The Fiscal Transfer Effect on Regional Inequality

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Abstract

The economic imbalance among regions in Indonesia is still relatively high, especially between regions of Java-Bali with other regions. The redistribution of transfer funds from Java-Bali to outside Java-Bali has little effect on the economic role of outside Java-Bali region. The Java-Bali region is still the center of Indonesia's economic growth.

DBH, DAK, and PAD have a positive and significant impact on capital expenditure, while for the response of administrative expenditure the factors that give positive and significant influence are DAU, DBH, other transfer funds and PAD. Among all transfer fund types that affect significantly on capital expenditure, DAK is the most influential one. In administrative expenditures, the DAU has the greatest effect. Gross fixed capital formation is the factor that has relatively high elasticity coefficient compared to other variables. The econometric model also shows that education is a crucial factor in increasing output.

Factors contributing to the ineffectiveness of transfer funds in the improvement of regional inequality are the tendency of private investment location in Java-Bali region, weak regional financial management in outside Java-Bali regions, less ideal local budget structure, uneven budget absorption along the year, and relatively large SILPA of local government.

DAK for infrastructure spending should be aimed at priority regions that will drive the regions' output and ultimately reduce regional disparities. Therefore it is necessary to reform DAK mechanisms such as by proposal-based DAK policy implemented starting from 2016.

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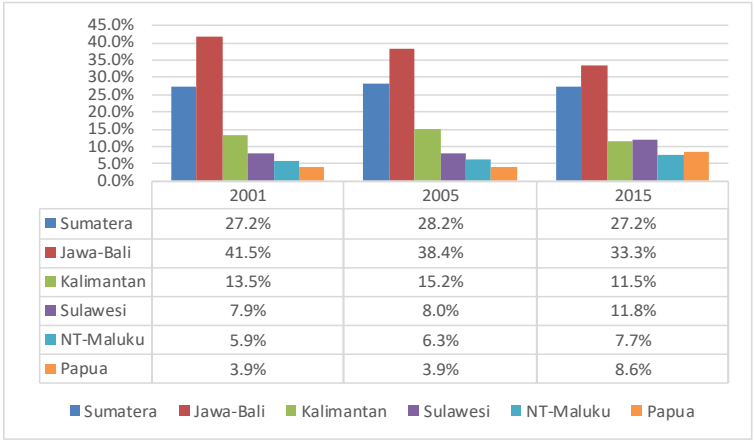
Introduction

The main instrument of fiscal decentralization in Indonesia is the regional fiscal transfer policy, which consists of Balancing Fund, Special Autonomy Fund, and Regional Incentive Fund. Balancing Fund is the largest component of fiscal transfer to the regions. These funds are sourced from National Budget (APBN) revenues allocated to regions to fund local needs in the context of decentralization implementation. Balancing Fund consists of General Allocation Fund (DAU), Specific Allocation Fund (DAK), and Shared-Revenues (DBH) originating from taxes and natural resources. Each type of balance fund has its own function. DBH acts as a fiscal balance between central and regional governments, DAU acts as a fiscal equalization among regions, and DAK serves as a specific fund to finance the implementation of national priority programs in the regions. These all funds are managed by each regional government. Therefore, it is expected that local governments can use these funds more effectively and efficiently to improve their community services, thus providing stimulus for the improvement of economic activities in the regions that will ultimately be able to encourage the improvement of local community welfare.

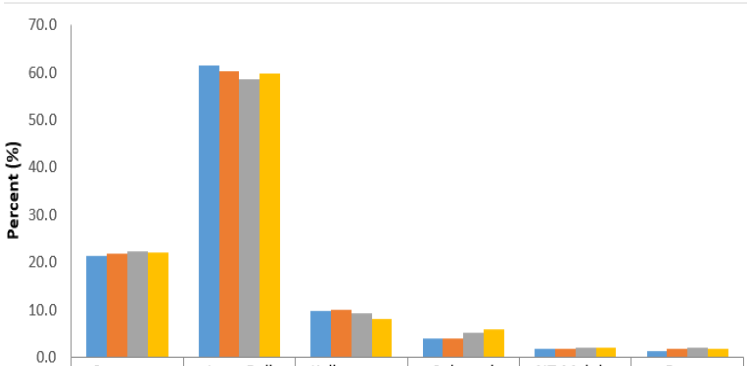
Table 1: Distribution of Fiscal Transfer in Indonesia for the Period of 2001-2015



	2001	2005	2015
Sumatera	27.2%	28.2%	27.2%
Jawa-Bali	41.5%	38.4%	33.3%
Kalimantan	13.5%	15.2%	11.5%
Sulawesi	7.9%	8.0%	11.8%
NT-Maluku	5.9%	6.3%	7.7%
Papua	3.9%	3.9%	8.6%

Source: Directorate General of Fiscal Balance (DGFB), MOF.

