FISCAL CAPACITY DISPARITY AMONG THE PROVINCES IN INDONESIA AND THE ROLE OF GENERAL PURPOSE GRANT IN REDUCING FISCAL CAPACITY DISPARITY IN THE DECENTRALIZATION ERA

By

Kurnia

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
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2010

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Committee in charge:

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ABSTRACT

By Kurnia

Indonesia consists of 33 provinces, each of which has different performance in generating their revenue. The difference is caused by the fact that some provinces are endowed with rich natural resources and potential economic activity when some are not. These conditions produce fiscal capacity disparity among the provinces in Indonesia. In order to reduce the fiscal capacity disparity, Indonesia, which has started fiscal decentralization since 2001, implemented General Purpose Grant in its intergovernmental transfer scheme. This research attempts to find out whether the General Purpose Grant has succeeded to reduce fiscal capacity disparity among the provinces in Indonesia and try to describe the trend of FISCAL capacity disparity before and after decentralization implemented. The observed data is all provinces from 1994 to 2007

Dedicated to My Lovely Wife Tika and

My Wonderful Children Safa & Faiz

for their patience and braveness

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CHAPTER I

INTRODUCTION

1.1 Background

Indonesia consists of 17,508 islands. The five largest islands are Java, Sumatera, Kalimantan, Papua, and Sulawesi. Administratively, Indonesia consists of 33 provinces. West Sulawesi is the last provinces which established in the beginning of 2004. Each province has its own political legislature and governor. The provinces are subdivided into regencies and cities which today number over 440. On one hand, some provinces are richly endowed with natural resources, industry or services that can generate potential fiscal capacity, on the other hand, some provinces have limited resources. Java Island plays a dominant role in the economic and political life of Indonesia. Jakarta, capital city of Indonesia is situated on Java, moreover, based on history, it is the centre of powerful Hindu-Buddhist kingdoms, Islamic sultanates, and the core of the colonial Dutch East Indies is in Java Island.

Since each province has different potential economic resources, it is possible that there is economic disparity among these provinces. Waluyo (2007) proved this disparity among the regions in Indonesia. His data shows that the Java-Bali islands only covers 7.2 percent of Indonesia, was inhabited by 64 percent of the population but contributes about 60 percent to the GDP of Indonesia. In contrast, Papua includes the area of 22 percent of Indonesia yet is only occupied by 0.8 percent of the population and contributes about 2.1 percent of Indonesia's GDP (Waluyo, 2007).This illustrates that there are both inequality of economic and population distribution in Indonesia.

In order to make closer service delivery to the citizens at the local level, to make efficient allocation of resources, to promote democratization as well as to hear local aspirations and preferences of the citizens (Sidiq, 2007), there is a strong demand to change the government system from centralized to decentralized. The lower level government is expected to better know what the local citizens need. The demand of change is getting stronger since the economic crisis hit Indonesia in middle of 1997. According to Smoke (2005), the demand of change also came from rich provinces which complained about insufficient revenue and decreased autonomy.

Finally, in 1999, two laws concerning decentralization policy was issued; namely Law No. 22/1999 on Local Government and Law No. 25/1999 on Fiscal Balance between Central and Local Government. These laws responded the demand of change and shifted the domination of central government on local government in managing local affairs.

Law No. 22/1999 (amended by Law No. 32/2004) brought major changes in responsibilities across level of government. It made the local government responsible for all public services except defense and security, foreign policy, monetary policy, judiciary and religious affairs (these affairs are still the domain of central government). The transfer of authority produces consequences in both intergovernmental fiscal expenditure and revenue responsibilities. In order to support the intergovernmental fiscal policy, Law No. 25/1999 (amended by Law No. 33/2004) was established to introduce the change of intergovernmental transfer.

Based on Law No. 33/2004, the system of intergovernmental transfer in Indonesia consists of three types of transfer schemes. These types are (1) Revenue Sharing (known as Dana Bagi Hasil-DBH), (2) General Purpose Grant (known as Dana Alokasi Umum-DAU), and (3) Specific Purpose Grant (known as Dana Alokasi Khusus-DAK). DBH is the sharing revenue from taxes and natural sources based on certain percentage from central to local

government. DAU is an unconditional grant from central to local governments. The local government as a recipient can spend DAU as their choice since there are no conditions attached to the grant. Both DBH and DAU are unconditional/untied grants. DAK is a grant with the specific purpose to fund basic public services. The central government transfers DAK with detailed conditions to finance local government function but in line with national interests. DAK is conditional, tied, or categorical grants, for example DAK has been used for education, for health, and for infrastructure such as road and irrigation. The new intergovernmental transfer system was replacing the previous system which has two key central transfers: Regional Subsidy (Subsidi Daerah Otonom-SDO) and Presidential Instructions Program (INPRES). SDO is salary grant for local civil servants and INPRES program is specific block grant to finance development activity in the regions.

According to Brodjonegoro (2004), the centerpiece of Indonesian fiscal decentralization is DAU, which gives full autonomy to local government in spending and managing the grant. DAU becomes the center of attention for most of the local government. Simanjuntak (2002) explained that the importance of DAU as intergovernmental transfer is required to overcome horizontal fiscal imbalance issue. Empirical experience in different countries showed that the ability to collect revenue varied widely depending on the condition of the regions. DAU as part of intergovernmental transfer has the aim to ensure equal distribution of fiscal capacity to reduce inequality in financial capacity among the regions (Sidiq, 2007). In conclusion, DAU has become a tool to achieve equitable distribution of fiscal capacity in Indonesia. Nevertheless, has DAU succeeded achieving its purpose? This study will explore the role of DAU and make comparison before and after new intergovernmental transfer system implemented in Indonesia.

1.2 Purpose of Study

Based on Law 33/2004, DAU has the aim to reduce fiscal capacity disparity among the regions so the regions can fulfill their obligations to deliver the services to the citizen. The purpose of the current study is to describe fiscal capacity disparity among the provinces in Indonesia before and after decentralization era and to provide an answer as to whether DAU has succeeded in achieving its aim to reduce fiscal capacity disparity among the provinces in Indonesia.

1.3 Significance of Study

This study will provide a contribution for the government to evaluate and to make policy about DAU and intergovernmental transfer in order to make fiscal equality among the provinces in Indonesia. The current study also is expected to enrich the research about intergovernmental processes in Indonesia, to enrich international studies about decentralization from Indonesia's experience and lastly, the results of this study hopefully can be strengthened, deepened, and followed up by other researches.

1.4 Objectives of Study

Based on geography and economic conditions in Indonesia, as mentioned above, there are regions with high and low fiscal capacity. The objective of this study is to take a picture of trend of fiscal capacity equality before and after decentralization policy implemented in Indonesia and to measure and analyze the role of DAU in reducing fiscal capacity inequality among the provinces in Indonesia.

1.5 Scope and Limitations

The study will only explain the disparity based on the fiscal capacity measurement (fiscal capacity means financing sources of the region, it will be explained in the next

chapter). The reason why focus on fiscal capacity disparity is because the purpose DAU itself is to reduce fiscal capacity disparity among the regions (horizontal imbalance).

The study is limited to data collected over the fourteen year from fiscal years 1994/1995 to 2007. This data should provide the trend of fiscal capacity disparity during fourteen year and show last condition of fiscal equality in Indonesia particularly after decentralization policy started.

The specific target population is all provinces (33 provinces) in Indonesia. However, the thirty third provinces, West Sulawesi was established in 2004. Therefore, number of province varied before 2005 particularly after decentralization policy is started. After decentralization policy is implemented, there are seven new provinces are created. Before decentralization era, Timor Timur is not included in the calculation since it became independent country (Timor Leste) in 1999 and currently omitted in list of Indonesia statistic data.

The weakness of this study is the inability to include regencies and cities. DAU is allocated not only to the provinces but also regencies and cities. The study would be more comprehensive if the regencies and cities also included. However, due to the limited time available, this study only focused on the provinces. Still, by focusing on only the provinces, this study hopefully can describe the implementation of DAU and find out whether the implementation of DAU has succeeded to reduce the fiscal capacity inequality in the provinces, and thus enrich the literature on fiscal decentralization in Indonesia.

Other possible weakness of this study is that it only focuses to fiscal capacity without consider fiscal need as part of fiscal gap in analyzing the disparity. However, the Law 33/2004 has stated that the DAU is a fund sourced from the National Budget allocated to bring equality in the fiscal capacity among the regions to finance the need of the regions in implementation of decentralization. Following the statement of the Law, the study tries to

find out the ultimate question whether DAU has successfully reached its purpose to bring fiscal capacity equality.

The research involving fiscal need disparity could be carried out by other researcher to improve and to enrich the discussion about reducing fiscal disparity in Indonesia.

CHAPTER II

LITERATURE REVIEW

2.1 Literature review of Decentralization

Falleti defined decentralization is as a process, namely a set of policy reforms aimed at transferring responsibilities, resources, or authority from higher to lower level of government (Falleti, 2004). In recent decades, Sidik argues that decentralization has been a popular remedy prescribed to deal with the failures and inadequacies of central government to carry out effectively critical functions of the role of the government in the society reflecting combinations of many aspects mainly political, economic, social and ideological aspects. Decentralization has been promoted not only to accommodate cultural diversity but also to enhance democracy, foster economic development, improve government efficiency, and facilitate modernization. Decentralization must face not only the issue of social inequality in general, but also the problem of inequalities between poor and rich regions (Sidiq, 2007). From these opinions, it can be concluded that decentralization transfers the authority and responsibility of public functions from central government to local government to improve the services of the functions itself. However, the transferred functions must be clear to understand the decentralization.

Falleti (2004) classified decentralization into three categories, administrative, fiscal, and political. Administrative decentralization comprises the set of policies that transfer the administration and delivery of social services such as education, health, social welfare or housing to sub-national government. Fiscal decentralization refers to the set of policies designed to increase the revenue or fiscal autonomy of sub-national government. An increase

of transfer from the central government, the creation of new sub-national taxes, and the delegation of tax authority are all examples of fiscal decentralization. Political decentralization is the set of constitutional amendments and electoral reform designed to open new or activate existing but dormant or ineffective spaces for the representation of sub-national policies. Political decentralization policies are also designed to devolve electoral capacities to sub-national actors.

Fiscal decentralization has become a world-wide "reform" agenda supported by the World Bank, USAID, the Asian Development Bank and many others, and also has become an integral part of economic reform (Kee, 2003). However, there are advantages and disadvantages of a decentralized system. Rosen and Gayer describe the advantages of a decentralized system in their book as tailoring output to local tastes, fostering inter-government competition, and experimentation and innovation in locally provided goods and services (Rosen & Gayer, 2008).

- **Tailoring output to local tastes**

  Decentralized government knows better what their citizen preferences and tries to get citizen's heart and vote. It will enhance political participations at the local level, and at the end, democratic values and political stability at the local level will be achieved (Kee, 2003).

- **Fostering inter-government competition**

  Decentralized government will try to produce public goods more efficiently and be more responsive to the citizens to avoid they shift to other jurisdictions.

- **Experimentation and innovation in locally provided goods and services**

  Decentralized government is just like a laboratory, in that once an experiment policy is working successfully in a state, eventually it becomes federal policy.

While decentralization, in theory, has these advantages, there are some arguments for the disadvantages of decentralized system. Rosen and Gayer consider efficiency and equity disadvantages issues in decentralized system (Rosen & Gayer, 2008).

- **Efficiency issues**

  A system might lead to an inefficient allocation of resources for several reasons:

  (a) *Externalities*, one community will not share their public goods utility (positive externalities) to other jurisdictions. The worst possibility is that one community will only transfer negative externalities to the others regardless of the responsibilities, for instance dumping waste into the sea.

  (b) *Scale economies in provision of public goods*, since one community will not share the public goods with the others, the cost per user of a public good is higher than necessary. A centralized system could build one public good utility and allow people to benefit from the scale of economies.

  (c) *Inefficient tax systems*, some taxes are more efficiently collected at the central level responsibilities to avoid tax competition and interstate tax distortions (Decentralization Thematic Team, 2009).

