables. When the plots have a regular pattern, the problem may exist.

However, detecting the heteroscedasticity by observing the scatter plot will not provide the significance of the problem; this may impact on the regression result. One of the methods to detect the significance of the issues is an approach proposed by Glejser (1969). In his method, Glejser (1969) used the absolute value of residuals resulting from least square regression and this can be applied in the case of one or multiple variables. The expression of this equation is as follows:

$$|\hat{\epsilon}_i| = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

If the problem of heteroscedasticity was found in this study, one way to remedy the problem was by detecting the pattern of heteroscedasticity and then transforming the equation. When the pattern of the residual is proportional to the variance of the error variable, the heteroscedasticity can be resolved by dividing the equation with  $\sqrt{X_i}$ ; so that it will result in the new regression as follows:

$$\begin{aligned} \frac{Y}{\sqrt{X}} &= \frac{\beta_0}{\sqrt{X_1}} + \beta_1 \frac{X_1}{\sqrt{X_1}} + \beta_2 \frac{x_2}{\sqrt{X_1}} \dots \dots \dots \beta_n \frac{X_n}{\sqrt{X_1}} \\ &= \beta_0 \frac{1}{\sqrt{X_1}} + \beta_1 \sqrt{X_1} + \beta_2 \frac{x_2}{\sqrt{X_1}} \dots \dots \dots \beta_n \frac{X_n}{\sqrt{X_1}} \end{aligned}$$

### 4. Normality

The objective of this test is to confirm that the data, both independent and dependent variables, have normal distributions. When the data are normally distributed, the parametric analysis can be conducted, however, it is preferable to employ a non-parametric approach

rather than using a parametric method when the distribution of the data are not normal (Lattin et al. 2003).

This test can be conducted by using a one-sample Kolmogorov-Smirnov test for the residual of the multiple regression models when the probability ( $p$ ) value is bigger than 0.05 (5%), the data has a normal distribution. Conversely, it is abnormal if the  $p$ -values is less than 0.05 (Landau and Everitt 2004).

Data normalisation is needed when the data are indicated as not normal. There are several methods that can be conducted to normalise the abnormal data.

*a. Excluding outliers*

Outliers are the data that are significantly different (extremely high or extremely low) within a group of data. The existence of outliers may alter the results of the regression analysis, so outlier detection needs to be conducted to avoid inappropriate analysis (Gujarati 2003: 390). There are two kinds of outlier data: univariate and multivariate outliers.

Univariate outliers are extreme cases in an individual variable. In a regression analysis, these outliers relate to the dependent variable. These outliers can be detected by converting the value of the variable into the standardized value. For a small sample size, equal to or less than 85 cases, a case is identified as an outlier if its standardized value is equal to  $\pm 2.5$  or beyond ( $\leq -2.5$  or  $\geq 2.5$ ). For a large sample size (more than 85 cases), the outlier is indicated in the cases with the standardized value  $\pm 3$  or beyond ( $\leq -3$  or  $\geq 3$ ) (Lattin et al. 2003).

Multivariate outliers may exist in a combination of a set of data on several variables. Cases may not be univariate outliers, but when combined with other variables they may be detected as multivariate outliers. Multivariate analysis is applied to this outlier as the analysis requires a set of data variables.

In the statistical software package, SPSS, these outliers can be detected by using Mahalanobis distances (Mahalanobis  $D^2$ ). This is a descriptive statistic that provides a measurement of the distance of a case (data) from the centre of the distribution. With this analysis, multivariate outliers can be detected if the probability value ( $p$  value) related its  $D^2$  is equal to or less than 0.01.

*b. Data transformation*

The other approach in data normalization is by transforming or converting the data. There are several ways to convert the data, such as transforming to the logarithm, square root, reciprocal and reverse-score. To select the appropriate data transformation, the skewness of the data must be determined first (Tabachnick and Fidell 2012). Based on the skewness, Tabachnick and Fidell (2012) recommended the proper data transformation as presented in Table 3.4 below.

**Table 3.4 Skewness direction and the appropriate data transformation**

<b>Skewness Direction</b>	<b>Recommended Data Transformation</b>
Positive – Moderate	Square Root – Sqrt (X)
Positive – Strong	Logarithm - Log10(X)
Positive –(with zero value)	Logarithm - Log10 (X+C*)
Negative – Moderate	Square Root – Sqrt (K*-X)
Negative – Strong	Logarithm – Log10 (K-X)

Source: Tabachnick and Fidell (2012)

\*Note: C and K are values that are added/subtracted to find the smallest score is 1

## 5. Autocorrelation

An autocorrelation test is required to examine whether the residual value of one variable correlates with the residual of the other variable (Gujarati 2003, Lattin et al. 2003). Autocorrelation tests can be detected using a Durbin-Watson Test. If the statistical value of this test is around 2, there is no autocorrelation problem. However, problems are identified when the value is bigger than 2.

# CHAPTER 4 : BUDGET EXPENDITURE, DETERMINANTS AND THE INDICATION OF RENT-SEEKING

## 4.1. INTRODUCTION

This chapter describes the composition of local budget expenditure based on functions, the changes analysis, the factors that influence the budget expenditure and also to detect the indication of rent-seeking using budget expenditure. The analysis of budget changes will focus on the budget utilization to support the interests of particular government groups.

The chapter contains several sections, beginning with the data selection and then a description of the budget composition and their changes. This second section also outlines indications of rent-seeking behaviour using the approach proposed by Katz and Rosenberg (1989) that defined rent-seeking as the result of the total absolute changes in each function of the budget. Using the Katz and Rosenberg (1989) model, it is possible to detect the budget functions that are given priority in relation to rent-seeking.

The intention of this chapter is also to determine the amount of the budget that is indicated as rent-seeking. This relates to the first research question about the size of rent-seeking. The size of rent-seeking will be expressed either in the proportion and the amount of the existing budget. As mentioned in the methodology chapter, this research will adapt an approach that was proposed by Park (2008). Park's (2008) approach is a review of Katz and Rosenberg (1989), which introduced rent-seeking as a reflection of the total changes of the budget's sectors. The first step in this part is to find the residual value of the budget expenditure. As stated in Chapter 3, the indication of rent-seeking is derived from the absolute changes of the proportion of residual value of each budget function; the total of absolute changes of each budget sector is indicated as rent-seeking (Park 2008).

## 4.2. DATA SELECTION

According to the latest data released by the Ministry of Internal Affairs of the Republic of Indonesia in 2012, there were 497 regions in Indonesia, consisting of 98 cities/municipalities (kota) and 399 regencies (kabupaten). As stated in Chapter 3, the study used the local budget report data from 2007 to 2012, but only those regions with completed local budget reports were selected for the analysis.

During the period under study, the central government split some regions into two or more new regions. For the analysis, the data from these local governments, both the new regions

and the original ones, were excluded to avoid data inconsistencies. Between 2007 and 2012, there were some new regional governments split from the existing region. The total new regions and original regions are 72, which consisted of 6 cities and 66 regencies. There were 26 cities and 143 regencies with incomplete data. As a result, after filtering the data, 250 regions were identified, consisting of 58 cities and 192 regencies. This means that the sample data represented about 50.3% of the population. Table 4.1 below summarizes the data selection.

**Table 4.1 The Data Selection**

	<b>Cities</b>	<b>Regencies</b>
<b>Total regions</b>	98	399
<b>Less:</b>		
New autonomous and initial regions	6	66
Incomplete data	<u>34</u>	<u>141</u>
Total data used for further analysis	58	192

Source: Secondary data (calculated)

### **4.3. BUDGET EXPENDITURE IN LOCAL GOVERNMENTS IN INDONESIA**

#### **4.3.1. Overview of the local budget regulation**

Government Regulation No. 58 (2005), Article 27, Paragraph 5, states that local government budgets must be classified into nine functions: public service, security and order, economy, environment, housing and public facilities, health, tourism and culture, education, and social protection. These functions are the principal local government services to be delivered to the public. Based on the regulation and in the spirit of regional decentralization, the composition of each budget function is the responsibility of local government. Local governments have a better understanding of local needs and the resources required to meet those needs. Therefore, the prioritization of budget allocations in particular functions is a reflection of policies designed to address those needs. However, in 2009 the central government, through the Minister of Finance (2009), released a regulation about the composition of education budget expenditure, stating that local governments must allocate a minimum of 20% of their total budget to this function. This would impact on the composition of other expenditure items in the following years.

#### **4.3.2. Local budget expenditure allocation in 2007-2012**

In general, the total quantity of local government budgets increased as a response to growing local needs, economic growth, inflation, and the other factors. A summary of total local government budgets in the year 2007-2012 is shown in Table 4.2 below.



**Table 4.2 Total local government budget expenditure and changes, 2007 – 2012**

Year		Total expenditure (in million rupiah)	Change in total budget (%)
2007	Mean	602,660.51	
	Minimum	208,983.00	
	Maximum	3,692,998.00	
	Std. deviation	357,917.16	
2008	Mean	686,776.32	.147
	Minimum	203,145.00	-.583
	Maximum	5,571,202.00	1.623
	Std. deviation	467,822.76	.170
2009	Mean	745,985.16	.095
	Minimum	228,410.00	-.343
	Maximum	4,936,761.00	1.667
	Std. deviation	488,089.50	.159
2010	Mean	755,096.90	.007
	Minimum	249,121.00	-.379
	Maximum	4,848,622.00	.603
	Std. deviation	506,902.38	.111
2011	Mean	862,740.98	.150
	Minimum	290,031.68	-.458
	Maximum	5,195,102.21	.608
	Std. deviation	570,173.21	.133
2012	Mean	995,685.11	.156
	Minimum	233,394.00	-.316
	Maximum	5,167,056.00	.950
	Std. deviation	637,942.76	.121
Total	Mean	774,824.16	.111
	Minimum	203,145.00	-.583
	Maximum	5,571,202.00	1.667
	Std. deviation	526,647.85	.151

Source: Secondary data (calculated)

Table 4.2 shows that from 2007 to 2012, the average amount of expenditure was 774,824.16 million rupiah, with the minimum being only 203,145 million rupiah, while the maximum reached up to 5,571,202,000 million rupiah. Looking at the standard deviation, the value was 526,647 billion, which indicates a large disparity at this budget level. Some local governments had rich resources to fund their expenses, while others operated with limited funding. An area with large budget expenditure has a greater opportunity to fulfil public needs, not only through standard services, but also delivering them a better quality of service. For those local governments with limit budget expenditure, they have to more so prioritize their expenses to meet minimum standards and fulfil all of their requirements.

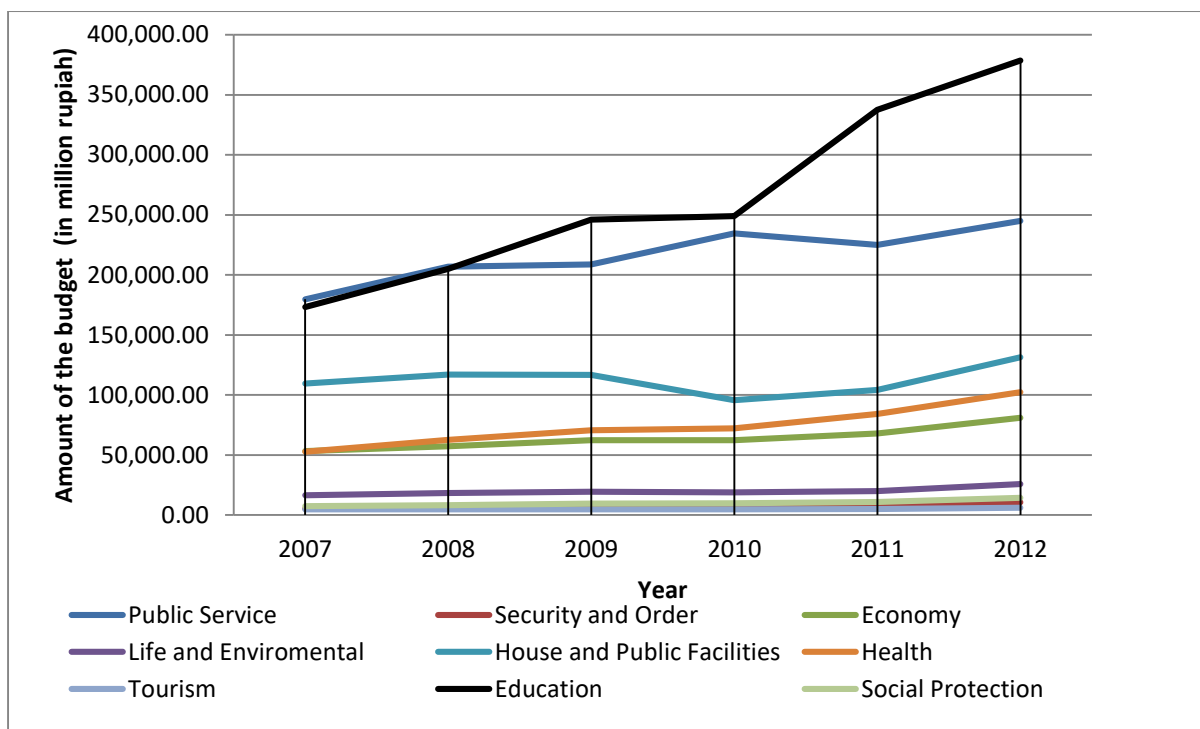
The highest average change during the period was in 2012; while the lowest was in 2009. Even though, on average, the budget grew positively, there were still some regions with

negative growth rates, reaching a minimum level of -0.583(-58.3%) in 2008. Conversely, there was an area of extreme growth in 2009, up to 1.667 (16.67%).

The decrease in the budget in some local governments provided some important signals, as follows. First, the budget deficit was due to high expenditures, but the local government areas could not sufficiently increase their revenues, especially local taxes. Second, low budget absorption capability caused the local governments to adjust their budget in the following year. Third, there was a decrease in the central government transfer. The central government might reduce the transfer to local government when that government was considered to have increased their local revenue, either through taxes or natural resources. The transfer could also decrease when the local government was assessed as having a low budget absorption capacity. All of these reasons forced the local government to optimally manage their budgets; to prioritize significant or urgent sectors, and/or to limit spending on sectors that are not visible.

The total budgets were allocated to reflect the needs of each budget function, the scope of the function, as well as the prioritization of the local government. Amounts may fluctuate, following (changes of) government policy. The fiscal decentralization that started in 2001 brought the opportunity of independence in budget allocation for local governments, allowing them to accelerate their goals of increasing local wealth.

The detailed budgets, based on function, as assigned by local government in Indonesia during 2007-2012 is shown in Figure 4.1 below. As illustrated in this figure, during that period, there were two functions that dominated the budget: the education function and public services.



**Figure 4.1 The development of budget expenditure amounts for each function in 2007-2012**

In the last two years of the period under study (2011 and 2012), it seems that the education sector was strongly prioritized. During those years, it increased sharply while other functions only increased slightly.

The high growth in the education sector might be the consequence of the central government regulation in 2009 that necessitated local governments to allocate, at a minimum, 20% of their total budgets to this function. As a result, this policy had an impact on the share of other budget functions. However, as illustrated in Figure 4.1, the other budget functions still continued to grow. This indicates that substantial adjustment occurred in the budget composition rather than in its amounts.

The other function that had a substantial allocation was public (general) service. As shown in Figure 4.1, in the first two years of the observation period (2007 and 2008), the difference between the education and public service budget amount was quite small. However, from 2009, the gap between these two functions began to widen; the amount of budget expenditure allocated for the education function was raised significantly, while the budget amount for public service did not change drastically. The average amount of education funding reached almost 400,000 million rupiah, while the public service funding approached only 250,000 million rupiah. This means that the quantity difference between these two budgets was about 150,000 million rupiah. Nonetheless, in general, the average amount of the budget allocated to these

two functions still had a high disparity with the other functions. Both the education and public service functions seemed to be prioritized in most local governments. While not as significant as these two functions, the other budget functions that had been given a high priority were housing and public facilities and health. Figure 4.1 shows that during the observation years, the trend of the health function was relatively constant; although it declined in 2010, it grew again in the following years. Meanwhile, the housing and public facilities functions tended to develop positively during the period, except in 2011.

### **4.3.3. Local budget expenditure composition**

As indicated, during the observation years four budget functions (*education, public service, housing and public facilities, and health*) had greater allocations than the others. However, this does not necessarily indicate whether the increase of the amount of each budget function has been followed by the increase in its composition or vice versa. The policy of restructuring the budget composition structure may be appropriate, particularly when the local government is not optimistic to raise the amount of budget revenue to a sufficient level.

The discussion about the composition of local government expenditure in this section is divided into three parts: the budget composition for 2007-2012; the budget composition based on the years before the legislative election; and the budget composition based on the year(s) before the local leader election. The objective of this division was to find out whether there was a different pattern in local government budget functions during certain events, particularly elections. This would provide initial insight into the fluctuation of the budget related to the precise function(s) that might possibly be optimized by local governments to obtain specific interests.

#### **4.3.3.1. Budget composition, 2007-2012**

The composition of budget expenditure reflects the policy of the government. In decentralization, since local governments have greater authority than in previous eras, they could be more creative in governing themselves, hopefully to become more productive and increase local wealth. The budget composition shows the prioritized sectors of the government in delivering goods and services to the public. Based on the local conditions, it is highly likely that there will be differences in the sectors that are given priority by each local government. However, other reasons may appear for prioritizing certain sectors for individual interest.

Table 4.3 provides a summary of budget expenditure allocations for 2007-2012. Overall, as discussed earlier, two sectors dominate the budget allocations: public services and education. On average, during the periods, the percentage of these sectors was: 28.84% (0.2884) for the

public service function with a standard deviation of 7.39% (0.0739) and for the education sector, 33.09% with a high standard deviation of 10.94% (0.1094). However, it seems that that there was a substantial difference related to the intention of the local government to prioritize these expenditures. At the beginning, for the observed year (2007), the public service function dominated the budget proportion with 29.24%, while education was 26.44%. Most of the local governments still allocated the public service as the top priority rather than education. However, since 2009, the education function has dominated spending, above the public service function. In that year, the average composition of the education function was 32.76%, while the public service function declined to 28.44%. Since 2009, the proportion of the education area has been increasing sharply with the highest at 38.11% in 2011 with standard deviation of 11.66%. This large difference indicates the existence of substantial differences in this budget proportion among local governments. Until 2012, the composition of the education function had sharply increased more than 10% from 2007 to 2012; it became 37.01% in 2012 while it had only been 28.32% (0.2832) in 2007. On the other side, the portion of the public service function declined more than 4% from 30.44% in 2007 to 25.637% in 2012. The total increase of the changes in composition of education function was larger than the increase in the composition of the public service function. The decrease in the public service composition still has not been able to cover the increase of education function. Consequently, it will impact on the reduction of the share of other budget functions.

Regardless of the regulation of a minimum allocation of 20% for education from 2009, most of the local governments had already been spending more than the now required 20% in the previous years. However, the minimum spending for the sector was less than 6% (5.94%) during the period. Even after the regulation, there were still some regions with budget compositions in education spending less than the required 20%. As shown in Table 4.3, the minimum allocation to the education function was less than 10%; 6.37% (0.0637) in 2010, 8.24% (0.0824) in 2011 and only 5.78% (0.0578) in 2012.

**Table 4.3 The composition of local government budget expenditure, 2007 – 2012**

Year		Public service	Security and order	Economy	Environment	Housing and public facilities	Health function	Tourism and culture	Education	Social protection
2007	Mean	.3044	.0096	.0917	.0238	.1759	.0908	.0083	.2832	.0124
	Minimum	.1230	.0010	.0342	.0018	.0223	.0259	.0007	.0534	.0029
	Maximum	.5883	.0297	.3036	.3996	.4863	.2381	.1895	.5100	.0532
	Std. dev	.0735	.0051	.0354	.0312	.0802	.0288	.0128	.0943	.0070
2008	Mean	.3037	.0102	.0890	.0222	.1631	.0960	.0077	.2956	.0126
	Minimum	.1744	.0018	.0311	.0027	.0267	.0217	.0000	.0710	.0025
	Maximum	.6939	.0417	.2615	.3407	.4564	.1820	.1761	.5101	.0358
	Std. dev	.0717	.0052	.0346	.0272	.0744	.0263	.0117	.0938	.0063
2009	Mean	.2844	.0114	.0877	.0205	.1495	.0982	.0070	.3276	.0137
	Minimum	.1628	.0034	.0236	.0018	.0384	.0266	.0003	.0594	.0029
	Maximum	.7090	.0371	.2619	.2874	.4326	.1842	.0538	.5908	.0385
	Std. dev	.0716	.0050	.0337	.0248	.0745	.0281	.0062	.1065	.0065
2010	Mean	.3136	.0113	.0881	.0203	.1191	.0991	.0069	.3275	.0141
	Minimum	.0908	.0023	.0322	.0016	.0292	.0269	.0003	.0637	.0036
	Maximum	.6466	.0327	.2470	.1745	.4731	.2256	.0715	.5753	.0378
	Std. dev	.0715	.0050	.0364	.0212	.0712	.0300	.0068	.1010	.0065
2011	Mean	.2679	.0107	.0852	.0195	.1169	.0986	.0063	.3811	.0138
	Minimum	.1463	.0013	.0310	.0000	.0313	.0383	.0002	.0824	.0027
	Maximum	.5881	.0427	.2894	.1253	.4718	.2196	.0666	.6423	.0451
	Std. dev	.0700	.0050	.0346	.0185	.0693	.0286	.0057	.1166	.0065
2012	Mean	.2563	.0117	.0884	.0221	.1255	.1033	.0069	.3701	.0158
	Minimum	.0709	.0018	.0346	.0023	.0256	.0420	.0003	.0578	.0032
	Maximum	.6100	.0382	.2439	.1362	.3877	.2227	.0274	.6630	.0389
	Std. dev	.0675	.0057	.0331	.0211	.0625	.0274	.0048	.1094	.0067
Total	Mean	.2884	.0108	.0883	.0214	.1417	.0976	.0072	.3309	.0137
	Minimum	.0709	.0010	.0236	.0000	.0223	.0217	.0000	.0534	.0025
	Maximum	.7090	.0427	.3036	.3996	.4863	.2381	.1895	.6630	.0532
	Std. dev	.0739	.0052	.0347	.0244	.0756	.0284	.0086	.1097	.0067

Source: Local Government Budget Report (Calculated)

The impact of the Minister of Finance's education regulation (2009) might be detected by finding the sharp increase in the education spending percentage in 2011 and 2012, at 38.11% and 37.01% respectively. However, the standard deviation of this spending remained high, at 11.66% in 2011 and 10.94% in 2012. The high standard deviation value of this spending provides a signal of a wide spending disparity among the regions. Some local governments still allocated the budget for this expenditure in a small proportion, while others had given this function top priority.

The other fields of spending that had been given considerable portions in local expenditure were housing and public facilities and health. On average, the expenditure budget for housing and public facilities was 14.17% (0.1417), while about 9.76% (0.0976) was spent on the health sector. Nevertheless, observing the trend in housing and public facilities, it seems that this spending tended to decline: from 17.59% (0.1759) in 2007 to 14.55% in 2012. At the same time, the rate of health sector expenditure increased. The composition difference between this spending was about 2% in 2012, while in 2007 it was still more than 8% (housing and public facilities funding almost doubled that of the health sector in that year). This budget shift indicates the existence of local government policy changes related to the prioritized sectors of local governments.

A budget has many strategic roles not only to maintain or to accomplish the government's objectives; but also possibly to optimize the particular interests (individuals or groups) in government. One possible way to accommodate the various interests is by increasing the budget amount of the targeted functions. The amount of budget replenishment is feasible when there are sufficient resources upon which the local government can rely. Otherwise, the local government can adopt an approach that increases the composition of the targeted areas.

A further finding using a Kruskal-Wallis test shows that there were some significant distribution differences in expenditure in public service, security, housing and public facilities, health, education, and social protection (see Table 4.4). In the context of rent-seeking, this behaviour could occur at any time, in any function of the budget, as long as it provided an opportunity to seek rent. In this matter, analysing the possibility of rent-seeking is related more to the individual interest to increase personal wealth rather than to obtain a political benefit. As discussed in the previous chapter, the politician or bureaucrat may behave opportunistically because of their substantial political investment during their campaign before the election. Assuming that their spending was an investment, politicians might potentially resort to rent-seeking behaviour.

**Table 4.4 Summary of distribution tests of each budget composition (2007-2012)**

<b>Budget Function</b>	<b>Significance</b>
Public service	.000*
Security	.000*
Economy	.243
Environment	.091
Housing and public facilities	.000*
Health	.000*
Tourism and culture	.009*
Education	.000*
Social protection	.000*

Source: Secondary data (calculated)

\* indicates the distribution differences of the budget function among the years are significant

While seven functions of the budget were detected with significant distribution differences, two functions showed no significant changes, these were economy and tourism and culture. Logically, an increase in the composition of a particular budget function will impact on the composition of the other functions, or, in other words, there were possibilities of statistical correlation among the functions. A correlation analysis helped to detect how one budget function related to other budget functions. As stated previously, there are two possibilities of budget changes; changes in the amount of the budget and changes in the composition of each budget function (Abdullah and Asmara 2007). When the local government cannot increase the revenue to accommodate the budget requirements, those changes can be accommodated by changes in budget composition. These composition changes can be taken to accommodate the changes in government policy to support specific interest. This alternative is relatively better rather than seeking other financing sources, such as debt, that will increase the local government's burden in the future.

Table 4.5 below shows the variables that had a substantial negative correlation with the other variables. The highest correlations were discovered between the variables of housing and public facilities and education, as well as between public service and education. As indicated in the earlier table (Table 4.3), these variables (education, public service, and housing and public facilities) were the big three variables that dominated the composition of the local budget. The composition changes of one budget item would be followed by a shift in the share of other budget items and vice versa.

Looking further at the correlations, it appeared that those three budget functions had a strategic role in complying with policy changes or other interests. This can be detected by the relation of these variables to the other variables. For example, the correlation between the education function and social protection was -0.270 (significant at 0.01) and also the



relationship between housing and public facilities and the health function had a correlation of -0.310.

**Table 4.5 The correlation results among the significant budget functions (2007-2012)**

		Public service	Security and order	Housing and public facilities	Health	Tourism and culture	Education	Social protection
Public service	Corr	1	.030	-.051*	-.195*	.064	-.606*	.087
	Sig		.240	.049	.000	.013	.000	.001
Security and order	Corr		1	-.039	-.013	.177	-.148*	.249
	Sig			.132	.621	.000	.000	.000
Housing and public facilities	Corr			1	-.356	.001	-.621*	-.080
	Sig				.000	.975	.000	.002
Health	Corr				1	.019	.154	.069
	Sig					.455	.000	.008
Tourism and culture	Corr					1	-.171*	.069
	Sig						.000	.007
Education	Corr						1	-.160*
	Sig							.000
Social protection	Corr							1

Source: Secondary data (calculated)

\* indicates the correlation is significant.

Table 4.5 provides substantial information about the functions of the budget that might have been optimized to obtain benefits. Changing the share of the budget is the simplest way to maximize benefit, especially when the amount of the budget does not substantially increase in the following year. In this context, the proportional shift of budget functions might produce waste rather than provide benefits to the public. There is a possibility of improper budget use for individual interest, especially in an effort to increase personal prosperity. However, the changes in the budget composition do not necessarily mean individual benefit or waste of government expenditure.

#### 4.3.3.2. Budget composition based on the local leader elections

The previous discussion has highlighted the trends in budget composition for the observed years, reflecting the budget policy of local governments, particularly the prioritized sectors with respect to increasing local prosperity. The greater powers assigned to local governments hopefully push them to allocate appropriate budget expenditure on sectors that provide maximum services to increase public productivity and wellbeing.

However, as indicated, there is also the possibility of budget optimization for hidden interests, particularly for local leaders in election periods. Table 4.6 below provides the composition of local government budgets based on local leader elections. The table shows that during the period, the education sector dominated the budget allocations. The percentage of this spending was never less than 30%, with levels at 35.03% in the four years before the election, decreasing to 33.26% in the year before the election. The proportion of this budget dropped about 3% in the three years before the election from the previous year. However, the trend fluctuated in the following years.

In the next sequence, the spending that dominated the budget expenditure in the period was the public service function, where the composition range was between 27.93% (the lowest in the year before the election) and 31.51% in the election year. The trend for this budget function differed to that of the education sector. This spending declined until one year before the election, but in the year of the election, the spending became higher than the previous year.

The other area that showed a gradual increase was the health function. The proportion of this sector tended to grow slightly until one year before the election; it dropped in the election year. This budget fluctuation provided an interesting notion related to the possibility of the budget being used for rent-seeking in order to influence the constituents. A further analysis was needed to confirm whether the budget had been optimized for the incumbent's interest in the years closest to the election

**Table 4.6 Composition of local government budget based on local leader elections**

Year(s) to Local Leader Election		Public service	Security and order	Economy	Environment	Housing and public facilities	Health	Tourism and culture	Education	Social protection
Election Year - 4	Mean	.2815	.0105	.0875	.0200	.1329	.0967	.0066	.3503	.0138
	Minimum	.1644	.0010	.0328	.0000	.0313	.0369	.0002	.0784	.0029
	Maximum	.6365	.0427	.2619	.1205	.4279	.1771	.0538	.6423	.0451
	Std. Dev	.0744	.0052	.0344	.0186	.0696	.0256	.0054	.1173	.0066
Election Year - 3	Mean	.2826	.0106	.0889	.0237	.1489	.0971	.0075	.3270	.0138
	Minimum	.0709	.0018	.0236	.0023	.0256	.0266	.0000	.0594	.0029
	Maximum	.7090	.0382	.2374	.3996	.4731	.2004	.0715	.6630	.0532
	Std. Dev	.0717	.0051	.0340	.0298	.0783	.0270	.0068	.1090	.0070
Election Year - 2	Mean	.2852	.0102	.0877	.0226	.1497	.0982	.0070	.3262	.0132
	Minimum	.1463	.0018	.0310	.0021	.0267	.0217	.0003	.0637	.0025
	Maximum	.6939	.0417	.2894	.3407	.4718	.2196	.0666	.6115	.0378
	Std. Dev	.0728	.0050	.0353	.0281	.0822	.0284	.0062	.1083	.0067
Election Year - 1	Mean	.2793	.0108	.0895	.0209	.1453	.1002	.0072	.3326	.0142
	Minimum	.0908	.0012	.0346	.0018	.0223	.0259	.0003	.0534	.0029
	Maximum	.5881	.0301	.3036	.2874	.4863	.2381	.1895	.5908	.0370
	Std. Dev	.0719	.0050	.0355	.0233	.0762	.0320	.0112	.1077	.0064
Election Year	Mean	.3151	.0120	.0876	.0192	.1297	.0960	.0074	.3195	.0135
	Minimum	.1793	.0023	.0386	.0016	.0292	.0269	.0002	.0622	.0028
	Maximum	.6466	.0344	.2615	.1745	.4356	.2256	.1761	.5753	.0362
	Std. Dev	.0736	.0056	.0344	.0183	.0685	.0286	.0112	.1048	.0064
Total	Mean	.2884	.0108	.0883	.0214	.1417	.0976	.0072	.3309	.0137
	Minimum	.0709	.0010	.0236	.0000	.0223	.0217	.0000	.0534	.0025
	Maximum	.7090	.0427	.3036	.3996	.4863	.2381	.1895	.6630	.0532
	Std. Dev	.0739	.0052	.0347	.0244	.0756	.0284	.0086	.1097	.0067

Source: Secondary data (calculated)

The other function that had a large composition and tended to increase was the housing and public facilities function. At the beginning of the leadership year, the portion of this area was 12.88%, becoming 14.65% in the election year. This means that in total, the budget had risen nearly 2%, which was almost equal to the increase in the public service function allocation.

A further analysis using a Kruskal-Wallis distribution test showed that four sectors had significant distribution differences: public service, security, housing and public facilities, and education (see Table 4.7). This result was different from the composition distribution test in the previous section, which confirmed that *six* functions had substantial composition differences. All of the four significant functions were also upheld in the previous test, except for health and security. This result affirmed the indication of budget optimizing using individual budget functions.