Table 2. Regional Role in the contribution to National Output (Nominal GDP) for the Period 2000-2015



	Sumatera	Jawa-Bali	Kalimantan	Sulawesi	NT-Maluku	Papua
2000	21.35	61.54	9.80	4.10	1.84	1.37
2005	21.98	60.31	9.97	4.05	1.77	1.92
2010	22.39	58.65	9.41	5.19	2.15	2.22
2015	22.21	59.81	8.15	5.92	2.06	1.85

Source: Processed Data from CBS

In the last 15 years it can be said that there has been a redistribution of transfer funds to the regions from Java-Bali to outside Java-Bali, especially eastern Indonesia. The distribution of transfer funds to Java-Bali region in the last 15 years has continued to decline. If in 2001 the proportion of transfer funds to Java-Bali region amounted to 41.5% of total transfer funds, then by 2015 the proportion has decreased to only 33.3% (see Table 1).

The increasing proportion of transfer funds to the outside of Java-Bali region could increase the contribution of Gross Regional Domestic Product (GRDP) of outside Java-Bali (except Kalimantan) to the national Gross Domestic Product (GDP). Meanwhile, as expected, the contribution of GRDP of Java-Bali region decreased from 61.54% in 2000 to 59.81% in 2015. The economic role of outside Java-Bali (Sumatra, Sulawesi, Maluku-Nusa Tenggara, and Papua) went up. Only the economic role of Kalimantan region fell from 9.80% in 2000 to 8.15% in 2015 (see Table 2).

The above phenomenon shows that the redistribution of transfer funds from Java-Bali has little effect on the economic role outside Java-Bali region. The Java-Bali region is still the center of Indonesia's economic growth. In other words, the policy of transfer distribution of nearly 15 years can be expected to only slightly reduce the regional gap in Indonesia.

Based on the background above this paper will analyze:

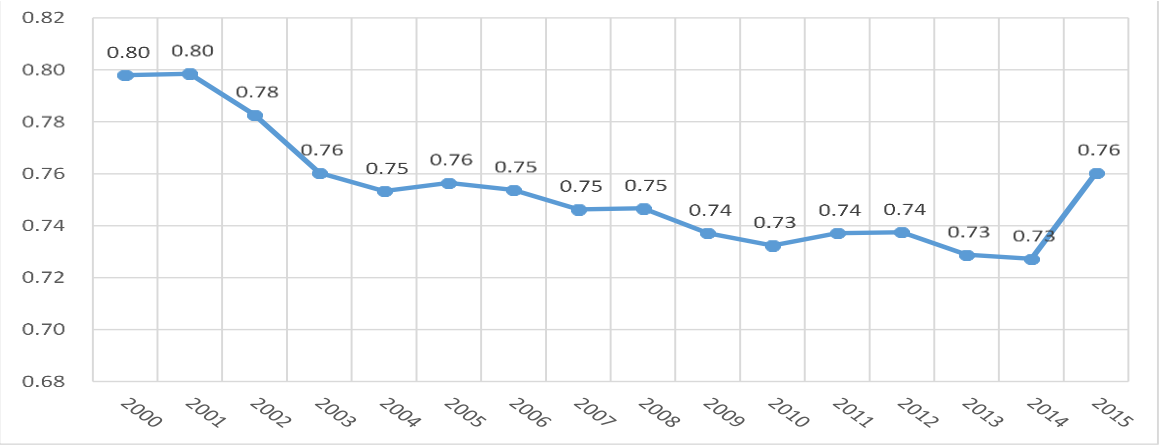
1. the development of economic and fiscal disparities among regions in Indonesia;
2. the relationship between transfer funds to regions and regional inequality in Indonesia;
3. the impact of each type of transfer fund on some development performance indicators so that it can decrease regional inequality by econometric modelling;
4. Factors contributing to regional inequality in Indonesia.