  (d) *Scale economies in tax collection*, local tax administration may cost more than the tax revenue itself. The economies might be fostered by cooperation among the jurisdiction. In many countries, local governments have very weak administrative capacities since central government has superior ability to administer tax activities (Ebel, 2001). This reason might be in line with Kee's argument that the quality of national bureaucracies is likely to be better than local bureaucracies (Kee, 2003).

- **Equity issues**

  Decentralization may exacerbate a central government's ability to deal with structural fiscal imbalances and fiscal inequities may actually increase with decentralization (Kee, 2003).

2.2 Fiscal Decentralization

As mentioned previously, fiscal decentralization takes precedence in the decentralization issue. Fiscal decentralization refers to developing local government control over fiscal resources. However, there is some debate on how to divide the public responsibilities related to fiscal affairs between central and local government. Fisher defines the sharing of those responsibilities: maintaining economic stabilization, altering the distribution of resources, and obtaining an efficient allocation of society's resources (Fisher, 2006).

- **Stabilization Policy**

  Primary responsibility for the stabilization policy has been assigned to central government. This policy refers to the role of the government on maintaining price stability, and economic growth through fiscal and monetary policy. Local governments are inherently limited in influencing the economic conditions in each specific sub-national jurisdiction. Moreover, local governments do not have any monetary authority since separate state monetary decisions would increase the cost of transactions over boundaries.

- **Distribution Policy**

  This policy is also the responsibility of the central government since, firstly, only the central government is in a position to redistribute resources from wealthier to poor

jurisdiction. Secondly, differential local redistribution programs would be expected to create problems if factors of productions were mobile (Smoke, 2001).

- **Allocation Policy**

  The prescribed role of decentralized levels of government in the allocation function is substantial because demand for many public services is not likely to be uniform across space.

In order to carry out the allocation policy effectively, local government must have adequate fiscal capacity to make allocation decisions. Adequate fiscal capacity at either the province or district level depends on two components. The first components are those local resources, such as local tax, fee, charges, and public utility income. The second component of local government revenue is the intergovernmental transfer including unconditional transfer, conditional transfer and other transfer provided under the principle of horizontal fiscal equalization (Widarjono, 2006).

Sidiq mentions many forms of fiscal decentralization to support local government's responsibility (Sidiq, 2007):

- Self-financing or cost recovery through user charges;
- Co-financing or co-production, in which users participate in providing services and infrastructure through capital contributions;
- Expansion of local revenues through property or sales taxes or indirect charges;
- Intergovernmental transfer of general revenues from taxes collected by the central government to local government for general or specific uses;
- Authorization of municipal borrowing and mobilization of national or local government resources through loan guarantees.
-

2.3 Intergovernmental Transfer

As previously stated, intergovernmental transfers (sometimes called intergovernmental grants) are one form of fiscal decentralization that is critically important for efficiency and equity of local service provision and fiscal health of sub-national governments. There are economic arguments for intergovernmental transfers that are based on either efficiency or equity as following (Decentralization Thematic Team, 2009):

- **The Fiscal Gap**

  An imbalance between the revenue-raising ability of sub-national governments and their expenditure responsibilities (the "vertical imbalance") might arise for two reasons. First, there may be (often inappropriate) assignment of taxing and spending responsibilities such that the expenditure needs of sub-national governments exceed their revenue means. Second, many taxes are more efficiently collected at the central level to avoid tax competition and interstate tax distortions, so transfers are necessary to enable local levels to carry out their expenditure responsibilities.

- **Fiscal Inequity and Inefficiency**

  A country which values horizontal equity will need to correct the fiscal inequity which naturally arises in a decentralized country. Sub-national governments with their own expenditure and taxation responsibilities will be able to provide their residents different levels of services for the same fiscal effort owing to their differing fiscal capacities. If desired, these differences may be reduced or eliminated if the transfers to each jurisdiction depend upon its tax capacity relative to others and upon the relative need for and cost of providing public services.

- **Fiscal Harmonization**

  To the extent that the central government is interested in redistribution as a goal, there is a national interest in redistribution that occurs via the provision of public services by the sub-national governments. Intergovernmental transfer is needed to finance the public services obligation conducted by the sub-national government.

In general, several sources characterized intergovernmental grants into two types: conditional and unconditional grants. The grouping of type is considered by four factors: (1) whether use of the grant is intended for a specific service or may be used generally, (2) whether grants automatically are allocated by a formula or require an application associated with a specific project, (3) whether the grant fund must be matched by a recipient government fund, and (4) whether the potential size of the grant is limited (Fisher, 2006). The two types of intergovernmental grants are described further as the following (Rosen & Gayer, 2008):

- **Conditional grants** (sometimes called specific or categorical grants)

  The donor specifies, to some extent, the purpose for which the recipient can use the funds. The vast majority of central government is earmarked for specific purpose, and the rules for spending the money are often spelled out in minute detail. Fisher categorized conditional grants into two types (Fisher, 2006):

  (a) *Matching Grant*, for every dollar given by the central government to support a particular activity, a certain sum must be expended by the sub-national government or in other words, it requires sub-national's change in taxes or expenditures.

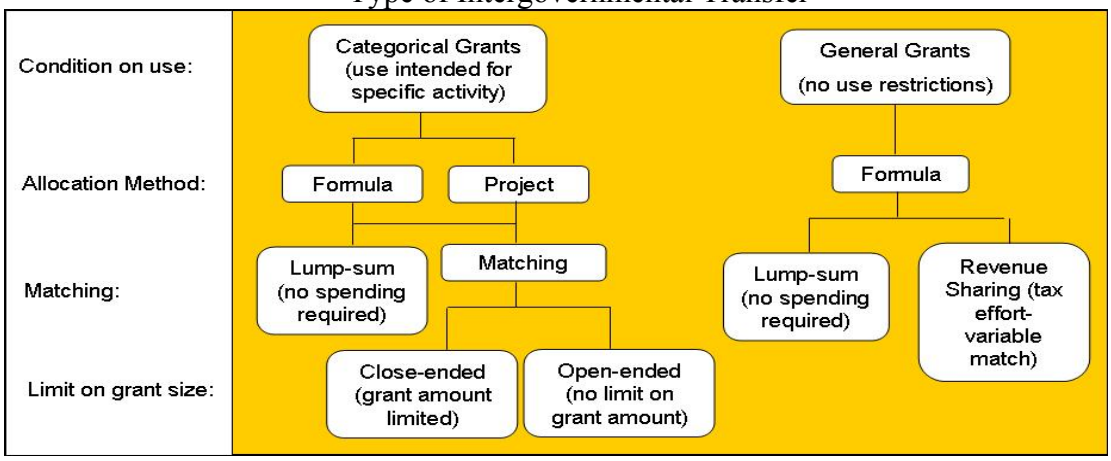
  (b) *Non-Matching Grant* (sometimes called lump-sum grant), central government stipulate the money for a particular public service to sub-national government but it does not change sub-national's taxes or expenditure.

- **Unconditional grants** (sometimes called general purpose block grants)

  The grant is used without restrictions (or with very loose restrictions). These grants provide general fiscal assistance, almost always are allocated by formula. Such unconditional grants are sometimes referred to as "revenue sharing". Nevertheless, Vazquez and Boex explain more detail about "revenue sharing". Local governments could be allowed to keep a percentage of certain national revenues within their territories, such as the personal income tax (Vazquez & Boex, 2001). These revenues can be distributed on "derivation basis" or else they can be distributed on a per capita basis or other criteria or even formulas.

Figure 2.1 below depicts types of intergovernmental grants:

Figure 2.1
Type of Intergovernmental Transfer



Source: Ronald C. Fisher (2006), *State & Local Public Finance*

2.4 The Rationale for Equalization Grants

Why give equalization grants? Vazquez and Boex answered this question. First, in the absence of equalization, some local government often would have insufficient resources to fulfill their responsibilities at a minimum desirable level (by national standards). Second,

equalization grants reduce horizontal imbalances in a country or regional disparities and inequities by compensating sub-national governments with greater fiscal need and smaller fiscal capacity (Vazquez & Boex, 2001).

What should be equalized? Sukhai states that both vertical and horizontal imbalances must be equalized (Slukhai, 2003). Additional studies note that there are two aspects which are closely connected to the process of designing the intergovernmental transfer system and the grant allocation system: vertical imbalance and horizontal imbalance (DFID, 2006). According to Department for International Development UK, vertical and horizontal imbalances are:

- **Vertical Imbalance**

  A vertical imbalance arises when the responsibilities assigned to the local government exceed its fiscal capacity. The most common source of vertical imbalance is lack of own sources at the sub-national level. When local governments are expected to play a major role in delivering services at acceptable minimum standards, they depend in large part on central fiscal transfers to do so (Boadway & Shah, 2007). Vertical imbalance can occur, for instance natural resources revenue in Indonesia is collected by central government. Yet, the local government must take the damage cost of the environment caused by the natural resources exploration. The central government should share the income to local government to compensate the damage.

- **Horizontal Imbalance**

  Horizontal imbalance occurs when there are differences in the fiscal capacities of various local government units. The horizontal imbalance appears when there are huge economic and financial discrepancies among regions - the inter-regional imbalance, or within the same region among localities of different sizes, especially between the rural and the urban areas - the intra-region imbalance. Increased decentralization of the local

government financial resources may lead to an increased horizontal imbalance; therefore, it is very important that other elements of the system of inter-governmental fiscal transfers, the equalization system in particular, keep this type of imbalance under control. For example, a high income region can provide better quality education and health such as school and hospital than can a low income region. The central government should thus transfer a sufficient amount of funds to provide the low income region with the similar standard of school or hospital.

Figure 2.2 below points out which type of intergovernmental transfers has the objective to reduce financial disparities or imbalances among the sub-national governments (that is General Purpose Grant).

Figure 2.2
Policy Objectives of the Grant System Design

Policy Objectives of the Grant System Design	Lump-sum Specific Purpose Grant	Matching Specific Purpose Grant	General Purpose Grant
1. To make available for the local government the revenues generated by fixed national taxes	YES	NO	NO
2. To reduce the per capita financial disparities among the LGUs	NO	NO	YES
3. To increase the general level of public services provided by LGUs	YES	NO	NEUTRAL
4. To balance the conditions under which the LGUs deliver public services	YES	YES	NEUTRAL
5. To increase the level of delivery of a specific public service by LGUs	YES	NO	NEUTRAL
6. To balance the conditions under which LGUs deliver a specific public service	YES	YES	NEUTRAL
7. To correct the externalities	YES	YES	NO

Source: Department for International Development, UK (2006
*LGU=Local Government Unit

CHAPTER III

RESEARCH METODOLOGY

This chapter will demonstrate the methods utilized by the researcher and the design presented with the rationale for its usage.

3.1 Research Design and Instruments

This study utilized quantitative research in order to achieve its purpose. Statistical analysis was designed to measure the collected data. The design was expected to be able to describe the various data of provincial government revenue and make better summary of current implementation on intergovernmental policy in Indonesia.

The instrument in this study is a *document review* which compares the theory from the literature review with the results from statistical analysis. The statistical analysis will be conducted by using standard deviation measurement, the coefficient of variation, and gini coefficient.

3.2 Data Collection Procedure

The aim of this thesis is to describe the trend of fiscal capacity disparity among the provinces before and after decentralization policy in 2001 and to find out whether DAU policy has achieved its purpose to reduce horizontal imbalances in fiscal capacity. In order to collect reliable data to answer those questions, primary data was collected directly from authorized agency and trusted websites. Moreover, with regard to enrich the relevant knowledge particularly on issues of fiscal decentralization and intergovernmental transfers, related textbooks, reputable documents, international journals, and internet databases (e.g. World Bank e-library) were utilized.

Primary data on intergovernmental transfer, province government revenue and regional population were obtained from Ministry of Finance of Indonesia, Indonesian Central Statistic Agency, and Indonesian Central Statistic Agency's website.