**Table 4.7 Distribution tests of each budget composition based on local leader elections**

Budget function	Significance
Public service	.000*
Security	.000*
Economy	.848
Environment	.270
Housing and public facilities	.001*
Health	.668
Tourism and culture	.449
Education	.028*
Social protection	.445

Source: Secondary data (calculated)

\* indicates the distribution differences of the budget function among the years are significant

From those (four) variables, it seemed that only the education sector tended to have a noticeable decline from the first year of the leadership period to the election year. The security function also decreased, but not as substantially. On the other hand, the other variables had changed in the opposite direction. This description provides an initial indication of the correlation between the budget function composition and that the functions of education and security might have negative correlations with the other two functions.

As stated previously, the composition change might be influenced by a number of factors, either related to local government policy or specific interest, especially for the incumbent running in the election. Based on the budget composition for 2007-2012, the policy to reduce the composition of the health function might have been a possible way to increase the composition of the other budget functions, to bring benefits in complying with the various interests in the budget. A possible reason was that education had the largest composition of

the budget functions, at an average of 30%, which was obviously higher than the required minimum of 20%. Consequently, it was possible for the local government to reduce the proportion of this budget function to increase the other budget functions.

#### 4.3.3.3. Budget composition based on legislative elections

The composition of the budget was not much different from the composition of the budget in the years leading up to the legislative elections (see Table 4.9). The education function dominated the budget at 32.76% in the election year. The composition of this function tended to fluctuate over the years, increasing sharply by more than 5% in the three years before the election; in the previous year it was 32.75% going up to 38.11%, but moving down in the following years. However, its standard deviation was quite high (11.66%), which might provide an indication of disparities across the regions. The other indicator that showed the possibility such differences was the minimum and maximum composition of this expenditure; the highest portion was 64.23% while the lowest was only 8.24%.

The other function that dominated the budget was the public service sector; the composition of this area was 31.36% at the beginning of the legislative period (four years before the next election), but it dropped to 28.44% in the election year. Similar to the education sector, the expenditure of this sector indicated extreme disparities across regions, with 70.90% as the maximum composition, and only 7.09% at the minimum.

Table 4.8 shows that the percentages of housing and public facilities underwent considerable changes. It was 11.91% at the beginning of the period (four years before the election), but it went up to 14.95% in the election year. This means that the composition of the budget increased about 3%. As the result of the increase, the composition of the other functions declined; for example (as mentioned previously), the composition of the public service function decreased about 3%.

The other budget areas tended to fluctuate. However, analysis of this result provided limited information regarding the possibility of the budget being used for certain interests, especially related to the re-election of the incumbent. It does not provide enough information about the changes or the exact spending of the sectors.

**Table 4.8 Composition of local government budget based on legislative elections**

Legislative election		Public service	Security and order	Economy	Environment	Housing and public facilities	Health	Tourism and culture	Education	Social protection
Election Year - 4	Mean	.3136	.0113	.0881	.0203	.1191	.0991	.0069	.3275	.0141
	Minimum	.0908	.0023	.0322	.0016	.0292	.0269	.0003	.0637	.0036
	Maximum	.6466	.0327	.2470	.1745	.4731	.2256	.0715	.5753	.0378
	Std. Dev	.0715	.0050	.0364	.0212	.0712	.0300	.0068	.1010	.0065
Election Year - 3	Mean	.2679	.0107	.0852	.0195	.1169	.0986	.0063	.3811	.0138
	Minimum	.1463	.0013	.0310	.0000	.0313	.0383	.0002	.0824	.0027
	Maximum	.5881	.0427	.2894	.1253	.4718	.2196	.0666	.6423	.0451
	Std. Dev	.0700	.0050	.0346	.0185	.0693	.0286	.0057	.1166	.0065
Election Year - 2	Mean	.2803	.0107	.0900	.0229	.1507	.0971	.0076	.3266	.0141
	Minimum	.0709	.0010	.0342	.0018	.0223	.0259	.0003	.0534	.0029
	Maximum	.6100	.0382	.3036	.3996	.4863	.2381	.1895	.6630	.0532
	Std. Dev	.0745	.0055	.0343	.0267	.0761	.0288	.0097	.1109	.0070
Election Year - 1	Mean	.3037	.0102	.0890	.0222	.1631	.0960	.0077	.2956	.0126
	Minimum	.1744	.0018	.0311	.0027	.0267	.0217	.0000	.0710	.0025
	Maximum	.6939	.0417	.2615	.3407	.4564	.1820	.1761	.5101	.0358
	Std. Dev	.0717	.0052	.0346	.0272	.0744	.0263	.0117	.0938	.0063
Election Year	Mean	.2844	.0114	.0877	.0205	.1495	.0982	.0070	.3276	.0137
	Minimum	.1628	.0034	.0236	.0018	.0384	.0266	.0003	.0594	.0029
	Maximum	.7090	.0371	.2619	.2874	.4326	.1842	.0538	.5908	.0385
	Std. Dev	.0716	.0050	.0337	.0248	.0745	.0281	.0062	.1065	.0065
Total	Mean	.2884	.0108	.0883	.0214	.1417	.0976	.0072	.3309	.0137
	Minimum	.0709	.0010	.0236	.0000	.0223	.0217	.0000	.0534	.0025
	Maximum	.7090	.0427	.3036	.3996	.4863	.2381	.1895	.6630	.0532
	Std. Dev	.0739	.0052	.0347	.0244	.0756	.0284	.0086	.1097	.0067

Source: Secondary data (calculated)

A distribution test of the budget composition was conducted to find out which budget functions indicated possible rent-seeking. Table 4.9 below provides the results of the distribution, showing that five functions had significant distribution differences: public service, security, housing and public facilities, education and social security.

**Table 4.9 Summary of distribution test of each budget composition based on legislative elections**

<b>Budget function</b>	<b>Significance</b>
Public service	.000*
Security	.003*
Economy	.233
Environment	.057
Housing and public facilities	.000*
Health	.788
Tourism and culture	.051
Education	.000*
Social protection	.002*

Source: secondary data (calculated)

\* indicates the distribution differences of the budget function among the years are significant

The results of this analysis were not much different from the previous results related to the local leader election. The four functions that had significant distribution differences in the local leader election were also indicated in the legislative election. The one function that distributed differently was social protection. As previously discussed (see Table 4.5), most local governments did not provide a large portion of funding to this budget function. In fact, some regions put no portion of their budgets into this function in certain years (see election years 1 and 2). The budget composition changes were expected to occur in the year of the legislative election. Moreover, looking at the standard deviation differences between the election year and the previous one, it seemed that there were fundamental changes in this composition.

#### 4.3.4. Changes in budget composition

As outlined previously, even though changes in government budgets are common, the decision to spread the expenditure may be caused not only by rational determinants, but also by individual or group motivation to benefit themselves or fulfil specific interests beyond government parameters.

Katz and Rosenberg (1989) created a formula to measure the size of rent-seeking by totalling the absolute changes in budget proportion in each budget sector and while this approach has been criticized by many scholars (Scully 1991, Demirbas 1999, Park 2008, Del Rosal 2011), it raised the possibility of identifying budget misuse in governments. Consequently, the discussion in this section is based on the Katz and Rosenberg (1989) formulation. The total changes are calculated by totalling the absolute changes in each budget function. While this will not reflect the size of rent-seeking overall, due to many undetected policies taking place in each local government, it will provide an initial indication of the occurrence of this behaviour in local governments.

Katz and Rosenberg (1989) proposed a measurement of rent-seeking in government budgets by deducting the proportion of a certain budget function in one year from that of the previous year. This approach is based on the simple proposition that the way to optimize certain interests is by not only increasing the budget amount but also by shifting a certain proportion of one budget function to another. The method focuses on the percentage change rather than on the change of the budget amount, because the percentage fluctuation will lead to the initial supposition of policy changes that reflect the existence of specific interests. However, the amount of changes in each budget function will also be explored to provide a further outlook about the contribution of the each function change to the total amount of change.

Table 4.10 below shows the changes in budget composition using Katz and Rosenberg's (1989) measurement. Results suggest that three functions play an important role in local government budgets: education, public service, and housing and public facilities. The other functions indicated as being utilized for rent-seeking are health and economy. Overall, the total change in the education sector allocations was the largest. The percentage change of each budget function was relatively small compared to the total expenditure. The largest change was 12.7% (0.127) in 2011 and the smallest was 8.5% (0.085) in 2010.

This finding was consistent with the results in the previous section that showed the budget functions that made a substantial contribution to the local budget. It confirms the possibility of using the budget for certain interests. The composition change in the range of 10% is a



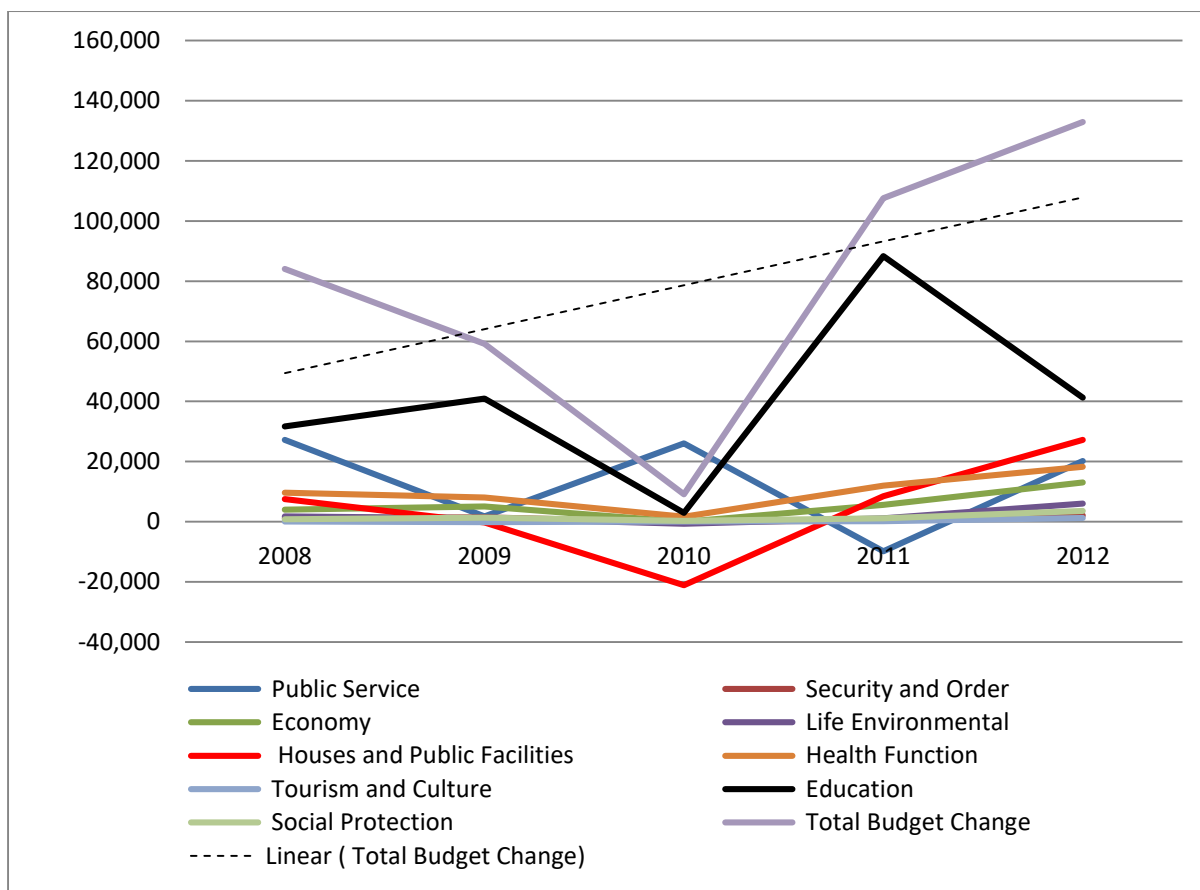
considerable estimation of budget changes, particularly when related to the possibility of rent-seeking. The estimation reflected a substantial amount of local government budgets.

**Table 4.10 Change of budget function using the Katz and Rosenberg (1989) approach**

	Year				
	2008	2009	2010	2011	2012
Public service	0.031	0.023	0.026	0.023	0.021
Security and order	0.002	0.002	0.001	0.001	0.002
Economy	0.010	0.010	0.008	0.010	0.009
Environment	0.004	0.005	0.003	0.003	0.004
Housing and public facilities	0.023	0.024	0.021	0.018	0.021
Health	0.012	0.009	0.007	0.009	0.011
Tourism	0.002	0.002	0.001	0.001	0.001
Education	0.032	0.033	0.017	0.059	0.027
Social protection	0.002	0.003	0.002	0.002	0.002
Total	0.117	0.110	0.085	0.127	0.099

Source: Local Government Budget Report (Calculated)

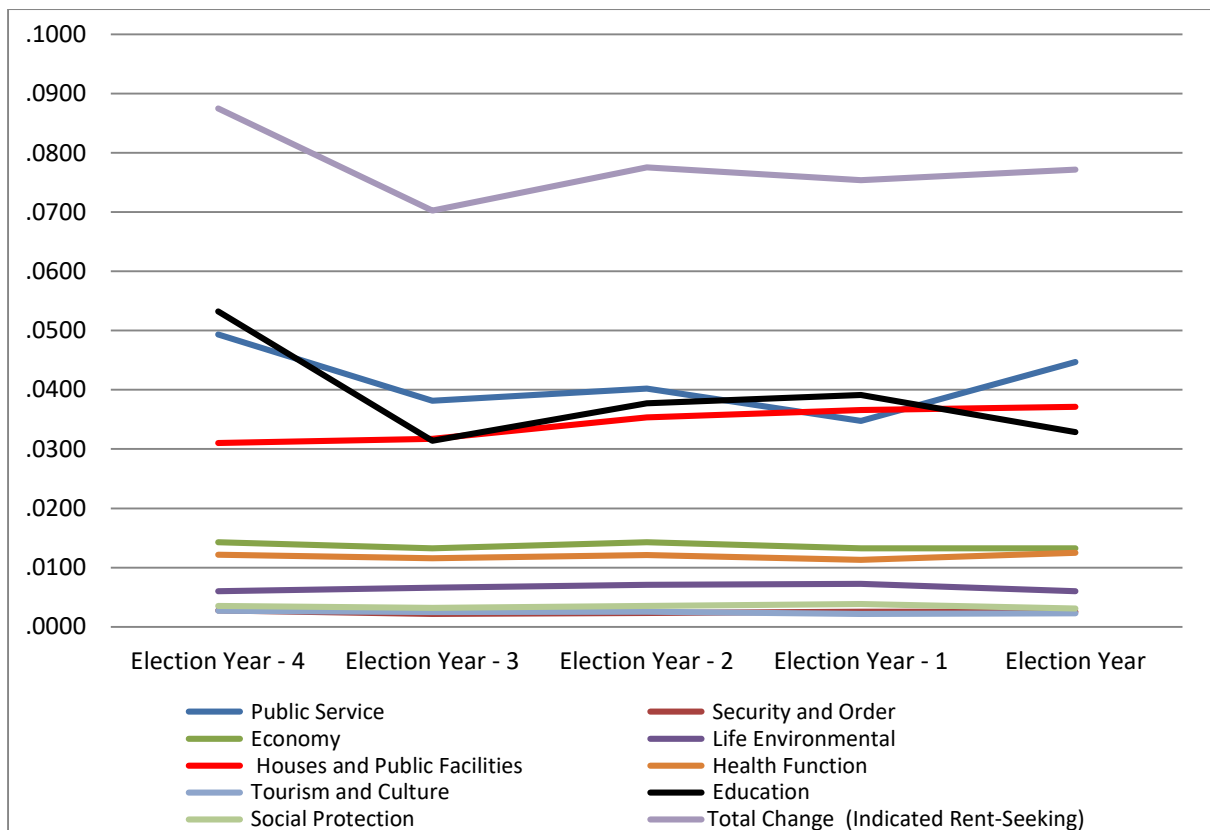
Figure 4.2 illustrates the changes in the amount of budget functions using the same approach. As shown in Figure 4.2, there were three functions that exhibited substantial change; education, public services, and housing and public facilities. The evidence is consistent with the prior estimation using the proportion of the budget. These three budget functions seem to have a significant role in local government as they fluctuated during the period under study in large amounts. Furthermore, the pattern suggests that there were relationships between the three budget functions. For example, in 2009 when the education and housing and public facilities functions increased, the public service function decreased, and vice versa in other years. Nevertheless, this does not provide an explanation as to why the government adjusted the budget in this way.



**Figure 4.2 Changes in amount of the budget of each function using the Katz and Rosenberg (1989) approach**

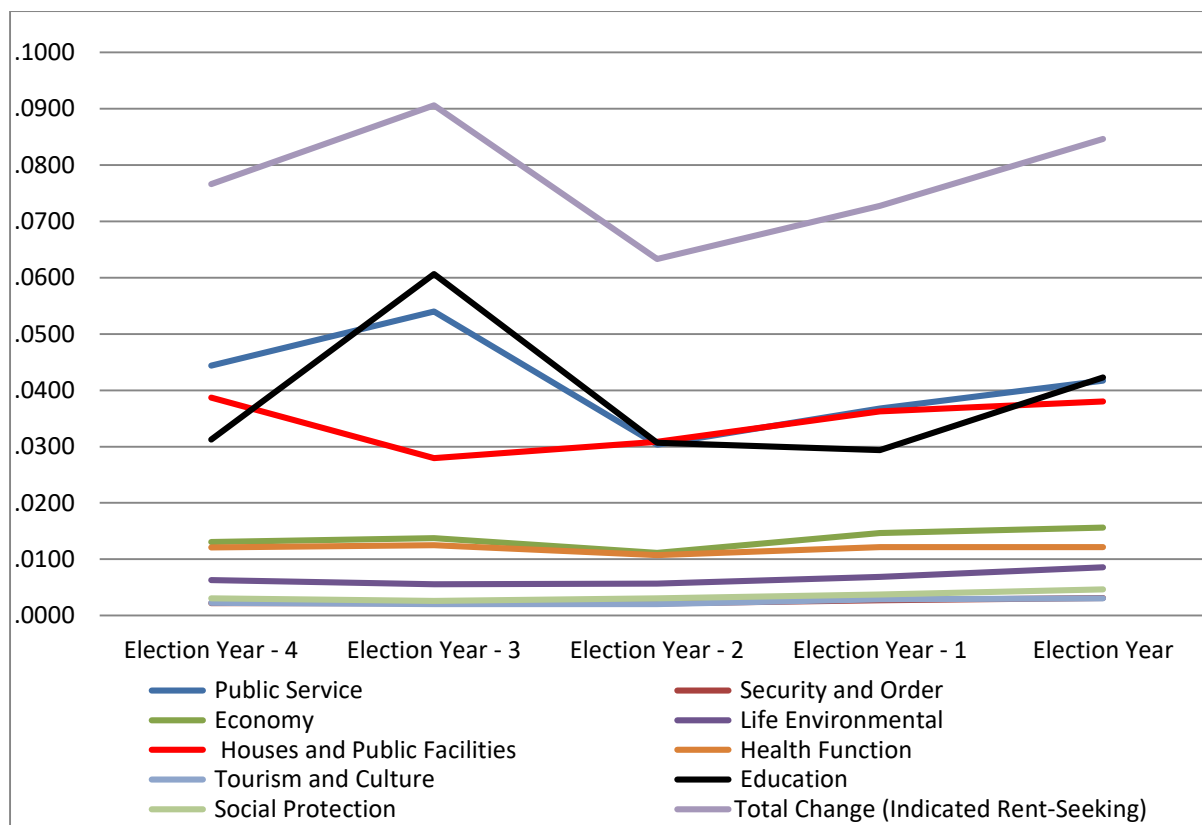
A similar approach was applied to investigate changes based on the election year for both local leaders and the legislature. The pattern of changes based on these events may indicate the utilization of specific budget functions for supporting related interests.

Figure 4.3 below shows the fluctuation of budget functions based on the local leader elections. As illustrated in this figure, two budget functions had a converse correlation in the year of the election of the local leaders; the public service function showed a sharp increase and the education function decreased drastically. This represents a strong indication that the public service function was believed to enhance political support from the public. Furthermore, the education function seems to have been chosen as the function to be adjusted in favour of the public service function. Given the large composition of the education budget, it seems that this function was more adjustable, as long as the local governments maintained the minimum 20% composition as required.



**Figure 4.3 Changes in the composition of the budget of each function (using the Katz and Rosenberg (1989) approach) based on local leader elections**

However, the findings from the local leader elections contrast with those for the legislative elections. Figure 4.4 illustrates how the composition of each budget function fluctuated in terms of the legislative elections. It shows that the composition of the education and the housing and public facilities functions increased slightly, while the composition of the public service function dropped substantially. The other budget functions tended to move consistently.



**Figure 4.4 Absolute changes in the composition of the budget of each function with the Katz and Rosenberg (1989) approach based on legislative elections**

It seems that there was a negative correlation between the education and public service compositions. However, there was a difference in preference between the times of legislative and local leader elections regarding which budget function should be optimized to gain political support.

#### 4.4. DETERMINANTS OF BUDGET EXPENDITURE ALLOCATION

As stated previously, the residual amount is the indicated amount caused by rent-seeking motives. The first step of this approach is to use multiple regression analysis to find the impact of certain factors on budget allocation. Most of the factors considered in the budget determination are economic factors: economic growth, inflation, per capita income (Park 2008). Factors that are also included are current surplus/deficit of the budget and the population size. The other factor that is also considered as a budget determinant is a particular economic event that will significantly affect the prices -the oil price<sup>8</sup>. The increase in the middle

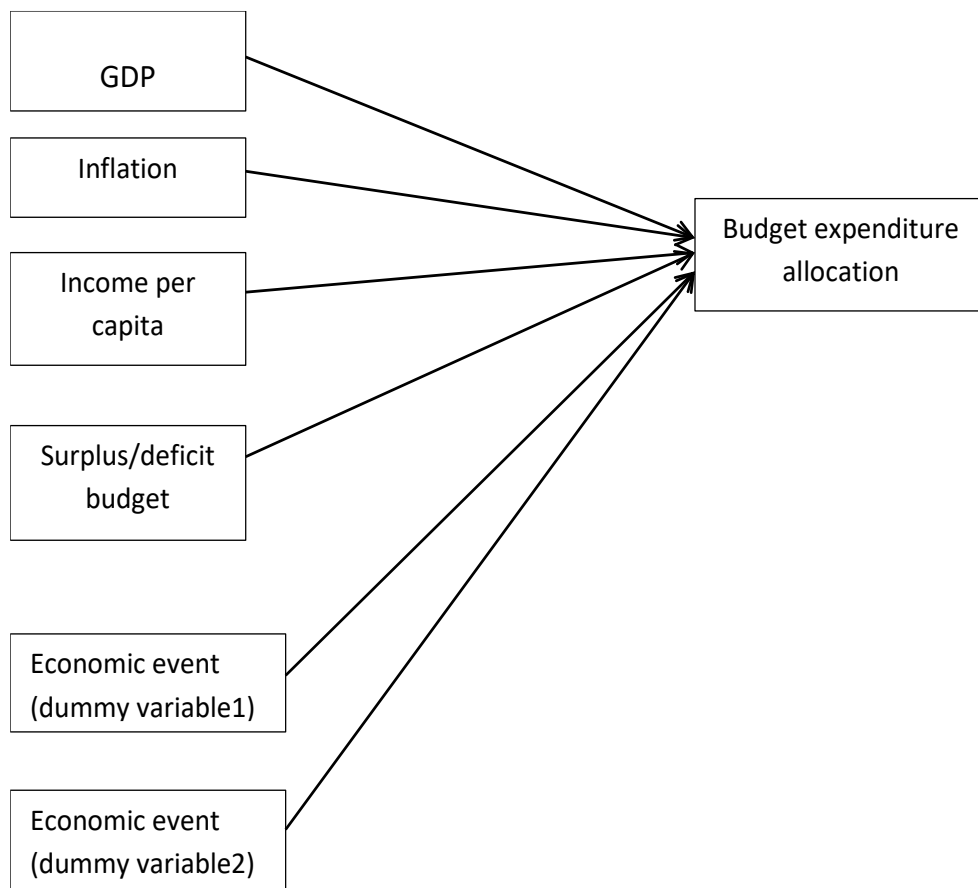
<sup>8</sup> In Indonesia, the oil price is regulated by the central government as a subsidized price. The central government will charge the amount of the subsidy in the national budget. The price applies to a certain period until the

of 2008 (The Minister of Energy and Mineral Resources 2008a) of course, impacted the local budget in the operating year. There might be two possible local government responses related to the economic event of the oil price policy change; the first is increasing the amount of the budget so the planned budget could be executed, and the second is by prioritizing the budget on a particular projects and shifting the other projects to the following budget year, particularly when local governments do not have sufficient funding resources. The oil price was revised again twice at the end of 2008: at the end of November and in the middle of December (The Minister of Energy and Mineral Resources 2008b, The Minister of Energy and Mineral Resources 2008c), and again at the beginning of 2009 (The Minister of Energy and Mineral Resources 2009). Therefore, there will be two dummy variables regarding the economic event of the oil price policy change; the first dummy for the year 2008 will reflect the economic event of the oil price policy change in the middle of 2008<sup>9</sup>. The dummy for the year 2009 and after represents the economic event of the oil policy price change at the end of 2008 and in early January 2009. A difference from the change in the middle of 2008 was the oil price reduction policy, and the last oil price stayed in place until 2013. Thus, Figure 5.1, below, illustrates the relationship between the independent and dependent budget variables.

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central government releases a new oil price policy. It is quite different from most developed countries that determine the price through market mechanisms; the price fluctuates following the dynamics of world oil prices.

<sup>9</sup>. Since the issue of these policies was on the edge of 2008, they would not substantially affect the budget in the same year, but in the following year.



**Figure 4.5 The determinants of budget expenditure**

The descriptive statistics of the independent and dependent variables of budget allocation are shown in Table 4.11

**Table 4.11 Descriptive Statistics of the Independent Variables of Budget Allocation**

Year		Total expenditure (in million rupiahs)	Local GDP* (in billion rupiahs)	Current inflation	Per capita income (in million rupiahs)	Surplus/deficit
2007	Mean	602,660.513	3,372.685	7.557	13.416	-17,529.059
	Std. Deviation	357,917.159	5,740.645	2.844	23.262	160,064.090
2008	Mean	686,776.324	3,577.258	9.699	15.049	4,001.273
	Std. Deviation	467,822.759	6,111.840	3.791	23.098	67,080.786
2009	Mean	745,985.156	3,770.328	7.169	17.513	-9,534.143
	Std. Deviation	488,089.499	6,484.344	4.075	26.567	79,799.485
2010	Mean	755,096.896	4,058.376	7.322	19.809	5,631.836
	Std. Deviation	506,902.385	7,143.886	3.176	28.735	79,347.072
2011	Mean	862,740.977	4,307.265	6.345	21.183	44,858.005
	Std. Deviation	570,173.215	7,627.924	2.838	27.049	129,755.058
2012	Mean	995,685.108	4,591.364	5.682	22.931	73,679.928
	Std. Deviation	637,942.760	8,192.826	2.399	27.324	174,859.035
Total	Mean	774,824.162	3,946.213	7.296	18.317	16,851.307
	Std. Deviation	526,647.854	6,937.722	3.467	26.261	126,545.549

Source: Secondary Data (Calculated)

\*the local GDP is measured in constant price

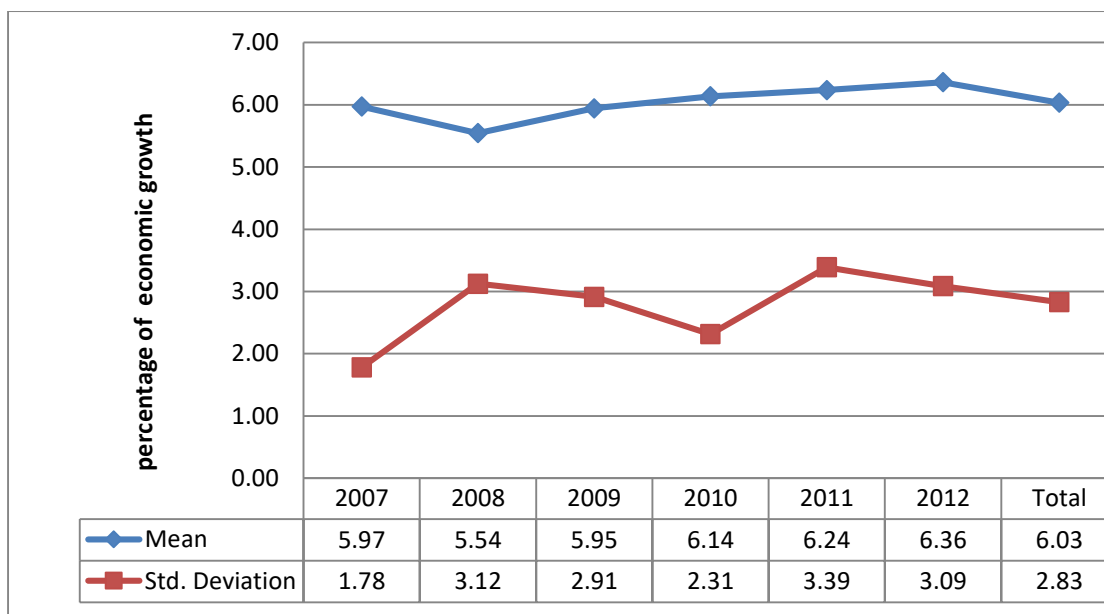
Table 4.11 demonstrates a constant increase in total expenditure during the years (2007-2012). Among all dependent variables, local gross domestic product and per capita income consistently increased during the period 2007-2012 while the other variables tended to fluctuate.

#### 4.4.1. Economic Growth

Gross Domestic Product is one of the main indicators of the health of the economy in certain areas. GDP shows the total production, of both goods and services in a particular period and the fluctuation of its value indicate the economic growth of the area.

Overall, during the six observed years, the average GDP was 3,946.213 billion rupiahs, with the standard deviation of the average mean at 6,937.722 billion rupiah. It was quite interesting that the standard deviation has a higher value than the average value. This condition indicates a high disparity of the goods and services produced among the regions during the periods. However, the high discrepancy of this indicator does not necessarily demonstrate a high difference in the economic growth. Therefore measuring the growth of GDP is essential to ensure the productivity of the area. Looking at the average value of local government GDP during the period 2007-2012, it seems that the economic growth went up slightly; overall the local governments had a positive yield of goods and services production. GDP growth is further illustrated in Figure 5.2. The figure shows that during the period local economic growth had a slight fluctuation, however it still grew positively. The highest average rate of economic growth during the period occurred in 2012, when it reached 6.36%, with the standard deviation value 3.09%. The standard deviation value in that year was greater than the average during the observation year. The economic growth disparity among the local governments was higher; this indicates that some regions had greater accelerating growth, or conversely there may have been some local governments experiencing a significant decrease in performance.





**Figure 4.6 Local economic growth 2007 - 2008**

Figure 4.6 provides compelling evidence regarding the development between 2007 and 2008; the growth in 2008 declined about 0.45% from the previous year, while its standard deviation had a higher increase from 1.78% to 3.12%. This demonstrates that most of the regional governments encountered a lowering of growth, which is even worse and results in a high discrepancy in performance among the local governments. The possible reason was that in the middle of that year, the central government released a policy to increase oil prices, which resulted in a higher production cost and a decline in public purchasing power.

In the following year (2009), when all of the local governments conducted the elections for legislative members, they went through a positive economic growth. . Since the time was very crucial, particularly for the incumbents, it could be expected that local governments made their best efforts to increase local economic growth. The improvement of this local performance was related not only to the better local economic growth achieved but also to the average growth. In this year, the average economic growth increased to 5.95%, while in the prior year, it was 5.54%. Moreover, the overall growth of local economies was much better because of the lower growth disparity among the local governments. This was reflected by the lower standard deviation of 2.91%, which was previously 3.12%. This might reflect an indication that there was an effort by the local government to show good performance to the public at that crucial time.

In the following year, 2010, after the legislative election, the economic growth went up to 6.14% on average with a lower rate of standard deviation than in the previous year, which declined to 2.31%. This shows that the local government did not only triumph in better

economic growth than in the previous year but also succeeded in lowering the discrepancy of the growth among the regions.

In the years after 2010, economic growth tended to increase, with the highest level of the average current economic growth in 2012 when it reached 6.36 % with the standard deviation of the growth at 3.09 %. This difference was relatively lower than the similar rate in 2010 and 2008. However, the higher economic growth in 2011 was not followed by a reduction of economic disparity among the regions.