Regional Inequality in Economic Output

The data shown in Table 2 shows that in the last 15 years the economic gap among regions has not changed much. The contribution of the Java-Bali region to the national output is still dominant although there is a downward trend from 61.54% in 2000 to 58.65% in 2010 but then rose slightly to 59.81% in 2015. On the contrary, the contribution of the outside Java-Bali regions began to slightly increase, except of Kalimantan.

One common measure used in assessing regional disparities is the Williamson Index (IW) which is the modified coefficient of variation of GRDP percapita weighted by the share of each population. From Figure 1 it appears that the IW figures fluctuated with a downward trend from 0.8 in 2000 to 0.73 in 2014, but then slightly increased to 0.76 in 2015. This means that in the period of 2000-2014 there has been a slightly improvement or reduction of regional inequality in Indonesia. Nevertheless, if we consider the IW figure in 2015 (0.76) it can be concluded that regional economic disparity in Indonesia is still at a high level.

Figure 1. Trend of Williamson Index of GRDP Percapita in Indonesia in 2000-2015



Sources: Processed Data from CBS

Looking at the trend of provincial contributions to national output (GDP) in the period of 2011-2015, Suratman and Handra (2017) suggested a tendency to decreasing regional disparities in Indonesia due to an increase in the contribution of most provinces in eastern Indonesia to GDP. When viewed from economic growth, in 2015 there are many provinces that experienced economic growth higher than the national economic growth (4.79%). There are only 9 provinces whose economic growth is below the national economic growth, namely West Papua, North Kalimantan, East Kalimantan, South Kalimantan, Bangka Belitung Islands, South Sumatra, Jambi, Riau and Aceh. Regions that experience lower economic growth than national economic growth will experience a decrease in contribution to the national output.

If analyzed by the difference between provinces with the highest and lowest poverty rates from 2010 to 2015, Suratman and Handra (2017) described that there has been an improvement in inequality over time. In 2010, the difference between the highest poverty rate (36.8% in Papua) and the lowest (3.48% in DKI Jakarta) was 33.32%, then by 2015 the difference has decreased to only 24.79%. From all the above analysis it can be concluded that the economic imbalance among regions in Indonesia is still relatively high, especially between regions of Java-Bali with other regions. In general, however, there has been a tendency to decrease inequality among provinces.

Regional Inequality in Public Service

Other indicators such as the percentage of underdeveloped villages, human development index (HDI), and literacy rates (LR) can also be used to assess the development of regional disparities in Indonesia, especially the inter-regional public service gap. Called the public service gap because these indicators show how much difference local government ability to provide services to the community. HDI is the result of service performance in education, health and economics. LR is the result of service performance in education. The percentage of underdeveloped villages is the result of service performance in infrastructure, education,

health, economic, and social in rural areas. The following descriptions will show an analysis of the progress of each of these indicators.

Suratman and Handra (2017) stated that based on the data of the number of underdeveloped villages it can be concluded that the public service gap between the eastern and western regions of Indonesia is still relatively high. Most of the villages are underdeveloped in the provinces of eastern Indonesia and vice versa dominantly developed villages are located in western Indonesia, precisely on the islands of Java and Sumatra.