3.3 Populations and Sample

The object of the research is DAU and intergovernmental grant which is transferred to the provinces in Indonesia and total provincial government revenue during year fiscal 1994/1995 to 2007. The population of the research is all 33 provinces in Indonesia. Fiscal year from 1994/1995 to 1999/2000 was started from April 1 and ended in March 31. Moreover, since fiscal year 2000, period of fiscal year was changed from January 1 to December 31 yet fiscal year 2000 was transition fiscal year which only covered nine months from April 1 to December 31.

Including all 33 provinces in Indonesia means the population is expected to describe the overall situation of fiscal capacity disparity among the provinces in Indonesia. Focusing on the span of fourteen fiscal years starting from 1994/1995 to 2007 is also expected to show the trend of intergovernmental grant, to reflect the recent condition of fiscal capacity disparity, and particularly to find out the successful of DAU policy implementation to achieve its aim. Finally, since this data was collected from credible and trustable sources, it improves the validity of this research, overall, enhancing the quality of the thesis.

3.4 Data Analysis Method

As mentioned above, statistical analysis was used in the research to try to describe the trend of fiscal capacity disparity during fourteen years and to answer the questions whether DAU has succeeded to achieve its purpose that is to reduce fiscal capacity disparity among the provinces in Indonesia.

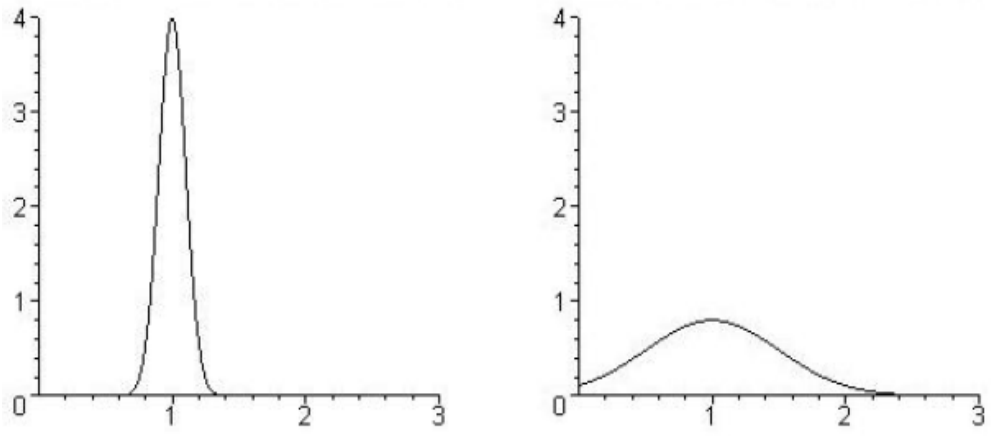
In order to measure fiscal capacity inequality, this thesis applied a variety of measures to highlight various dimensions of these inequalities. The selected measures are standard deviation and coefficient of variation, and gini coefficient.

- **Standard Deviation and Coefficient of Variation**

  Standard deviation is the square root of its variance. In simple explanation, it shows how far the data range from the mean. A low standard deviation indicates that the data range is closed to the mean whereas high standard deviation shows the opposite side. The coefficient of variation is a distribution's standard deviation divided by its mean and expressed as a percentage. The coefficient of variation (CV) is one of the most widely most of regional inequality (Shah and Anwar, 2003). This study used simple coefficient of variation to capture the dispersion of per capita fiscal capacity.

Figure 3.1 Distribution Variable

(a) relatively low inequality (b) relatively high inequality



Both distribution above have the same mean, but the standard deviation is much smaller in the figure 3.1 (a), resulting a lower coefficient of variation.
The formula of the CV is given below:

$$CV = \frac{s}{X}(100\ \%)$$

CV = coefficient of variance

s = standard deviation

X= mean

The smaller the CV means that the smaller variations which indicates that DAU succeeds in reducing fiscal capacity inequality among the provinces in Indonesia.

- **Gini Coefficient**

The Gini index like the CV is widely used in the inequality measurement (Shah and Anwar, 2003). Following formula of gini index:

$$G_u = \left(\frac{1}{2\bar{y}_u}\right)\frac{1}{n(n-1)}\sum_{i}^{n}\sum_{j}^{n}|y_i - y_j|.$$

y_i and y_j are the fiscal capacity per capita of provinces i and j respectively. n is the number of provinces, and $\bar{y}_u$ is the mean of the per capita fiscal capacity. G_u varies from 0 for perfect equality to 1 for perfect inequality. The Gini index thus measured is the arithmetic average of $n(n-1)$ differences of per capita fiscal capacity, taken as absolute values divided by the maximum possible value of this average, $2\bar{y}_u$.

Fourteen fiscal years (1994/1995 - 2007) will be analyzed to see the trend during those years. Statistical analysis will be conducted using Microsoft Excel and MegaStat. Mega Stat is a Microsoft Excel add-in that performs statistical analysis within an Excel workbook. It has the capability to produce and process statistical reports.

The statistical analysis method which used in this study (standard deviation, coefficient of variation and Gini coefficient) was widely conducted in measuring disparity (Shah and Anwar, 2003). The usage of Microsoft Excel and MegaStat application would help to calculate the result more accurate yet would improve the reliability of this study despite it is not the best application. Overall, the methodology would help reaching the purpose of study as mentioned previously.

CHAPTER IV

INTERGOVERNMENTAL TRANSFER IN INDONESIA: DATA AND STATISTICAL RESULTS

This chapter is presented in two main parts. The first part gives a picture about the implementation of intergovernmental transfers in Indonesia. The second part presents the statistical results.

4.1 Intergovernmental Transfers in Indonesia

The discussion on intergovernmental transfer in Indonesia is divided by two periods: after and before Law on Decentralization is implemented in 2001.

4.1.1 Intergovernmental Transfer in Decentralization Era

In line with Law No. 33 Year 2004 on Fiscal Balance between Central and Local Government, the system of intergovernmental transfer in Indonesia comprises three schemes of transfer. These are revenue sharing (DBH), general purpose grants (DAU), and specific purpose grants (DAK).

A. Revenue Sharing (Dana Bagi Hasil-DBH)

According to Law No. 33 Year 2004 "DBH is sourced from the National Budget and shared out to the regions at a certain percentage". Currently there are three types of revenue that are allocated to the regions: property taxes, natural resources, and personal income taxes. The list of natural resources shared to the local government is forestry, general mining, fishery, oil, gas, and geothermal mining.

B. General Purpose Grant (Dana Alokasi Umum-DAU)

According to Law 33 Year 2004 “DAU is a fund sourced from the National Budget allocated to bring equality in the fiscal capacity among the regions to finance the need of the regions in implementation of decentralization”. The total amount of DAU shall be at least 26 percent of Net National Income as established in the National Budget.

Due to its purpose to bring equality in the fiscal capacity, DAU is calculated by basic allocation (BA) and fiscal gap (FG) formula or DAU=BA+ FG. Basic allocation is calculated based on total salaries of public servants in the region. Fiscal gap (FG) formula is Fiscal Need (FN) deducted by Fiscal Capacity (FC) or FG=FN-FC. Fiscal need of a region means the financing requirements of the region in providing basic public services. Financing requirements shall be measured by total population (POP), area size (AREA), construction cost index (CCI), gross regional domestic product per capita (RYp), and human development index (HDI) or FN=f(POP, AREA, CCI, RYp, HDI). Fiscal capacity of a region means financing sources of the region derived from Local Own Revenue (LOR) and Revenue Sharing (RS) or FC=LOR+RS. If Fiscal Need exceeds Fiscal Capacity, it implies that the region is less natural resources or potential economy activity and vice versa. DAU for region shall be allocated based on BA and FG. The larger the Fiscal Need, the bigger the allocated DAU. The national proportion of DAU between provinces and regencies/cities are 10 percent and 90 percent respectively.

C. Specific Purpose Grant (Dana Alokasi Khusus-DAK)

According to Law No. 33 Year 2004 “DAK is sourced from the National Budget meant to help funding special activities in certain regions being the governmental affairs of the region in accordance with national priorities”. DAK is allocated to help funding important needs which cannot be estimated in the DAU formula and to assist with local government expenditures related to national priorities or commitment. DAK are designed as matching

grants, that is, the local government as recipient must provide a contribution from their own budget to the project. The matching rate is ten percent of the central government's contribution.

Sidiq (2007) described that the system of intergovernmental transfer in Indonesia has six main objectives:

1. Address vertical imbalance between levels of government-the general revenue shortfalls of sub-national government (DBH and DAU);
2. Equalize regional government fiscal capacities to deliver services (DAU);
3. Encourage regional expenditure on national development priorities (DAK);
4. Promote the attainment of minimum infrastructure standards (DAK);
5. Compensate for benefit/cost spillovers in priority areas (DAK);
6. Stimulate regional commitment (DAK); and
7. Stimulate revenue mobilization (DBH, DAU, and DAK)

For additional information, in 2001, Law No. 21/2001 on Special Autonomy for Papua Province was established. This law provides an additional allocation of funds for the Papua Province, equal to 2% of the national DAU allocation. The purpose of this additional fund for Papua Province is to catch up the backwardness of Papua Province (including West Papua) with other regions. This additional fund is not part of intergovernmental scheme according to Law No. 33/2004. In fact, this additional fund increases the received amount of government Papua Government from Central Government. In the financial report established by Ministry of Finance and Central Statistic Agency, additional allocation for Papua Province is recorded under the "Other Revenue" classifications.

4.1.2 Intergovernmental Transfers before the Decentralization Era

There were two key central transfers before decentralization, the Regional Subsidy (Subsidi Daerah Otonom-SDO) and the Presidential Instructions Program (INPRES). SDO has the purpose to support routine regional government spending and most of its spending (about 95%) is for financing regional public servants. from the salary includes basic salary, family and children allowance, rice allowance, local overprice allowance (for high living cost areas), and functional allowance. SDO can be categorized as specific purpose grant since local governments do not have the authority to stipulate the purpose of SDO since the purpose has already stipulated by central government.

Unlike SDO which is only for routine local spending, INPRES is transferred to finance development activity in the regions. There are many types of INPRES, for village development, primary school development, health infrastructure, reforestation, traditional markets, road infrastructure improvements, and underdeveloped villages. Two INPRES which considered successful by the World Bank are INPRES for primary school and health infrastructure (Mahi and Adriansyah, 2002). Like SDO, INPRES can be categorized as a specific purpose grant.

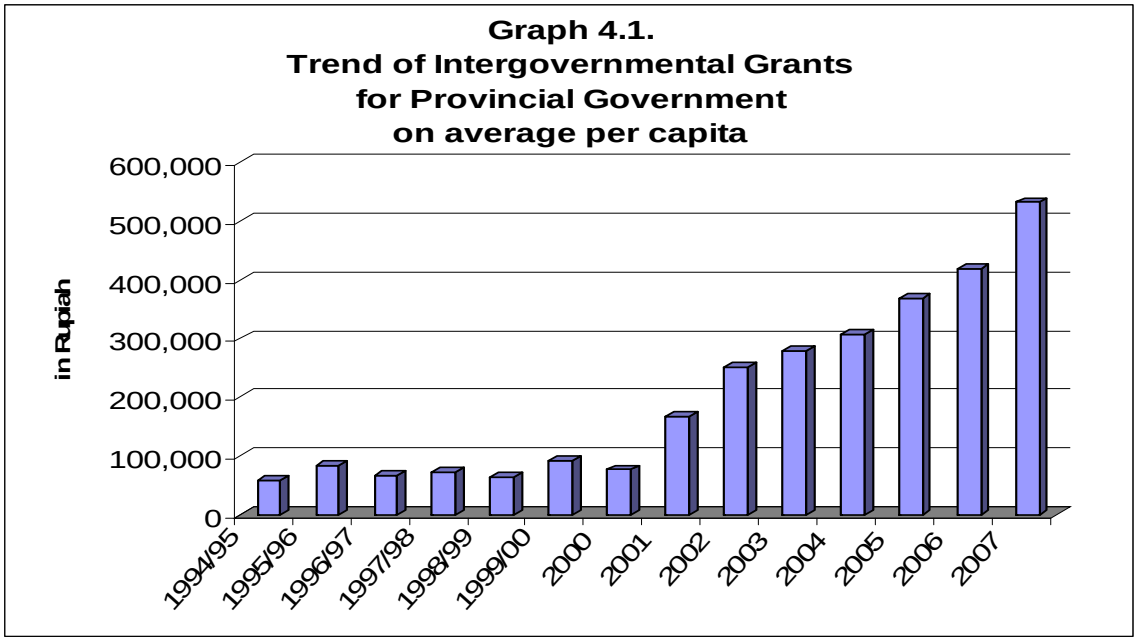
The history of intergovernmental grants before the decentralization era shows that the role of central government was to stipulate the type of grant for the regions. The problem arose when the purpose of grant was dominated by central government because in the reality, some regions feel that the grant is not really appropriate for their development. At the end, the grant was not efficient and effective for them. Learning from this history, fiscal decentralization in Law No. 25/1999 emphasized the grant which has general nature and give regions flexibility to manage the grant as their needs.