Moreover, the standard deviation in this year was the highest among the observed years, which means that during the period, the highest economic growth disparity took place in 2011. It was quite interesting; even though, it reached better economic growth on average, the growth was relatively uneven. As a result, it created a greater gap of this local performance among the regions.

#### **4.4.2. Inflation Rate**

The discussion of the economic growth is connected to the fluctuation of the inflation rate. In short, the inflation figure reflected the gradual rise of the price levels of goods and services, in general, regarding market mechanism. The rate of increase is not always going to hamper economic growth. At lower a level, inflation would likely boost economic growth because it would encourage the economic actors to increase production as they will obtain more profit. However, it will obstruct economic growth when the inflation level becomes higher. In line with that, the inflation during the observed period also fluctuated. Overall, the average inflation was 7.30 % with minimum level -6.180 % and maximum 31.972%. The lowest rate occurred in 2011 while the highest occurred in 2008. Comparing the inflation level from year to year, Table 4.11 exhibits that the average inflation in local governments reached the lowest level in 2012 and the highest in 2008.

In 2012, the average inflation was 5.68 % with the minimum -2.97 % and the maximum 22.54 %. However, the standard deviation of this rate was only 2.40 %, which was the lowest standard deviation in the observed years.

Conversely, in the year when the average inflation rate reached the highest, 2008, the deviation value was high as well (3.79 percent). The rate was the second highest, after the deviation rate in the following year, 2009. However, there was a possibility that the high average inflation rate was caused by the large inflation disparities among the local governments.

Furthermore, in 2008, when inflation reached its highest point, economic growth attained the lowest point. This was in line with the previous description of the benefit of inflation, in which it can stimulate positive economic growth at the individual level, but when the rate headed to a higher level, inflation might cause a decline in economic growth. This provided a strong indication of the correlation between economic growth and inflation, showing how inflation stimulated or decreased the rate of local economic growth.

#### 4.4.3. Per capita income

The other economic variable that had an important part in measuring local performance is per capita income. This is the average income of the population in a particular area. In this context, the per capita income showed the average income earned by the people of each local government. This income is the result of the division of local gross domestic product with the population size. Per capita income is an economic indicator of the wealth level of the population in a particular area. In this context, income can be useful to measure the wealth level of local governments. For local governments, this variable can be a determinant in establishing the local budget, especially as it relates to resource allocation.

Table 4.11 shows that average per capita income over the period was 18.317 million rupiah, and the standard deviation was 26.261 million rupiah. This reflects the high disparity in wealth levels among regions.

Similar with economic growth, per capita income consistently increased from 2007 to 2011. However, looking at the high standard deviation, which shows the large disparity of population incomes, there was a strong indication of a substantial difference in local government performance. This might be related to resource allocation. Some regions allocate funds in strategic and productive areas while others may waste it, which, in turn, impacts adversely on the local government's performance.

It is interesting to note that after 2008, the gradual increase in local per capita income was followed by an increase in the value of the standard deviation. Table 4.11 showed the development of income and its disparity. For example, in 2009, Table 4.11 showed that the average local per capita income was 17.513 million rupiah, and the standard deviation was 26.567 million rupiah. In the following year (2010), the average income increased to 19.809 million rupiah, and it was followed by the rise of standard deviation as well to 28.735 million rupiah.

Overall, the table provides important evidence of a substantial disparity of income among the local government that was shown by the higher level of standard deviation. The positive growth

of the per capita income that was followed by the increased standard deviation indicated that the increases were dominated by the regions that previously had high levels of income, so that the income disparity among regions became greater. The large gap in per capita income distribution is quite common among the local governments in Indonesia since each local government had its primary substantial local resources that contribute to its local wealth increase. One region could become a 'rich' region while others may still struggle to increase local wealth because it does not have a central resource on which the district can rely.

There are regions that are rich because of their natural resources, particularly oil, gas, and mining or they have large opportunities to collect taxes or other charges from the public as their local revenue. The local revenue collected from these resources contributes substantially to the total local gross domestic product.

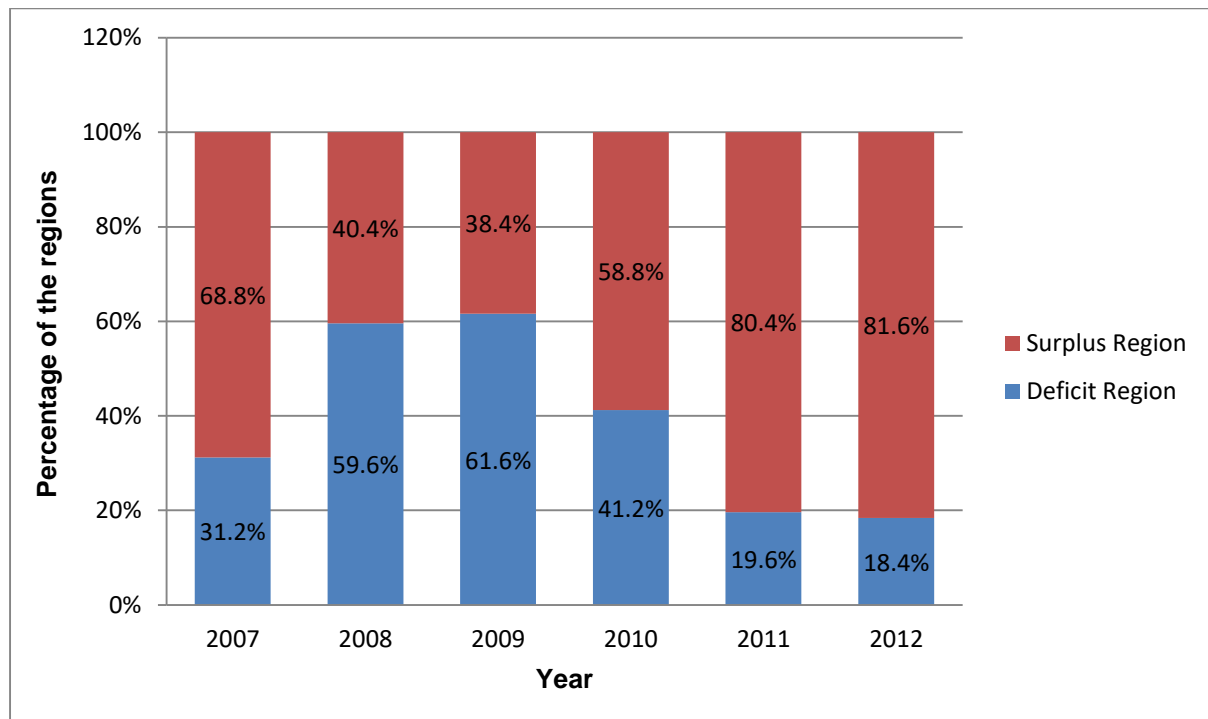
The refinement of the per capita income did not necessarily impact the decrease in the local income disparity. It seemed that some regions performed positively in optimizing the allocated resources, so that it stimulated local performance improvement, while other local governments might show the opposite result.

#### **4.4.4. Surplus/deficit**

The other variable, surplus/deficit, also fluctuated during the period. According to Table 4.11, the regions/cities mostly experienced surpluses. It was only in 2007 and 2009 that local governments encountered deficit budgets on average while in the other years they had surplus. The number of regions that experienced a negative budget in 2007 was smaller than the number of local governments that experienced a deficit in the three following years (see Figure 5.2). The highest number of regions/cities that had deficit budgets occurred in 2008 and 2009. However, in the next two years (2011-2012), the number of local governments experiencing deficit dropped substantially and was less than the one in 2007. It was only 20% in 2011 and 18% in 2012 of the local governments that had deficit budget, while the remaining regions resulted in surplus budget.

A possible cause of the high number of deficit local governments in 2008 was the implementation of a general election for members of all levels of government in 2009, from the central government to local governments. The year 2008 was a crucial time, especially for incumbents who were seeking to be re-elected for a further period. The possibility of optimizing the budget this year to support their interest might be higher than in the previous years.

Even though, on average, there was a deficit budget amount in 2007, the number of deficit regions was not greater than the number of regions that had a surplus. On the contrary, in the following year, when the number of deficits increased, it did not cause the average deficit of budget amount. The following graph shows the comparison between deficit and surplus regions/cities during the year 2007 – 2012.



**Figure 4.7 The composition of surplus and deficit regions in 2007-2012**

Figure 4.7 provides an interesting insight about the fluctuation of the regions or cities that were surplus or deficit during the period (see also Appendix C). The number of regions that experienced deficit budgets tended to increase sharply from 2007 to 2009, with the peak level in 2009 and then settled in following years. The highest number of deficit budgets was in 2009; however, it is quite impressive when compared with the previous table (Table 5.1) wherein on average the regions experienced surpluses, not deficits.

As shown in Table 4.11, the average deficit amount in 2007 was the highest; however, the number of regions was not more than those in 2008 and 2009. It is interesting as the number of surplus regions is higher than the number of deficit regions, however it was not followed by surplus value on average. The total surplus of the surplus regions still could not cover the total deficit of the deficit regions.

In 2008, the number of areas with deficit budgets was larger than in 2009, but on average, the net budget amount was positive in 2008. According to Table 4.11, the average net budget

was 4,001 million in 2008 while in 2009, it was -9,543 million. For some regions, the one-year period before the election might be a crucial time for optimizing efforts to increase the public trust.

Figure 4.4 represents the response of local governments when facing legislative elections. As previously mentioned, in 2009, there was a general election to select members of parliament in all regional governments. The initial finding shows that the years 2008 and 2009 were critical particularly for those who had a specific interest in gaining political benefit from these elections. In that case, the budget might be focused more on expenditure than revenue, specifically in appropriately targeting sectors that reflected a high political endorsement from the public.

Unlike legislative election, dates for local leader election may vary among regions. In 2009, as seen in Table 4.11 and Figure 4.4, the average deficit was -8,615.4137 million, and the number of deficit local governments was very high. During that time, there may have been significant events that forced the local government to spend excessively, e.g., administration of a local election.

#### **4.4.5. Regression analysis**

The objective of this regression is to find out the factors that determine the budget expenditure in local government. Before conducting the test, a series of classical assumption test will be conducted to certify the data are appropriate for regression examination.

The overall test of classic assumption for data used in this study still demonstrated some critical issues: the existence of heteroscedasticity and also normality (see appendix D). Therefore, the analysis will not utilize linear multiple regression, but will use robust standard error multi regression.

The result of multiple regression tests using the robust standard error shows that among the variables, all of the factors are detected as the determinant factors of budget expenditure (significance value is less than 0.05). The factors (LGDP, per capita income, inflation, surplus/deficit, and the dummy2 (decrease of the oil price) are confirmed as the determinant factors of budget expenditure (see Table 4.12 below).

**Table 4.12 Multiple regression result of determinant factors of budget allocation in local government budgets**

Parameter	B	Std. Error	t	Sig.
Intercept	316,644.49	30,576.41	10.36	.000
GDP	49.13	1.39	35.34	.000
Per capita income	2,426.26	371.49	6.53	.000
Surplus/Deficit	0.58	0.07	7.99	.000
Inflation	12,951.69	2,743.92	4.72	.000
Dummy1 (Economic Event1)	29,959.24	31,466.82	0.95	.341
Dummy2 (Economic Event2)	166,023.48	24,898.17	6.67	.000

Dependent Variable: Total Expenditure  
R squared=.565(adjusted R squared =.564)  
Source: Secondary data (calculated)

All of the determinant variables positively affected the budget allocation. The value of *Adjusted R<sup>2</sup>* is 56.4% (0.564), which means that all of those factors could determine the variance of the allocation of the budget for 56.4%, and the remaining (about 43.6%) are explained by other factors, with some of the factors including rent-seeking behaviour. The remainder of the budget reflected by the residual value resulted from the regression analysis (Park 2008). The residual percentage indicates a significant amount of the budget might be utilized by local government officers or other interests for particular purposes.

#### 4.5. FINDING THE RESIDUAL VALUE

##### 4.5.1. Residual value of total budget expenditure

The next step is finding the amount of the budget that is indicated as rent-seeking. As stated previously, the rent-seeking amount is reflected by the residual value. The descriptive of residual value that results from the multiple regression is shown in the Table 4.13.

**Table 4.13 Descriptive of the residual value**

Year	Mean	Minimum	Maximum	Std. Deviation
2007	-21,004.35	1,399,370.35	2,483,182.91	296,559.47
2008	21,004.35	1,789,747.18	3,758,395.17	319,846.42
2009	-59,711.56	1,168,247.72	3,948,560.81	353,304.09
2010	77,617.20	1,144,385.17	3,043,217.36	317,848.32
2011	-14,564.91	958,004.66	2,860,280.25	286,750.67
2012	122,763.85	1,510,018.11	2,778,824.70	339,923.41
Total	.00	1,789,747.18	3,948,560.81	326,081.94

Source: Secondary data (calculated)

Table 4.13 shows that the average amounts of residual value fluctuated from 2007 to 2012; were negative in 2007, 2009, 2011, and in the other years were positive. The overall positive residual showed the underestimate of the regression equation, which reflected the possibility that rent-seeking occurred in most of the local governments. In terms of spending, the positive

residual in a certain year indicates overspending the predicted amount. This high spending will possibly lead local governments to experience deficit budgets, especially when the actual income is less than the estimated one. Conversely, the negative residual reflects the overestimate of the budget; the real spending is less than the approximated budget expenditure. It will bring the government to a surplus budget, particularly when the collected revenue is as expected.

There were some major events that could be detected as the possible reasons to explain the deficit. The deficit in 2009 could be caused by the implementation of the legislative election in all local government in 2009. Since the time became critical for particular interests in the election, this might result in the high expenditure budget. In line with that, the positive residual in the other years could possibly be explained by the occurrence of the election. This provides an important indication of the possibilities of using the budget for individual motives; one of them being the intention of the incumbent legislative member to be re-elected for the following period.

As stated earlier, in Indonesia, the parliamentary election is conducted at the same point in time, nevertheless the conduct of the election to choose the local leader may be at different times among the regions. The following table shows the spread of the number of regions that conducted the election of the local leader and the average residual of the expenditure budget. Table 4.13 shows that in the years of the local leader election, the amount of residual was diverse showed either a positive or negative value.

The existence of a positive residual value only took place in the 2011 and 2012. In these years, the number of regions/cities that conducted the election were 23 and 37 regions with an average residual of 52,183.99 million and 44,076.71million respectively. It seems that the timing of the local leader election was not crucial for taking benefit of optimizing the budget.



**Table 4.14 Dispersion of residual value based on the year(s) of the implementation local leader election**

Year	Year(s) to Local Leader Election	N	Mean	Minimum	Maximum	Std. Deviation
2007	Election Year - 4	23	71,622.12	-436,441.06	921,157.29	328,125.61
	Election Year - 3	123	5,398.59	-1,399,370.35	2,483,182.91	345,650.57
	Election Year - 1	67	-85,226.34	-934,261.96	722,497.34	226,480.09
	Election Year	37	-58,974.08	-398,317.52	329,478.00	157,726.46
	Total	250	-21,004.35	-1,399,370.35	2,483,182.91	296,559.47
2008	Election Year - 4	37	-19,442.61	-282,383.00	354,903.54	151,973.17
	Election Year - 3	23	60,334.49	-222,703.61	866,244.52	241,054.55
	Election Year - 2	123	48,945.42	-1,789,747.18	3,758,395.17	412,133.00
	Election Year	67	-23,469.25	-712,880.95	694,521.87	189,653.06
	Total	250	21,004.35	-1,789,747.18	3,758,395.17	319,846.42
2009	Election Year - 4	67	-116,938.18	-783,484.91	863,708.87	225,466.51
	Election Year - 3	37	-118,885.00	-441,511.88	137,133.83	128,924.91
	Election Year - 2	23	12,923.10	-428,021.67	598,759.52	242,773.23
	Election Year - 1	123	-26,029.38	-1,168,247.72	3,948,560.81	455,946.19
	Total	250	-59,711.56	-1,168,247.72	3,948,560.81	353,304.09
2010	Election Year - 3	67	-107,442.64	-879,719.41	810,591.30	224,137.67
	Election Year - 2	37	-149,486.50	-528,541.90	95,546.25	130,515.64
	Election Year - 1	23	-40,306.51	-379,052.75	517,868.09	226,503.83
	Election Year	123	-46,820.67	-1,144,385.17	3,043,217.36	403,039.31
	Total	250	-77,617.20	-1,144,385.17	3,043,217.36	317,848.32
2011	Election Year - 4	123	33,131.56	-785,750.19	2,860,280.25	356,261.66
	Election Year - 2	67	5,556.10	-958,004.66	809,199.00	201,683.29
	Election Year - 1	37	-53,112.22	-313,708.66	228,960.32	131,442.08
	Election Year	23	52,183.99	-250,661.48	979,313.09	257,155.18
	Total	250	14,564.91	-958,004.66	2,860,280.25	286,750.67
2012	Election Year - 4	23	154,592.22	-291,016.34	1,380,139.59	291,261.34
	Election Year - 3	123	141,987.64	-1,510,018.11	2,778,824.70	412,809.18
	Election Year - 1	67	121,568.15	-983,650.76	1,514,391.53	278,038.84
	Election Year	37	44,076.71	-289,721.41	464,244.42	151,916.01
	Total	250	122,763.85	-1,510,018.11	2,778,824.70	339,923.41

Source: secondary data (calculated)

#### 4.5.2. Residual value of each budget sector

The previous table shows the amount of residual in each year, including in the time of the implementation of both legislative and local leader elections. The variation of residual, in particular at the time of the election provided an initial indication of the low probability of rent-seeking behaviour. However, it does not mean that there is not any possibility at all of rent seeking behaviour since the examination of the behaviour was applied to the total expenditure budget, in which there may be some sectors that provided a lucrative opportunity rent-seeking behaviour and vice versa.

In his study, Park (2008) attempted to show the rent-seeking in each function of the budget. This approach enables providing the amount of each budget sector that is being optimized by a budget actor undertaking rent-seeking behaviour. It also allows for identifying which budget sector is most used to provide opportunities for budget actors, especially for a specific interests, both for increasing individual wealth and for political reasons.

Table 4.15 below provides a summary of the multiple regression regarding the influence all of determinant budget factors. The result shows the ability of factors in partially determining the sector. The table shows interesting results of regression since there are only one sectors that are caused by the determinant factors by more than 50 percent: education (63.1%). The other functions that were relatively high impacted by the factors were health and also security and order; which were influenced by 45.8 percent and 41.8. It means that the unidentified factors (which are indicated as caused by potential rent-seeking motives) were about 36.9 percent for the health function. From this point of view, it can be assumed that these areas were the most adjustable when significant changes happened in the budget determinant factors. A large proportion allocated to health and education functions might be the most likely reason why these sectors become the first preference to be adjusted.

The table also shows that all of the determinant factors have a positive impact on each budget, except for inflation. This finding is quite interesting since, based on previous studies, these sectors were usually optimized for their own benefit, to increase wealth or gain other advantages, such as political support from the public.

**Table 4.15 Summary of the regression of each function of the budget**

Dependent Variables (Budget Functions)	Intercept	Independent Variables						R Squared	Adjusted R Squared
		GDP	Per Capita Income	Current Surplus/ Deficit	Inflation	Dummy1	Dummy2		
Public Service	-573,126.51	61,727.85	43,776.94	-76.75	30,048.28	10,239.80	21,723.43	0.359	0.356
Security and Order	-20,138.76	2,036.76	2,345.97	65.80	111.03	1,009.07	2,302.75	0.420	0.417
Economy	-104,581.10	7,902.77	18,679.47	424.95	9,447.66	127.25	9,040.16	0.211	0.207
Environment	-160,343.47	15,131.01	13,348.55	257.81	1,442.28	-443.47	-3,002.18	0.157	0.154
Housing and Public Facilities	-382,819.71	19,294.35	70,664.79	-56.56	33,591.16	-11,440.75	-26,862.55	0.242	0.239
Health	-192,335.72	29,973.19	-3,203.74	576.77	-223.09	10,237.16	27,425.03	0.460	0.458
Tourism and Culture	-8,202.02	506.22	2,147.78	30.30	520.80	-278.59	-433.75	0.121	0.117
Education	-865,509.18	146,479.21	-77,182.36	3,253.33	11,907.63	41,455.54	150,364.46	0.631	0.631
Social Protection	-19,622.04	2,356.98	1,407.81	166.90	542.28	879.29	3,539.51	0.285	0.282

Source: Secondary data (calculated)

Blocked areas indicates the impact of the independent variables are not significant on the dependent variable(s)

Conversely, the other budget sectors were found to be influenced by less than 50%, and two sectors were influenced by less than 20%: *environment* and *tourism and culture*. In other words, the unidentified factors for these sectors have a stronger impact on budget decisions than the factors identified in this study. The possibility of rent-seeking motives is higher than has been found in previous research.

The other interesting finding from this regression result is related to the association between the budget composition of each sector and the strength of the determined factors. It seems that the more the composition of a sector, the more the strength of the determined factors, and vice versa. Thus, rent-seeking is more likely to occur in a sector with low composition rather than one with high composition.

A further finding shows the dispersion of the residual value of each budget sector each year, which can be used to identify budget sectors that could be optimized, in a specific year, for rent-seeking. For example, in the first year of observation (2007), there were sectors with a high positive residual. *Housing and public facilities* had about 6,415.12 million residual and *Education* had 5,328.15 million residual that might result in a high amount of rent-seeking. In line with the previous Table (4.16), *housing and public facilities* sector was found as the one with the smallest *adjusted R<sup>2</sup>*, which means that it had a high possibility of being optimized for rent-seeking because this sector had large, unidentified factors.

Contrary to the two previous years, in 2009, the opposite occurred; almost all sectors demonstrated a positive residual; only housing and public facilities evidenced a negative one. Compared by year, the change in housing and facilities was relatively high. This may be the result of covering the increase in other budget sectors.

**Table 4.16 The dispersion of the residual of each budget sector during the years 2007-2012**

Budget Functions	2007	2008	2009	2010	2011	2012
Public Service	-229.73	229.73	17,741.86	18,030.18	-16,117.69	-19,654.35
Security and Order	-200.38	200.38	514.66	-414.63	-688.86	588.83
Economy	2,503.86	-2,503.86	6,376.01	-2,080.62	-4,745.47	450.08
Environment	-38.86	38.86	1,557.97	-1,250.93	-2,089.99	1,782.94
Housing and Public Facilities	6,415.12	-6,415.12	-33,519.80	-7,097.09	-17,677.39	-8,745.32
Health	-246.71	246.71	969.87	-5,909.88	-2,555.40	7,495.42
Tourism and Culture	201.98	-201.98	239.52	-173.88	-442.53	376.90
Education	5,328.15	-5,328.15	421.60	-34,747.74	14,647.58	19,678.56
Social Protection	365.21	-365.21	456.25	-722.42	-1,006.35	1,272.51

Source: secondary data (calculated)

Furthermore, the table shows that in 2009, when local leaders and legislative elections were held, all of the budget sectors had a positive residual. Statistically, certain budget excesses were determined by other factors.

#### 4.7. INDICATION OF RENT-SEEKING

As stated in Chapter 3, the amount indicated as rent-seeking is derived from the residual value of the multiple regression of the total expenditure. The residual is the amount of the total budget not determined by the identified factors grouped as rational factors, including political and economic events, and also incremental factors. Park (2008) estimated the potential rent-seeking by totalling the absolute changes in the composition of each budget function. After having the percentage of the potential rent-seeking, the estimated amount can also be determined by multiplying the percentage and the total amount of the budget

##### 4.7.1. Rent-seeking in 2008-2012

Table 4.16 provides compelling evidence associated with the potential rent-seeking that occurs in local governments. Regression results in the previous chapter showed that the rational determinant of the budget could predict the total budget 56.4%. However, the impact of reasonable factors in each budget function was vary from 11.7% to 63.1% (see Table 4.15). During the years, the percentage or amounts indicated as potential rent-seeking are shown in Table 4.17 below

**Table 4.17 Descriptions of the potential rent-seeking**

Year	Percentage of potential rent-seeking	Estimated amount of (potential) rent-seeking (in million rupiah)*
2008	0.0568	39,684.31
2009	0.0629	44,658.50
2010	0.0605	41,395.24
2011	0.0548	47,173.24
2012	0.0408	38,017.14
Average	0.0551	42,185.68

\*the estimated amount is calculated by multiplying the percentage of potential rent-seeking and total budget

Source: secondary data (calculated)

Table 4.17 shows that the percentage or the amount of rent-seeking fluctuated in the years of the observed data. The average amount of potential rent-seeking was 5.51% (0.551) of total budget with an estimation 42,185.68 million rupiah in average. The highest rent-seeking was in 2009 (6.29%); however, it doesn't mean that the estimated amount of rent-seeking was also the highest. The largest number was in 2011 (47,173.24 million), even though the composition of the rent-seeking in that year (5.48%) was smaller than the previous years.

The interesting matter reflected in this figure is the high proportion of possible rent-seeking in 2009 and 2010. This probably relates to the implementation of the elections for LMs in 2009 in all regions/cities and also the implementation of local leader elections in the following year in some local governments.

#### **4.7.2. Rent-seeking before legislative member elections and local leader election**

Noting the rent-seeking based on the observation years provides some insight into the possibility of a relationship between rent-seeking motives and other specific events. Figure 4.8 below shows how the patterns of rent-seeking changed in the years before both legislative member elections and local leader elections. The figure gives an insight into the patterns of apparent rent-seeking related to both types of elections. The patterns of potential rent-seeking between the years before the legislative member elections and the local leader elections are quite different.

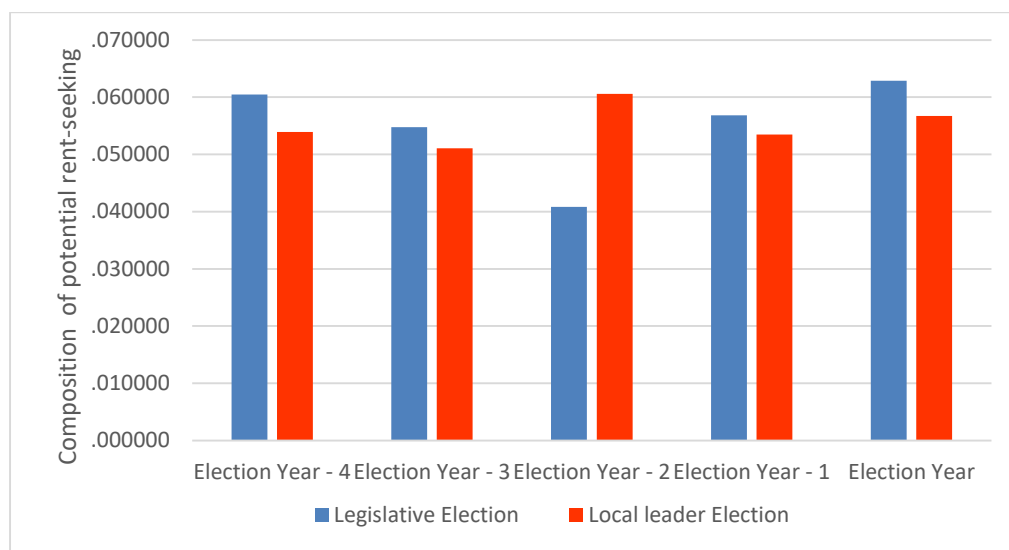
Regarding the legislative members elections, it appears that the patterns of rent-seeking tended to be positive in the beginning year of the legislative and the years before the upcoming elections. It is possible that the years close to the election might become the important times for the candidate to show better performance, so that there was a possibility of optimising the budget on the function(s) that support the candidates to increase the public sympathy. Looking at the data, the possibility of the existence of rent-seeking was in the fourth year and in the year of the legislative election.

The pattern of rent-seeking shown in connection with the implementation of local leader elections is quite different to the pattern related to legislative elections as previously described. Figure 4.8 shows that highest rent-seeking happened in the third year and in year of the election, while it seemed to be smaller in the other years. The structure of rent-seeking is fluctuated according to the proximity of time to the election, however it tended to increase in the year(s) next to election. It seems that local leader(s) consider the year of the election as a crucial time to do rent-seeking.

Noting the pattern, it seems that there were two critical times before the election; firstly in the middle year and then in the last year of the period. This structure was not much different from the pattern before the LM elections.

This might take place in any year because, as previously explored in the literature review, both politicians and LMs have at least two possible interests in optimising the budget, both for personal prosperity reasons (to increase their personal welfare or obtain return on their political investment) and for political rationales. So it might be that the rent-seeking in this

matter happened twice, in the starting years related to return on their political investment and in the last year associated with their intention to be re-elected in the following election.



**Figure 4.8 The pattern of rent-seeking in the years before the legislative member election and local leader election**

#### 4.8. SUMMARY OF THE CHAPTER

This chapter has explored budget allocations on the expenditure side, as classified by the nine budget functions of local government in Indonesia. The sample selected covered 50.3% of the local government population in Indonesia. The chapter also focused on two other critical issues related to rent-seeking. The first is the determinant factors in budget expenditure and the second is the residual value of the budget that is part of the budget indicated as being optimized for rent-seeking. The focus of the exploration is the change of budget functions, in terms of both amount and composition. The objective was to provide an initial description regarding the possibility of budget utilization for particular interests. Changes in budgets are caused not merely by rational factors, but also to accomplish particular personal or group goals, one of which is to gain political endorsement from the public.

Therefore, changes in a budget are associated with certain events, namely, the elections of local leaders and legislative members, during which there is a possibility of rent-seeking behaviour among the incumbents. A simple distribution test and the Katz and Rosenberg (1989) method were employed to investigate whether there were substantial differences in budget allocation on specific budget functions.

The results indicate that some budget functions were optimized for rent-seeking motives, particularly the three functions of education, public services, and housing and public facilities.

Most local governments allocated budgets to these functions in greater proportions than to other functions. This allocation was, of course, based on the strategic benefits of these areas in accelerating local wellbeing. However, the large and lucrative proportions of the budgets for these functions also provided the opportunity for rent-seeking behaviour among certain interest groups.

A brief discussion of the variables related to rent-seeking has shown that some of the budget expenditure determinants experienced increases continually in every year, while others fluctuated. The variables of per capita income and population consistently rose in the following years, while the other factors tended to fluctuate (current economic growth, current inflation and current surplus/deficit).

On the other hand, the dependent variables in total budget expenditure always increased every year. Further, there were some budgets that regularly went up in every subsequent year and also others that fluctuated over the years. However, there were no budgets that consistently decreased from one year to the next. This indicates that there is a positive correlation between the variables that kept rising during the observed years (2007–2012).

Related to the first point, it was found that overall in relation to the factors used in determining the spending budget, statistical testing showed that all of these factors were confirmed as determinants of the magnitude of budget expenditure. Nevertheless, these factors only explain 56.4% of the expenditure budget and the rest is determined by other variables. The rest of the percentage indicates the existence of other factors in relation to budget expenditure that might be stimulated by rent-seeking.

A further robust error analysis showed that there are three budget sectors that were strongly influenced by the determinant variables; education, health, and security and order sectors. In the budget allocation, as explored in the previous chapter, these three budget sectors had larger proportions than the other six areas. It seems that, because these sectors became the major sectors, local governments placed more attention on determining the amount of the budget. This can be detected in the adjusted R value result of the analysis. The R value of the regression was over 60% for education and over 40% for health and also security and order variables.

Related to the other six budget sectors, the regression result shows that the impact of the determinant variables is not high; less than 30%, except for the public service sector, which had an adjusted R value of 26.8%. The low influence of the determinant factors indicates that there are still other unidentified influencing factors on the budget allocation. In terms of rent-



seeking behaviour, it might be that these unidentified factors were the determinants that stimulated rent-seeking behaviour.

The important finding of this chapter relates to the first research question, that is, the size of the indication of rent-seeking. The proportion of the budget indicated as rent-seeking is 0.0551 (5.51 %), with an estimated amount of 42,185.68 million rupiah on average every year over 2007–2012. It seems that the level of this behaviour was not very high, noting the percentage of rent-seeking only; however, as it is associated with a significant amount of the budget, and tends to be high, the indication of rent-seeking becomes substantial for local government.