Table 3. Human Development Index (HDI) by Province in 2010-2014

Province	2010	2011	2012	2013	2014
Aceh	67.09	67.45	67.81	68.30	68.81
Sumatera Utara	67.09	67.34	67.74	68.36	68.87
Sumatera Barat	67.25	67.81	68.36	68.91	69.36
Riau	68.65	68.90	69.15	69.91	70.33
Jambi	65.39	66.14	66.94	67.76	68.24
Sumatera Selatan	64.44	65.12	65.79	66.16	66.75
Bengkulu	65.35	65.96	66.61	67.50	68.06
Lampung	63.71	64.20	64.87	65.73	66.42
Kep. Bangka Belitung	66.02	66.59	67.21	67.92	68.27
Kepulauan Riau	71.13	71.61	72.36	73.02	73.40
Dki Jakarta	76.31	76.98	77.53	78.08	78.39
Jawa Barat	66.15	66.67	67.32	68.25	68.80
Jawa Tengah	66.08	66.64	67.21	68.02	68.78
Daerah Istimewa Yogyakarta	75.37	75.93	76.15	76.44	76.81
Jawa Timur	65.36	66.06	66.74	67.55	68.14
Banten	67.54	68.22	68.92	69.47	69.89
Bali	70.10	70.87	71.62	72.09	72.48
Nusa Tenggara Barat	61.16	62.14	62.98	63.76	64.31
Nusa Tenggara Timur	59.21	60.24	60.81	61.68	62.26
Kalimantan Barat	61.97	62.35	63.41	64.30	64.89
Kalimantan Tengah	65.96	66.38	66.66	67.41	67.77
Kalimantan Selatan	65.20	65.89	66.68	67.17	67.63
Kalimantan Timur	71.31	72.02	72.62	73.21	73.82
Kalimantan Utara	0.00	0.00	0.00	67.99	68.64
Sulawesi Utara	67.83	68.31	69.04	69.49	69.96
Sulawesi Tengah	63.29	64.27	65.00	65.79	66.43
Sulawesi Selatan	66.00	66.65	67.26	67.92	68.49
Sulawesi Tenggara	65.99	66.52	67.07	67.55	68.07
Gorontalo	62.65	63.48	64.16	64.70	65.17
Sulawesi Barat	59.74	60.63	61.01	61.53	62.24
Maluku	64.27	64.75	65.43	66.09	66.74
Maluku Utara	62.79	63.19	63.93	64.78	65.18
Papua Barat	59.60	59.90	60.30	60.91	61.28
Papua	54.45	55.01	55.55	56.25	56.75
Indonesia	**66.53**	**67.09**	**67.70**	**68.31**	**68.90**

Source: CBS-Statistics Indonesia 2016

The trend of HDI in the period 2010-2014 shows that the public services gap across regions in Indonesia is still high (Table 3). The high gap among regions can be particularly seen from HDI in 2014, where there are still 25 provinces whose HDI is lower than the national HDI (68.90). In other words, more than 2/3 (two thirds) of Indonesian provinces enjoy a lower level of welfare than the national average welfare rate. In addition, the data in Table 4 also shows that provinces in the eastern Indonesia regions mostly have lower HDI than western provinces.

However, if observed from the difference between the provinces with the highest and lowest HDI, it appears that there has been a slightly improvement in inequality over time. If in 2010 the difference between highest HDI (76.31 in DKI Jakarta) and the lowest (54.45 in Papua) is still at 21.86, then by 2015 the difference is slightly decreased to only 21.64.

Table 4. Literacy Rate (LR) in the Period 2011 – 2015

Provinsi	2011	2012	2013	2014	2015
Aceh	95.84	96.11	96.7	97.42	97.63
Sumatera Utara	96.83	97.35	97.8	98.57	98.68
Sumatera Barat	96.2	96.67	97.4	98.44	98.56
Riau	97.61	97.79	97.9	98.75	98.87
Jambi	95.52	95.97	96.7	97.77	97.84
Sumatera Selatan	96.65	96.9	97.2	98.14	98.22
Bengkulu	95.13	95.69	96.5	97.52	97.63
Lampung	95.02	95.13	95.8	96.54	96.67
Kepulauan Bangka Belitung	95.6	95.88	96.4	97.6	97.63
Kepulauan Riau	97.67	97.8	97.9	98.71	98.79
DKI Jakarta	98.83	99.07	99.1	99.54	99.59
Jawa Barat	95.96	96.18	96.7	97.96	98.01
Jawa Tengah	90.34	90.45	91.3	92.98	93.12
DI Yogyakarta	91.49	92.02	92.8	94.44	94.5
Jawa Timur	88.52	89.28	90.1	91.36	91.47
Banten	96.25	96.51	96.6	97.24	97.37
Bali	89.17	90.17	90.8	92.56	92.77
Nusa Tenggara Barat	83.24	83.68	84.7	86.96	86.97
Nusa Tenggara Timur	87.63	88.73	90.4	91.18	91.45
Kalimantan Barat	90.03	91.13	91.3	92.3	92.32
Kalimantan Tengah	96.86	97.48	97.9	98.82	98.88
Kalimantan Selatan	95.66	96.43	97	98.19	98.21
Kalimantan Timur	96.99	97.55	97.5	98.59	98.69
Kalimantan Utara	-	-	-	-	94.99
Sulawesi Utara	98.85	98.85	99.1	99.6	99.63
Sulawesi Tengah	94.51	94.95	96	97.08	97.34
Sulawesi Selatan	88.07	88.73	90.2	91.26	91.29
Sulawesi Tenggara	91.29	91.49	92.6	94.03	94.1
Gorontalo	94.69	95.22	96.8	97.9	98.24
Sulawesi Barat	87.61	88.79	90.8	92.27	92.64
Maluku	96.63	97.08	97.8	98.77	98.85
Maluku Utara	96.01	96.43	97.4	98.36	98.49
Papua Barat	92.41	94.74	95.6	96.75	96.88
Papua	64.08	65.69	67.3	70.78	70.83
Nasional	90.21	90.76	91.50	92.60	95.50

Source: CBS-Statistics Indonesia 2016

The Trend of Literacy Rates (percentage of population aged 15 years and above who are literate) can be seen in Table 4.