4.2 Data and Statistical Results

4.2.1 Intergovernmental Transfer Data

The section will present the statistical results, which will be analyzed in the next chapter. The previous chapter mentioned that the analysis of fiscal disparities will be conducted over fourteen years from fiscal year 1994/1995 to 2007. This section will only present the results, and the analysis will be conducted in next chapter. Note that following results are calculated by per capita basis.

The budget for intergovernmental grant was increasing substantially year by year particularly since law packages concerning decentralization started to be implemented in fiscal year 2001. The Government of Indonesia has shown their commitment to support the implementation of regional autonomy and fiscal decentralization. This is shown by the trend of intergovernmental transfer fund in graph 4.1 below.



Source: Ministry of Finance and Central Statistic Agency, processed by author

In the transition year of the decentralization era from fiscal year 2000 to 2001, the intergovernmental transfer has increased more than twice, and since 2001, has increased more than three times in 2007. The data proves that the decentralization policy not only transfer

authority and functions to the local government but also is followed by the transfer of money to finance the obligation of the local government to deliver minimum services to the citizens. Moreover, regarding with these grants, hopefully the quality of services will be better in the decentralization era.

Figure 4.1.
Proportion of Intergovernmental Grants to
Provincial Government Revenue

Provinces	Decentralization	
	Before	After
Top 4	66.68%	56.13%
Bottom 4	63.16%	47.41%
All Provinces	71.56%	59.11%

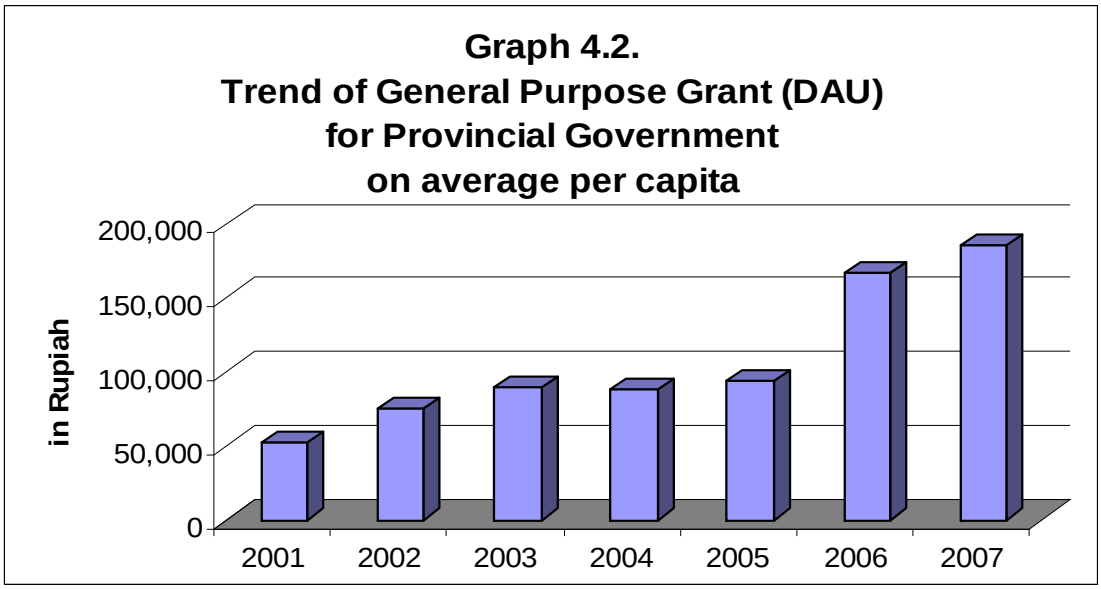
Source: Own Calculation
Note: Top Four is group of provinces which has high revenue and vice versa

In the decentralization era, the reliance on intergovernmental grant is decreasing. This phenomenon might appear due to larger authority of the provincial government to generate their own revenue besides relying on grants from the central government. Nevertheless, the reliance level is at a moderate level that is around fifty percent.

The interesting fact from the table is that the group of high government revenue provinces has a bigger proportion of intergovernmental grant as their revenue than the low revenue group. In other word, the reason why rich provinces with high revenue might be because of their reliance on intergovernmental grants, rather than their capability to generate their own revenue.

4.2.2 General Purpose Grant (DAU) Data

After a decentralization policy is implemented, DAU become an important revenue source for the local government. Graph 4.2 shows the trend of DAU from 2001 to 2007.



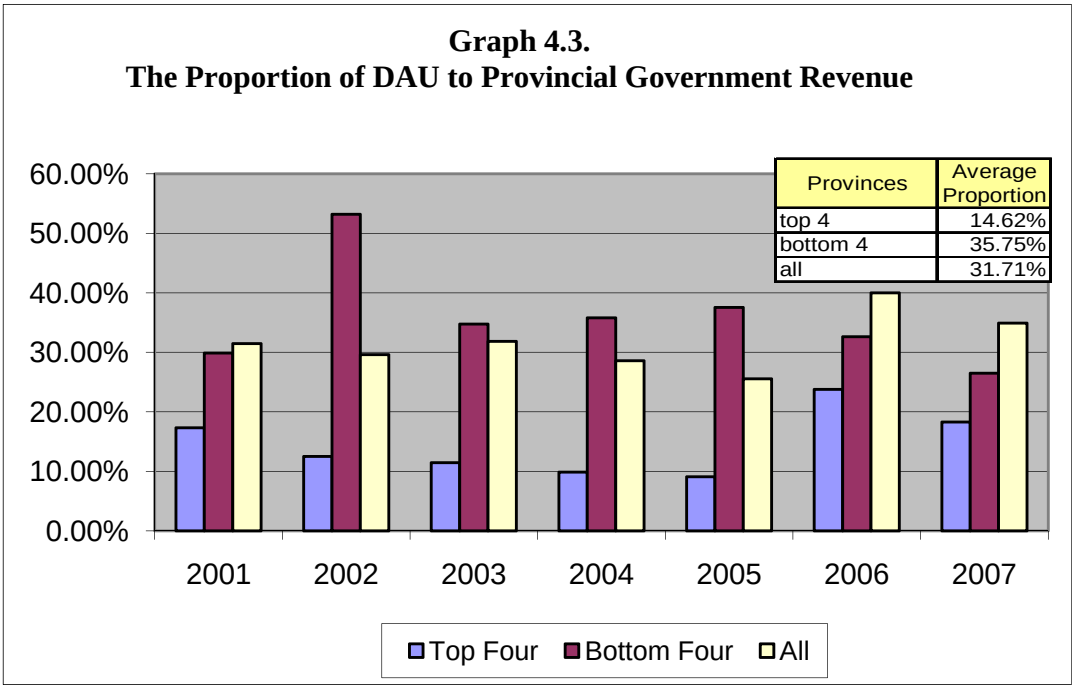
Source: Ministry of Finance and Central Statistic Agency

The DAU increased year by year except in 2004. The number of DAU increased almost twice in 2006. The increase might be because the amendment of Law No. 25/1999 to law No. 33/2004. One such amendment is the changes of the amount of DAU allocation in the National Budget. Based on amendment, starting fiscal year 2008, the percentage of DAU is changed from at lease 25 percent become 26 percent of Net National Income (NNI) as established in National Budget. However, there was a transition period such that the percentage of DAU was 25.5 percent from 2006 to 2007. The number of DAU in 2009 would be expected to increase more when 26 percent of NNI is implemented.

The number of DAU has increased year by year, but the question is raised as to DAU's contribution for provincial government revenues. Graph 4.3 shows the reliance of DAU as revenue source for provincial governments. During seven years, the chart show that the big four provinces of high provincial government revenue had a lower reliance on DAU than the bottom four provinces. In average proportion during the seven years, the top four government revenue had 14.62 percent reliance on DAU while the bottom four had 35.75 percent. Overall, provincial governments on average relied on DAU as 31.71 percent for their revenue. An interesting fact is that, after 2005, all provinces seemed to be getting a higher

proportion frk DAU. It is probably because the allocation of DAU increased after law amendment.

Graph 4.3.
The Proportion of DAU to Provincial Government Revenue

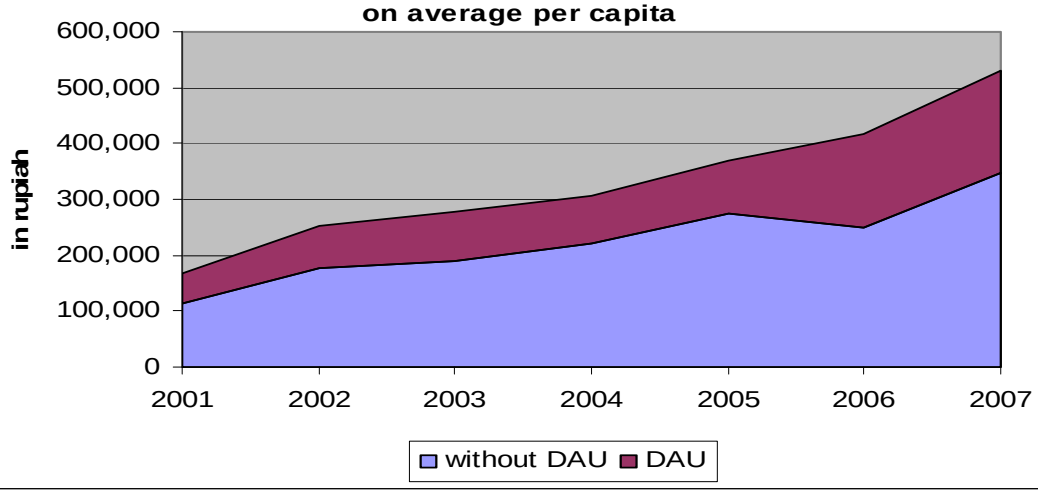


Provinces	Average Proportion
top 4	14.62%
bottom 4	35.75%
all	31.71%

Source: Ministry of Finance and Central Statistic Agency

Graph 4.4 shows the intergovernmental transfer fund especially after the decentralization policy was implemented. The graph depicts the grant scheme with and without DAU calculation.

Graph 4.4.
Trend of Intergovernmental Grant After Decentralization Era for Provincial Government
on average per capita



Source: Ministry of Finance and Central Statistic Agency

Intergovernmental grant without DAU showed an increase except for 2006. However the increase of DAU in the same year (2006) made the consistency of total intergovernmental grants increase year by year. The difference between intergovernmental grant with and without DAU is larger year by year. The increasing number of DAU every year probably has three implications. First, if the increase of DAU is distributed to the provincial government that has low fiscal capacity, it would reduce the fiscal capacity disparity. Second, if the distribution is equally shared to all provincial governments, then this situation would keep fiscal capacity disparity rising among the provinces. Last, the worst case if it is distributed to a rich or high fiscal capacity province, as this would make the fiscal capacity disparity larger.