## **CHAPTER 5 : THE DETERMINANTS OF RENT-SEEKING (TESTING OF THE HYPOTHESES)**

### **5.1. INTRODUCTION**

The objective in this chapter is to provide evidence about the factors that influence rent-seeking behaviour. The factors that are considered the determinants of rent-seeking are: grant transfers from the central government, natural resource revenue, local original revenue, legislative elections, local leader elections and population size. All of these factors are hypothesised (hypotheses 1–5) to have a significant impact on rent-seeking behaviour.

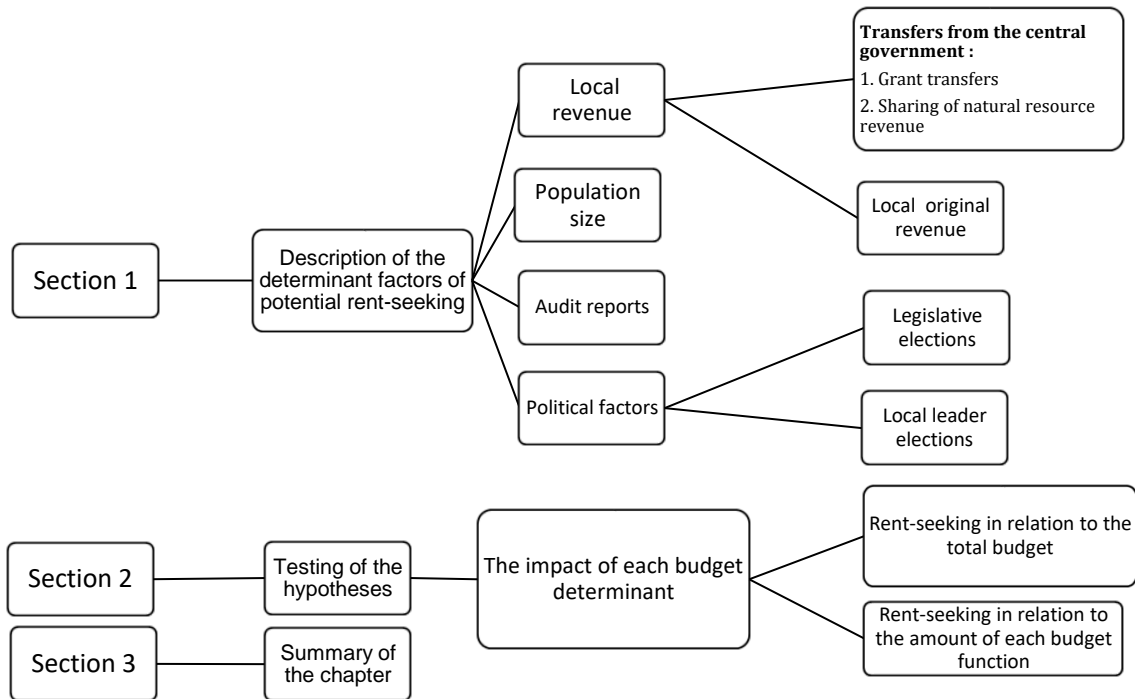
Furthermore, this chapter also investigates the role of auditing in limiting rent-seeking behaviour. Regarding previous studies, rent-seeking has more of a negative impact on local performance than a positive one (Iqbal and Daly 2013, Khan 2006, Torvik 2002). Hence, an audit mechanism could play a significant role in preventing this behaviour. It is hypothesised that audit reports have a negative impact on potential rent-seeking behaviour.

As described previously, the possible extent of rent-seeking is indicated by the amount of budget expenditure that is not affected by rational determinants. Therefore, statistically the amount of rent-seeking is the residual of multiple regressions of the determinant factors of the budget allocation (Park 2008).

The structure of this chapter will be as follows: first, a description of the statistics of the factors of potential rent-seeking (grant transfers from the central government, local original revenue, natural resources revenue and also both political determinants, legislative and local leader elections, and population size) and also of the audit reports produced by local governments during the period 2006–2011 and a description of the results of the tests of the hypotheses of this study.

Moreover, further analysis will be conducted to detect the potential rent-seeking of each budget function. In the previous chapter, the amount of the budget that is potentially optimised has been calculated using the same approach. The size of the rent-seeking is the remaining amount of the budget for each function after excluding the amount of the budget determined by the rational determinants (economic growth, rate of inflation, GDP per capita, local surplus/deficit and economic events). A comparison of the size of the rent-seeking will be explored to provide further insight related to the sectors preferred by rent-seekers.

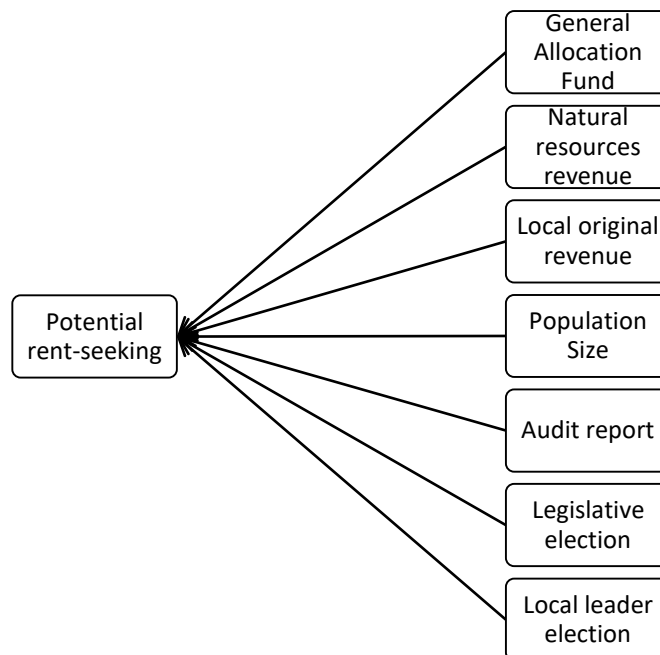
The sections in this chapter can be illustrated as in Figure 6.1 below:



**Figure 5.1 Chapter sections**

## 5.2. RENT-SEEKING MODEL

The model developed to illuminate the relationship between the independent variable, rent-seeking, and the dependent variables is illustrated in Figure 6.2 below:



**Figure 5.2 Model of the relationship between rent-seeking and the dependent variables**

As has been calculated in the previous chapter, the percentage of potential rent-seeking is high, about 43%. This is a large percentage that must be traced to prevent opportunistic behaviour in relation to misuse of budgets.

### **5.3. DESCRIPTION OF THE DETERMINANT FACTORS**

#### **5.3.1. Transfers from central government**

As stated in Chapter 1, transfers from the central government to local governments in Indonesia consists of various forms of revenue; General Allocation Fund (Dana Alokasi Umum or DAU), Special Allocation Fund (Dana Alokasi Khusus or DAK) and Revenue sharing. The General Allocation Fund (DAU) is a transfer from the central government that functions as an equalising fund to manage fiscal imbalances among regional governments. It is a *block grant* in which the recipient government has the authority to maintain and use the fund, corresponding with the local government's needs and priorities. However, *Revenue sharing* is a central government transfer where the allocation is based on a certain percentage of the realisation of the natural resources or tax revenue that is collected by the central government from the producing local government. This means that there is a possibility that the amount shared with the local government will fluctuate, depending on the amount generated from the resources of the local governments.

Based on previous studies, among these revenues the General Allocation Fund has been the dominant contributor in most of the local governments in Indonesia; however, there are some local governments that rely for their funding on the revenue sharing of their natural resources (Brodjonegoro and Ford 2007, Lewis 2013, Hirawan 2006, Statistics Indonesia 2007, Statistics Indonesia 2008, Statistics Indonesia 2009, Statistics Indonesia 2010, Statistics Indonesia 2011, Mahi and Brodjonegoro 2003).

As there is another income source that dominates the revenue in some local governments, instead of the General Allocation Fund, the patterns of budget use for particular interests may be different from those of the local governments that rely on central government grants for their revenue. Therefore, the discussion of rent-seeking behaviour will distinguish between these two forms of revenue.

#### **5.3.2. General Allocation Fund (DAU)**

The General Allocation Fund or DAU is one of the local government revenue sources in Indonesia. This revenue has dominated the composition of local government funding. Based on previous research conducted in Indonesia, the portion of this revenue is about 70% of total revenue.

A description of the General Allocation Fund revenue of the observed regions/cities for the years 2006–2012 is presented in Table 5.1. The Table confirms that the amount of the General Allocation Fund, on average, tended to increase. The average value in 2007 was 349,792 million rupiah and this amount is shown to rise in the following years to 542, 303.31 million in the last of the observed years, 2012. However, the minimum and maximum values of the revenue show different changes; the minimum tended to decrease in subsequent years while the maximum indicates the opposite change; the amount of the transfer rose from 962,196.00 rupiah in 2007 to 1,672,610 in 2012. The description indicates two different things; there was a local government that lessened its dependence on the financing source from the central government, but on the other hand there was also a local government that became less independent because it still relied on this revenue.

**Table 5.1 General allocation fund (grant transfers from the central government) of the local governments in Indonesia**

Year	Mean	Minimum	Maximum	Std. Deviation
2007	349.792,00	20.188,60	962.196,00	158.836,98
2008	380.864,05	33.092,05	1.062.589,56	177.948,06
2009	386.859,81	16.421,02	1.111.979,56	182.396,59
2010	392.089,55	4.247,49	1.115.703,64	187.926,94
2011	448.602,27	1.365,82	1.326.116,91	196.888,90
2012	542.303,31	691,27	1.672.610,00	244.381,31
Total	416.751,83	691,27	1.672.610,00	203.069,34

Source: Secondary data (calculated)

However, looking at the average, most of the local governments became more dependent on the central government. The standard deviation also rose from 158,836.98 rupiah in 2007 to 244,381.31 in 2012. This value reflects the disparity in the amounts of transfers received by the local governments. This provides an initial indication that some local governments still relied on the central government for their funding, while others tried to finance their programs with their own resources.

### 5.3.3. Local original revenue

The idea of decentralisation, as stated in the previous chapter, is to accelerate the local public wealth. Local government is mandated to manage and maintain most of the resources. One of the expectations is that the local governments can improve their self-reliance in funding their expenditures. This implies the ability of local governments to raise local revenue.

**Table 5.2 Local original revenue of the local governments in Indonesia (in million rupiah)**

Year	Mean	Minimum	Maximum	Std. Deviation
2007	43,793.54	3,597.66	607,649.30	63,601.76
2008	52,106.32	4,209.05	759,801.04	80,682.89
2009	56,869.71	5,282.21	850,168.32	89,392.39
2010	63,421.90	4,533.36	979,194.61	104,978.21
2011	92,336.95	5,935.35	1,886,514.30	181,992.84
2012	119,848.41	6,353.11	2,279,610.00	232,153.93
Total	71,396.14	3,597.66	2,279,610.00	141,652.07

Source: Secondary data (calculated)

Table 5.2 shows that local revenue tended to increase from 2007 to 2012. This provides a positive signal that local governments attempted to optimise their own resources in funding their expenditure. This description is in line with the objective of fiscal decentralisation, in which local governments are encouraged to increase their self-reliance, not only in terms of managerial activities, but also in financing their activities.

The local revenue amounts were still much less compared with the amounts of the General Allocation Fund; however, the average amounts of this revenue were still higher than the average amounts of natural resource revenue.

#### 5.3.4. Natural resources income

In some local governments, natural resources income has dominated their local revenue. Some local governments in Indonesia are very rich because of their natural resources, such as forestry, fishing, oil, gas, coal, etc. The mechanism of this revenue distribution is maintained by the central government as revenue sharing, of which the highest proportion belongs to the related local governments. A description of this revenue is shown in Table 5.3 below.

**Table 5.3 Natural resources revenue in local governments in Indonesia**

Year	Mean	Minimum	Maximum	Std. Deviation
2007	38,512.08	.00	2,006,194.07	153,143.40
2008	55,061.29	140.98	3,148,880.63	230,702.37
2009	50,264.84	97.42	2,182,718.00	171,516.84
2010	67,126.73	133.33	3,466,900.61	260,873.91
2011	79,490.74	.00	4,112,126.86	306,550.39
2012	97,541.05	.00	4,544,510.00	346,522.28
Total	64,666.12	.00	4,544,510.00	254,688.53

Source: Secondary data (calculated)

Table 5.3 demonstrates that revenue from resources tended to increase, except in 2009 when its average declined from 55,061.29 million rupiah to 55,061.29 million. After 2009, this revenue sharing rose sharply to 97,551.05 million rupiah. This means that the rise in the average amount of revenue sharing from natural resources is more than 150%<sup>10</sup> from the first to the last of the observation years. However, looking at the trend of the standard deviation values, this indicates a larger income disparity from this resource; some local governments showed a sharp increase when others did not experience a significant increase or even did not generate this income at all.

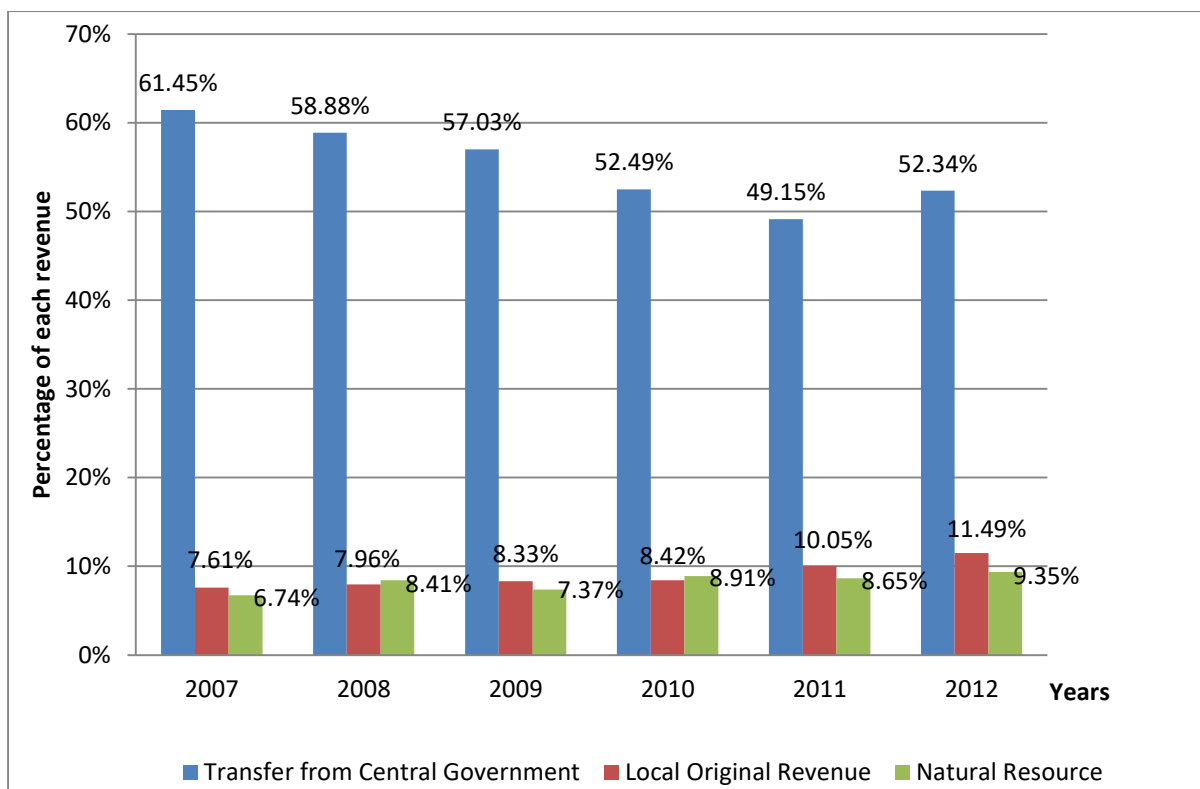
During the years 2007, 2011 and 2012, there were regions that did not generate local income from natural resources (the minimum value is 0, which reflects the existence of local governments with no income from this source). However, the maximum value of this revenue, as shown in Table 5.3, was always higher than the maximum value of the grant revenue from the central government (as illustrated in Table 5.1). This shows that some local governments were very rich, as they could collect high incomes from the revenue sharing.

Furthermore, it is necessary to discover the share of each form of revenue in total local government spending. This proportion reflects the capacity of revenue to fund spending and it also shows the degree of decentralisation. A higher proportion of revenue from the central government (DAU) indicates higher dependence of the local government on the central government.

Figure 5.3 below shows a comparison between the proportion of transfer from the central government and the proportion of local revenue. This indicates that central government transfers still dominated local government funding.

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<sup>10</sup> In the first year the average amount was 38,512.08 million rupiah and in the last year it was 97,541.05 million; this means that the total accretion of the average amount was 59,028.97 million (97,541.05 – 38,512.08) or 153.27% (59,028.97/38,512.08 x 100%).



**Figure 5.3 A comparison between the proportion of grant transfer from the central government and local original revenue**

The Figure shows that the proportion of grant transfer from the central government still dominated local government revenue. This pointed to a strong dependence of local government funding on the central government in funding expenditure. The proportion of central government transfer in local government revenue was still high, more than 50 %.

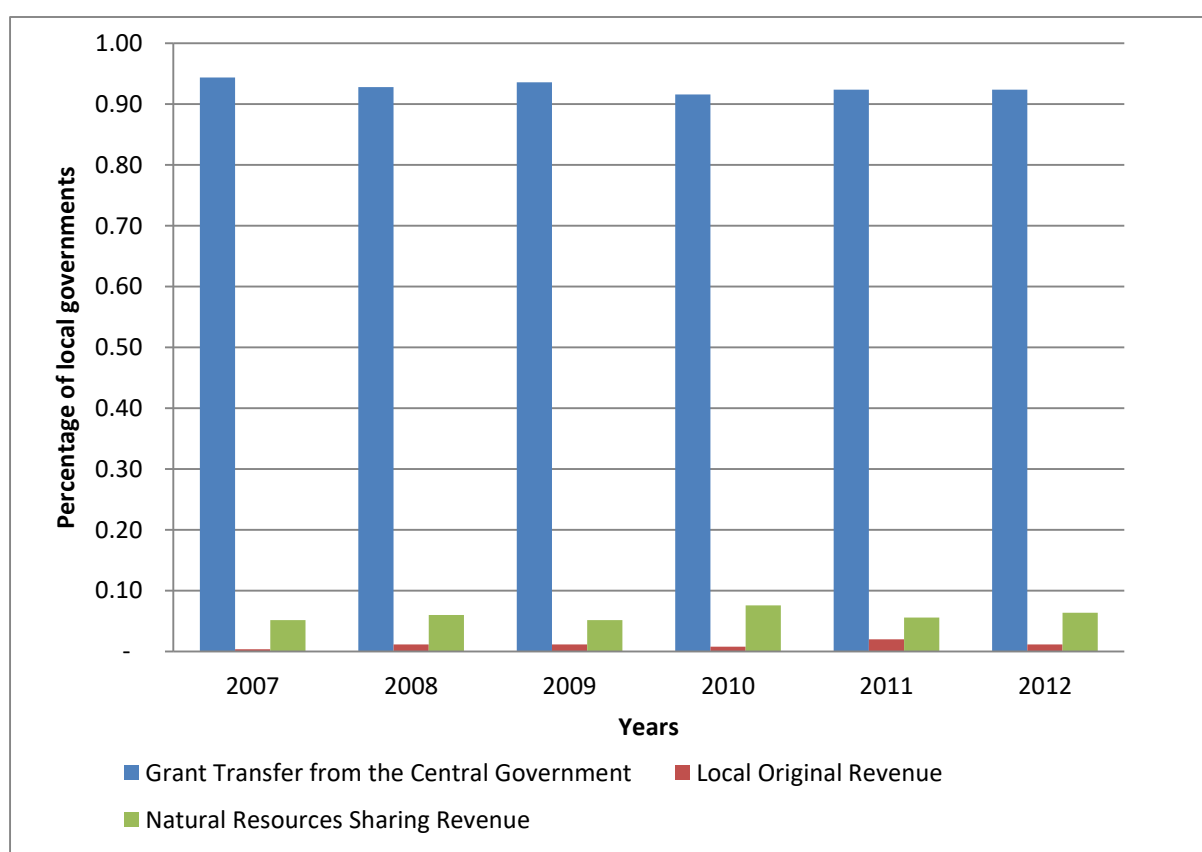
Figure 5.3 exhibits the domination of grants from central government (DAU) in funding the total expenditure budget. During the observation years, the share of central government funding was never less than 50 %. However, the proportions of both local original revenue and natural resources revenue showed increases in their contributions to local government revenue. They slightly declined in 2009, but rose again in the following years. This provides a good indication that local governments have been making efforts to increase their autonomy, which is the objective of fiscal decentralisation.

Based on the review of the literature given in Chapter 2, there might be a possibility of a pattern of difference in rent-seeking regarding the budget functions that are expected to be optimised. Therefore, it needs to analyse the behaviour by distinguishing between local governments in relation to the dominating revenue. Looking at Figure 5.3, it seems that the number of local governments that rely on grants from the central government has remained higher than the



number of local governments that depend on the other two revenue resources (natural resources revenue sharing and local original revenue).

Figure 5.4 below shows the proportions of the local governments that relied on the various forms of revenue as their main sources. It seems that during the observation years, more than 90 % of local governments depended on the central government, since the grant transfer was still the most important income source for them. Less than 10 % of local governments had a high level of independence in financing their spending because they had other revenues (local original revenue or natural resources revenue sharing) as their main sources instead of central government grants. The percentage of local governments which had rich natural resources was about 5–8% during the observed years, while those that were able to rely on local original revenue only comprised only 1 % among the observed local governments.



**Figure 5.4 The composition of regions relied on grant transfer, local original revenue and natural resources.**

### 5.3.5. Population

The latest census (2010) data released by the Central Statistics Bureau of the Republic of Indonesia showed that around 57.5% of the total population live in Java Island. Indonesia is an archipelago with about 17,000 islands. The islands can be grouped into 7 (seven) groups

of islands: Sumatera, Java, Nusa Tenggara and Bali, Kalimantan, Sulawesi, Maluku, and Papua. The description of the population distribution in the last observed year (2012) by islands is shown in the table 5.4 below.

**Table 5.4 The dispersion of total population based on group of islands**

	Sub Total	%
Sumatera	32,863,667.00	19.56%
Java	100,016,428.00	59.53%
Nusa Tenggara and Bali	9,550,365.00	5.68%
Kalimantan	9,739,536.00	5.80%
Sulawesi	12,318,004.00	7.33%
Maluku	1,422,093.00	0.85%
Papua	2,106,895.00	1.25%
Total	168,016,988.00	100.00%

Source: secondary data (calculated)

Table 5.5 shows that total population of the observed regions/cities increased during the year 2007 to 2012. In 2007 the average population was 520,611 per region with a large standard deviation of 548,378.91, while at the end year of the period of observation, the average population mounted up to 556,374.70 with a larger standard deviation of 591,230.70. This reflected that dispersion of population was very uneven among the local governments in Indonesia. The distribution of population is relatively concentrated in certain areas; some areas have high populations while the others have low.

**Table 5.5 The size of population in local governments in Indonesia 2007-2012**

Year	Mean	Minimum	Maximum	Std. Deviation
2007	520,611.01	28,637.00	3,835,460.00	548,378.91
2008	529,721.49	10,455.00	3,903,529.00	554,028.45
2009	534,758.47	29,144.00	3,971,192.00	567,433.54
2010	542,174.63	29,229.00	4,029,329.00	571,704.42
2011	545,314.48	29,189.00	4,086,322.00	568,531.20
2012	556,374.70	30,653.00	4,771,932.00	591,230.70
Total	538,159.13	10,455.00	4,771,932.00	566,219.97

Source: secondary data (calculated).

Indonesia is a very large country with high population. According to the 2012 data released by World Bank (2012a), the total population was 246 million with total area about 1,919,550 km<sup>2</sup>. This means that the population density in that year was 128.16/km<sup>2</sup>. This is quite small, especially when it is compared with surrounding countries, such as Singapore with the density of 7405/km<sup>2</sup> (the World World Bank 2012b)

### **5.3.6. Legislative member elections**

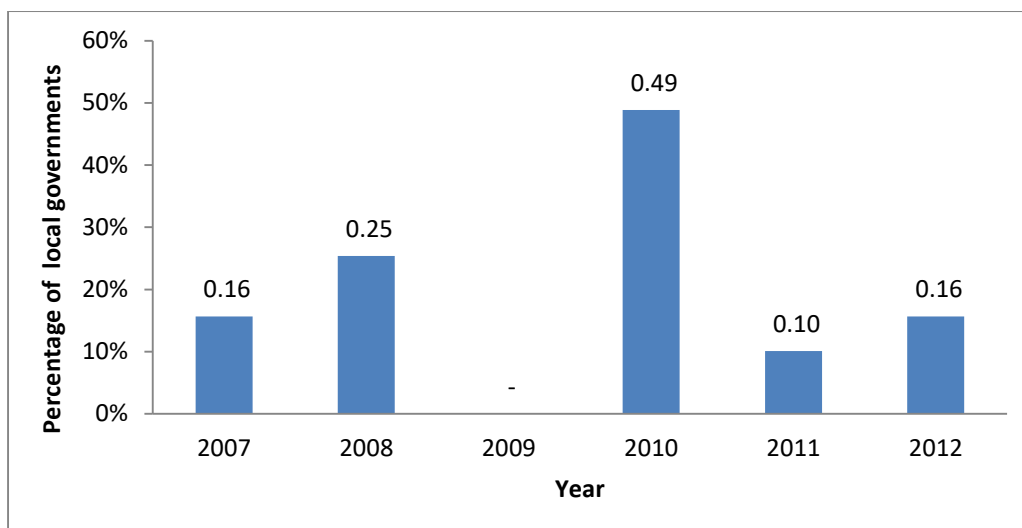
The elections for legislative members (LMs) and the elections for local leaders in Indonesia are not held at the same time. The election for LMs in local governments is conducted every five years and in conjunction with the election of LMs at the provincial level and also the national level. In the year after this election, it is the election of the national president.

An LM election was held in 2014 with the conduct of this election regulated by the Law of the Republic of Indonesia No. 8/2014. For local parliaments, the number of members elected through elections differs between local governments, varying from 20 to 50 depending on the local population size.

The previous general election was conducted in 2009, so the research data, which covered 2007 to 2012, included two election years: 2009 and 2014. Thus there were two years of data before the election in 2009, that is, the years 2007 and 2008, and three years before the election in 2014, that is, 2010, 2011 and 2012. The years after the election in 2009 are not grouped as years *after* the election but as years *before* the following election. The reason is that the research is intended to find the patterns of rent-seeking by existing members, considering that they renominated as parliamentary candidates for the next election. So the observation years should be viewed as the years facing the election, instead of the years *after*; the pattern of rent-seeking in the year prior to the election reflects the efforts of the incumbent to achieve their specific interests.

### **5.3.7. Local leader elections**

The implementation of local leader elections is different from legislative member elections, as they are not conducted at the one time but may vary among the local governments. Nevertheless, they have the same term, where the election is every five years. Based on data obtained from the General Electoral Commission of the Republic of Indonesia ([www.kpu.go.id](http://www.kpu.go.id)), the general elections of the observed local governments can be summarised as in Figure 5.5 below:



**Figure 5.5 The percentage of observed local governments implementing local leader elections (2007–2012)**

Figure 5.5 shows that none of the regions held elections in 2009, presumably because of the general election for parliament members and also the national president. However, in the following year 150 local governments conducted general elections for local leaders. From this point of view, although conducting LM elections, the year 2009 might become the important year for those local governments to increase public trust, which would hopefully enhance the public's votes for the incumbents. As a consequence, the indications of rent-seeking might be increased, which could be shown by a shift in the proportions or additions of the budget in relation to the sectors or functions that were more politically advantageous.

### 5.3.8. Audit reports

As described in the literature review chapter, audit reports play a pivotal role as an instrument of accountability and responsibility of local governments to their constituents. In the midst of an increasingly critical public, both politicians and bureaucrats are forced to improve their performance; one way is by being accountable and responsible for maintaining financial resources.

In this section, a description of the audit reports for local government will be explored from three time perspectives: during the observation years (2006–2011), in the local leader election years, and in the legislative member election years. The exposure of the local government audit reports from these perspectives, particularly the election years, will provide an initial insight into the role of the audit reports: how local government efforts have achieved better audit reports at times when rent-seeking for political motives may exist.

### 5.3.8.1. Audit report 2006-2011

The audit report that relates to the budget of the operating year is the previous year's report, because the audit report can only be generated after the local government submits its financial statements to the appropriate authorities. Therefore, the existing audit report in the operating year should be the report of the local government's previous financial statement.

During the observation period, the quality of audit reports improved, with more than 50 % having at least *qualified reports*. In 2006, there was only 0.4 % (1) of local government that had an unqualified report, but this increased sharply to 62.4 %. Combined with those that received qualified reports, in 2006 there were about 70 % of local governments with qualified and unqualified reports, and it increased to 98.4 % in the last observation year (2011). This provides a good signal of the awareness of local government of the need to be accountable for using public money.

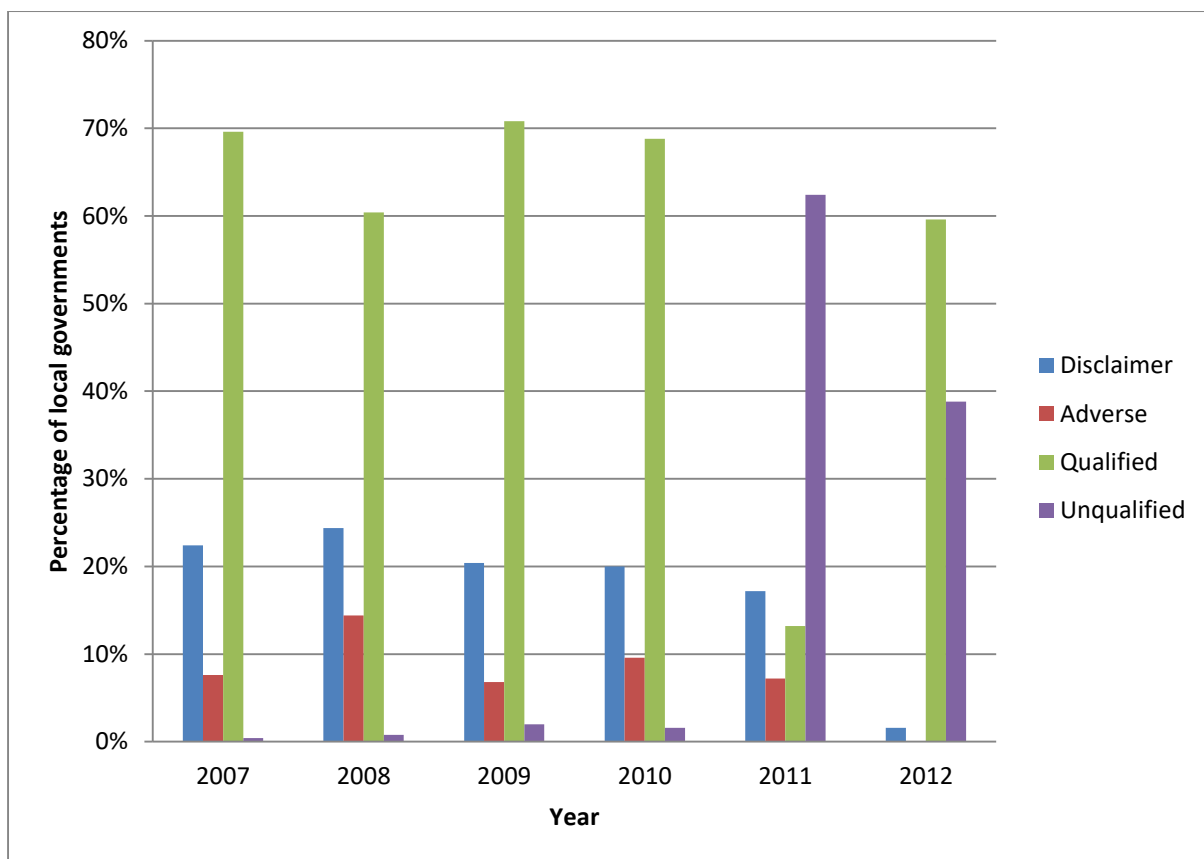
**Table 5.6 Audit reports of local governments in Indonesia in the years 2006–2011**

		Year					
		2006	2007	2008	2009	2010	2011
Audit	Disclaimer	22.40%	24.40%	20.40%	20.00%	17.20%	1.60%
Opinion	Adverse	7.60%	14.40%	6.80%	9.60%	7.20%	0.00%
	Qualified	69.60%	60.40%	70.80%	68.80%	13.20%	59.60%
	Unqualified	0.40%	0.80%	2.00%	1.60%	62.40%	38.80%
Total		100%	100%	100%	100%	100%	100%

Source: Local government audit reports 2006–2011 (calculated)

Table 5.6 provides an insight related to the progress of local governments in preparing their financial reports. From the period 2006 to 2011, local governments showed a positive trend in improvement of audit reports, which is reflected by the increasing number of local governments that received good reports, at least qualified reports. In the first observation year 2006, the percentage of local governments with qualified reports was 69.6 % and with unqualified ones was 0.4 %. The proportion of local governments with qualified reports tended to decline, while the local governments tended to increase. In the last observation year, the proportion of local governments with at least qualified audit reports was 98.4 %, which means only 1.6 % of local governments received a disclaimer report.