This table concludes that there has actually been improvements in educational services to the community over time which, among other things, is indicated by the higher literacy rate. LR increased from 90.21% in 2011 to 95.50% by 2015. Although provinces in eastern Indonesia tend to have lower LR than in western provinces, LR rises rapidly in all regions. It can be seen from the distance between the provinces with the highest and lowest LR indicating that there has been an improvement in service inequality over time. If in 2011 the difference between the highest (98.85 in North Sulawesi) and the lowest (64.08 in Papua) LR was still 34.77%, then by 2015 the difference is much decreased to only 28.80%.

From the above analysis it can be concluded that although there are still high gaps in public services across regions in Indonesia, but already seen a decreasing tendency in the gap from time to time.

Relationship between Fiscal Transfer and Regional Inequality

The descriptive analysis of the relationship between transfer funds and regional imbalances in Indonesia can be seen from the comparison of the distribution of transfer funds,

population, and GRDP among regions as shown in Table 5. This is mainly done to determine whether the distribution of inter-regional transfer funds is fair, compared to the proportion of population and the contribution of each region to the national income.

Table 5:

Comparison of Distribution of Transfer Funds, Population, and GRDP Inter-Region in Indonesia, Year 2015

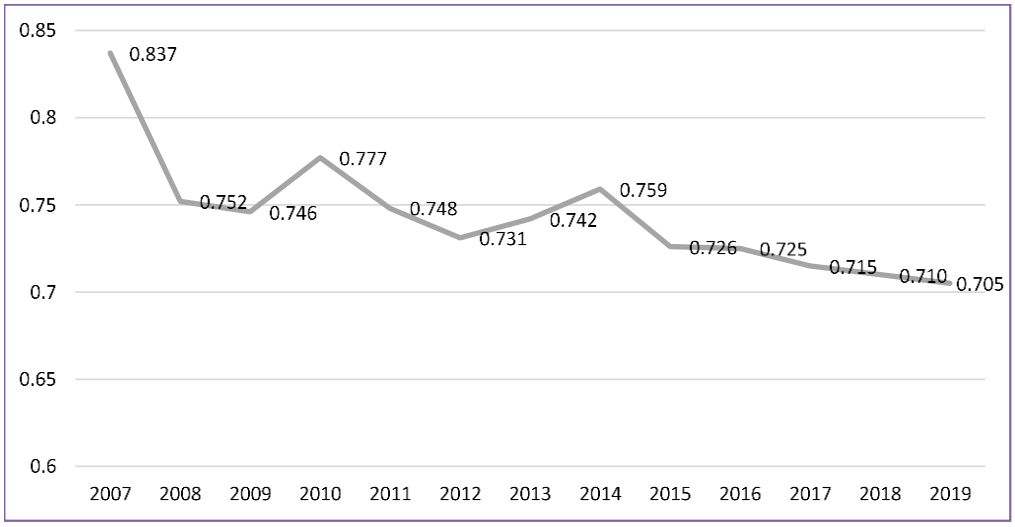
Region	Total Transfer Funds in 2015 (thousand Rp)	Share (%)	Population (thousand)	Share (%)	GRDP in 2015 Current Prices (billion Rp)	Share (%)
Sumatera	169,428,068,024	27.2	55,272.9	22.5	2587.73	22.2
Jawa-Bali	207,340,997,375	33.3	139,118.5	56.7	6969.03	59.8
Kalimantan	71,661,019,496	11.5	15,343.0	6.3	949.24	8.2
Sulawesi	73,833,868,059	11.8	18,724.1	7.6	689.91	5.9
NT-Maluku	47,761,694,261	7.7	12,804.5	5.2	240.20	2.1
Papua	53,306,233,849	8.6	4,020.9	1.6	215.01	1.8
Total	623,331,881,063	100.0	245,283.8	100.0	11651.13	100.0

Source: Processed Data from CBS and DGFB, MOF.