Additional information, it was explained that intergovernmental transfers consist of DAU, DAK and DBH. However, since the DAK is prioritized by central government for city or municipalities (not for provinces),therefore, it is assumed that in this study, the provincial government revenue calculation was without DAK since the provincial government do not receive DAK scheme or the number DAK is very small or not significant.

The last discussion of this chapter will provide the statistical results as given in table 4.2. The range of calculations is during the fiscal year 1994/1995 to 2000. These calculations do not include DAU since the DAU scheme is implemented in the decentralization era. Therefore, the calculation of DAU is started in 2001 when the Law No. 25/1999 implemented as a sign of decentralization era. After 2001, the intergovernmental grants calculation is divided into the calculation with and without DAU. The separation of calculation has the purpose to see whether the DAU has succeeded playing its role in reducing fiscal capacity disparity.

Figure 4.2 Summary Statistic

Year	DAU	Count	Mean	Std Dev	Min	Max	CV	Gini
1994/1995	n/a	26	58,769	44,647	19,988	232,321	0.76	0.34
1995/1996	n/a	26	83,165	125,464	20,642	652,249	1.51	0.49
1996/1997	n/a	26	67,937	53,082	22,971	284,328	0.78	0.33
1997/1998	n/a	26	72,466	55,500	24,619	295,876	0.77	0.33
1998/1999	n/a	26	64,856	57,970	10,098	269,739	0.89	0.40
1999/2000	n/a	25	101,551	94,867	26,383	368,246	0.93	0.43
2000	n/a	25	76,506	49,352	22,152	228,413	0.65	0.32
2001	without	29	114,372	170,232	27,652	784,055	1.49	0.53
	with	29	166,894	186,831	54,648	876,514	1.12	0.43
2002	without	30	177,088	229,517	26,527	921,031	1.30	0.56
	with	30	251,593	237,932	81,835	1,014,536	0.95	0.40
2003	without	30	190,218	268,911	28,803	1,079,377	1.41	0.55
	with	30	279,122	283,698	77,917	1,193,909	1.02	0.43
2004	without	31	227,252	299,114	42,075	1,272,416	1.32	0.53
	with	31	317,814	309,808	92,354	1,380,961	0.97	0.42
2005	without	33	274,195	361,380	37,341	1,433,788	1.32	0.54
	with	33	368,213	375,148	104,927	1,521,033	1.02	0.44
2006	without	33	250,696	338,874	43,509	1,616,407	1.35	0.52
	with	33	417,687	364,961	112,177	1,703,537	0.87	0.39
2007	without	33	345,955	501,251	55,892	2,021,111	1.45	0.56
	with	33	531,463	530,889	137,001	2,488,372	1.00	0.43

Source: Own Calculation
Note: DAU not available during (n/a) year above

The analysis of the statistical results will be discussed in the next chapter.

CHAPTER V

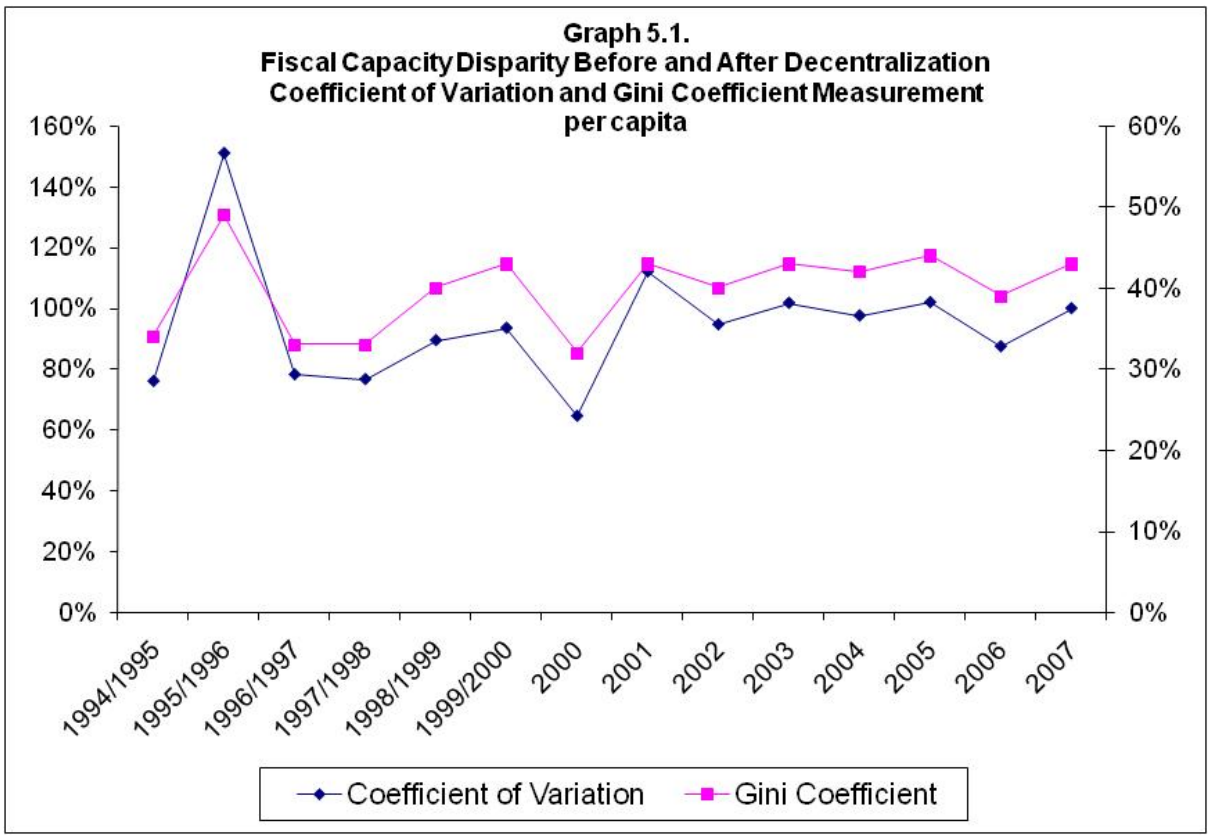
ANALYSIS AND CONCLUSION

This chapter will present an analysis of the results as presented in the previous chapter. A summary will be presented at the end of the chapter as related to the research questions given in the purpose of study.

5.1 Analysis

5.1.1 Intergovernmental Transfer Before and After Decentralization Era

According to the statistical results in the previous chapter, the calculation using coefficient of variation and gini coefficient showed a consistent trend. The consistent trend of coefficient of variation and gini coefficient is depicted in graph 5.1 below.



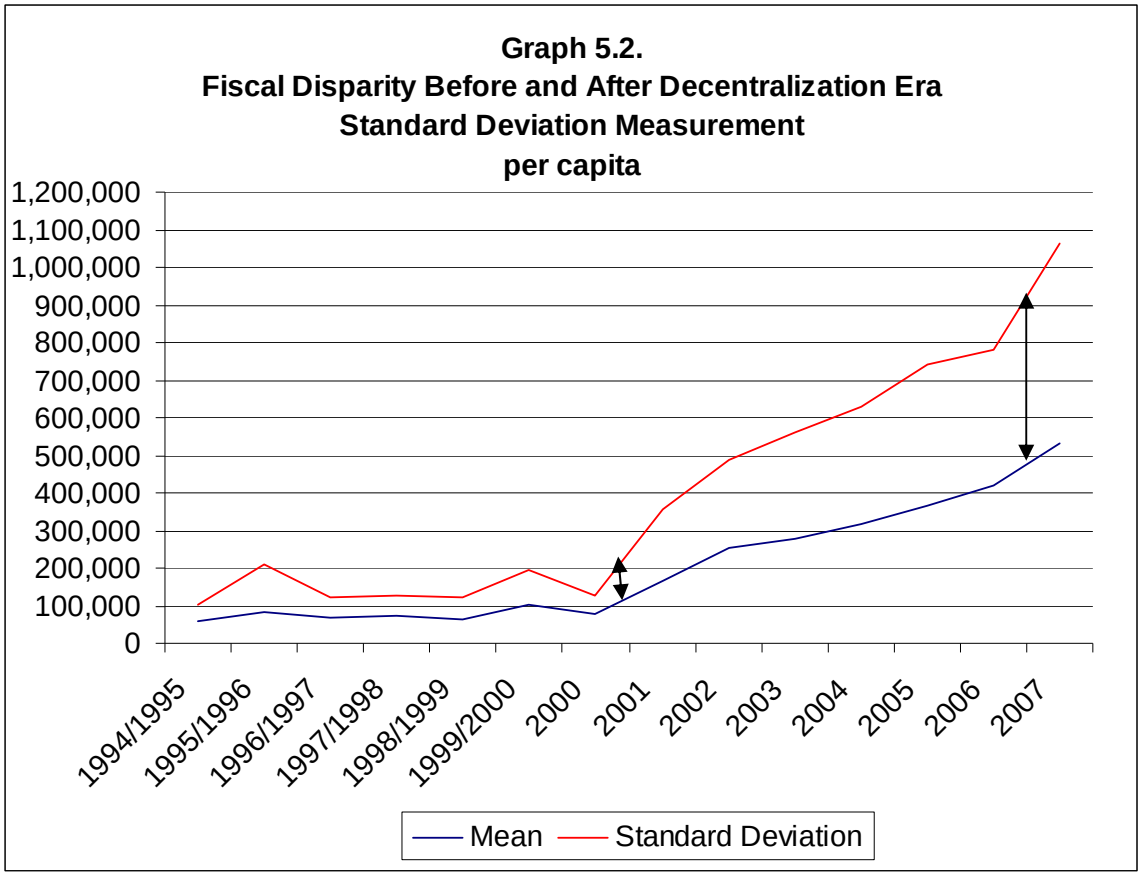
Source: own calculation

Fiscal capacity disparity fluctuated greatly before the decentralization era while fiscal capacity disparity in decentralization era was more relatively stable. However, even though the disparity was fluctuating before the decentralization era, the coefficient of variation and gini coefficient show a lower level than in the decentralization era. During the seven years before the decentralization era, the coefficient of variation was moving in the range from 64.51 percent to 93.42 percent (except in fiscal year 1995/1996 at 150.86 percent) or on average was 89.84 percent. Fiscal capacity disparity was relatively stable and at a high level after decentralization era. During the seven years of decentralization era, the trend of coefficient of variation was stable above 94.57 percent (except in fiscal year 2006 at 87.38 percent) or on average was 99.26 percent. In interpreting the coefficient of variation, 89.84 percent and 99.26 percent for before and after decentralization era respectively were far away from zero, which implies that fiscal capacity disparity appeared during both eras.

As mentioned in the first paragraph, the gini coefficient showed consistent trend of movement with the coefficient of variation. Before fiscal decentralization era, the gini coefficient was fluctuating in the range from 0.32 to 0.43 (except in fiscal year 1996/1996 at 0.49) or on average was 0.37. Meanwhile, after the decentralization era, the gini coefficient was stable in range from 0.39 to 0.44 or on average was 0.42. In the gini coefficient case, the rate of 0.37 and 0.42 can be interpreted that fiscal capacity disparity was at a moderate level. Moreover, similar with the result of coefficient of variation, the gini coefficient of fiscal capacity disparity increased in the decentralization era.