Figure 5.6 below provides a clearer description of the progress of the audit qualifications obtained by local governments from 2006–2011.



**Figure 5.6 The proportion of audit qualifications obtained by regions in 2006–2011**

### 5.3.8.2. Audit report in the years before legislative elections

Table 5.7 below gives an overview of the audit reports related to Legislative Members' election years. The description of the audit reports of local government financial statements shown in Table 5.7 may bring an important signal of the importance of these reports as a strategic tool to convince the public of the government's performance. As a result of an increase of public trust, the public may give their votes to the incumbent in the local election.

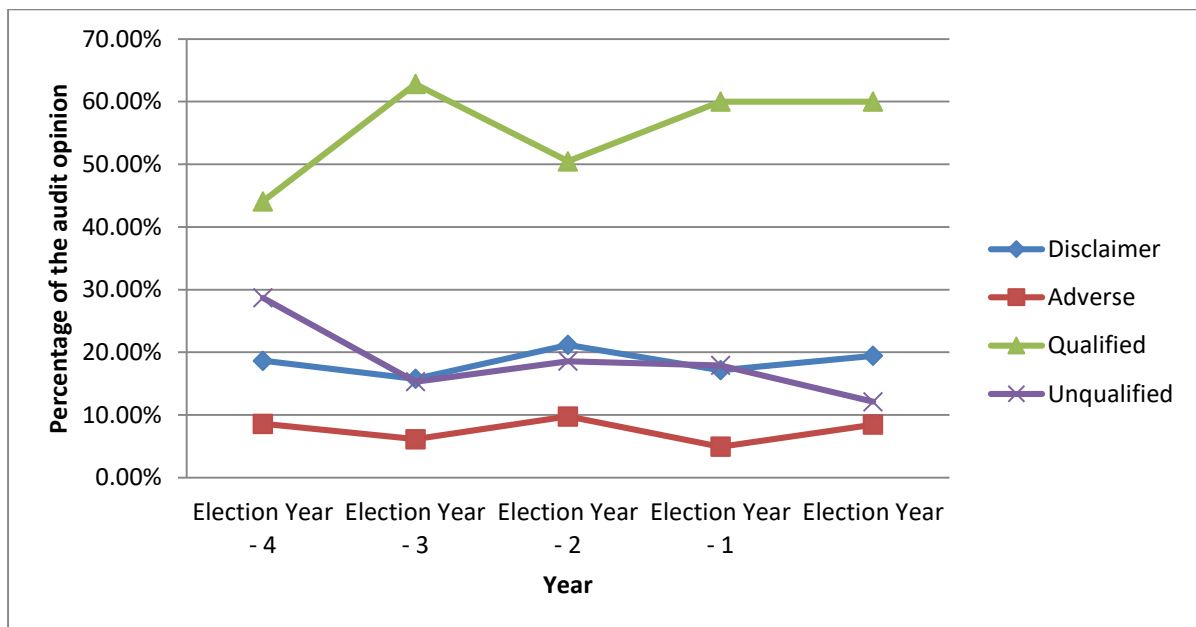
**Table 5.7 Local governments' audit reports based on legislative election years**

		Legislative Election (n=250)				
		Election Year - 4	Election Year - 3	Election Year - 2	Election Year - 1	Election Year
Audit Opinion	Disclaimer	20.0%	17.2%	12.0%	24.4%	20.4%
	Adverse	9.6%	7.2%	3.8%	14.4%	6.8%
	Qualified	68.8%	13.2%	64.6%	60.4%	70.8%
	Unqualified	1.6%	62.4%	19.6%	0.8%	2.0%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Source: secondary data (calculated)

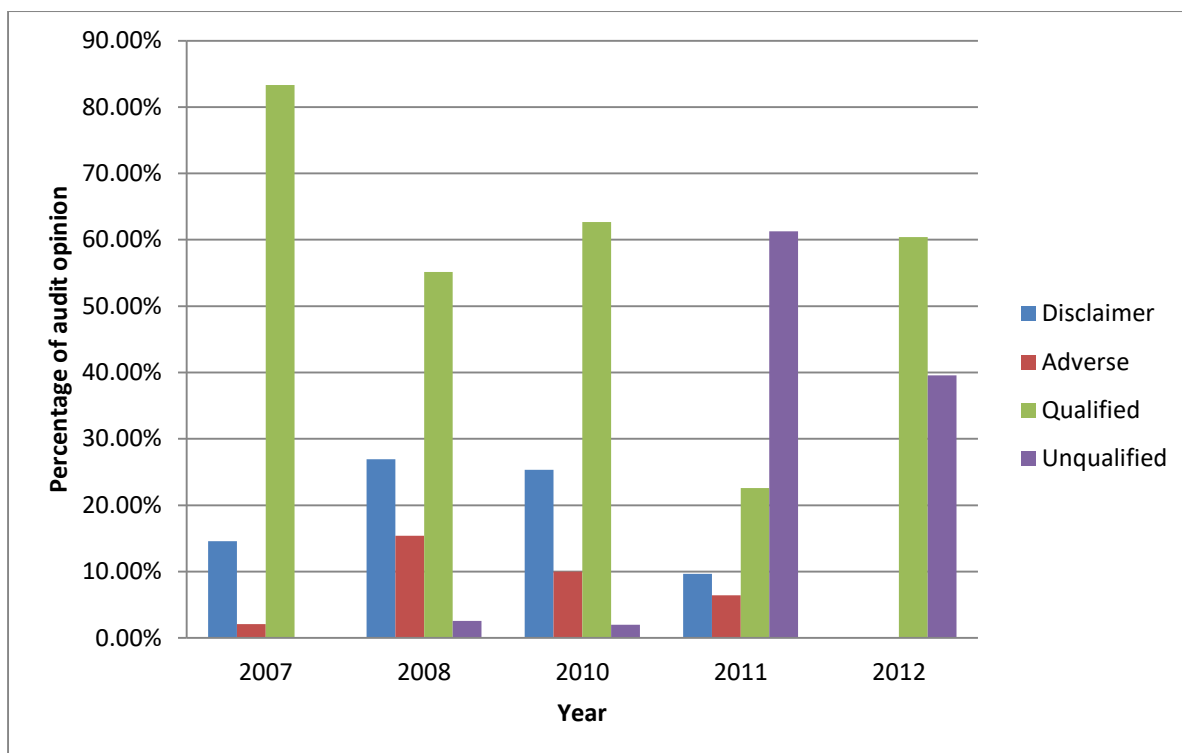
### 5.3.8.3. Audit report in the years before local leader elections

Figure 5.7 below shows the trend of local government audit reports based on the years before local leader elections. In general, the table shows that there was improvement in the proportion of the local governments that obtained at least qualified opinions. This actually fell in the two years before local leader elections, but it rose again in the following years. However, it seems that real improvement occurred only one year before the elections, since there was a decrease in the proportion of local governments that had adverse and disclaimer opinions just in that year, but not in the following year when the election was held. In the election year, the proportion of local governments with poor audit reports increased, while those of governments with qualified reports fell. This may suggest that local governments, in this case the local leaders as incumbents, felt that the year before the election was the most critical time for them to show good performance to the public, rather than the election year or the previous years.



**Figure 5.7 The trend of audit qualifications obtained by local governments based on the years before local leader elections**

Figure 5.7 below shows separately the relationships between the local governments that were conducting local leader election and the audit report opinions.



**Figure 5.8 Audit opinions and local leader elections**

Figure 5.8 conveys the importance of audit qualifications in the year of local leader elections. The Figure shows that in the period 2007–2012, the percentage of local governments that had the least qualified audit reports was high, the highest occurring in 2012 when 100% of local governments had favourable audit reports with the least proportion of qualified opinions. This signals the important role of audit reports in local governments facing elections.

## **5.4. HYPOTHESIS TESTING: THE RELATIONSHIP BETWEEN RENT-SEEKING AND THE OTHER FACTORS**

### **5.4.1. Hypothesis test on the potential rent-seeking**

The possibility of the existence of rent-seeking might be caused by several factors, of which some will be confirmed in this research. The factors that are considered, as have been described previously, are audit reports, population size, and the years before LM elections and the years before local leader elections.

Table 5.8 shows that all variables have significance levels of less than 5 %; four variables have positive impacts on rent-seeking, local original revenue, natural resources, population and legislative elections, while the other variables, grant transfers from central government, local leader election and audit, have negative influences. The linkages between the variables are in a causal relationship in which the rent-seeking behaviour is the dependent variable.



The regression result of the relationship is as follows in Table 5.8.

**Table 5.8 The robust error regression result of the impact of the determinant factors on potential rent-seeking\***

Parameter	B coefficient	t	significance
Intercept	41432.781	7.715	.000
Grant transfer (general allocation fund)	-.038	-4.154	.000
Local original revenue	.073	9.549	.000
Natural resources	.064	16.782	.000
Population	.027	7.895	.041
Legislative election	233.404	1.331	.071
Local leader election	259.710	.370	.712
Audit	-3498.847	-3.326	.001
Adjusted R <sup>2</sup> = 37.5%			

Source: secondary data (calculated)

\*the robust-error regression is employed after conducting a serial of classical assumption test (see appendix G)

Table 5.8 shows the regression result of the impact of the dependent variable (the amount of potential rent-seeking) and the independent variables (grants from central government, local original revenue, natural resources revenue, legislative elections, local leader elections, audit reports and also population size).

The regression results show that all of the independent variables have an impact on the rent-seeking amount with the adjusted R-squared percentage 37.5%. This means the rent-seeking amount is determined by these factors for 37.5% and the other 62.5 % are affected by other variables.

Related to the developed hypothesis, the above regression results can be described as follows.

#### 5.4.1.1. Impact of grant transfer (general allocation fund) on rent-seeking

The regression result shows that the t value was  $-4.154$  with a significance of 0.000, or less than 0.05. This indicates that there is a negative significant impact of grant transfers from the central government on rent-seeking.

This result is interesting because of the grant transfer's adverse impact on rent-seeking. It was hypothesised that grants from the central government would have a positive impact on the indication of rent-seeking, but in this study the result indicates that higher amounts of grants received by the local government do not lead to an increase in the indication of rent-seeking, conversely it will reduce significantly on the possibility of the behaviour.

#### 5.4.1.2. Impact of local original revenue on rent-seeking

The regression result as shown in Table 5.8 shows the t value was 9.549 with a significance of 0.000, less than 0.05. This result confirms that there is a positive impact of local, regional revenue on rent-seeking. The possibility of the existence of rent-seeking tends to be higher when local governments can increase their revenue from their own sources.

#### 5.4.1.3. Impact of natural resources income on rent-seeking

The t value of the regression result shown in Table 5.8 is 16.782 with a significance of 0.000. This means that natural resources revenue has a significant positive impact on the indication of rent-seeking. This indicates that the higher the quantity of this revenue sharing collected by local government, the higher the possibility of the occurrence of rent-seeking. This result shows that most local governments tend to behave opportunistically in using rent-seeking while they can increase their revenue from this resource.

#### 5.4.1.4. Impact of population size on rent-seeking

The regression result shows the positive significance of the population variable on rent-seeking. This means that population positively influences rent-seeking behaviour. This supports the hypothesis of the research that states that the population size has a significant impact on rent-seeking. Looking at the *beta* coefficient, the value is positive, which means that the possibility of rent-seeking behaviour is greater in areas with high population size, rather than in low-size areas. This result has the similar direction with those found in previous studies.

#### 5.4.1.5. Impact of legislative member elections and local leader elections on rent-seeking

Politicians and local leaders are hypothesised to have specific interests in budgets, in increasing their personal wealth and also in obtaining political benefits. That is why the election time become an important time to have political support from constituents. The hypotheses developed relate to the possibilities that legislative elections have a positive impact on rent-seeking and local leader elections also have a positive impact on rent-seeking.

The result of the regression shows the significance of the variable of legislative elections in triggering the existence of rent-seeking (at significance level 10%). The result shows that in the years close to legislative elections, the possibility of rent-seeking is higher than in the previous years. However, a similar impact does not happen in the years prior to elections for local leaders. Table 5.8 shows that the t value is positive 0.370 with a significance level of 0.712. The effect of local leader elections is positive, but it is not significant.

#### 5.4.1.6. Impact of audit reports on rent-seeking

The result shows that the significance of the impact of audit reports on rent-seeking is 0.006 (0.6%) with a negative regression coefficient. This means that the audit opinion has a negative impact on rent-seeking. This result supports Hypothesis 1 (H1) of the research, which states *the audit report has a negative impact on rent-seeking behaviour*. This confirms the importance of audits in limiting the possibility of the occurrence of rent-seeking in local government budgets

#### 5.4.2. Hypothesis tests of each budget function

After conducting the tests of the hypotheses related to the accumulated rent-seeking, the results below will be explored to examine the impact of the determinants on each budget function. The rationale of this test is based on previous studies that state that the possibility of rent-seeking occurs by shifting the proportion of certain budget sectors to other sectors, particularly when the amounts of the budget do not change significantly.

However, the impact of budget proportion transfers might be not only on the proportion but also on the quantity of the recipient budget function. Therefore, to discover the existence of the possibility of rent-seeking on particular functions, a similar test is conducted separately on each budget function.

Table 6.10 shows the regression result of the determinants of each budget function. As stated previously, there are nine budget functions in local government budgets in Indonesia: *public service, security and order, economy, environment, housing and public facilities, health, tourism and culture, education, and social protection*.

##### 5.4.2.1. Impact of grant transfers on each budget function

The regression results show that grant transfers from the central government have a significant impact on budget functions, except on the social protection function. Four variables show a negative influence of rent-seeking, which indicates that the existence of this transfer does not trigger an increase in the amount of rent-seeking; conversely, it will reduce the possibility of this behaviour. This is probably the reason that local budgets overall have been negatively influenced by grant transfers from the central government. This finding is interesting because these transfers are grants which the local government has the authority to organise the use of for local spending.

However, this transfer appears to have a positive impact on the potential rent-seeking of two functions: economy and education. The higher the transfer received by local government, the

higher the possibility of rent-seeking in these budget functions. This result corresponds to the statement of Hypothesis 1 that grant transfers from the central government have a positive impact on rent-seeking.

#### 5.4.2.2. Impact of local original revenue on each budget function

The result of the regression test indicates that local original revenue positively influences all of the functions of local government budgets in Indonesia. This result is consistent with the hypothesis that was developed associated with the impact of this determinant factor. It means that rent-seeking behaviour might happen in all of these functions while local governments can increase this revenue.

#### 5.4.2.3. Impact of natural resource revenue on each budget function

Similar to the effects of local original revenue, natural resource revenue is empirically found to have a positive impact on potential rent-seeking in all functions of local budget expenditure. This result strengthens the related hypothesis that states that natural resource revenue has a positive impact on rent-seeking. The higher the revenue collected from this sector, the higher the possibility of the occurrence of rent-seeking using this budget function.

#### 5.4.2.4. Impact of population on each budget function

Table 5.9 provides further finding that the increase of population impacted significantly only on two budget functions; *security and order* and *environment*. The finding is interesting as the influence of population on most budget functions are negative. Even though it dominated with negative impact on most budget function, when it is examined in overall the population had a significant impact on the potential rent-seeking in local government budget.

#### 5.4.2.5. Impact of legislative elections and local leader elections on each budget function

The result shows that legislative elections have a positive impact only on three budget functions: *security and order*, *housing and public facilities*, and *health*. These empirical findings are in line with Hypothesis 5, which states that legislative elections have a positive impact on rent-seeking. The time close to legislative elections raises the possibility of rent-seeking by optimising these budget functions. This finding is interesting because legislative elections, based on the finding in the previous section, are empirically found to have a positive impact on the rent-seeking of the whole amount of the budget function. It is logical that this behaviour would exist in most of the functions, but the empirical findings show that, out of nine functions,

rent-seeking potentially occurs only in three functions. However, there has not been any empirical evidence of the existence of rent-seeking in the remaining functions.

Related to local leader elections, the result shows that this potentially stimulates the rent-seeking behaviour in two budget functions: *security and order* and *education*. The results confirm hypothesis 6, which states that local leader elections have a positive impact on rent-seeking. However, this positive impact of the elections is not found in the other budget functions. There is no empirical evidence of the positive influence of local leader elections on the potential rent-seeking in the whole budget. This empirical finding supports previous studies that demonstrate the intention of shifts in the budget in strategic areas (such as education) to persuade the voters.

#### 5.4.2.6. Impact of audit reports on each budget function

The result shows the significant impact of audit reports on rent-seeking. However, the impact is only on five budget functions: *public service, economy, life and environment, housing and public facilities, and education*. The impact coefficient is negative, which means that audit opinions have a negative impact on rent-seeking. This result supports Hypothesis 1 (H1) of the research that states *The audit report has a negative impact on rent-seeking behaviour*. This empirical finding confirms the importance of the audit in limiting the possibilities of the occurrence of rent-seeking in local government budgets.

However, the hypothesis is not supported by the test results of the other four budget functions: *security, health, tourism and culture, and social protection*. The regression results show that audit reports do not empirically affect the potential rent-seeking in local government budgets, as the significance level is more than 5%. However, looking at the regression coefficient of audit reports on those budget functions, the existence of audit reports can lead local governments to reduce the possibility of rent-seeking.

**Table 5.9 Summary of regression result of the impact of determinant factors on the potential rent-seeking of each budget function**

	Intercept	Grant Transfer	Local Original Revenue	Natural Resources	Population	Legislative Election	Leader Election	Audit	R	Adjusted R2
Public Service	1.974	-2.934*	13.063*	19.499*	-1.778	-.373	1.675	-6.057*	0.321	0.318
Security and order	-1.416	-8.129*	15.745*	7.842*	5.786*	3.174*	3.019*	-.825	0.258	0.254
Economy	-1975.039	.022*	.032*	.075*	-3.204*	985.660	-269.952	-4777.361*	0.315	0.312
Environment	25973.335	-.089*	.189*	-.016*	4.628*	820.483	-193.796	-2853.495*	0.305	0.302
Housing and public facilities	-3297.902	-.043*	.194*	.234*	-3.428*	7732.726*	260.075	-10180.948*	0.387	0.384
Health	-6167.899	-.008*	.107*	.023*	-2.075*	1108.975*	-193.158	-.872	0.224	0.220
Tourism and culture	89.507	-.004*	.014*	.004*	-.110	120.213	49.090	-84.554	0.184	0.181
Education	-66192.953	.118*	.076*	.121*	-4.497*	830.469	-5769.253*	-8250.010*	0.156	0.152
Social protection	-521.705	-.001	.012*	.005*	-.157*	162.475	-44.322	-108.963	0.136	0.132

\* = significance at 5%

## 5.5. SUMMARY OF THE CHAPTER

This chapter provides the results of the study related to the research hypotheses (research questions 2), related to determinant factors of rent-seeking. The hypotheses developed in this research are about the determinants of rent-seeking and also the role of audit reports to control rent-seeking behaviour.

The determinants were identified in two groups. The first group associates the local factors that consist of the components of local revenue: transfers from the central government, local original revenue, and natural resources revenue sharing. The other local factor is the size of the population. The second group relates to the political factor: one of the motivations of rent-seeking behaviour is a political factor associated with the intention in the following period, either as a local government leader or as a parliamentary member. There is a possibility for the incumbent to optimise the budget for such a reason so as to reduce the high political cost. Also, since rent-seeking behaviour leads to the dissipation of the budget, an audit mechanism becomes a consequential factor in preventing or limiting the existence of the behaviour.

The result shows that among these factors, only one hypothesis is not supported, which relates to the impact of local leader elections on rent-seeking. The other hypotheses are confirmed; four variables have empirically been found to have positive effects on rent-seeking, while two other factors have negative impacts on rent-seeking, one of which corresponds with the importance of audits in preventing or reducing the possibility of rent-seeking. It is clearly found that audits can limit the chance of rent-seeking using budget expenditure.

This chapter also presents an examination of the impact of those determinants on each budget function. This test provides further evidence of the budget functions preferred by rent-seekers for optimising their benefit, for increasing their personal welfare and for completing their political interests. The result of the test shows interesting evidence related to the opposite impact of the determinant factors on some budget functions. For example, grant transfers from the central government have a positive impact on rent-seeking in the education function, while in the total budget transfers they have no influence apparently.

The hypothesis test, on both the total budget and each budget function, can be summarised in Table 5.10 as follows:

**Table 5.10 Summary of the hypothesis test on total budget and each budget function**

	Transfer from Central Government	LOR Current	Natural Resources	Population	Audit	Legislative Election	Leader Election
Public service	(-)	(+)	(+)		(-)		
Security and order	(-)	(+)	(+)	(+)		(+)	(+)
Economy	(+)	(+)	(+)	(-)	(-)		
Environment	(-)	(+)	(+)	(+)	(-)		
House and public facilities	(-)	(+)	(+)	(-)	(-)	(+)	
Health	(-)	(+)	(+)	(-)		(+)	
Tourism and culture	(-)	(+)	(+)				
Education	(+)	(+)	(+)	(-)	(-)		(+)
Social protection		(+)	(+)	(-)			
<b>Total budget</b>	<b>(-)</b>	<b>(+)</b>	<b>(+)</b>	<b>(+)</b>	<b>(-)</b>	<b>(+)</b>	

LOR: Local Original Revenue

Source: secondary data (calculated)



# CHAPTER 6 : DISCUSSION OF THE RESULTS

## 6.1. INTRODUCTION

The intention of this chapter is to analyse the results found in the chapters in which the research findings were presented: Chapter 4 to Chapter 5. This chapter is divided into two sections: the first section relates to budget changes in both the amount and the composition; The second section is the analysis of the association between the determinant factors and the indication of rent-seeking. This part is critical as it relates to the research hypotheses. The discussion of this part plays an important role in confirming the research result with previous studies.

The analysis of budget changes becomes an important tool to detect the initial indication in using the budget for particular interests (Samuels 2000, Schnytzer 1994, Tujula and Wolswijk 2004). In order to discover the possibility of budget optimisation for particular political benefits, the analysis has been extended by using specific time frames: the years prior to local elections, the elections for both legislative members and local leaders. Using this approach, it can be observed that the budget composition changes, reflecting the possibility of budget optimising for particular groups, particularly in addressing political motivations.

The second section relates to the amount of the budget that is indicated as potential rent-seeking. As explored previously, the indicated amount of rent-seeking is detected by using an approach introduced by Park (2008). Park (2003) modified a previous method introduced by Katz and Rosenberg (1989) that measured rent-seeking behaviour by accumulating the changes in the composition of the budget sectors during a given period of time. According to Park (2008), as budget changes are not necessarily rent-seeking, the amount of the budget that may be determined by factors that rationally cause changes in local government budgets need to be excluded. Therefore Park (2008) uses a residual approach in detecting the size of rent-seeking. The amount of the budget not indicated as rent-seeking is predicted by applying a regression approach with some rational factors as the independent variables. These rational factors are economic factors; demography and also the budget surplus/deficit. The economic factors are proxied by economic growth, inflation and per capita income, while the demography determinant is the size of the local population. The budget surplus or deficit is indicated by the difference between the budget revenue and budget expenditure in each budget year, which reflects the ability of local governments in generating income in funding their expenditures. The amount of the budget determined by these factors is excluded and the rest of the budget (the residual value) is considered the potential rent-seeking of the local budget.

The third section of the chapter is associated with the determinants of rent-seeking. This section is the most important part, as it is associated with the hypotheses that are developed in this study. According to the results explored in Chapter 5, five of the hypotheses are supported, while one is rejected. The hypothesis rejected in this chapter relates to the impact of grant transfers from the central government on rent-seeking. The other important finding is the significant influence of audit reports in limiting the possibility of the existence of rent-seeking. Since the behaviour leads to a negative impact on local government performance, audit reports have an important role in reducing the probability of the occurrence of rent-seeking as it relates to local budgets.

## **6.2. CHANGES IN LOCAL EXPENDITURE BUDGET**

Change in budget expenditure is common in order to adapt to shifting local needs in funding operating and development spending and also to fit with changes in some determinants that force the government to revise the budget. As described in Chapter 4, in Government Regulation No. 58/2005 about Local Government Financial Management, the budget functions in local government (both regions and cities) are classified based on nine functions: *public services, security and order, economy, environment, housing and public facilities, health, tourism and culture, education, and social protection* (2005).

According to the regulation released by the Indonesian Minister of Finance (2004a), the allocation of these functions, both in the amount and the composition, may be different from one region to another depending on local policies. However, the allocation for the education function has been particularly regulated, with a minimum requirement of 20% of the total budget (2009). This regulation might have brought a substantial consequence for the composition of the other functions of the budget.

Changes of the budget, both in its amount and in its composition, can be caused by certain policies of the local government; however, there is also a possibility of budget optimisation for particular interests. Budget allocation strategy plays a significant role in supporting particular prominence (Katz and Rosenberg 1989, Mercado 2001, Park 2008, Reck 2000, Schnytzer 1994).

### **6.2.1. Budget composition**

According to the results shown in Chapter 4, there are three functions that dominated the budget allocation in local government expenditure during the years 2007–2012: education, public services, and housing and public facilities. In the beginning of the observed years (2005–2006), the public services function still dominated the allocation with an average of

30.98%, while the education function was second with 27.84%. However, since 2009 the sequence changed, as the education function has the largest allotment; in 2009 this function increased to 32.17% while the public service dropped to 28.51%, and this domination of spending by the education function did not change until 2012.

The policy of the central government as stated in Government Regulation No. 58/2009 seems to have had a significant impact on local government allocations of the budget function composition. Most local governments increased the allocation in the education function; however, the minimum requirement of the allocation in this function has not been implemented by all local governments, with some still allocating less than 20% to this area.

As shown in Table 4.3, the minimum percentage of the education budget allocated by local governments after the regulations were issued was quite small, less than 9%: 5.94% in 2009, 6.37% in 2010, 8.24% in 2011 and only 5.78% in 2012. These percentages contrasted subsequently with the maximum value at the same time, which reached more than 55%.

However, it seems that most local governments in Indonesia are concerned with substantial functions that are required to increase public wealth. A big proportion in the education and health sectors plays an important role in the development of qualified human resources, which in turn will support the improvement of local productivity (Brown and Hunter 2004, Stasavage 2005). Related to education spending, Brown and Hunter (2004) do not only emphasise the direct impact of this spending on local production, but find it also generates control over population growth.

The allocation decisions of the budget to strategic areas such as education and health is consistent with previous studies that showed the importance of spending in those areas, particularly when the government is more democratic than autocratic. A study conducted by Kaufman (2004) found a higher amount of education and health expenditure in more democratic governments, and also Lake and Baum (2001) confirmed the high provision of primary services in democratic governments.

The fact that there were still some regions that allocated education spending less than the minimum requirement (20%), provides an insight that the regions are still concentrating on other areas that are probably more substantial in terms of local development.

The local spending priority for public services and house and public facilities shows that local governments were primarily concerned to provide services in the areas directly needed by the public. These expenditures are related to physical projects or infrastructures that support local productivity. Furthermore, putting priority spending in these areas will provide a positive

advantage to local government in increasing public trust. In terms of fiscal decentralisation, the policy of high spending on infrastructure will increase the public contribution in supporting the government. However, as found in previous studies, these types of public spending bring the possibilities to obtain personal benefits. Related to rent-seeking behaviour, these expenditures provide a lucrative opportunity to optimise other benefits expected by local leaders and legislative members. This is consistent with studies conducted by Bradbury and Stephenson (2003), Keefer and Khemani (2004), Tanzi and Davoodi (2006) and Abdullah and Asmara (2007) that showed evidence of local authorities (legislative and/or executive) in obtaining political or personal advantages through the policies made in government budgets.

A further analysis related to the composition of the budget functions may be viewed from the perspective of the years close to elections. Since the elections of legislative members and local leaders might be held in different years, the policy of budget allocation will possibly contrast among the years.

According to Tables 4.6 and 4.8 in Chapter 4, both based on the years before local leader elections and legislative member elections, the composition of the budget was dominated by four budget functions: *education, public services, housing and public facilities, and health*. However, the indication of utilising the budget can be detected not only by the large proportions of certain functions, but also by the changes, particularly before specific events.

Furthermore, using a distribution test, it was found that there were some functions of the budget expenditure that had significant changes in their composition, before the elections for both local leaders and legislative members. However, the functions that significantly changed were different between local leader elections and legislative member elections. Table 4.7 provides evidence that prior to local leader elections, there were four budget functions that had substantial differences: public services, security and order, housing and public facilities, and education and. On the other side, associated with legislative elections, all functions were found to be noticeably different except social protection.

These prominent changes of budget composition before specific events lead to the possibility of the existence of distinctive interests in local budgets. This is consistent with Eslava (2005), who stated that there is a possibility of the occurrence of manipulation in budget composition in the years close to elections, since the other alternative strategy, increasing the amount of the budget, may be unproductive. At the beginning of Chapter 4, it was shown that local government budgets tended to increase every year.

However, a policy to boost the budget expenditure will be problematic when the local government does not have sufficient resources to fund the spending. This policy may not be implemented by the local government to avoid a budget deficit. In the years prior to elections, as evidenced by previous research (Eslava 2005), a policy of raising expenditure which results in a budget deficit will be counterproductive: harmful in increasing support from the voters.

The apparent difference in budget composition of some particular functions indicates the existence of budget selection by individual interest parties. The tendency of using this approach may be caused by the low possibility of political support from the voters if choosing to boost the budget amount. This is in line with a study conducted by Alesina and Perotti (1996) which found that the government did not lose the public support even though they performed tight budget policy.

This result also provides an initial result associated with the cycles of the budget that tended to be higher when close to local elections. From the budget functions that were found to have substantial distribution differences, it can be detected which of these functions might be optimised to generate more votes. Following the dynamics of individual budget functions before elections for both local leaders and legislative members, there should be certain budget functions that will increase – which is believed will impact on the public preference in voting for the candidate – and as a consequence, the other budget functions will decline.

Looking at the tables (Table 4.6 and 4.8), the education function seems to fluctuate to fit with the other budget function changes. There are two possible reasons that the correlation between the education function and the other functions always resulted in a negative direction. First, the obligation of a minimum allocation of 20% to education forced regional governments to lessen the budget composition of one or more other functions to ensure the composition of education to be at least 20% as required. Second, the composition of the education function then declined to supplement the composition of other functions. As presented previously, there were many local governments that allocated the education budget more than the minimum regulated, even much more; during the observed years, the average proportion of education was always more than 30%. This means that the composition of this function was very easy to reduce so as to add to the composition of other functions, as long as the reduction did not cause the proportion of the education function to become less than 20% as required by the regulation.

However, the correlation among the variables only provides the dynamic of the variables, which tended to decrease when the other functions rose or vice versa. That statistical result

still could not identify the specific year when certain budgets tended to move up or decline, particularly while facing local leader or legislative elections.

Therefore, it is necessary to discuss the budget composition changes from one year to the following year or in a particular time frame that triggers local governments to amend the budget proportions in order to accomplish certain interests. The following discussion relates to that matter, in which the possibility of composition changes is very likely to occur.

### **6.2.2. Budget composition changes**

As shown in the previous table, there were some budget functions that dominated the budget. The percentages of these functions were relatively higher than for other functions. The education function and public services seemed to be the prioritised functions for most of the local governments. However, this has not carried a strong indication related to the preferred budget that might support a particular group for a specific interest.