As for the other measurement, standard deviation, it is shown clearly through the graph that the fiscal gap was getting larger after the decentralization policy was implemented. In the graph 5.2, the standard deviation line is widening from the mean line especially after the decentralization era. The line in the graph supports the previous results of the coefficient of variation and gini coefficient, which showed that fiscal capacity disparity increased after

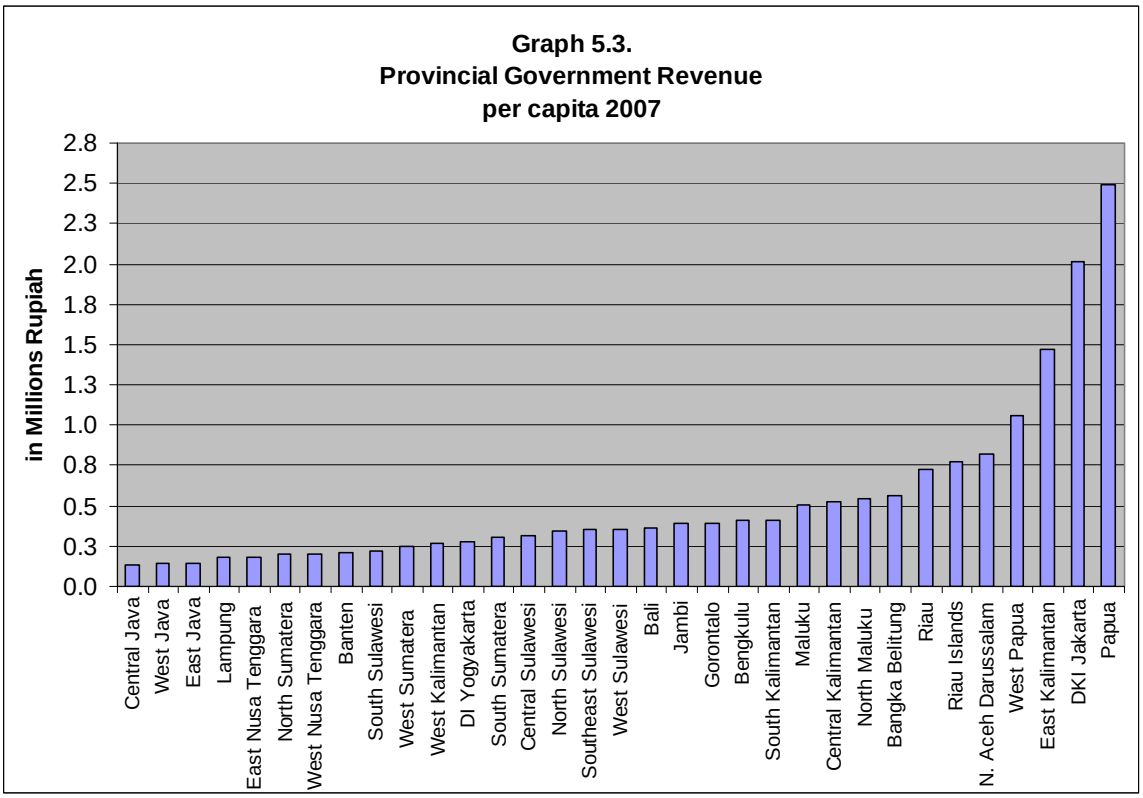
the decentralization era. Standard deviation average before the decentralization era was 68,697 rupiah (Indonesian currency) per capita. After the decentralization era, the average amount increased more than four times to become 327,038 rupiah per capita.



Source: own calculation

The three measurements shown before strengthen the statement that after the decentralization policy was implemented, fiscal capacity disparity among the provinces increased. It implies that the increasing of intergovernmental grant after decentralization policy is not followed by the equal distribution of the grants. The cause of the bigger gap of fiscal capacity disparity is probably because of the revenue sharing distribution. In the decentralization era, the rich provinces are getting richer and leave the poor provinces behind. The provinces which have a rich endowment of natural resources or potential economy would have bigger revenue sharing. The other possibility is that the sizeable population makes the amount of grants become smaller per capita.

Graph 5.3 proves that rich natural resources provinces with relatively low population, such as Papua, East Kalimantan, West Papua, Riau Islands, and Riau, have high fiscal capacity per capita. On the other hand, Java island provinces. such as Central Java, West Java, East Java, with high potential economy and big population have low fiscal capacity per capita; except Jakarta which has extremely high fiscal capacity despite of its large population. The graph also show that there is a large disparity between the big four provinces and the remaining provinces for the fiscal year 2007.

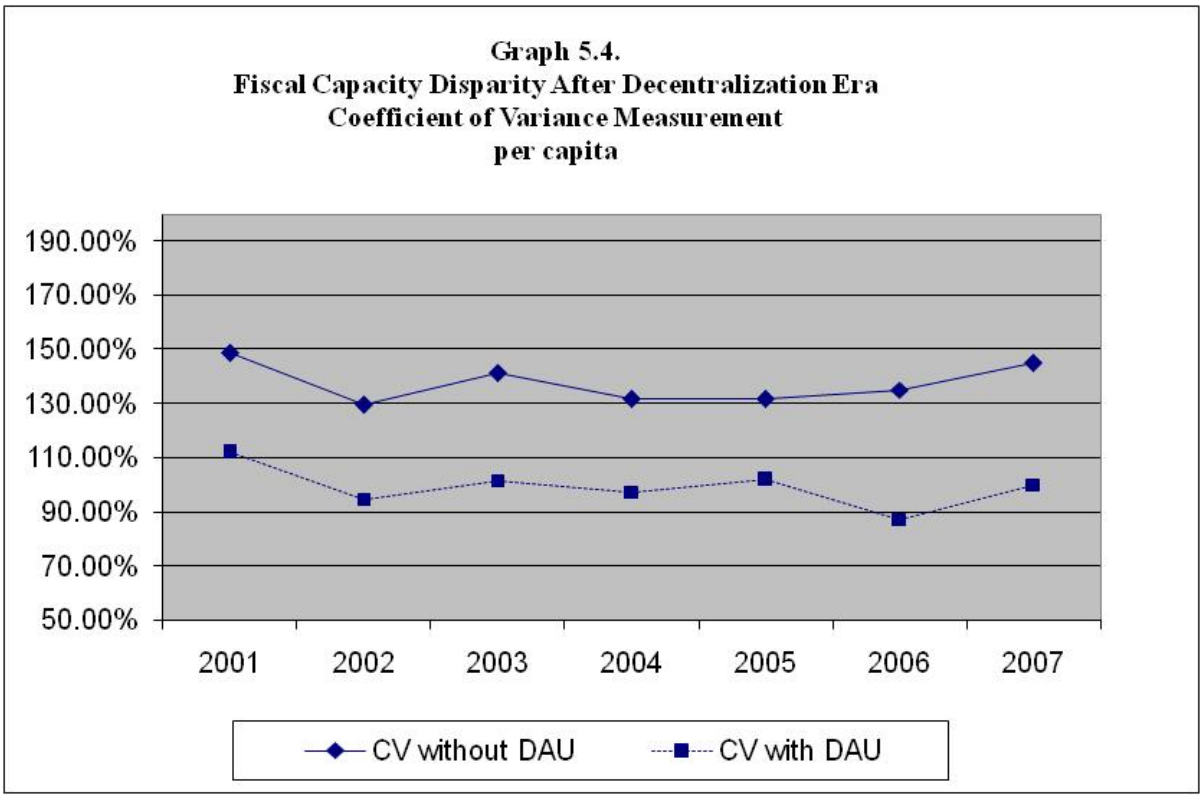


Source: own calculation

5.1.2 Role of DAU in Decentralization Era

The previous analysis showed that fiscal capacity disparity after the fiscal decentralization era is getting wider. In line with the objective of this study, the next analysis will explore DAU's contribution so far in reducing the existing gap of fiscal capacity disparity in the decentralization era.

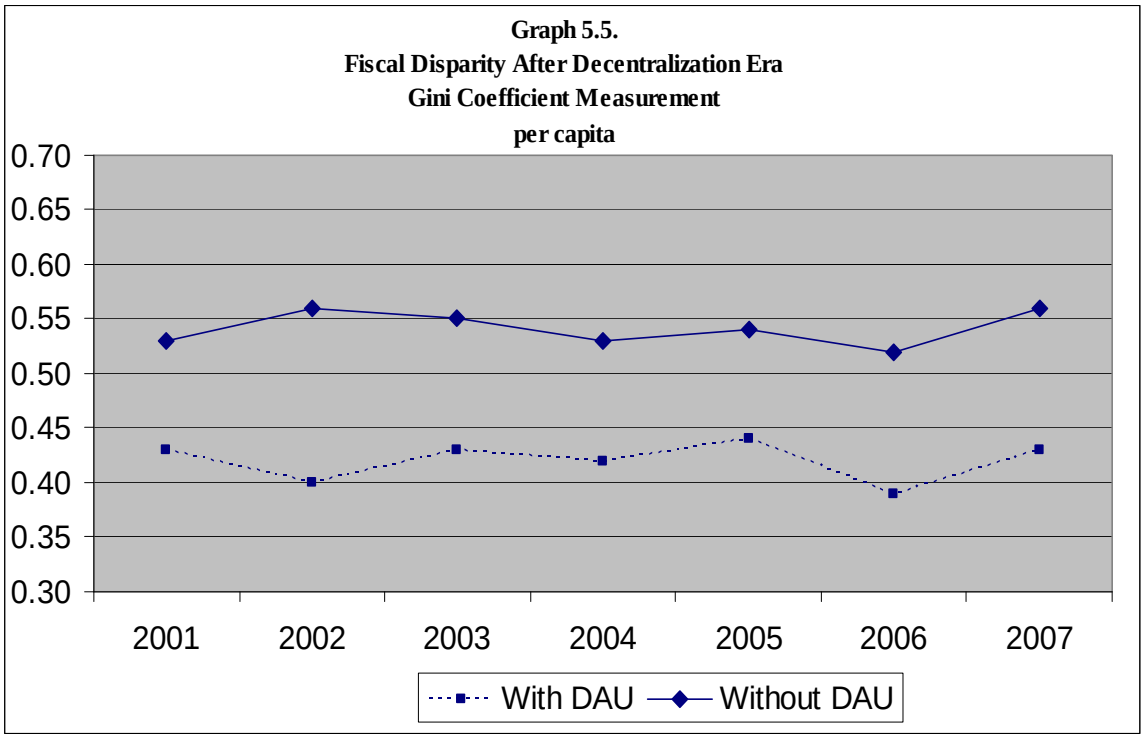
As shown in graph 5.4, based on coefficient of variation measurement, fiscal capacity disparity among the provinces was reduced since DAU was incorporated in the measurement of provincial government revenue. Before DAU is calculated, the average of coefficient of variation during 2001-2007 was 137.61 percent. After DAU was calculated in the measurement, the average of coefficient of variation decreased to 99.26 percent. Despite the decrease in the level of coefficient of variation, the percentage is still far from zero which means that fiscal capacity disparity has occurred. It could not be clearly interpreted in qualitative terms whether this level is good, moderate or poor.



Source: own calculation

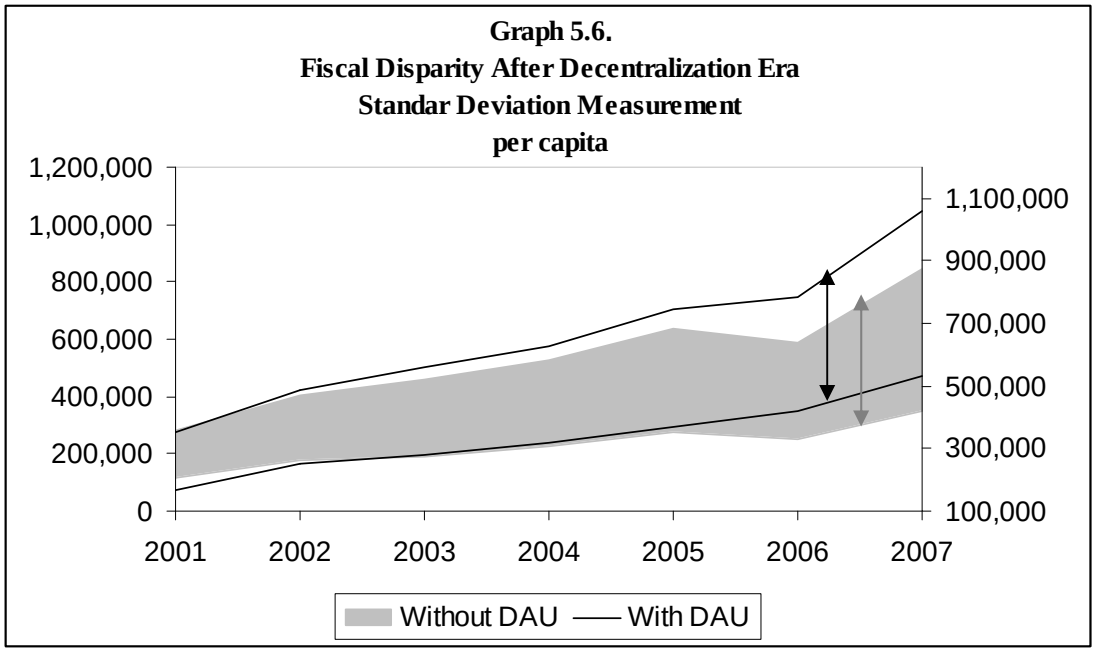
The calculation of gini coefficient for fiscal capacity disparity supports the calculation of coefficient of variation before. Graph 5.5 shows that the gini coefficient of fiscal capacity disparity without DAU was higher than with DAU. After DAU was calculated in the measurement, the gini coefficient decreased. During the seven year period from 2001 to 2007, the average of gini coefficient without DAU was 0.54. After DAU was calculated in the measurement, the average of gini coefficient decreased to 0.42. In this level, unlike

coefficient of variation, gini coefficient in this level could be interpreted that fiscal capacity disparity has moderate level. Based on gini coefficient measurement, DAU has succeeded to reduce fiscal capacity disparity among the provinces after the decentralization era was implemented even though the level of disparity is still moderate.



Source: own calculation

The two previous measurements have showed consistent results and graph how fiscal capacity disparity decreased after DAU was calculated. The next graph shows fiscal capacity disparity using standard deviation measurement. Unlike the previous two measurements, current standard deviation can not clearly show whether DAU has succeeded in reducing fiscal capacity disparity. In table 4.1 concerning summary statistics, it is shown that the standard deviation has increased every year. However, the mean has increased as well as the standard deviation. The increasing of standard deviation does not automatically mean that the disparity is getting higher since the mean also has increased. Therefore, the difference in fiscal capacity disparity with or without DAU can not be shown clearly.

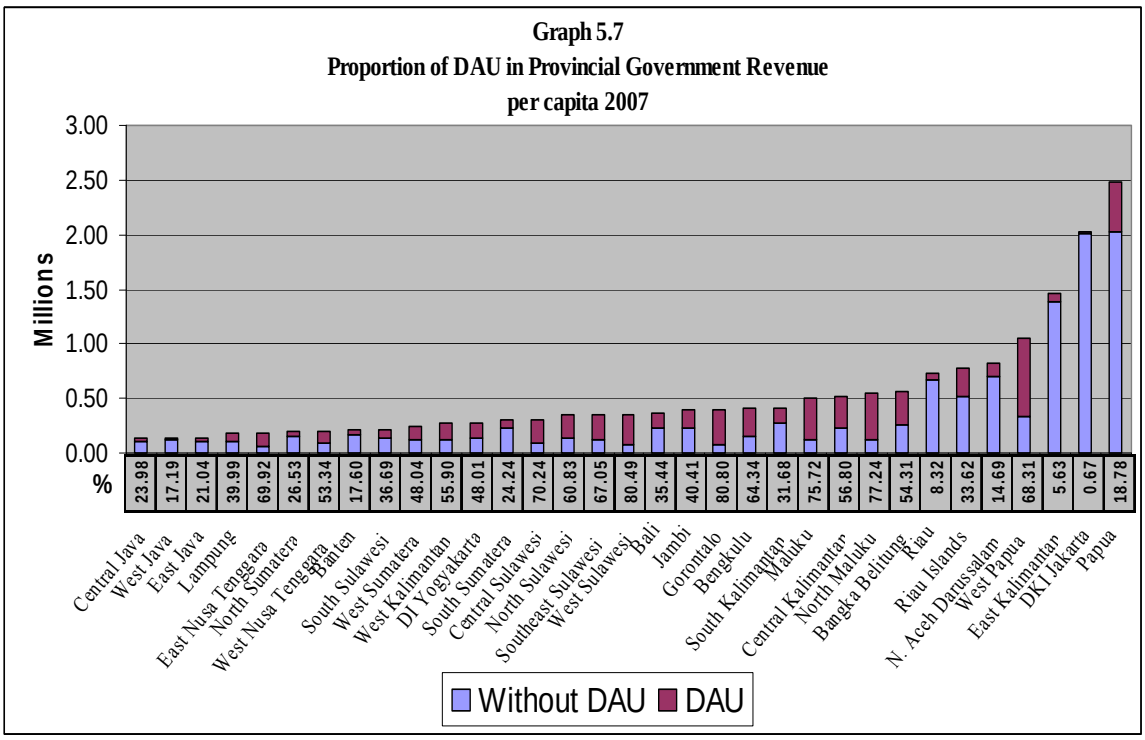


Source: own calculation

The previous paragraph explained that DAU has succeeded to reduce fiscal capacity disparity among the provinces. However, the gini coefficient showed that the level of disparity is still at a moderate level. Many questions linger on why DAU only succeeded in reducing fiscal capacity disparity to a moderate level, and whether the reduction can continue to a lower level. There are some possible answers for this question, requiring an exploration if DAU is being transferred to ineligible recipients (rich provinces still get or get in large proportion) or if the formula of DAU needs to be improved. Other research will be needed to discuss about the formula of DAU.

Graph 5.7 shows the proportion of DAU in the Provincial Government in fiscal year 2007 with the percentage of DAU in the provincial government revenue. There are rich provinces such as Papua and West Papua which have a high percentage of DAU as their revenue (the high revenue is probably derived from the Special Autonomy Fund for Papua and West Papua). In the middle position, it appears that many provinces still have a high proportion of DAU as their revenue while poor provinces only have a small proportion. To live up to the spirit of DAU, it should be given to low fiscal capacity provinces to reduce

horizontal fiscal imbalances. In the fact, the middle provinces have received more than poor provinces.



Source: own calculation

In Appendix 4, it is shown that poor provinces such as Central Java, West Java, and East Java (three of them are in the central economy and rich islands) receive large nominal amounts of DAU. However, Appendix 5 also shows that this three provinces have a large population (chapter one mentioned that about sixty percent of Indonesia population lives on Java Island). Therefore, the formula of DAU should be improved in that the population variable (since Fiscal Need= f(POP, AREA, CCI, RYp, HDI) needs to be prioritized more than other variables so the distribution of DAU per capita will be more equal.

5.2 Conclusion

As mentioned in the beginning of this chapter, this section will summarize the analysis related to the research questions given in the purpose of the study:

1. Before the decentralization era, provincial governments relied on to intergovernmental grant for their revenue, on average for about 71.56 percent. In the decentralization era, the number decreased to 59.11 percent. These facts showed that intergovernmental grants are still an important financing source for provincial governments.
2. The data show that before the decentralization era, fiscal capacity disparity was fluctuating but relatively lower in average than after decentralization era. This is interesting fact and needs further research to determine why fiscal capacity disparity is larger in the decentralization era.
3. In the decentralization era, DAU has made a big contribution to provincial governments which have low fiscal capacity. The data shows that 35.75 percent of provincial government revenues rely on DAU. Meanwhile, high fiscal capacity provinces rely on DAU only for 14.62 percent.
4. DAU has succeeded in playing its role to reduce fiscal capacity disparity among the provinces in the decentralization era (see graph 5.4, 5.5 and 5.6) though it is higher than the before decentralization era (see graph 5.1 and 5.2). In decentralization era, the measurement of coefficient of variation and gini coefficient demonstrates that after DAU was calculated for the provincial government, fiscal capacity disparity is decreased. However, despite the decrease in fiscal capacity disparity, the gini coefficient shows that the disparity is still at a moderate level. Therefore, a new question arises on how to further decrease the disparity among the provinces. DAU could be the right policy, but it needs to be answered if it is appropriate to allocate it to rich provinces since the aim of DAU is to reduce horizontal imbalances. It is recommended to carry out further research to answer this question.

5. There should be further research to improve the formula of DAU so the formula will provide better allocation of DAU per capita and as its aim, DAU will succeed reduce fiscal capacity disparity among the provinces in the future.

APPENDICES

Appendix 1

Statistic Result for Provincial Government Revenue Before Decentralization Era

	1994/1995	*1995/1996*	*1996/1997*	*1997/1998*	*1998/1999*	*1999/2000*	*2000*
count	26	26	26	26	26	25	25
mean	58,769	83,165	67,937	72,466	64,856	101,551	76,506
sample variance	1,993,334,204	15,741,095,119	2,817,683,435	3,080,218,404	3,360,519,620	8,999,732,706	2,435,658,658
sample standard deviation	44,647	125,464	53,082	55,500	57,970	94,867	49,352
minimum	19,988	20,642	22,971	24,619	10,098	26,383	22,152
maximum	232,321	652,249	284,328	295,876	269,739	368,246	228,413
range	212,333	631,606	261,357	271,257	259,641	341,864	206,262
coefficient of variation (CV)	75.97%	150.86%	78.13%	76.59%	89.38%	93.42%	64.51%
Gini Coefficient	0.34	0.49	0.33	0.33	0.4	0.43	0.32

Appendix 2

Statistic Result for Provincial Government Revenue Without and With DAU In Decentralization Era

	2001		*2002*		*2003*	
	without	*with DAU*	*without*	*with DAU*	*without*	*with DAU*
count	29	29	30	30	30	30
mean	114,372	166,894	177,088	251,593	190,218	279,122
sample variance	28,978,824,026	34,905,870,558	52,677,866,146	56,611,579,820	72,313,209,400	80,484,734,411
sample standard deviation	170,232	186,831	229,517	237,932	268,911	283,698
minimum	27,652	54,648	26,527	81,835	28,803	77,917
maximum	784,055	876,514	921,031	1,014,536	1,079,377	1,193,909
range	756,402	821,867	894,504	932,701	1,050,574	1,115,992
coefficient of variation (CV)	148.84%	111.95%	129.61%	94.57%	141.37%	101.64%
Gini Coefficient	0.53	0.43	0.56	0.4	0.55	0.43

	2004		*2005*		*2006*		*2007*	
	without	*with DAU*	*without*	*with DAU*	*without*	*with DAU*	*without*	*with DAU*
count	31	31	33	33	33	33	33	33
mean	227,252	317,814	274,195	368,213	250,696	417,687	345,955	531,463
sample variance	89,469,397,181	95,981,118,788	130,595,827,020	140,736,039,407	114,835,516,623	133,196,742,599	251,252,314,581	281,843,497,119
sample standard deviation	299,114	309,808	361,380	375,148	338,874	364,961	501,251	530,889
minimum	42,075	92,354	37,341	104,927	43,509	112,177	55,892	137,001
maximum	1,272,416	1,380,961	1,433,788	1,521,033	1,616,407	1,703,537	2,021,111	2,488,372
range	1,230,340	1,288,607	1,396,448	1,416,106	1,572,898	1,591,360	1,965,219	2,351,371
coefficient of variation (CV)	131.62%	97.48%	131.80%	101.88%	135.17%	87.38%	144.89%	99.89%
Gini Coefficient	0.53	0.42	0.54	0.44	0.52	0.39	0.56	0.43