Changes in the budget have been considered a strategic way to influence the public, especially related to influencing the public's voting preference. In the previous section, it was discussed how the composition of the budget and the dynamics occurred; however, the analysis was unable to detect the budget functions that may have been optimised by interest groups, particularly for the incumbents, either local leader or legislative members.

This discussion will start from the changes in budget expenditure from the perspective of the year prior to legislative elections. As stated previously, during the observed years (2007–2012), there was one legislative election, in 2009. The election of legislative members, both for central government and local government parliaments in Indonesia, are conducted at the same time, so the analysis can also be viewed during the observed year.

In the first part of Chapter 4, Table 4.2 provided a description of the changes in the total budget in 2007–2012. It was shown that the average changes in the total budget during the period were 11,1% (0.111) with a relatively high standard deviation: 15.1% (0.151). The amount of the budget consistently increased from a given year to the following one.

Using Katz and Rosenberg (1989) approach, the total changes in budget in 2008-2012, the changes of budget composition had averages between 8.5% until 12.7%. Two budget functions had high changes in proportion: education and public services. Even in the year when legislative elections were conducted, public services really dominated the budget changes; the change in these budgets dominantly contributed of the total changes in that year. However, in the previous year before the election, the graph shows that the main function was

still education; even though the budget seemed to decrease in certain years before the elections; in total this budget still took a considerable proportion of the total changes.

Besides those two functions, the other budget functions that had an appreciable percentage change in total budget were health and housing and public facilities. Although they were not extremely high like education and public services, these two budget functions provided a valuable contribution to total budget changes. This brief picture provides further support for the indication of the intention of local governments' interest in using some strategic budget functions, presumably to attract votes. Local governments select certain budget functions that are expected to gain a positive response.

Education and public service sectors dominated the budget composition during the observed years (2007–2012); the compositions of these budgets were apparently higher than the other functions. In particular, the education function should be at a minimum level of 20% to comply with the regulated minimum. Table 4.3 (in Chapter 4) showed that the average composition of education was more than 30%, indicating that most local governments allocated a greater proportion of the budget for this function than the minimum proportion required. This provides for the possibility of this function being reduced as long as the reduction does not go under the limit. However, there were still some regions with low allocations in education. Therefore, to accomplish the minimum requirement, the other budget functions should be reduced, assuming that the revenue side of the budget could not be increased. Looking at the correlation values, the budget function that mostly covered the reduction was public services. However, also based on the correlation values, this budget function tended to be increased to a certain level by reducing the education function.

Nevertheless, the findings do not provide confirmation that the budget functions of those three functions really increased or decreased in the year closest to the legislative elections. However, noting the values of the standard deviations, these indicate that all of those functions had the opportunity to rise or decline prior to an election year. Some regional governments preferred to increase the composition of a certain function. However, other local governments tended to reduce that budget function composition to accomplish a certain composition of other budget functions.

In connection with budget optimising for a specific interest, those budget functions seem to have had the same possibility to increase or decline before the election. Considering the election year and also one year prior to the election, the analysis below shows the percentages of local governments that tended to increase or decrease the composition of these functions in the year prior to and in the election year.

The local governments tended to increase and decrease in three budget functions (public service, housing and public facilities, and education) in the year prior to the election and in the election year. The three budget functions are indicated to be prioritised by local governments to adapt to policies made before the election of legislative members. However, it seems that the education function has become the main option to be increased in the years before elections for most local governments

Nevertheless, this is contrast to the other two functions: *public services* and *housing and public facilities*; in these functions, the percentage of local governments with a policy to reduce the composition of these sectors was higher than for the local governments that increased the composition. This provides a description of which budget function (among the three functions) became the main preference for most of the local governments to increase and which functions had to be dropped to cover the increment, particularly in the years prior to elections. The education function became the major function to change for most local governments, rather than the others. This also indicates that for most local governments when facing legislative elections, the education sector has become the main function to be reduced in order to increase the composition of other function(s).

This is consistent with previous studies that found the importance of a certain budget sector that tended to be optimised by certain interests, especially when close to elections. This is supported by Bradbury and Stephenson (2003), Mauro (1998), Keefer and Khemani (2004), Mauro (1998) and Tanzi and Davoodi (2006), who all showed that local legislative parliaments increased certain budget sectors, such as education and public works. However, this finding does not support the optimising of the health sector in supporting certain interests facing critical events, such as legislative elections.

### **6.3. RESEARCH HYPOTHESES**

This section considers the hypotheses developed in this study. The findings of this study are explored in Chapter 6. According to the regression results, the four variables: local original revenue, natural resources, population and legislative elections, are confirmed as the determinants of budget changes that are indicated as rent-seeking. The impact of grant from central government was not as expected. The other political factor; local leader election did not demonstrate positive impact on rent-seeking. The important finding is related to the role of audit in limiting the behaviour; the result of the study showed the effectiveness of audit to reduce the occurrence of rent-seeking.

The discussion of the results is as follows.



### **6.3.1. Impact of grant transfers from central government on rent-seeking**

The regression result demonstrates that transfers from the central government had a negative effect on rent-seeking. The more transfers received by local governments, the less the indication of the amount of the potential of rent-seeking. The result of the study confirms that there is no indication of local authorities to utilize the enormous amount of transfer from central government to seek rent. The finding rejects Mauro (2004) who demonstrated the intention of local government to abuse the huge amount of resources under their power to accomplish their interest.

This finding indicates that the increase of grant transfer stimulated local governments to be more selective and creative in optimising their budgets and also more effective in the allocation of budget spending. This is not consistent with studies by Gemmell et al. (1998) and Dollery and Worthington (2007) that showed transfers from central government did not encourage local governments in raising local revenue.

This finding is not consistent with a previous study conducted by Hirawan (2006) that demonstrated the domination of central government transfers in funding government budgets. During the first five years of the implementation of fiscal decentralisation in Indonesia, local governments still relied on transfers; the contribution of local original revenue remained constant and did not show substantial growth.

Figure 5.3 exhibits this phenomenon may still exist at the current time. However, up to 2012 the contribution of local original revenue increased, although still at a low level. On the other hand, the contribution of grants from central government tended to decline. This fact brings the hope of local governments reducing reliance on central government transfers as the main source of revenue in the near future.

The finding did not support the prior studies conducted by Abdullah and Asmara (2007), Gylfason (2001), Leite Weidmann (2002) and Larson (2002) that provided empirical evidence that the existence of the resources lead to opportunistic behaviour. The result of the study brings the opposite result that local governments attempted to reduce the utilization of resources for rent-seeking. There is another possibility that local governments allocated the funds to the proper function that accelerated domestic productivity.

The result of the study is also not consistent with Widarjono (2006), who demonstrated the high impact of transfers from the central government on local government spending. In his research, Widarjono (2006) showed that the huge amounts transferred were more powerful in determining the allocation of local expenditures than local origin revenue. The local

governments were more flexible in allocating the budget to the sectors which were potentially more favourable for rent-seeking. The contrary finding of this study indicates that local authorities prefer not to utilize the transfers from the central government as resources for opportunistic behaviour.

This empirical finding corresponded with Bird & Smart (2001), Brodjonegoro (2001), Martinez-Vazquez & Searle (2007) that emphasized the importance of transfer from central government to reduce the fiscal gap among local governments and also to encourage the local government to be more productive.

One of the possible explanations for why local authorities do not exploit the transfers from the central government as resources for opportunistic behaviour is that a local government has to secure this revenue as it has a dominant contribution from local expenditure. Accordingly, the local government will be more accountable and transparent in reporting the utilization of transfer revenue. Even though fiscal decentralization has been implemented for more than one decade, most local governments still depend on the central government funds. Some empirical findings have demonstrated the domination of these transfers in the structure of local government budgets (see Fadzil and Nyoto 2011, Kuncoro 2011, Lewis 2013). Regarding this issue, Brodjonegoro and Ford (2007) emphasized that fiscal decentralization should be viewed as the effort of local governments to increase their local performance using the available resources, rather than their ability to improve local government self-reliance in funding local development.

As transfers increase, local governments increase the amount of expenditures significantly. Referring to Adi (2007), who showed the composition of expenditure is dominated by routine operational spending, it seems that such allocation is counterproductive to regional performance improvement. Lewis (2013) provided an empirical fact that the transfer component that had the largest impact on capital expenditure was actually the special allocation fund, not the general allocation fund that contributed the most among other income components. Lewis's finding supports the indication that most of the allocation is on unproductive expense.

### **6.3.2. Impact of local original revenue on rent-seeking**

The regression result shows that local original revenue has a positive impact on the indication of rent-seeking. The more local original revenue collected by a local government, the greater the possibility of a certain interest to behave opportunistically to optimise the benefits, either for individual or collective interest, and to find personal welfare and capture political interest.

This finding supports Abdullah and Asmara (2007), who found empirical evidence regarding the intention of local legislative members to find lucrative opportunities in benefiting themselves when local revenue increased. There was an indication that during fiscal decentralisation, the ability of local governments to collect their local revenues increases, but unfortunately this achievement opens the opportunity for the existence of budget misuse. There is an indication of local budgets being wasted when local original revenue rises.

The results of the study strengthen those of Kang and Setyawan (2012), who provided empirical evidence of the power of local own revenue in determining the budget allocation in local government. According to these researchers, local origin revenue had a greater impact on budget expenditure than transfers from the central government. Unlike intergovernmental transfers, in which the amount still relies on the central authorities, the highs and lows of local own revenue are determined by the ability of the local government in organizing and optimizing any potential resources in its area. Therefore, the government should be more careful in distributing the expenditure from original sources, rather than other sources.

This result contrasts with the objective of fiscal decentralisation to raise local government self-reliance by increasing local capacity (Prud'homme 1995, Brodjonegoro 2001, Bird and Smart 2001, Martinez-Vazquez and Searle 2007, Werner 2012). As stated previously, decentralisation is believed to be one of the ways to reduce deviant behaviour such as corruption, because it opens public mechanisms for controlling the government.

Local tax is the main instrument of local original revenue in most local governments in Indonesia. In decentralisation, this revenue should ideally become the main source of local income, as this is consistent with the aim to increase local self-reliance. Since regional governments have to reduce their dependence on the central government, local tax becomes one of the alternatives for funding local expenditure, particularly for local governments with large populations.

Greater collection of own local revenue should ideally encourage local governments to be less dependent on the central government and rely less on central government transfers. However, an increase in local original revenue amounts does not necessarily lead to a rise in the degree

of decentralisation of the regional government. An increase in local original revenue does not directly cause a higher proportion of this revenue in the total revenue collected by the local government. There is a possibility of a high growth of transfer revenue from the central government causing a higher proportion of this transfer in local government revenue. This likelihood reflects an indication of the existence of local governments' efforts in preserving high income from the central government. A possible way to maintain this revenue is by increasing the local expenditure, so that the contribution of local original revenue will remain the same as or even lower than it was in the previous year.

Analysis as shown in Table 5.9 shows that an increase in local origin revenue impacted significantly on the possibility of rent-seeking using all budget functions. The result indicates the notable role of this revenue in determining the allocation of budget expenditure that potentially provides rent. However, the output of the analysis shows that the functions of *public service* and *security and order* have the largest regression coefficients among the functions; this reflects the prioritization of most of the local governments in distributing the revenue collected from their own resources in order to obtain rent. These two functions are more revenue expenditures, rather than capital expenditures; from this point of view, the budget authorities prefer to seek rent by allocating a rise in local original revenue to short-term expenses required for current activities and thus are typically operating expenses. Accordingly, allocating an increase to costs such as employee/staff costs, and repair and maintenance costs to maintain assets indicates that it is more beneficial for local budget authorities to seek rent, rather than distributing the rise into capital expenditures.

It seems that local governments still do not have strong willingness to be more independent in funding their local expenditures. Local governments tend to maintain a high amount of central government transfer with little effort to obtain this, rather than collecting from local sources. Local original revenue was not able to cover local government spending. This fact provides an indication that the implementation of fiscal decentralization is still focused on the decentralization of expenditure. However, it is still far from achieving local governments' self-reliance in funding their spending with their resources, as most local governments had a low level of local original revenue.

Therefore, emphasising the goal of decentralisation in relation to the efficacy of spending should be placed in high priority, particularly for spending that relates to public wealth and local productivity. The evidence of a higher indication of rent-seeking demonstrates the possibility of increasing budget ineffectiveness and inefficiency in local government.

Based on agency theory, the result of the study showing the considerable impact of local own revenue on rent-seeking indicates the existence of a moral hazard or adverse selection by the budget authorities in local government. Since they have more information than the public (as the principal) regarding local resources, the local budget authorities are more free in distributing these resources to the sectors that are less controllable and provide more chance for rent-seeking behaviour (see Jensen and Meckling 1976). As a result, the local government will have a low improvement in its performance. The reality is a contrast to the objectives of fiscal decentralization, which place the local budget authorities as the main actors for accelerating local government improvement. This emphasizes that public expenditure depends on the commitment of local budget authorities, not the size of the budget. Therefore, a local government with a leader committed strongly to public welfare improvement will be more successful in achieving the goals of fiscal decentralization, as such a leader will be more careful, and also avoid potential waste in the local budget allocation. Nevertheless, the result of the study indicates the opposite reality, since the allocated resources from local own revenue tends to be wasted rather than increasing local performance.

### **6.3.3. Impact of natural resources on rent-seeking**

The other result of hypothesis examination shows that natural resources positively influenced the possibility of rent-seeking. There is an indication of greater likelihood of rent-seeking when the local governments collected higher revenue from natural resources. The existence of rent-seeking tended to be high in local government with rich natural resources when the local government could collect higher revenue from natural resources.

This evidence is consistent with Kolstad and Søreide (2009) that found the natural resources as the potential source for rent-seeking, particularly for politicians and government officers in increasing their wealth and also in maintaining the power. As the result, as stated by Kolstad and Søreide (2009), for an area with rich natural resources it is hard to improve its performance because of the high possibility of rent-seeking. The high-level of the occurrence of this behaviour may become counterproductive to promoting local-economic growth.

It seems that the existence of opportunistic behaviour tended to be similar among the developing countries. The result of the study, which used the samples of local governments in Indonesia, a developing country, is in line with the finding of Gylfason (2001) that showed the low-level of corruption control in developing countries such as Algeria, Gabon, Yamen, Kazakhstan, Azerbaijan etc. These countries had poor economic growth, although they were wealthy with the natural resources.

The availability of natural resources still acts as a loophole for the local budget authorities to seek rent. Gylfason (2001) showed the reasons that stimulated the government to increase this behaviour using natural resources, for example the chance to provide permits to other parties, particularly investors, to manage and exploit the existing natural resources. Such permission is given by governments to investors as it costs lots of money to utilise and manage these resources. For rent-seekers, such privileges open the likelihood of obtaining bribes.

Similar to the increase in local origin revenue, the possibility of rent-seeking utilizing natural resources revenue exists in all budget functions except *environment* (see Table 5.9). According to the table, there are two budget functions that preferentially allocated rent; the *public service* and *security and order* functions. Noting the regression coefficients of these functions, these denote a higher potential for rent to be obtained utilizing these two budgets rather than the other functions.

In the context of agency theory, the possibility of such deviation is very likely due to the unbalanced information accessibility between the public as the principal and the local government as the agent. The government has more information about the potential revenue from natural resources and often this information is not open to the public. The provision of permits related to natural resource management can become collusive between the local authorities (local government leader and politicians) and businesspeople because of the low level of control by the public. A study conducted by Almas Sjafrina et al. (2013) demonstrated the patronage between local leaders and entrepreneurs in releasing permits for natural resources management by some local governments.

The other reason is that a local government can alter the allocation of the budget from natural resources to sectors that offer more lucrative opportunities. Gylfason (2001) emphasized that this allocation frequently disregards local performance, especially in improving public wellbeing. The finding supports the indication of budget inefficiency and ineffectiveness in local governments in Indonesia in utilizing the revenue from natural resources.

Referring to Bhattacharyya and Hodler (2010), who examined the possibility of rent-seeking using natural resources in relation to the quality of democracy, the result of the study indicated that the democracy in most local governments is still immature. Even though the local leaders and members of parliament are selected through public election, it still does not lead the local government to have the level of democracy expected.

Democracy and decentralization are two interrelated concepts. Along with the implementation of fiscal decentralization, governments and local communities have a greater role in improving

their welfare. The public has more space to participate in and contribute to regional development and also to control the policies adopted and implemented by the government (Tiebout 1961, Oates 1972, Bird and Vaillancourt 1998, Brodjonegoro and Asanuma 2000). This opportunity becomes greater after the implementation of a direct election because the people have greater access to selecting their local leader.

#### **6.3.4. Impact of population size on rent-seeking**

The other finding of this study shows that population size had a positive impact on the rent-seeking indication. The possibility of rent-seeking arises when population increases. This supports the hypothesis of the research that states the population has a significant positive impact on rent-seeking.

The result of the study is in line with the previous study conducted by Goel and Nelson (2009), that found an empirical evidence of a higher possibility of corruption when the number of population increased. This finding exhibits a supporting result, as the possibility of rent-seeking became higher in the areas with higher population size. A region with a large-number of population has an opportunity to increase local revenue by collecting tax from the public. However, the higher collection from local tax might become harmful to increase local performance since it also opened the opportunity of rent-seeking.

This empirical finding is also consistent with the study conducted by Fisman and Gatti (2002) that demonstrated empirical evidence of a higher corruption rate when the population increases. Ades and Di Tella (1999) affirmed the possibility of exploitation of the economy of scale in delivering public services in line with an increase in the population, which in turn will encourage rent-seeking behaviour. Consequently, it will be harmful to the performance of the local government. This explains why an area with a high population grows slowly and is less developed than a region with a lower population.

This result of the study also supported Knack and Azfar (2003) that exhibited a similar finding about the correlation between population size and the opportunistic behaviour. Using the corruption perception index released by Transparency International, the researchers confirmed the escalation of corruption in a country in line with the increase in population size. In the study, Knack and Azfar (2003) stated the importance of breaking up the nation to provide autonomy to the lower tier of government, so the governments will be more manageable and can limit potential corruption. Following Knack and Azfar (2003), the implementation of fiscal decentralization in Indonesia should meet the expectation of reducing the possibility of rent-seeking. However, the result of the study indicates that governance in local government is still problematic; the large population remains one of the reasons for opportunistic behaviour.

Goel and Nelson (2009) stated that the possibility of greater rent-seeking in higher population may exist as it opens the chance to develop a deeper affiliation between bribe-takers and bribe-givers. The local government seems to have an issue providing services to the public at the expected level because of the high population. This condition leads to two possible behaviours, first, a rise in bribery, particularly for those who require good and prompt service, and second, the potential misuse of the budget; as the population grows, the total expenditure will also increase. One of the factors determining the transfer from the central government is the size of the population, so local governments have the chance to increase the transfer funds proposed to the central government. A local government with a high population is greatly benefited as it will continuously have an ample supply of funds from the central government. Nanga (2005) stated that such a condition triggers the neglect of local governments in improving their fiscal capacity. Local governments tend to maintain their dependence on central government funds, rather than expanding their capability in optimising the local resources.

In the agency theory context, this phenomenon demonstrates the advantages of local governments in having more information. Adams (1994) remarked that the asymmetric information will cause an *adverse selection* issue for the agent. As the agent, the local government has complete information relating to its population, not only the total but also the other essential statistics required for local government policy. On the other hand, the central government receives incomplete information relating to the population. These different preferences between the central government, in deciding the intergovernmental transfer allotment, and the local government, in distributing the fund, potentially initiate rent-seeking behaviour by the local government, since it has more comprehensive information and the authority to spend the budget.

#### **6.3.5. Impact of legislative member elections and local leader elections on rent-seeking**

The regression result shows that the variables of legislative elections and local leader elections have positive and significant relationships to the opportunity for rent-seeking behaviour in the total budget; however, there is no evidence of the significant impact of local leader elections on the indication of rent-seeking in the total budget. Although it is not significant, local leader elections demonstrate a negative effect on the existence of rent-seeking behaviour.

This finding presents a high possibility of rent-seeking behaviour in the year previous to legislative elections, while on the contrary the opportunity for this behaviour tends to decline in advance of local leader elections.



This evidence supports Ferraz and Finan (2005), who found the inclusion of political motivations in local government budgets, particularly in the year before elections. As the incumbent requires political endorsement from the voters, they will attempt to utilise the budget, delivering public goods and services that correspond with the public's preferences. This evidence also supports Eslava (2005), who demonstrated the magnitude of the budget allocation to obtain public support in elections in Colombia.

However, following Rogoff (1990), who denoted the pattern of the budget composition in order to find indications of budget manipulation for political reasons, the analysis in the current study is continued with the possibility of rent-seeking in each budget function. This further analysis as explored in Table 6.9 provides support for this result. In Table 6.9, there is an indication of the different patterns of budget sectors selected by local authorities in gaining voters' support in elections.

This study indicates three budget functions that are optimised by the budget authorities (legislative members) in advance of legislative elections: *security and order*, *housing and public facilities*, and *health*. This finding is interesting, as the changes in these three budget functions influence the indications of rent-seeking in the overall budget. This provides further support for the fact that major changes in these functions impact noticeably on the aggregate of the budget amount.

In relation to local leader elections, the indications of rent seeking seem to exist for two budget functions: *security and order*, and *education*. This result strengthens that of Tanzi and Davoodi (1998), who demonstrated a correlation between education and corruption; the education sector seems to be one of the favoured options in rent-seeking.

The current study is also consistent with Eslava (2005), who found the possibility of the existence of manipulation in the budget composition in the year closest to elections. In the years prior to elections, as evidenced by previous research (Eslava 2005), a policy of raising expenditure which results in budget deficit will be counterproductive: harmful in increasing support from the voters.

The result of this study also supports Drazen and Eslava (2010) with their investigation regarding the fluctuations of budget composition, particularly in 'targeted areas' known as 'pork barrel' spending. According to Drazen and Eslava (2010), pork barrel spending will boost the incumbent's chances of winning the election. The incumbent's understanding related to the targeted budget plays an important role, so a shift in budget composition will effectively influence the voters.

This result shows the importance of the budget in optimising specific interests, in this case legislative members' interests, particularly when they become incumbent in the following period. Then the opportunity for higher wastage of the local budget is detected more in the years prior to the elections.

Following Abdullah and Asmara (2007), it needs to be investigated whether there are different preferences between local leaders and members of parliament in determining the budget sectors to be utilized in order to seek rent. According to Abdullah and Asmara (2007), the legislative members attempt to raise the infrastructure and parliament funding, while on the other hand the budgets of the sectors of education and health will be reduced. Related to this, a further finding of the potential rent-seeking in each budget sector as shown in Table 5.9 is that different references of the budget function(s) are optimized in the behaviour. The table indicates that the areas of *security and order*, *housing and public facilities* and *health* tended to increase in the year before a legislative election, while only the sector of *security and order* rose in the year closest to a local leader election.

The finding supports that of Abdullah and Asmara (2007) that infrastructure sectors (housing and public facilities) are more favourable to supporting legislative members who are again candidates running for election. However, the increase in this function is not balanced by the substantial drop in the *education* and *health* sectors; although it is by the drop in the *public service* function. As shown previously in Table 4.3, the public service function has the second largest proportion in the budget structure after the education sector. It seems that the members of parliament prefer to cut the budget of public services, which is dominated by operational and routine expenditure, rather than that of the education sector, which has a minimum composition requirement of 20% of the total budget.

Related to the years before local leader elections, Table 5.9 demonstrates that only the *security and order* function increased significantly. The interesting finding is that the health function declined substantially in the years close to local leader elections. It seems that education became a strategic sector to be reduced to increase the other function(s) in the years preceding these elections. Nevertheless, this decrease did not impact significantly on the other functions (except *security and order*); the local governments preferred to distribute the additional amount to each sector evenly, rather than allocating it to a certain budget function. Similarly with the years ahead of legislative elections, the local government had to increase the *security and order* function to anticipate the escalation of the security risk ahead of local leader elections.

From the perspective of agency theory, direct elections reaffirm the position of the public as the principal and the elected local leader as the agent, and that their contractual engagement

starts when the elected leader is legally inaugurated. However, direct elections do not automatically bring better governance in local government. Kumorotomo (2011) stated that democratization and decentralization have stimulated the existence of the money politic, as local politics is still dominated by certain elites. The public does not play its ideal role as the principal, but only as the voters for certain candidates. As a result, the agency problem arises; the agents (the local authorities) do not place the society as the first priority of the service, but concentrate on maximizing their own interests. The agents will utilize the resources that offer more opportunity for rent-seeking, one of which is the availability of natural resources.

### **6.3.6. Impact of audit reports on rent-seeking**

According to the regression result, audit reports have a negative effect on the possibility of the existence of rent-seeking. This result is consistent with the hypothesis developed in this study that states that audit reports have a negative impact on rent-seeking. This finding demonstrates the significant role of audits in preventing the possibility of rent-seeking.

A further analysis shown in Table 5.9 demonstrates the effectiveness of auditing in limiting the existence of rent-seeking.

The table shows that auditing in local government negatively impacted on all budget functions, and five of them were significant. Prior studies conducted by Mauro (1998), Mauro and Driscoll (1997) Tanzi and Davoodi (2006) and Abdullah and Asmara (2007) confirmed the utilization of increased infrastructure expenditures. These studies have revealed that this sector has become prominent in order to accomplish certain interests, both of the members of parliament and of the local leader with their political motives or private interests to increase wealth.

Table 5.9 confirms there is an indication of rent-seeking using the infrastructure function (*housing and public facilities*) in the years prior to legislative elections; however, the intention of using the budget function for rent-seeking dropped significantly after the implementation of auditing. The study has found that auditing had the most negative impact on two principal functions; *housing and public facilities* and *education*. The coefficient of regression of auditing on *housing and public facilities* is the highest among the regression coefficients; this result expresses the strongest impact of auditing in diminishing rent-seeking behaviour among all budget functions.

The empirical evidence confirms two important things; first, the tendency to utilize the infrastructure expenditure in the years ahead of legislative elections. In association with the results of the study, Brender (2003) stated that members of parliament running for the following election would attempt to shift the composition of certain budget sectors to attract

their potential voters. Second is the essential role of auditing in preventing the existence of rent-seeking. Bastian (2014) provided two reasons explaining why financial auditing can be an effective tool to restrict potential rent-seeking; first, that audits come with improvement recommendations for the financial statement, and second, that the audited financial statement becomes a critical way for the public to acquire evidence of the government's responsibility and accountability in optimizing the available resources.

An interesting finding relates to the influence of auditing on the education function. Even though it is not a targeted sector for rent-seekers (see Abdullah and Asmara 2007, Keefer and Khemani 2004, Tanzi and Davoodi 2006), this function has a central role since it will be adjusted (reduced) to increase the likelihood of rent-seeking in targeted sectors. As demonstrated previously in Table 4.3, the education function has the largest composition, particularly after the central government released the policy of a 20% minimum allocation to the education function starting from 2009. Table 4.3 demonstrates the large composition, 33.09% on average, and it reached the highest level in 2012 (37.01%). This large portion is vulnerable to adjustment as a result of the increase in other sectors.

In the local Indonesian context, the budget components of this function include the development and improvement of educational infrastructure and also the procurement of other supporting facilities. Therefore, with its large composition, the education budget is also susceptible to rent-seeking. The regression output indicates that rent-seeking using the budget function existed and that auditing has been able to reduce the occurrence of this behaviour.

The better the audit reports achieved by local governments, the less the possibility of local governments behaving opportunistically. Based on agency theory, there might exist a moral hazard in the relationship between the agent and the principal; both parties have a similar interest in maximising the benefit; however, since the agent has the advantage of holding more information and on the other hand the principal not having enough control over the agent, there is a possibility of the occurrence of rent-seeking (Jensen and Meckling 1976, Reichelstein 1992, Burgess et al. 2004, Petterson-Lidbom 2006).

Therefore, regular monitoring may be conducted to prevent or minimise the opportunity of the agents using their role to optimise benefits for themselves. The audit mechanism can be implemented to confirm that local governments have been using their funds appropriately. Audit reports are a medium for demonstrating the responsibility and accountability of local governments. Local governments are forced to give the public access to information about local budget allocation plans and realisation. The audit mechanism stimulates higher public

control towards the government, preventing the government from misusing the budget and also increasing public trust, which in turn will encourage the public to support the government.

The results of the study show the awareness of local government for being transparent, accountable and responsible in using public money (see Djankov et al. 2008). As a result, the better the audit opinions received by local government, the less the possibility of the existence of deviant behaviour in budget allocation. This finding is also in line with the recommendation of Human Rights Watch (2007) for local governments to issue reports that stimulate good governance and transparency.

Relating the result with the quality of audit opinions received by most local governments (see Chapter 5) demonstrates that local governments have great concern about being accountable for using public money. It indicates the awareness of local governments about the role of audit information as a tool of control by the public, which can limit the opportunity for rent-seeking. This is consistent with Malagueno et al. (2010), who stated the important advantage of audits in reducing negative behaviour.

# CHAPTER 7 : CONCLUSION AND IMPLICATIONS

## 7.1. INTRODUCTION

The objectives of this chapter are as follows: first, to provide an overview of the thesis and the results of the study; second, to discuss the relevant practical implications; and third, to provide the limitations of the study and, to recommend further study.

## 7.2. OVERVIEW OF THE THESIS

### 7.2.1. Background of the study

The objectives of the study were explored in the first chapter: the first objective was to discover the budget changes in local governments in Indonesia. The issue of budget changes in local government is relevant since Indonesia has entered an era of fiscal decentralisation; in this system, local governments are mandated to allocate resources. However, as the local budget authorities (parliament members and local leaders) have particular interests, to obtain both political and welfare benefits, there are possibilities of budget optimisation by those authorities in order to address their interests. The second objective was to find the determinant factors of the parts of budget changes that were indicated as rent-seeking. The third objective was to find the factors that influence an increase in rent-seeking and the impact of audits in limiting the possibility of rent-seeking. As rent-seeking tends to produce wastage in local government budgets, there is needed a monitoring system that can limit the existence of this behaviour. Audits are widely believed to be an important instrument to prevent the possibility of rent-seeking.

The first chapter of this study contained the background to the study. It focused on the significance of the greater authority given to local budget authorities in Indonesia in deciding on budget allocations during the implementation of fiscal decentralisation. A short review in this chapter identified the possibility that certain budget sectors might be optimised to accomplish the diverse interests of the budget authorities, both in maintaining their positions and in obtaining self-prosperity.

The implementation of decentralisation in Indonesia has led to the possible existence of rent-seeking behaviour by certain individuals or groups in local governments that have the power in the local government budget process. Both local parliament members and local leaders have the opportunity to optimise the budget as they have similar interests: first to accomplish their constituents' expectations, because they are both elected by the public through general

elections. In this context, the optimisation will support them to maintain their positions, particularly if they decide to be incumbents in the next election.

However, budget optimisation may not relate only to the continuation of political positions (as parliament members or local leaders) but also correspond to the intention to make a return on their political investment. This leads to the research question of how the budget changes reflect the possibility of the existence of these rent-seeking behaviours.

Related to the second objective of this study, budget changes should ideally be caused only by rational factors, which consist of local economic factors, the density of the population and also local government financial capability. However, from the results of regression analysis, there is a certain amount of the budget that does not reflect these determinants. There are unidentified factors that influence the changes, one of which is the motive of rent-seeking. This brief description leads to the next research question regarding the certain amount of the budget that is possibly being optimised for certain interests.

The last objective of this study relates to the importance of audits in preventing the occurrence of deviations in budget usage. This is a continuation of the previous research question related to the amount of the budget that is not affected by the determinant rational factors. The remaining part of the budget is indicated to be subject to the motivation of rent-seeking (Park 2008). Some scholars advised that rent-seeking tends to result in budget wastage, so it will be harmful to local productivity (Katz and Rosenberg 1989, Katz et al. 1990). Therefore, the audit mechanism will play a significant role in protecting the larger part of the budget from this motivation (Adams 1994, Dye and Stapenhurst 1997, Ferraz and Finan 2007a, Khan 2006).

Chapter 2 presented the literature review. The chapter began with a theory that supports the possibility of using the budget for particular interests. The budget optimisation in local governments can be viewed in the context of the agency relationship theory, in which the local budget authorities (which consist of the local parliament members and local leaders) play the agents, while the public and the central government play the principal. Based on this theory, the agents have more information than the principal, particularly related to the strategic decisions in using local resources. This advantage may be optimised by the local authorities for various reasons, including political or personal welfare motives.