Appendix 3

Provincial Government Revenue per capita

No	Province	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000	2001	2002	2003	2004	2005	2006	2007
1	N. Aceh Darussalam	65,014	54,777	65,697	75,538	44,162	65,255	66,914	125,324	405,135	485,602	574,659	944,446	622,368	823,642
2	North Sumatera	52,212	52,678	57,977	68,348	31,151	45,943	45,815	75,868	115,085	121,395	142,933	153,111	169,931	199,024
3	West Sumatera	29,426	30,256	34,267	37,446	36,659	50,409	44,242	95,170	139,812	135,794	160,975	170,828	219,323	249,049
4	Riau	58,574	58,163	65,742	75,307	79,638	126,290	108,664	302,964	338,311	403,493	542,509	583,453	611,489	728,805
5	Jambi	43,021	43,706	47,493	51,530	48,790	66,822	75,667	109,904	158,940	216,509	270,000	284,077	339,506	389,583
6	South Sumatera	28,198	27,972	31,418	34,507	36,027	42,407	55,644	89,118	117,219	149,421	175,213	204,674	236,328	310,286
7	Bengkulu	56,035	54,597	62,266	68,592	73,838	86,577	72,293	122,732	150,508	210,625	242,223	252,579	332,064	407,186
8	Lampung	19,988	20,642	22,971	24,619	24,490	31,856	28,937	62,651	83,972	104,055	122,234	146,975	157,673	179,111
9	Bangka Belitung	n/a	n/a	n/a	n/a	n/a	n/a	n/a	124,107	252,049	327,163	364,077	418,539	451,890	563,502
10	Riau Islands	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	184,718	313,777	503,170	777,773
11	DKI Jakarta	232,321	261,537	284,328	295,876	269,739	368,246	n/a	876,514	1,014,536	1,193,909	1,380,961	1,521,033	1,703,537	2,018,229
12	West Java	35,271	37,209	39,910	40,378	17,761	26,444	29,351	60,299	225,464	91,205	113,214	123,825	115,651	139,387
13	Central Java	38,910	43,131	48,425	48,660	20,407	28,232	27,822	54,648	257,000	77,917	92,354	110,290	112,177	137,001
14	DI Yogyakarta	65,130	72,276	69,012	70,302	43,789	58,971	50,053	123,777	149,577	169,853	206,859	209,225	264,703	272,449
15	East Java	41,778	47,722	51,956	53,072	28,762	26,383	22,152	62,484	292,005	93,675	113,724	127,016	127,776	142,871
16	Banten	n/a	n/a	n/a	n/a	n/a	n/a	n/a	55,693	173,953	138,082	166,205	177,001	197,694	208,096
17	Bali	41,679	47,561	54,362	58,407	53,455	64,925	108,082	175,704	214,907	199,614	256,045	299,412	340,215	364,033
18	West Kalimantan	35,268	32,898	37,395	41,332	43,418	145,809	50,691	90,952	108,732	132,198	154,395	168,212	242,812	269,694
19	Central Kalimantan	131,123	121,900	135,603	142,445	107,747	93,831	110,306	163,917	105,747	222,049	265,052	297,143	420,017	525,276
20	South Kalimantan	84,996	59,112	68,566	57,469	68,256	235,530	109,954	130,668	166,755	188,574	223,210	281,524	328,028	411,573
21	East Kalimantan	109,101	95,247	110,939	118,210	146,492	64,844	228,413	704,845	804,186	968,398	1,032,995	1,295,223	835,425	1,469,335
22	North Sulawesi	37,920	76,260	44,491	47,938	50,658	90,624	53,310	156,336	196,212	195,544	206,667	229,258	302,558	345,235
23	Central Sulawesi	97,466	94,837	105,948	105,027	65,378	40,910	82,259	101,245	132,805	171,732	190,076	199,821	281,957	311,511
24	South Sulawesi	23,138	24,608	28,643	32,312	30,044	95,592	40,422	65,140	81,835	107,294	143,180	155,191	177,062	217,558
25	Southeast Sulawesi	45,850	50,522	60,437	64,215	69,698	108,829	89,729	109,808	138,912	185,806	198,505	199,884	307,820	350,884
26	Gorontalo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	93,215	191,863	272,900	307,296	293,040	479,551	391,090
27	West Sulawesi	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	104,927	323,809	357,861
28	West Nusa Tenggara	22,988	24,005	28,072	33,716	32,995	64,925	61,198	84,761	87,556	106,788	117,818	126,427	174,811	200,563
29	East Nusa Tenggara	32,752	28,814	34,097	37,000	10,098	51,244	45,201	86,336	111,353	102,836	121,977	116,946	156,045	185,833
30	Maluku	52,884	49,623	53,157	58,693	60,875		117,487	185,871	202,098	288,333	345,850	412,063	448,864	502,308
31	North Maluku	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	212,383	284,689	334,417	349,688	482,497	542,843
32	Papua	46,960	652,249	123,188	143,170	191,926	208,327	188,041	349,877	918,891	1,028,216	1,101,883	1,425,834	1,606,984	2,488,372
33	West Papua	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	455,597	709,926	1,058,307

Appendix 4

Allocation of DAU for Provincial Government per capita

No	Province	2001	2002	2003	2004	2005	2006	2007
1	N. Aceh Darussalam	41,586	38,318	19,373	19,374	67,256	114,317	121,028
2	North Sumatera	23,910	22,384	25,918	27,463	25,199	43,348	52,796
3	West Sumatera	53,591	45,486	56,718	55,137	54,201	104,471	119,649
4	Riau	50,919	22,375	14,998	15,771	20,125	20,125	60,635
5	Jambi	58,696	75,574	86,928	92,784	92,421	141,997	157,444
6	South Sumatera	27,173	34,058	37,343	36,207	35,785	62,129	75,224
7	Bengkulu	95,080	113,741	149,419	152,950	148,878	244,018	261,967
8	Lampung	26,788	31,365	39,144	42,614	40,157	64,768	71,619
9	Bangka Belitung	73,885	162,472	214,550	189,148	179,555	264,209	306,057
10	Riau Islands	n/a	n/a	n/a	2,608	20,366	139,624	261,469
11	DKI Jakarta	92,460	93,505	114,533	108,545	87,245	87,129	13,537
12	West Java	15,461	11,026	16,092	16,061	14,645	14,519	23,955
13	Central Java	24,192	17,956	25,034	17,713	17,198	17,198	32,858
14	DI Yogyakarta	35,320	68,721	64,709	79,476	71,387	120,373	130,809
15	East Java	11,654	13,036	11,917	13,327	12,526	22,614	30,064
16	Banten	18,370	19,213	21,222	23,198	21,932	27,168	36,616
17	Bali	53,575	53,383	58,688	61,207	59,087	104,418	129,015
18	West Kalimantan	48,398	56,838	67,950	73,303	77,134	144,614	150,750
19	Central Kalimantan	85,988	79,220	136,677	147,993	150,178	288,266	298,339
20	South Kalimantan	43,347	54,222	68,490	70,267	72,628	115,351	130,407
21	East Kalimantan	98,764	104,862	109,134	108,804	93,229	90,251	82,752
22	North Sulawesi	37,774	134,820	121,111	110,265	116,439	189,932	209,997
23	Central Sulawesi	58,109	87,551	110,616	118,633	118,420	208,149	218,808
24	South Sulawesi	30,588	31,982	37,034	43,806	44,306	67,851	79,831
25	Southeast Sulawesi	57,264	98,534	125,896	129,236	129,470	217,192	235,270
26	Gorontalo	54,407	154,818	216,088	252,809	228,820	424,420	315,985
27	West Sulawesi	n/a	n/a	n/a	n/a	67,586	263,255	288,059
28	West Nusa Tenggara	30,511	48,420	55,867	57,760	59,719	96,580	106,982
29	East Nusa Tenggara	39,479	63,829	74,033	79,901	71,702	112,536	129,942
30	Maluku	n/a	164,375	212,956	233,574	222,969	339,691	380,370
31	North Maluku	90,844	177,009	196,196	260,385	259,267	382,976	419,304
32	Papua	145,019	156,077	178,496	167,099	223,349	432,037	467,261
33	West Papua	n/a	n/a	n/a	n/a	199,440	545,155	722,959

Appendix 5

Indonesia Population by Province

No	Provinces	Tahun - *Year*					
		1971	1980	1990	1995	2000	2005
1	Nangroe Aceh Darussalam	2,008,595	2,611,271	3,416,156	3,847,583	3,929,234	4,031,589
2	North Sumatera	6,621,831	8,360,894	10,256,027	11,114,667	11,642,488	12,450,911
3	West Sumatera	2,793,196	3,406,816	4,000,207	4,323,170	4,248,515	4,566,126
4	Riau	1,641,545	2,168,535	3,303,976	3,900,534	3,907,763	4,579,219
5	Jambi	1,006,084	1,445,994	2,020,568	2,369,959	2,407,166	2,635,968
6	South Sumatera	3,440,573	4,629,801	6,313,074	7,207,545	6,210,800	6,782,339
7	Bengkulu	519,316	768,064	1,179,122	1,409,117	1,455,500	1,549,273
8	Lampung	2,777,008	4,624,785	6,017,573	6,657,759	6,730,751	7,116,177
9	Bangka Belitung	na	na	na	na	899,968	1,043,456
10	Riau Islands	na	na	na	na	1,040,207	1,274,848
	Sumatera	**20,808,148**	**28,016,160**	**36,506,703**	**40,830,334**	**42,472,392**	**46,029,906**
11	DKI Jakarta	4,579,303	6,503,449	8,259,266	9,112,652	8,361,079	8,860,381
12	West Java	21,623,529	27,453,525	35,384,352	39,206,787	35,724,093	38,965,440
13	Central Java	21,877,136	25,372,889	28,520,643	29,653,266	31,223,258	31,977,968
14	DI Yogyakarta	2,489,360	2,750,813	2,913,054	2,916,779	3,121,045	3,343,651
15	East Java	25,516,999	29,188,852	32,503,991	33,844,002	34,765,993	36,294,280
16	Banten	na	na	na	na	8,098,277	9,028,816
	Java	76,086,327	91,269,528	107,581,306	114,733,486	121,293,745	128,470,536
17	Bali	2,120,322	2,469,930	2,777,811	2,895,649	3,150,057	3,383,572
	Java & Bali	**78,206,649**	**93,739,458**	**110,359,117**	**117,629,135**	**124,443,802**	**131,854,108**
18	West Kalimantan	2,019,936	2,486,068	3,229,153	3,635,730	4,016,353	4,052,345
19	Central Kalimantan	701,936	954,353	1,396,486	1,627,453	1,855,473	1,914,900
20	South Kalimantan	1,699,105	2,064,649	2,597,572	2,893,477	2,984,026	3,281,993
21	East Kalimantan	733,797	1,218,016	1,876,663	2,314,183	2,451,895	2,848,798
	Kalimantan	**5,154,774**	**6,723,086**	**9,099,874**	**10,470,843**	**11,307,747**	**12,098,036**
22	North Sulawesi	1,718,543	2,115,384	2,478,119	2,649,093	2,000,872	2,128,780
23	Central Sulawesi	913,662	1,289,635	1,711,327	1,938,071	2,175,993	2,294,841
24	South Sulawesi	5,180,576	6,062,212	6,981,646	7,558,368	7,159,170	7,509,704
25	Southeast Sulawesi	714,120	942,302	1,349,619	1,586,917	1,820,379	1,963,025
26	Gorontalo	na	na	na	na	833,496	922,176
27	West Sulawesi	na	na	na	na	891,618	969,429
	Sulawesi	**8,526,901**	**10,409,533**	**12,520,711**	**13,732,449**	**14,881,528**	**15,787,955**
28	West Nusa Tenggara	2,203,465	2,724,664	3,369,649	3,645,713	4,008,601	4,184,411
29	East Nusa Tenggara	2,295,287	2,737,166	3,268,644	3,577,472	3,823,154	4,260,294
30	Maluku	1,089,565	1,411,006	1,857,790	2,086,516	1,166,300	1,251,539
31	North Maluku	na	na	na	na	815,101	884,142
	NusaTenggara & Maluku	**5,588,317**	**6,872,836**	**8,496,083**	**9,309,701**	**9,813,156**	**10,580,386**
32	Papua	923,440	1,173,875	1,648,708	1,942,627	1,684,144	1,875,388
33	West Papua	na	na	na	na	529,689	643,012
	Papua	**923,440**	**1,173,875**	**1,648,708**	**1,942,627**	**2,213,833**	**2,518,400**
Total		**119,208,229**	**146,934,948**	**178,631,196**	**193,915,089**	**205,132,458**	**218,868,791**

***Source*:SP (1971, 1980, 1990, 2000) dan Supas (1995, 2005)**
http://www.datastatistik-indonesia.com

Note: n/a= not available, the number of provinces is changed and increased since there are new creation of provinces

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