This chapter also explored previous studies related to the objectives of the research. Based on the objectives of the study, previous studies were classified into three groups: first, the research that investigated budget changes; second, the research that related to the factors

that influence budget allocation; and third, the research related to the importance of audits in minimising the opportunity for using the budget for rent-seeking motives.

Chapter 3 explored the methodology applied to address the research questions. The chapter presented the sample data and the resources used to obtain the data, the developed hypotheses and also the statistical analysis used to answer the research questions.

Chapters 4, and 5 are the chapters that provided the results of the study. Chapter 4 explored budget changes not only chronologically, but also from the perspective of the years before general elections, for both legislative members and local leaders. Looking at the changes from these perspectives resulted in the discovery of certain budget sectors that are possibly being optimised by certain groups in local government for particular interests. This chapter also provided the determinant factors in relation to budget allocation. The factors that are considered the determinants are rational ones; the regression did not only generate the factors that significantly influence budget allocation, but also the remainder of the budget that is not affected by these rational factors. This leads to the likelihood of the presence of rent-seeking behaviour. Using the resulted residual value, the indicated of rent-seeking is then determined by employing the Park (2008) approach. Chapter 5 presented the results of the regression in order to find the factors that stimulate higher amounts of the budget being dissipated, and also the impact of audits in preventing the increase of rent-seeking behaviour in local government budgets.

Chapter 6 discussed the results of the study from the perspectives of the theory applied and also in consistency with previous research. The important finding of this chapter is related to the significant role of audits in limiting the possibility of rent-seeking.

### **7.2.2. Results of the study**

Regarding the first objective of the study, it has been found that there are some budget functions that demonstrate specific changes, particularly before elections for both local parliament members and local leaders. A simple approach, a distribution test for the composition of each budget function, has been applied to detect the budget functions utilised for rent-seeking, particularly in supporting incumbents in elections.

Converting the budget composition is the main optimisation strategy, particularly because the total budget amount does not substantially change. The alteration of the budget functions must be reciprocal; the rise in a certain budget function will cause a reduction of other functions. Hence, the following stage was testing the correlations between the functions whose



compositions changed significantly. A significant correlation between two functions indicated the preferred budget functions for the opportunistic behaviour.

The distribution test has shown that there are five budget functions that significantly change based on legislative elections: public services, security and order, housing and public facilities, education and social protection. Among these functions, it indicated the strategic role of the education function in accomplishing political interests in the lead up to elections. The correlation test has shown that education was negatively correlated with the other four functions.

In relation to local leader elections, among the budget functions with significant change in legislative elections, four budget functions (except for social protection) demonstrate similar shifts. This also confirmed the substantial role of the education function in supporting political interests before local leader elections. The negative correlation found between education and the other three functions reflect the importance of this function in supporting incumbents in influencing voters. It can be concluded that in the year prior to local leader elections, the composition of this budget possibly increases while the other three functions decline, or vice versa.

Regarding the hypotheses, this study has found that local original revenue has a significant impact on rent-seeking. This finding is consistent with that of Abdullah and Asmara (2007), who discovered the existence of rent-seeking behaviour by legislative members using local original revenue. However, this result is contrary to the objective of decentralisation to increase local self-reliance by increasing local capacity (Bird & Smart 2001; Brodjonegoro 2001; Martinez-Vazquez & Searle 2007; Prud'homme 1995; Werner 2012). The result also contrasts with those of previous studies which found that the implementation of decentralisation will benefit by limiting the possibility of opportunistic behaviour because it brings the public closer to the government, particularly in controlling policy.

The other findings confirm that natural resources and population size positively influence the existence of rent-seeking behaviour. The result is in line with Kolstad and Søreide (2009) that demonstrated the utilization of resources for rent-seeking, particularly for political motives. Related to population size, the finding supported Fisman and Gatti (2002) and also Goel and Nelson (2009) that provided empirical evidence of the higher possibility of rent-seeking in higher population area.

The other main finding of this study is that transfers from the central government do not generate a higher possibility of local budgets being dissipated. This indicates that increases

in these transfers may stimulate local government to be more creative in allocating the budget to productive sectors that can increase local income. This result is not consistent with those of Gemmell et al. (1998) and Dollery and Worthington (2007), who found that transfers from the central government did not encourage local governments in raising local revenue. However, this finding corresponds with Bird & Smart (2001), Brodjonegoro (2001), Martinez-Vazquez & Searle (2007) that stated the benefit of transfers from central government to minimize the fiscal gap among the local governments and also to increase local governments' productivity.

The other important findings relate to the existence of rent-seeking before elections, both legislative elections and local leader elections. The study has found that legislative elections have a significant effect on the occurrence of rent-seeking. In the year before elections, there has been found to be an increase in the budget amount that is indicated as rent-seeking. A further analysis in association with the rent-seeking in each budget sector has shown that significant rent-seeking indications occurred in three budget functions: public services, housing and public facilities, and health. Although the indications of rent-seeking occurred only in these three budget functions, this represented the behaviour in the overall budget.

However, regarding local leader elections, there is no empirical evidence of an increase in the budget amount utilised for rent-seeking. Nevertheless, a partial analysis in each budget function has provided evidence of this behaviour in two functions: housing and public facilities, and education.

The last finding related to the importance of audits has found that audit reports have a significant influence on limiting the existence of opportunistic behaviour in budget optimisation. In the context of the agency relationship theory, this finding is consistent with the importance of internal mechanisms in controlling agents in order to maximise the benefits. This also supports the recommendation of Human Rights Watch (2007) for local governments to issue reports that trigger good governance in government.

The results of the study provide insights into rent-seeking in local governments. First, in association with the resources used, local government authorities seem to benefit themselves from the revenue collected from local sources, such as local taxes and natural resource revenue. Rent-seekers are seen to avoid utilizing transfers from the central government for this purpose, even though these make the most significant contribution to the local budget. One of the reasons for this is that the local government prioritizes allocating this budget for operational and routine expenditures, which are relatively fixed, such as staff salaries and

spending for the maintenance of government assets. It is difficult for local authorities to exploit these resources for private interests.

Different from intergovernmental transfers, local origin and natural resources revenues are more beneficial for local authorities. One of their advantages is that they have complete information about these resources, such as the potential revenue to be collected and the cost of collection, and also they have the power to distribute the funds. Based on agency theory, the agents (the local governments) have more opportunity to allocate these funds to the sectors that will be more favourable for them (Adams 1994).

The second lesson learnt from this study relates to the political reason for rent-seeking. The study has found interesting empirical evidence, since the possibility of rent-seeking occurred at the times before legislative elections only. Further analysis shows substantial increases in some budget sectors, one of which is infrastructure expenditure (housing and public facilities). The finding confirms prior studies that demonstrated the optimization of this sector for opportunistic behaviour (Mauro and Driscoll 1997, Mauro 1998, Tanzi and Davoodi 2006).

It is fascinating that there is no substantial finding of the impact of local leader elections on this behaviour. This indicates that local leaders did not attempt to escalate certain budget sectors to support their interests, particularly during their incumbency for following elections. However, it does not mean that local leaders did not attempt to find opportunities to increase their interests. Kumorotomo (2011) said that the heads of regions are advantaged since they have better information about local resources and have the power to allocate them. They can be more flexible in allocating the budget to the targeted functions during the years of their leadership.

The last important lesson learnt is about the effective role of auditing in limiting rent-seeking behaviour. The existence of this variable, as described in the introduction, is intended to address the gap of the inconsistencies of previous research results relating to the impact of decentralization on improving regional performance. These contrasting studies provided indications of possible misuse of resources in local financial management. Resource allocation decisions are based more on particular interests than on improving regional performance. There are two possible ways to do this; first, by allocating to less controllable sectors, and second, by increasing excessively the allocation to certain sectors, particularly infrastructure. Consequently, this results in ineffective expenditure for local performance improvement and tends to produce budget wastage. From this perspective, the likelihood of opportunistic behaviour may exist. In the local context of Indonesia, the huge number of

corruption cases during the implementation of fiscal decentralization indicated the existence of the behaviour (see Rinaldi et al. 2007).

In the context of agency theory, the reality can be explained as the effort of the agents (local governments) to maximize their utility (see Jensen and Meckling 1976, Adams 1994). As this leads to the dissipation of local budgets, the implementation of auditing is required in order to diminish this behaviour. Auditing will force local governments to be accountable and transparent in utilizing their local resources. The results of the study confirm that the implementation of auditing is an effective way to reduce opportunistic behaviour.

### **7.3. THE IMPLICATIONS OF THE STUDY**

The implementation of fiscal decentralisation will ideally provide many advantages for local governments as they then have the authority to manage the resources owned or received from the central government. Local governments are believed to have better information about local needs and which should be prioritised, and also about the resources required for the provision of local needs. Decentralisation encourages local government efficacy and efficiency in allocating these resources; as local government is more efficient, more sectors will be covered, so this will accelerate government in achieving local prosperity.

However, the implementation of fiscal decentralisation may lead to a new problem related to the exceeding of authorisation, one of which is the emergence of rent-seeking behaviour in utilising the local budget, which may harm local performance. There are a number of reasons that push local authorities to behave opportunistically using their budgets.

The results of the study have confirmed that grant transfers from the central government do not trigger the existence of rent-seeking in budget allocation. This finding is very interesting as it contrasts with previous studies related to the ineffectiveness of transfers from the central government. Most studies indicated that grants from the central government do not encourage local governments to be more creative in optimising local performance, which could support government funding in future times.

The results of the study have confirmed political reasons as the one of the determinants. As the local jurisdictions are selected through an electoral mechanism, strategies to influence the public become substantial issue for the incumbents. One of these strategies is allocating the budget in the targeted areas preferred by the public. The implication of this policy is noteworthy changes, in either the budget or its composition. Therefore, the budget allocation policy at times prior to elections is probably more concerned with the distribution aspect, rather than its productivity, and will lead to more budget dissipation.

As shown in the results chapter, legislative elections have a significant impact on the indications of rent-seeking of the total budget amount. However, a similar effect does not exist at times before local leader elections. The result demonstrates that the year before the legislative election will always be a critical time for local government, particularly in the budgeting process. The legislative members who intend to run in the forthcoming election will possibly attempt to use the budget to accomplish their interest in satisfying their constituents. Giving more opportunities to the public in the budgeting, will be beneficial as this involvement can be an effective way in limiting the opportunity of rent-seeking. As it controlled and monitored directly by the public, the legislative members will be more watchful in of the public, particularly in inserting their interest in the budget.

A breakdown analysis of each budget function has demonstrated that certain budget functions are targeted by budget authorities for rent-seeking. The analysis has also been applied in relation to local leader elections, even though there was no indication of this opportunistic behaviour in terms of the total budget. Following previous studies (Drazen and Eslava 2010, Eslava 2005) that examined changes in targeted areas, the possibility of rent-seeking only occurs in specific fields that are more favoured, not in the overall budget.

Some budget functions are considered to be more beneficial in obtaining political support. Three budget functions are indicated as being optimised for rent-seeking (public services, housing and public facilities, and health) and two budget sectors (housing and public facilities, and health) in the years before local leader elections.

The study has indicated either the same or different preferences of the budget functions selected for rent-seeking. Both legislative members and local leaders are indicated to be still prioritising the infrastructure area to boost the support of voters. Housing and public facilities expenditure focuses on the procurement of housing and the improvement of public facilities, such as roads, drainage, water supply, electricity, green area development, etc. These budget allocations are directly perceived by the public, which means the public has the opportunity to assess the service provided by the local government. The high level of initiative of the government (the budget authorities) in relation to this function may become a strategic way of gaining political support, as it will be positively responded to by the public. However, legislative members and local leaders also have different priorities for the targeted budget functions related to the two main services that should be delivered to the public: education and health.

In relation to the benefit of the audit mechanism with a significant effect on limiting rent-seeking, this study recommends the importance of the implementation of audits in preventing the existence of this behaviour.

Noting the determinants that have been found to have positive effects on rent-seeking, audit activity should be strengthened in order to prevent high levels of dissipation of local budgets. Local governments should perform close supervision and investigation of the use of the funds collected from the public (local revenue) and natural resources income. In addition, the use of local budgets should also be monitored and audited, particularly in relation to the specific functions showing a high possibility of budget dissipation.

#### **7.4. THE LIMITATIONS AND FURTHER STUDY**

The outcome of the study has provided insight into a different point of view of local jurisdictions in selecting the function of the budget that hopefully boosts their political endorsements. However, this study has only relied on data fluctuations at times close to elections to indicate rent-seeking behaviour, without observing the effectiveness of this conduct in generating public support because of a lack of data. Further studies could be conducted to investigate the relationship between rent-seeking for political motives and the electability of the incumbents.

Another limitation is that the degree of rent-seeking behaviour related to legislative elections represents the number of legislative members overall, while it did not consider the proportion of legislative members who did not decide to run for re-election. This limitation provides an opportunity for further research to observe the relationship between rent-seeking behaviour and the proportion of legislative members that run for re-election.

This study used the data from the local governments that provide complete data in the observed years (2007 – 2012). There were only 50.6% local governments with the complete reports; however, they did not affect the representativeness of the data. On the other side, it may have slight effects on the generalizability of the result. Further studies could be conducted by maximising the sample size, so that the result of the study could be more generalizable in examining the behaviour in local governments.

On the other hand, the time span of the data is very limited, that is, only five years. The collection of the data was carried out in 2013, while the financial reports in the new format started from 2007, so that the data available only covered five years. This limitation may also impact on the generalizability of the results of the study. Further research with more extensive data would be beneficial to discovering a more accurate picture of rent-seeking, in terms of either the size of rent-seeking or the determinant factors influencing the behaviour.

The detection of potential rent-seeking used annual reports, so it could not provide detailed information regarding the timing of the existence of rent-seeking. Further study could

incorporate interim financial reports, so that it can detect when rent-seeking behaviour generally occurs in local governments.

Finally, the study was based upon budget data and therefore did not examine off budget funding arrangements which may provide another opportunity for rent-seeking behaviour. Incorporating more data including off-budget financial data could be conducted to investigate the possibility of rent-seeking behaviour using other resources.

In respect of the opportunity of future research, future research on rent-seeking behaviour can benefit from a qualitative approach. Qualitative research can be conducted by interviewing stakeholders, reviewing of judicial decisions, and also a case study approach.

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## APPENDICES

### APPENDIX A: DESCRIPTIVE OF BUDGET ALLOCATION IN EACH FUNCTION 2007-2012

Year		Public Service	Security and Order	Economy	Environment	Housing and Public Facilities	Health	Tourism and Culture	Education	Social Protection
2007	Mean	179,723.76	5,376.46	53,166.92	16,581.16	109,453.12	52,877.72	4,763.87	173,375.81	7,341.70
	Min	26,465.00	476.00	13,692.00	1,065.00	11,953.00	11,567.00	325.00	27,753.00	1,000.00
	Maximum	925,764.00	21,690.00	482,351.00	703,115.00	1,045,489.00	216,157.00	80,656.00	888,918.00	52,238.00
	Std. Deviation	104,911.98	3,574.88	40,990.19	48,822.29	107,281.27	30,612.32	7,011.30	114,962.68	5,993.22
2008	Mean	206,907.26	6,646.32	57,215.34	18,386.19	116,996.12	62,526.84	4,838.72	205,107.97	8,151.54
	Min	53,125.00	1,100.00	16,013.00	1,400.00	23,060.00	15,675.00	.00	27,968.00	1,395.00
	Maximum	1,806,723.00	35,904.00	421,537.00	1,030,608.00	2,165,646.00	244,094.00	59,155.00	866,297.00	42,400.00
	Std. Deviation	160,888.03	4,994.85	37,636.02	67,528.51	157,318.12	33,032.55	5,653.15	131,947.38	5,742.11
2009	Mean	208,657.77	8,078.04	62,332.64	19,468.43	116,716.01	70,541.39	4,696.02	246,027.24	9,467.62
	Min	71,109.00	1,924.00	9,095.00	1,105.00	13,135.00	10,257.00	143.00	25,523.00	1,799.00
	Maximum	1,426,228.00	44,498.00	510,503.00	1,158,322.00	1,594,957.00	277,558.00	26,863.00	1,016,261.00	41,762.00
	Std. Deviation	142,986.41	5,617.00	46,458.00	75,524.11	136,526.81	40,982.36	3,977.85	159,888.05	5,940.88
2010	Mean	234,721.46	7,980.10	62,327.74	18,790.02	95,633.57	72,194.50	4,738.77	249,009.26	9,701.47
	Min	37,652.00	1,256.00	11,753.00	1,322.00	10,770.00	18,299.00	149.00	28,457.00	1,786.00
	Maximum	1,784,982.00	52,663.00	501,305.00	730,395.00	1,334,757.00	315,734.00	40,604.00	901,866.00	49,170.00
	Std. Deviation	175,822.52	5,834.77	45,148.86	53,248.81	124,216.02	45,241.93	5,103.90	161,760.49	6,107.13
2011	Mean	224,899.56	8,523.09	67,960.94	19,918.55	104,080.69	84,216.80	4,936.22	337,382.09	10,836.36
	Min	82,654.56	1,719.03	18,594.56	1,143.78	14,102.00	20,631.51	68.23	42,367.96	1,462.60
	Maximum	1,418,371.18	49,408.37	488,389.40	626,137.40	1,096,266.00	557,292.51	32,871.25	1,544,994.09	62,863.12
	Std. Deviation	159,542.62	5,840.42	44,430.99	47,205.67	119,731.80	59,749.38	4,658.83	234,843.24	6,869.46
2012	Mean	245,037.61	10,586.81	81,037.11	25,929.10	131,295.69	102,449.20	6,197.34	378,702.21	14,450.04
	Min	60,084.00	2,055.00	24,006.00	2,255.00	12,088.00	20,260.00	128.00	38,889.00	2,110.00
	Maximum	1,441,025.00	45,904.00	451,242.00	693,779.00	1,218,318.00	716,914.00	40,586.00	1,470,439.00	68,341.00
	Std. Deviation	161,629.45	6,760.03	49,721.43	57,352.29	136,846.22	73,547.86	5,316.05	257,297.25	8,980.58
Total	Mean	216,657.91	7,865.14	64,006.78	19,845.57	112,362.53	74,134.41	5,028.49	264,934.10	9,991.46
	Min	26,465.00	476.00	9,095.00	1,065.00	10,770.00	10,257.00	.00	25,523.00	1,000.00
	Maximum	1,806,723.00	52,663.00	510,503.00	1,158,322.00	2,165,646.00	716,914.00	80,656.00	1,544,994.09	68,341.00
	Std. Deviation	153,886.50	5,746.15	45,047.83	59,135.08	131,530.40	51,949.37	5,386.00	197,406.72	7,068.74

## APPENDIX B: DISTRIBUTION TEST OF BUDGET COMPOSITION

### 1. Distribution Test of the Composition of Each Budget Function at Local Governments in Indonesia In the year 2007-2012

	<b>Test of Distribution</b>	<b>Test</b>	<b>Sig</b>	<b>Decision</b>
<b>1</b>	The Distribution of Composition of Public Service is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
<b>2</b>	The Distribution of Composition of Security is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
<b>3</b>	The Distribution of Composition of Economy is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.243	No substantial differences in distribution composition
<b>4</b>	The Distribution of Composition of Environment is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.091	No substantial differences in distribution composition
<b>5</b>	The Distribution of Composition of Housing and Public Facilities is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
<b>6</b>	The Distribution of Composition of Health is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
<b>7</b>	The Distribution of Composition of Tourism and Culture is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.009	The distribution of the composition is substantially different
<b>8</b>	The Distribution of Composition of Education is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
<b>9</b>	The Distribution of Composition of Social Protection is the same across categories of the Year(s) to Year	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different

## 2. Distribution Test of The Composition of Local Budget Based on Local Leader Election

	<b>Test of Distribution</b>	<b>Test</b>	<b>Sig</b>	<b>Decision</b>
1	The Distribution of Composition of Public Service is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
2	The Distribution of Composition of Security is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
3	The Distribution of Composition of Economy is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.848	No substantial differences in distribution composition
4	The Distribution of Composition of Environment is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.270	No substantial differences in distribution composition
5	The Distribution of Composition of Housing and Public Facilities is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.001	The distribution of the composition is substantially different
6	The Distribution of Composition of Health is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.668	No substantial differences in distribution composition
7	The Distribution of Composition of Tourism and Culture is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.449	No substantial differences in distribution composition
8	The Distribution of Composition of Education is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.028	The distribution of the composition is substantially different
9	The Distribution of Composition of Social Protection is the same across categories of the Year(s) to Local Leader Election	Independent-Samples Kruskal-Wallis Test	.445	No substantial differences in distribution composition

Source: Secondary data (calculated)

## 3. Distribution Test of The Composition of Local Budget Based on Legislative Election

	<b>Test of Distribution</b>	<b>Test</b>	<b>Sig</b>	<b>Decision</b>
1	The Distribution of Composition of Public Service is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is

				substantially different
<b>2</b>	The Distribution of Composition of Security is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.003	The distribution of the composition is substantially different
<b>3</b>	The Distribution of Composition of Economy is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.233	No substantial differences in distribution composition
<b>4</b>	The Distribution of Composition of Environment is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.057	No substantial differences in distribution composition
<b>5</b>	The Distribution of Composition of Housing and Public Facilities is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
<b>6</b>	The Distribution of Composition of Health is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.788	No substantial differences in distribution composition
<b>7</b>	The Distribution of Composition of Tourism and Culture is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.051	No substantial differences in distribution composition
<b>8</b>	The Distribution of Composition of Education is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.000	The distribution of the composition is substantially different
<b>9</b>	The Distribution of Composition of Social Protection is the same across categories of the Year(s) to Legislative Election	Independent-Samples Kruskal-Wallis Test	.002	The distribution of the composition is substantially different

Source: Secondary data (calculated)



## APPENDIX C: SURPLUS/DEFICIT REGIONS

### 1. Descriptive statistics of surplus/deficit region in 2007 – 2012

Year	Current/Deficit	N	% of N	Mean	Min	Maximum	Std. Deviation
2007	Deficit	78	31.20%	-145,487.26	-870,391.65	-120.00	225,765.02
	Surplus	172	68.80%	40,498.50	373.88	473,084.78	59,163.49
	Total	250	100.00%	-17,529.06	-870,391.65	473,084.78	160,064.09
2008	Deficit	149	59.60%	-27,993.06	-193,036.75	-246.73	29,425.83
	Surplus	101	40.40%	51,200.83	.00	513,194.03	78,407.80
	Total	250	100.00%	4,001.27	-193,036.75	513,194.03	67,080.79
2009	Deficit	154	61.60%	-41,342.23	-788,675.64	-404.52	73,534.94
	Surplus	96	38.40%	41,491.32	460.25	497,293.11	60,917.17
	Total	250	100.00%	-9,534.14	-788,675.64	497,293.11	79,799.48
2010	Deficit	103	41.20%	-44,267.78	-592,944.47	-380.46	70,028.37
	Surplus	147	58.80%	40,595.51	46.58	560,075.70	65,757.95
	Total	250	100.00%	5,631.84	-592,944.47	560,075.70	79,347.07
2011	Deficit	49	19.60%	-37,383.80	-293,678.82	-1,084.69	59,198.04
	Surplus	201	80.40%	64,907.00	.00	1,703,293.42	134,384.33
	Total	250	100.00%	44,858.00	-293,678.82	1,703,293.42	129,755.06
2012	Deficit	46	18.40%	-26,625.85	-611,030.00	431,820.92	116,766.88
	Surplus	204	81.60%	96,297.90	-4,942.31	1,853,853.02	178,010.54
	Total	250	100.00%	73,679.93	-611,030.00	1,853,853.02	174,859.03

Note: the value of *mean, Min, maximum and standard deviation* are in million rupiah

## 2. Descriptive statistics of surplus and deficit regions in 2007-2012 based on local leader election year

Year	Year(s) to Local Leader Election	Current Surplus/ Deficit	N	Mean	Min	Maximum	Std. Deviation
2007	Election Year - 4	Deficit	9	-164,301.92	-835,658.84	-5,941.94	258,223.57
		Surplus	14	31,303.01	926.13	75,615.63	25,317.93
		Total	23	-45,238.05	-835,658.84	75,615.63	184,806.24
	Election Year - 3	Deficit	38	-181,194.31	-870,391.65	-120.00	252,960.76
		Surplus	85	45,945.78	373.88	473,084.78	72,108.41
		Total	123	-24,227.58	-870,391.65	473,084.78	184,639.60
	Election Year - 1	Deficit	19	-118,209.04	-734,401.15	-369.54	189,408.09
		Surplus	48	36,918.90	616.37	268,867.74	46,724.31
		Total	67	-7,072.61	-734,401.15	268,867.74	127,679.36
	Election Year	Deficit	12	-61,494.46	-515,068.84	-2,581.63	143,797.68
		Surplus	25	34,000.04	2,356.02	214,474.48	43,525.73
		Total	37	3,028.85	-515,068.84	214,474.48	98,158.42
Total	Deficit	78	-145,487.26	-870,391.65	-120.00	225,765.02	
	Surplus	172	40,498.50	373.88	473,084.78	59,163.49	
	Total	250	-17,529.06	-870,391.65	473,084.78	160,064.09	
2008	Election Year - 4	Deficit	20	-30,447.23	-103,602.03	-1,445.29	28,490.22
		Surplus	17	22,577.98	.00	60,878.99	15,135.06
		Total	37	-6,084.29	-103,602.03	60,878.99	35,325.58
	Election Year - 3	Deficit	11	-31,060.46	-83,333.28	-1,655.02	24,071.60
		Surplus	12	74,783.19	401.88	260,699.28	82,100.24
		Total	23	24,162.31	-83,333.28	260,699.28	80,969.73
	Election Year - 2	Deficit	77	-25,705.04	-113,004.89	-1,174.56	24,750.42
		Surplus	46	60,521.87	1,500.80	513,194.03	98,331.71
		Total	123	6,542.42	-113,004.89	513,194.03	75,518.59
	Election Year	Deficit	41	-30,269.96	-193,036.75	-246.73	38,580.31
		Surplus	26	42,540.55	969.27	250,271.68	54,885.34
		Total	67	-2,015.13	-193,036.75	250,271.68	57,629.27
Total	Deficit	149	-27,993.06	-193,036.75	-246.73	29,425.83	
	Surplus	101	51,200.83	.00	513,194.03	78,407.80	
	Total	250	4,001.27	-193,036.75	513,194.03	67,080.79	
2009	Election Year - 4	Deficit	36	-41,575.27	-227,891.57	-404.52	55,513.08
		Surplus	31	53,180.53	2,709.10	179,721.58	49,576.07
		Total	67	2,266.97	-227,891.57	179,721.58	70,833.59
	Election Year - 3	Deficit	24	-27,640.36	-76,773.43	-1,148.18	20,887.89
		Surplus	13	25,901.01	460.25	59,901.62	19,697.64
		Total	37	-8,828.53	-76,773.43	59,901.62	32,856.60
	Election Year - 2	Deficit	19	-53,464.09	-194,593.84	-7,338.30	56,329.94
		Surplus	4	38,360.55	1,982.96	78,502.40	34,518.11
		Total	23	-37,494.58	-194,593.84	78,502.40	63,443.28
	Election Year - 1	Deficit	75	-42,544.09	-788,675.64	-2,174.76	93,354.35
		Surplus	48	38,425.32	629.67	497,293.11	74,759.99
		Total	123	-10,946.27	-788,675.64	497,293.11	94,932.36
Total	Deficit	154	-41,342.23	-788,675.64	-404.52	73,534.94	
	Surplus	96	41,491.32	460.25	497,293.11	60,917.17	
	Total	250	-9,534.14	-788,675.64	497,293.11	79,799.48	
2010	Election Year - 3	Deficit	27	-49,606.44	-196,012.21	-1,475.53	48,080.38
		Surplus	40	41,013.22	146.89	314,962.63	56,844.25
		Total	67	4,494.85	-196,012.21	314,962.63	69,467.19
	Election Year - 2	Deficit	18	-16,112.94	-50,992.52	-429.41	14,780.01
		Surplus	19	31,799.49	821.19	111,359.18	29,030.60
		Total	37	8,490.74	-50,992.52	111,359.18	33,375.97
	Election Year - 1	Deficit	11	-63,851.24	-206,108.77	-3,343.86	65,514.49
		Surplus	12	63,759.03	2,373.23	366,026.71	98,783.11
		Total	23	2,728.03	-206,108.77	366,026.71	105,252.69

	Election Year	Deficit	47	-47,400.24	-592,944.47	-380.46	90,138.47
		Surplus	76	38,917.28	46.58	560,075.70	70,678.76
		Total	123	5,934.16	-592,944.47	560,075.70	88,927.24
Total	Deficit	103	-44,267.78	-592,944.47	-380.46	70,028.37	
	Surplus	147	40,595.51	46.58	560,075.70	65,757.95	
	Total	250	5,631.84	-592,944.47	560,075.70	79,347.07	
2011	Election Year - 4	Deficit	20	-41,496.78	-293,678.82	-1,084.69	82,184.21
		Surplus	103	78,322.84	.00	1,703,293.42	180,505.11
		Total	123	58,839.97	-293,678.82	1,703,293.42	173,964.16
	Election Year - 2	Deficit	14	-29,720.77	-106,008.09	-4,733.92	29,494.08
		Surplus	53	59,500.03	1,928.63	253,839.49	58,768.43
		Total	67	40,856.88	-106,008.09	253,839.49	65,024.53
	Election Year - 1	Deficit	8	-28,766.68	-82,274.55	-1,544.98	29,494.16
		Surplus	29	26,954.12	3,763.27	74,424.08	19,281.96
		Total	37	14,906.38	-82,274.55	74,424.08	31,608.52
	Election Year	Deficit	7	-50,806.64	-150,666.69	-3,119.30	56,960.80
		Surplus	16	65,242.76	5,531.88	161,971.13	49,389.39
		Total	23	29,923.38	-150,666.69	161,971.13	74,357.11
Total	Deficit	49	-37,383.80	-293,678.82	-1,084.69	59,198.04	
	Surplus	201	64,907.00	.00	1,703,293.42	134,384.33	
	Total	250	44,858.00	-293,678.82	1,703,293.42	129,755.06	
2012	Election Year - 4	Deficit	5	24,598.38	-220,050.00	431,820.92	243,792.16
		Surplus	18	70,821.06	41.00	205,594.00	61,396.61
		Total	23	60,772.65	-220,050.00	431,820.92	118,739.80
	Election Year - 3	Deficit	25	-46,001.16	-611,030.00	-1,507.00	120,256.71
		Surplus	98	98,107.34	2,666.00	1,178,160.00	160,165.45
		Total	123	68,816.99	-611,030.00	1,178,160.00	163,192.42
	Election Year - 1	Deficit	10	-9,341.80	-38,870.00	-32.00	11,857.27
		Surplus	57	116,320.79	3,037.00	1,853,853.02	249,793.24
		Total	67	97,565.18	-38,870.00	1,853,853.02	234,514.99
	Election Year	Deficit	6	-17,389.00	-44,060.00	-2,164.00	17,115.22
		Surplus	31	68,554.46	-4,942.31	489,524.92	104,445.08
		Total	37	54,617.68	-44,060.00	489,524.92	100,810.46
Total	Deficit	46	-26,625.85	-611,030.00	431,820.92	116,766.88	
	Surplus	204	96,297.90	-4,942.31	1,853,853.02	178,010.54	
	Total	250	73,679.93	-611,030.00	1,853,853.02	174,859.03	
Total	Election Year - 4	Deficit	90	-47,681.28	-835,658.84	431,820.92	115,113.95
		Surplus	183	64,550.25	.00	1,703,293.42	139,521.63
		Total	273	27,550.84	-835,658.84	1,703,293.42	141,967.92
	Election Year - 3	Deficit	125	-83,038.56	-870,391.65	-120.00	163,740.85
		Surplus	248	66,107.06	146.89	1,178,160.00	115,795.74
		Total	373	16,125.28	-870,391.65	1,178,160.00	151,029.10
	Election Year - 2	Deficit	128	-28,915.85	-194,593.84	-429.41	32,470.07
		Surplus	122	54,878.20	821.19	513,194.03	73,138.47
		Total	250	11,975.64	-194,593.84	513,194.03	69,989.72
	Election Year - 1	Deficit	123	-52,542.23	-788,675.64	-32.00	109,206.00
		Surplus	194	60,791.68	616.37	1,853,853.02	148,178.81
		Total	317	16,816.69	-788,675.64	1,853,853.02	145,170.43
Election Year	Deficit	113	-41,299.06	-592,944.47	-246.73	78,908.08	
	Surplus	174	46,453.11	-4,942.31	560,075.70	71,671.80	
	Total	287	11,902.60	-592,944.47	560,075.70	85,966.09	
Total	Deficit	579	-50,953.11	-870,391.65	431,820.92	109,992.23	
	Surplus	921	59,477.54	-4,942.31	1,853,853.02	117,383.00	
	Total	1500	16,851.31	-870,391.65	1,853,853.02	126,545.55	

## APPENDIX D : CLASSICAL ASSUMPTION TEST (FINDING DETERMINANTS OF BUDGET EXPENDITURE)

### 1. Multicollinearity Test

There are some approaches to detect multicollinearity in regression. Two of those involve using the VIF (Variance Inflation Factor) and the Tolerance method (Landau and Everitt 2004). Based on VIF, the multicollinearity problem exists when it is approaching 10 or is more than 10. Conversely, using the *tolerance* value, problems are detected when its value is approaching 0 (Zero).

	Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error			Tolerance	VIF
(Constant)	465351.098	22200.238	20.962	.000		
GDP	48.943	1.416	34.568	.000	.856	1.168
Inflation	7560.479	2633.146	2.871	.004	.991	1.009
Per capita income	2741.501	376.018	7.291	.000	.847	1.180
Surplus/ Deficit	.650	.073	8.934	.000	.974	1.027

Source: Secondary data (calculated)

The table below shows the result of the test. It demonstrates that there is no independent variable in this research that has a problem with multicollinearity. The VIF value for all variables is less than 10, and it is also strengthening with a tolerance value where none of them approaches 0.

### 2. Heteroscedasticity Test

As stated in the methodological chapter, the Glejser's (1969) approach is applied to find out the existence of heteroscedasticity. The result of the regression of the absolute error as dependent variables and other independent variables is as follow:

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	75661.278	14646.587		5.166	.000
GDP	6.996	.934	.175	7.490	.000
Inflation	3505.867	1737.215	.044	2.018	.044
Per capita income	4684.694	248.078	.444	18.884	.000
Surplus/deficit	.097	.048	.045	2.028	.043

Dependent variable: absolute residual

Source: Secondary data (calculated)

The table shows that all the independent variables have significant correlation with the dependent variable (the absolute residual). This result provides evidence that those variables have a heteroscedasticity problem. The next step to resolve the problem is by transforming the value of both dependent and independent variables. Converting the dependent variable (into log natural value) is not conducted as this study requires the original value of the budget to find the part of it that being optimized for rent-seeking. After transforming the value, all the independent variables are regressed with the absolute error as the dependent variable. The result of the regression is as follows:

Variables	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-704970.497	76027.505		-9.273	.000
Log GDP	33016.419	7492.471	.122	4.407	.000
Log inflation	33522.445	16817.891	.047	1.993	.046
Log per capita income	153998.287	12205.316	.350	12.617	.000
Log surplus/deficit	2154.754	1408.918	.036	1.529	.126

Dependent variable: Absolute Residual  
Source: Secondary data (calculated)

The result table shows that there are still heteroscedasticity issues in the regression model; only the surplus/deficit variable does not have a problem of heteroscedasticity at the significance of 5%. The inflation variable still has a problem, however, at the significance level of 1%, it does not. However, the regression model still has a problem with heteroscedasticity for GDP and per capita income variables

### 3. Linearity

Using the *Pearson Correlation*, the bivariate correlation between the dependent variable (in this study, total expenditure) and each of the independent variables is shown in this following table.

		Total expenditure	LGDP (in billion rupiahs)	Per capita income	Current inflation	Current surplus/deficit
Total expenditure	Pearson correlation	1	.711**	.401**	.041*	.251**
	Sig. (1-tailed)		.000	.000	.050	.000
	N		1500	1500	1500	1500
GDP	Pearson correlation		1	.369**	-.035	.113**
	Sig. (1-tailed)			.000	.090	.000
	N			1500	1500	1500
Per capita income	Pearson correlation			1	.063**	.146**
	Sig. (1-tailed)				.007	.000
	N				1500	1500
Inflation	Pearson correlation				1	.033
	Sig. (1-tailed)					.101
	N					1500

Surplus/ deficit	Pearson correlation Sig. (1-tailed) N					1
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\*\* Correlation is significant at the 0.01 level (1-tailed).

Source: Secondary data (calculated)

The result shows that the correlation between the dependent variable and each of the independent variables is significant. The problem linearity exists between GDP and inflation and also between surplus deficit variable and inflation. However, as most of the independent variables are significantly correlated and they all also correlate to the dependent variable, the linear regression model still can be applied in the further analysis.

#### 4. Autocorrelation

The result table below confirms that there is not an autocorrelation problem as the Durbin Watson value for the overall model is less than 2.

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin-Watson
1	.687	.472	.470	384,464.46905	1.605

#### 5. Normality Test

The table below shows the result of Kolmogorov-Smirnov normality test. From the table, it can be seen the significance is less than 5% (0.000) which means that the data distribution of the overall model is not normal

Null Hypothesis	Test	Sig	Decision
The distribution of Unstandardized Residual is normal with mean 0.000 and standard deviation 351,452.42	One-Sample Kolmogorov Smirnov Test	0.000	The distribution of the data is not normal

Asymptotic significances are displayed. The significance level is .05

Source: Secondary data (calculated)

Some of the methods to remedy abnormal data are by excluding the outliers or by conducting data transformation. However, as this study requires complete data for each region during the periods (2007-2012), using the remedial approach, by deleting the data in certain regions detected as outliers, will impact on the deletion of the whole data of that region. Therefore, this study does not utilise the remediation approach and will use data transformation.

The attempt to normalise is by transforming the data of each variable. Tabachnick and Fidell (2012) advise to firstly identify the skewness of the data to find the proper transformation. The skewness test for the data variables results are as follows:

	Skewness	Minimum	Maximum	Recommendation for transformation
GDP	6.444	127	94,471	Log 10
Per capita income	6.446	2.548	307.150	Log 10
Surplus/deficit	3.227	-870,391.65	1,853,853.02	Log 10 (X + C)
Inflation	1.330	-6.1797	31.9718	Log 10 (X + C)

Source: Secondary data (calculated)

After transforming the data, the one sample Kolmogorov Smirnov is re-conducted to check the data normality. The test of the residual value of the multiple regression among the variables is shown as follows:

Null Hypothesis	Test	Sig	Decision
The distribution of Unstandardized Residual is normal with mean 0.000 and standard deviation 382,634.61	One-Sample Kolmogorov Smirnov Test	0.000	The distribution of the data is not normal

The table shows that the significance of the residual is 0.000 (less than 5% or 1%) which confirms that the residual of the multiple regressions are still not normally distributed.

## APPENDIX E: RESIDUAL RESULTED FROM MULTIPLE REGRESSION OF RATIONAL DETERMINANT FACTORS ON THE ALLOCATION OF EACH BUDGET FUNCTION

### 1. The amount of residual of each budget function (in million rupiah)

Year		Public Service	Security and Order	Economy	Environment	Housing and Public Facilities	Health	Tourism and Culture	Education	Social Protection
2007	Mean	-229.73	-200.38	2,503.86	-38.86	6,415.12	-246.71	201.98	5,328.15	365.21
	Min	-648,180.08	-20,103.67	-127,884.45	-168,060.96	-301,145.69	-269,972.25	-8,432.94	-1,012,924.14	-18,884.47
	Maximum	501,753.62	9,179.59	355,420.43	256,534.64	678,964.06	119,337.90	71,748.53	751,061.64	41,680.57
	Std. Deviation	97,456.38	2,992.75	37,645.61	27,984.37	94,095.16	28,981.62	6,671.85	115,988.11	5,444.54
2008	Mean	229.73	200.38	-2,503.86	38.86	-6,415.12	246.71	-201.98	-5,328.15	-365.21
	Min	-435,863.47	-12,390.99	-116,577.64	-180,624.56	-370,836.24	-220,628.47	-8,579.10	-612,058.67	-15,298.03
	Maximum	1,224,673.44	23,320.36	239,559.70	554,440.99	1,658,305.53	120,141.59	54,486.94	576,242.61	29,984.95
	Std. Deviation	130,212.23	3,545.00	31,264.38	42,248.57	131,709.34	27,761.15	5,393.00	96,562.98	4,910.65
2009	Mean	17,741.86	514.66	6,376.01	1,557.97	33,519.80	969.87	239.52	421.60	456.25
	Min	-456,269.93	-10,349.70	-119,021.05	-183,456.87	-325,636.17	-144,656.87	-9,998.10	-445,729.75	-12,786.84
	Maximum	948,993.70	21,276.37	373,082.29	652,576.53	1,237,663.81	170,265.76	19,808.41	751,427.09	27,814.12
	Std. Deviation	99,925.01	3,910.65	39,894.07	47,824.67	108,107.47	28,420.01	3,673.75	110,395.08	4,864.33
2010	Mean	18,030.18	-414.63	-2,080.62	-1,250.93	-7,097.09	-5,909.88	-173.88	-34,747.74	-722.42
	Min	-448,398.58	-11,643.89	-134,202.67	-190,487.39	-366,814.57	-118,781.09	-10,224.76	-418,238.32	-13,234.45
	Maximum	1,160,571.68	33,662.57	302,412.17	148,092.06	828,484.55	108,393.92	29,908.03	299,918.97	25,557.35
	Std. Deviation	126,258.13	3,936.16	36,606.41	27,942.04	89,768.74	28,129.51	4,703.51	101,743.19	4,498.44
2011	Mean	-16,117.69	-688.86	-4,745.47	-2,089.99	-17,677.39	-2,555.40	-442.53	14,647.58	-1,006.35
	Min	-514,328.87	-13,309.91	-148,490.96	-204,708.25	-416,842.89	-107,717.18	-11,309.89	-304,871.73	-14,515.86
	Maximum	614,144.67	17,020.33	221,167.90	100,441.22	437,560.22	165,990.55	25,132.32	637,953.28	29,419.30
	Std. Deviation	93,553.97	3,667.70	32,967.24	27,248.91	79,757.89	32,157.39	4,000.29	145,141.92	4,780.77
2012	Mean	-19,654.35	588.83	450.08	1,782.94	-8,745.32	7,495.42	376.90	19,678.56	1,272.51
	Min	-583,383.10	-12,619.36	-168,878.13	-214,234.95	-429,857.40	-74,488.83	-12,250.23	-292,020.42	-15,098.34
	Maximum	616,724.44	22,624.81	190,710.72	131,464.16	543,272.12	209,507.22	31,851.02	671,643.10	24,586.37
	Std. Deviation	99,185.01	4,716.83	38,991.13	29,957.64	91,713.82	40,662.65	4,538.23	164,105.69	6,109.38
Total	Mean	.00	.00	.00	.00	.00	.00	.00	.00	.00
	Min	-648,180.08	-20,103.67	-168,878.13	-214,234.95	-429,857.40	-269,972.25	-12,250.23	-1,012,924.14	-18,884.47
	Maximum	1,224,673.44	33,662.57	373,082.29	652,576.53	1,658,305.53	209,507.22	71,748.53	751,427.09	41,680.57
	Std. Deviation	109,559.18	3,852.63	36,485.62	34,792.88	101,786.90	31,560.07	4,930.12	125,744.06	5,179.13



## 2. The residual composition of each budget function 2007 -2012

Year		Public Service	Security and Order	Economy	Environment	Housing and Public Facilities	Health	Tourism and Culture	Education	Social Protection
2007	Mean	-.0286	-.0007	-.0058	.0033	-.0160	-.0030	-.0005	-.0088	-.0003
	Min	-.8100	-.0230	-.2670	-.1310	-.5670	-.1680	-.0210	-.7140	-.0240
	Maximum	.3390	.0200	.1630	.1490	.3320	.1650	.1750	.2440	.0450
	Std. Deviation	.1485	.0054	.0489	.0333	.1297	.0411	.0127	.1626	.0080
2008	Mean	-.0310	-.0003	-.0109	.0023	-.0359	-.0009	-.0007	-.0302	-.0010
	Min	-.7980	-.0170	-.2140	-.1500	-.6790	-.1710	-.0210	-.7290	-.0210
	Maximum	.5260	.0310	.1270	.1830	.2990	.0970	.1620	.2720	.0270
	Std. Deviation	.1252	.0053	.0430	.0325	.1110	.0361	.0117	.1482	.0066
2009	Mean	.0048	.0001	.0023	.0041	.0355	-.0027	.0002	-.0307	.0003
	Min	-.7430	-.0170	-.1940	-.1010	-.5300	-.1680	-.0160	-.7600	-.0210
	Maximum	.3220	.0250	.1440	.1620	.3120	.0780	.0400	.3010	.0210
	Std. Deviation	.1037	.0050	.0405	.0288	.0929	.0326	.0059	.1485	.0062
2010	Mean	-.0064	-.0014	-.0112	.0022	-.0255	-.0149	-.0007	-.0901	-.0016
	Min	-.7030	-.0180	-.2110	-.1080	-.5390	-.1520	-.0160	-.8000	-.0210
	Maximum	.4180	.0170	.1790	.0940	.3410	.0850	.0590	.2990	.0170
	Std. Deviation	.1178	.0051	.0438	.0268	.0931	.0349	.0069	.1657	.0060
2011	Mean	-.0451	-.0014	-.0132	.0019	-.0358	-.0121	-.0009	-.0339	-.0018
	Min	-.7470	-.0190	-.2160	-.0910	-.6050	-.1490	-.0160	-.6200	-.0210
	Maximum	.3240	.0270	.1710	.0710	.3010	.0760	.0550	.3160	.0220
	Std. Deviation	.1020	.0051	.0398	.0237	.0856	.0340	.0056	.1752	.0060
2012	Mean	-.0456	.0002	-.0074	.0052	-.0294	-.0029	.0001	-.0363	.0005
	Min	-.6960	-.0150	-.2020	-.0820	-.5130	-.2200	-.0150	-1.1520	-.0170
	Maximum	.2070	.0230	.1290	.0990	.2480	.1000	.0170	.2980	.0240
	Std. Deviation	.1002	.0053	.0375	.0237	.0838	.0376	.0049	.1879	.0061
Total	Mean	-.0253	-.0006	-.0077	.0032	-.0179	-.0061	-.0004	-.0383	-.0007
	Min	-.8100	-.0230	-.2670	-.1500	-.6790	-.2200	-.0210	-1.1520	-.0240
	Maximum	.5260	.0310	.1790	.1830	.3410	.1650	.1750	.3160	.0450
	Std. Deviation	.1188	.0053	.0426	.0283	.1035	.0365	.0085	.1669	.0066

### 3. Residual composition of each budget function based on local leader election

Local Leader Election		Public Service	Security and Order	Economy	Environment	Housing and Public Facilities	Health	Tourism and Culture	Education	Social Protection
Election Year - 4	Mean	-.0256	-.0009	-.0072	.0026	-.0190	-.0079	-.0007	-.0299	-.0007
	Min	-.7430	-.0170	-.1940	-.1310	-.5300	-.1710	-.0160	-.7290	-.0210
	Maximum	.3240	.0270	.1440	.1460	.3120	.0900	.0400	.3070	.0220
	Std. Deviation	.1052	.0051	.0415	.0277	.0943	.0348	.0054	.1668	.0062
Election Year - 3	Mean	-.0312	-.0007	-.0070	.0050	-.0146	-.0046	-.0002	-.0315	-.0004
	Min	-.8100	-.0230	-.2670	-.1500	-.5390	-.2200	-.0210	-1.1520	-.0240
	Maximum	.2720	.0250	.1790	.1460	.3410	.0970	.0590	.2980	.0450
	Std. Deviation	.1235	.0051	.0444	.0288	.1051	.0372	.0069	.1780	.0071
Election Year - 2	Mean	-.0337	-.0010	-.0095	.0042	-.0184	-.0042	-.0007	-.0358	-.0011
	Min	-.7470	-.0190	-.2160	-.0960	-.6050	-.1520	-.0210	-.6590	-.0210
	Maximum	.5260	.0310	.1710	.1830	.3010	.0900	.0550	.3160	.0270
	Std. Deviation	.1188	.0054	.0442	.0293	.1074	.0340	.0064	.1580	.0066
Election Year - 1	Mean	-.0246	-.0005	-.0033	.0021	-.0031	-.0030	-.0001	-.0340	.0001
	Min	-.7590	-.0170	-.2020	-.1250	-.5670	-.1490	-.0150	-.6110	-.0170
	Maximum	.3390	.0170	.1630	.1620	.3320	.1650	.1750	.3160	.0210
	Std. Deviation	.1228	.0050	.0413	.0285	.1097	.0371	.0109	.1589	.0062
Election Year	Mean	-.0108	.0002	-.0124	.0015	-.0368	-.0113	-.0005	-.0622	-.0014
	Min	-.7980	-.0170	-.2140	-.1310	-.6790	-.1680	-.0150	-.7140	-.0210
	Maximum	.4180	.0210	.1440	.1490	.2230	.0850	.1620	.2990	.0240
	Std. Deviation	.1197	.0056	.0411	.0275	.0966	.0380	.0111	.1672	.0064
Total	Mean	-.0253	-.0006	-.0077	.0032	-.0179	-.0061	-.0004	-.0383	-.0007
	Min	-.8100	-.0230	-.2670	-.1500	-.6790	-.2200	-.0210	-1.1520	-.0240
	Maximum	.5260	.0310	.1790	.1830	.3410	.1650	.1750	.3160	.0450
	Std. Deviation	.1188	.0053	.0426	.0283	.1035	.0365	.0085	.1669	.0066

#### 4. Residual composition of each budget function based on legislative election

Legislative Election	Public Service	Security and Order	Economy	Environment	Housing and Public Facilities	Health	Tourism and Culture	Education	Social Protection	
Election Year - 4	Mean	-.0064	-.0014	-.0112	.0022	-.0255	-.0149	-.0007	-.0901	-.0016
	Min	-.7030	-.0180	-.2110	-.1080	-.5390	-.1520	-.0160	-.8000	-.0210
	Maximum	.4180	.0170	.1790	.0940	.3410	.0850	.0590	.2990	.0170
	Std. Deviation	.1178	.0051	.0438	.0268	.0931	.0349	.0069	.1657	.0060
Election Year - 3	Mean	-.0451	-.0014	-.0132	.0019	-.0358	-.0121	-.0009	-.0339	-.0018
	Min	-.7470	-.0190	-.2160	-.0910	-.6050	-.1490	-.0160	-.6200	-.0210
	Maximum	.3240	.0270	.1710	.0710	.3010	.0760	.0550	.3160	.0220
	Std. Deviation	.1020	.0051	.0398	.0237	.0856	.0340	.0056	.1752	.0060
Election Year - 2	Mean	-.0371	-.0003	-.0066	.0042	-.0227	-.0030	-.0002	-.0225	.0001
	Min	-.8100	-.0230	-.2670	-.1310	-.5670	-.2200	-.0210	-1.1520	-.0240
	Maximum	.3390	.0230	.1630	.1490	.3320	.1650	.1750	.2980	.0450
	Std. Deviation	.1269	.0054	.0435	.0289	.1093	.0393	.0096	.1761	.0071
Election Year - 1	Mean	-.0310	-.0003	-.0109	.0023	-.0359	-.0009	-.0007	-.0302	-.0010
	Min	-.7980	-.0170	-.2140	-.1500	-.6790	-.1710	-.0210	-.7290	-.0210
	Maximum	.5260	.0310	.1270	.1830	.2990	.0970	.1620	.2720	.0270
	Std. Deviation	.1252	.0053	.0430	.0325	.1110	.0361	.0117	.1482	.0066
Election Year	Mean	.0048	.0001	.0023	.0041	.0355	-.0027	.0002	-.0307	.0003
	Min	-.7430	-.0170	-.1940	-.1010	-.5300	-.1680	-.0160	-.7600	-.0210
	Maximum	.3220	.0250	.1440	.1620	.3120	.0780	.0400	.3010	.0210
	Std. Deviation	.1037	.0050	.0405	.0288	.0929	.0326	.0059	.1485	.0062
Total	Mean	-.0253	-.0006	-.0077	.0032	-.0179	-.0061	-.0004	-.0383	-.0007
	Min	-.8100	-.0230	-.2670	-.1500	-.6790	-.2200	-.0210	-1.1520	-.0240
	Maximum	.5260	.0310	.1790	.1830	.3410	.1650	.1750	.3160	.0450
	Std. Deviation	.1188	.0053	.0426	.0283	.1035	.0365	.0085	.1669	.0066

## APPENDIX F: THE POTENTIAL RENT SEEKING (FINDING THE TOTAL ABSOLUTE CHANGES OF EACH BUDGET FUNCTION)

### 1. Change of the residual amount of each budget function (in million rupiah)

Year	2008		2009		2010		2011		2012	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Public Service	7,405.14	84,206.76	-14,001.48	74,212.79	6,504.37	58,905.42	-28,572.94	85,632.58	1,827.13	50,247.89
Security and Order	316.01	3,081.20	698.82	3,306.21	-1,005.15	2,448.32	-342.25	2,866.88	1,212.24	3,006.88
Economy	-3,022.49	23,238.20	-127.41	28,157.47	-6,679.95	26,608.55	-1,071.41	21,610.87	6,728.63	18,214.77
Environment	418.00	23,211.91	-24.78	14,559.85	-2,504.36	34,375.47	-565.94	15,053.32	4,135.70	15,512.56
Housing and Public Facilities	-2,436.60	86,710.70	-7,222.67	69,133.23	-31,315.05	51,810.05	-2,237.86	50,936.95	16,958.54	46,582.17
Health	366.36	14,488.20	1,299.63	17,856.19	-6,993.46	15,886.19	3,252.49	20,330.22	9,952.70	19,632.96
Tourism and Culture	-231.94	3,887.90	-339.00	3,792.72	-259.45	2,787.87	-130.57	2,670.54	952.28	3,165.38
Education	-11,559.64	54,767.08	9,848.32	50,142.82	-35,977.78	47,437.58	48,670.25	87,653.79	4,333.38	60,264.54
Social Protection	-612.04	3,672.97	284.40	4,724.62	-1,072.73	3,050.37	-188.93	3,001.61	2,370.27	4,114.42

Source: Secondary Data (Calculated)

## 2. Changes of residual composition of each budget function

	2008		2009		2010		2011		2012	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Public Service	-.0023	.1636	.0358	.1425	-.0109	.1446	-.0386	.1373	-.0005	.1252
Security and Order	.0004	.0069	.0003	.0069	-.0014	.0063	-.0001	.0064	.0016	.0066
Economy	-.0051	.0548	.0133	.0535	-.0135	.0532	-.0020	.0539	.0057	.0476
Environment	-.0010	.0373	.0018	.0363	-.0019	.0345	-.0004	.0319	.0033	.0308
Housing and Public Facilities	-.0201	.1305	.0713	.1201	-.0607	.1112	-.0106	.1056	.0062	.0968
Health	.0021	.0423	-.0018	.0422	-.0120	.0416	.0028	.0433	.0091	.0427
Tourism and Culture	-.0003	.0164	.0010	.0126	-.0008	.0086	-.0002	.0079	.0009	.0070
Education	-.0215	.1541	-.0003	.1663	-.0592	.1779	.0560	.2001	-.0021	.2055
Social Protection	-.0007	.0101	.0013	.0089	-.0019	.0086	-.0002	.0081	.0022	.0082

Source: Secondary Data (Calculated)

### 3. Potential rent-seeking

Year		Estimated Percentage of rent-seeking	Estimated amount of rent-seeking (in million rupiah)
2008	Mean	.0568	39,684.31
	Minimum	.0100	6,344.93
	Maximum	.4570	608,097.36
	Std. Deviation	.0491	59,219.05
2009	Mean	.0629	44,658.50
	Minimum	.0090	9,410.53
	Maximum	.3260	470,296.20
	Std. Deviation	.0377	46,346.08
2010	Mean	.0605	41,395.24
	Minimum	.0140	9,641.14
	Maximum	.1740	324,857.67
	Std. Deviation	.0314	32,321.61
2011	Mean	.0548	47,173.24
	Minimum	.0140	7,943.63
	Maximum	.2240	358,462.06
	Std. Deviation	.0273	40,589.50
2012	Mean	.0408	38,017.14
	Minimum	.0100	5,926.97
	Maximum	.3350	267,358.63
	Std. Deviation	.0303	32,976.90
Total	Mean	.0551	42,185.68
	Minimum	.0090	5,926.97
	Maximum	.4570	608,097.36
	Std. Deviation	.0368	43,496.21

#### 4. Potential rent-seeking based on local-leader election and legislative election

Year(s) to Election		Local Leader Election		Legislative Election	
		Percentage of potential rent-seeking	Amount of potential rent-seeking	Percentage of potential rent-seeking	Amount of potential rent-seeking
Election Year - 4	Mean	0.054	42,908.775	0.060	41,395.24
	Minimum	0.009	8,664.775	0.014	9,641.14
	Maximum	0.235	358,462.057	0.174	324,857.67
	Std. Deviation	0.030	41,170.798	0.031	32,321.61
Election Year - 3	Mean	0.051	38,779.156	0.055	47,173.24
	Minimum	0.010	5,926.970	0.014	7,943.63
	Maximum	0.335	267,358.630	0.224	358,462.06
	Std. Deviation	0.036	29,614.945	0.027	40,589.50
Election Year - 2	Mean	0.061	45,548.039	0.041	38,017.14
	Minimum	0.010	7,265.530	0.010	5,926.97
	Maximum	0.457	608,097.360	0.335	267,358.63
	Std. Deviation	0.050	61,413.159	0.030	32,976.90
Election Year - 1	Mean	0.054	42,539.317	0.057	39,684.31
	Minimum	0.014	7,943.625	0.010	6,344.93
	Maximum	0.326	470,296.200	0.457	608,097.36
	Std. Deviation	0.032	44,496.532	0.049	59,219.05
Election Year	Mean	0.057	41,153.136	0.063	44,658.50
	Minimum	0.014	6,344.925	0.009	9,410.53
	Maximum	0.232	324,857.674	0.326	470,296.20
	Std. Deviation	0.031	33,788.696	0.038	46,346.08
Total	Mean	0.055	42,185.685	0.055	42,185.68
	Minimum	0.009	5,926.970	0.009	5,926.97
	Maximum	0.457	608,097.360	0.457	608,097.36
	Std. Deviation	0.037	43,496.215	0.037	43,496.21

## APPENDIX G: CLASSICAL ASSUMPTION TEST (FINDING THE FACTORS OF RENT-SEEKING)

### 1. Test of Multicollinearity

Model	Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error			Tolerance	VIF
(Constant)	35387.054	5223.493	6.775	.000		
Grant transfer from central government	-.052	.019	-2.808	.005	.880	1.136
Local Original Revenue	.224	.024	9.275	.000	.827	1.210
Natural Resources	.149	.013	11.083	.000	.982	1.018
Population	1.320	.130	10.114	.000	.868	1.152
Legislative Election	681.846	768.961	.887	.375	.957	1.045
Local Leader Election	483.831	766.319	.631	.528	.963	1.038
Audit	-3523.084	1154.546	-3.051	.002	.926	1.080

Dependent variable: potential rent-seeking

Conclusion of the test: there is no independent variable in this research that has a problem with multicollinearity. The VIF value for all variables are less than 10.

### 2. Test of heteroscedasticity

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	16189.086	4138.426		3.912	.000
Grant transfer from central government	-.026	.015	-.050	-1.761	.079
Local original revenue	.100	.019	.153	5.238	.000
Natural resources	.036	.011	.091	3.382	.001
Population	.890	.103	.245	8.604	.000
Legislative Election	1549.308	609.226	.069	2.543	.011
Local Leader Election	199.602	607.133	.009	.329	.742
Audit	-3286.867	914.714	-.099	-3.593	.000

a. Dependent variable: Absolute residual of potential rent-seeking

The result of the test shows that most of the independent variables, except transfer from central government and local leader election, have the heteroscedasticity problems because they have significant correlation with the dependent variable (the absolute residual of potential rent-seeking).

The following step to remedy the issue by converting the value of independent variables (into logarithms). After transforming the variables, the same approach is conducted by regressing all the independent variables with the absolute error. The result of the regression is as follows.



Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-63667.866	59338.932		-1.073	.284
Log of grant transfer	-4361.630	6506.678	-.018	-.670	.503
Log of local original revenue	1628.877	6052.024	.008	.269	.788
Log of natural resources	4590.980	6453.522	.019	.711	.477
Log of population	23107.496	2539.081	.259	9.101	.000
Legislative Election	708.790	665.406	.030	1.065	.287
Local Leader Election	-406.154	663.846	-.017	-.612	.541
Audit	-4280.373	988.410	-.121	-4.331	.000

a. Dependent Variable: Absolute Residual2

The result shows that the issue of heteroscedasticity still exists for the variables of population and audit.

### 3. Test of linearity

#### Correlations

		Transfer from central government	Local original revenue	Natural resource	Population	Audit Opinion _Previous Year	Legislative Election	Local Leader Election
Grant transfer from central government	Pearson Correlation	1	.274**	-.032	.184**	.215**	-.068*	-.059*
	Sig. (2-tailed)		.000	.258	.000	.000	.016	.037
	N		1250	1250	1250	1250	1250	1250
Local original revenue	Pearson Correlation		1	.007	.335**	.144**	-.071*	-.087**
	Sig. (2-tailed)			.800	.000	.000	.013	.002
	N			1250	1250	1250	1250	1250
Natural resource	Pearson Correlation			1	.091**	-.028	-.070*	-.008
	Sig. (2-tailed)				.001	.328	.014	.787
	N				1250	1250	1250	1250
Population	Pearson Correlation				1	.056*	-.003	-.003
	Sig. (2-tailed)					.050	.926	.922
	N					1250	1250	1250
Audit	Pearson Correlation					1	-.116**	-.102**
	Sig. (2-tailed)						.000	.000
	N						1250	1250
Legislative Election	Pearson Correlation						1	-.120**
	Sig. (2-tailed)							.000
	N							1250
Local Leader Election	Pearson Correlation							1
	Sig. (2-tailed)							
	N							12500

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The result of the linearity test shows the problem of linearity exists between: transfer from central government and natural resources, local original revenue and natural resources, natural resources and audit, natural resources and local leader election, population and legislative election, and also population and local leader election.

#### 4. Test of autocorrelation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.507 <sup>a</sup>	.257	.253	37605.58650	1.786

The result of the test confirms that there is not an autocorrelation problem as the Durbin Watson value for the overall model is less than 2.

#### 5. Test of Normality

	Null Hypothesis	Test	Sig	Decision
1	The distribution of Unstandardized Residual is normal with mean 0.000 and standard deviation 29,710.29	One-Sample Kolmogorov Smirnov Test	0.000	The distribution of the data is not normal

Asymptotic significances are displayed. The significance level is .05

Because there is a problem with normality, data transformations of independent variables are conducted as an attempt to normalize the data distribution. Following Tabachnick and Fidell (2012), the first step is to identify the skewness of the data to find the proper transformation. The skewness test for the data variables results are as follows:

	Skewness	Minimum	Maximum	recommendation
Transfer from central government	-.600	-567,165.20	405,354.70	Log 10 (X+C)
Local original revenue	9.826	-81,696.83	977,866.52	Log 10 (X+C)
Natural resources	5.633	-966,162.63	1,284,182.61	Log 10 (X+C)
Population	3.391	432.00	77,444.60	Log 10

After conducting data transformation, the same test (one-sample Kolmogorov-Smirnov test) is re-conducted to check the data normality. The test of the residual value of the multiple regression is as as follows:

	Null Hypothesis	Test	Sig	Decision
1	The distribution of Unstandardized Residual is normal with mean 0.000 and standard deviation -0.25	One-Sample Kolmogorov Smirnov Test	0.159	The distribution of the data is normal

Asymptotic significances are displayed. The significance level is .05

*Robust error regression* approach was employed in examining the hypothesis of the study, because of the existence of heteroscedasticity and linearity issues.