The data in Table 5 shows that the distribution of transfer funds has been relatively biased to the eastern region. This condition has been going on for the last 15 years as shown at the Table 1. The proportion of transfer funds enjoyed by the eastern region is much greater both from the proportion of its population and the proportion of its contribution to the national economy. For example, Papua enjoys a transfer fund of 8.6%, whereas its population served in this region is only 1.6% and its contribution to the national economy is only 1.8%. The same is true for the Kalimantan and Sulawesi regions with the proportion of transfer funds enjoyed by 11.5% and 11.8% respectively. Though these two regions only serve their population of about 6.3% and 7.6% respectively and with economic contributions of only 8.2% and 5.9% respectively. On the contrary, the Java-Bali region enjoyed only 33.3% transfer fund to serve its population as much as 56.7% and with economic contribution almost 60%.

The design of Indonesia's transfer fund allocation has already considered the importance of accelerating development in the eastern region by providing a relatively large proportion of transfer funds. For the sake of equity, this policy is actually "unfair" for the western region, especially Java-Bali whose population is very large and economic contribution is very high. Nevertheless, this policy still contributes to the high imbalance of regional fiscal capacity per capita in Indonesia as measured by the Williamson Index (IW), as shown in Figure 2 below.

Figure 2. Trend of Williamson Index of Fiscal Capacity in Indonesia in 2007-20015 and Targets of IW in 2016-2019

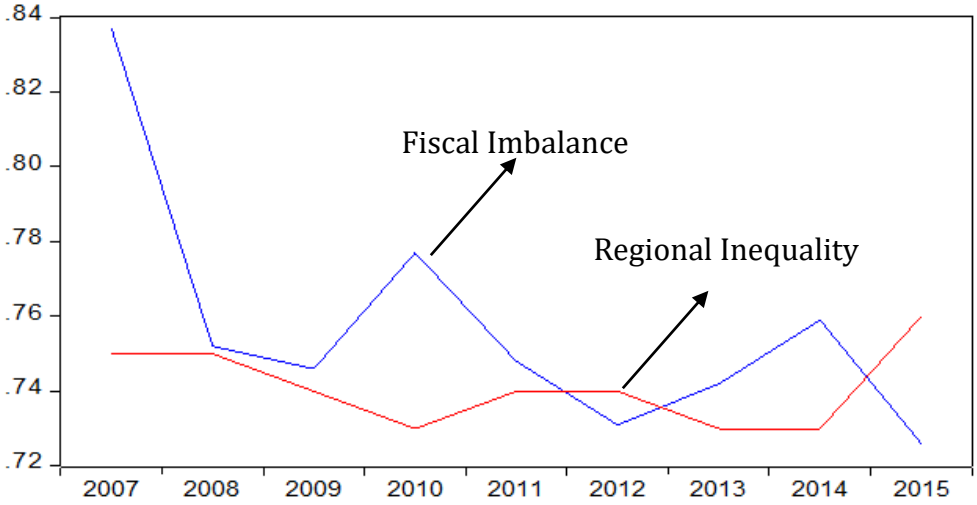


Source: DGFB of MOF, 2016

Using data on per capita local government revenue from 2007 to 2015, it can be seen the development of its IW as calculated by the DGFB of the Ministry of Finance, accompanied by the target of IW on fiscal capacity from 2016 to 2019. From the graph it can be seen that the IW figures of inter-regional fiscal capacity Indonesia fluctuated with a downward trend from 0.837 in 2007 to 0.726 in 2015 and is expected to be 0.705 by 2019. That is, in the period 2007-2015 there has been a reduction of the fiscal gap in Indonesia. Nevertheless, if we consider the amount of IW figures in 2015 (0.726) it can be concluded that the fiscal gap in Indonesia is still at a high level.

To examine the pattern of relationships between transfer funds and regional inequality, Figure 3 illustrates that fiscal imbalances have no relation to regional inequality. In 2007-2008 at a time when fiscal imbalances decreased, regional inequality was constant, and then in 2008-2010 when fiscal imbalances fluctuated, the region's inequality decreased. Afterwards, in the year 2010-2012 and also in the year 2014-2015 when fiscal imbalance decreased the regional inequality even increased. Based on pearson correlation test statistics, correlation coefficient between the regional inequality and fiscal imbalance is 0.019367 which means the regional inequality and fiscal imbalances have no significant relationship, which strengthens the description in Figure 3.

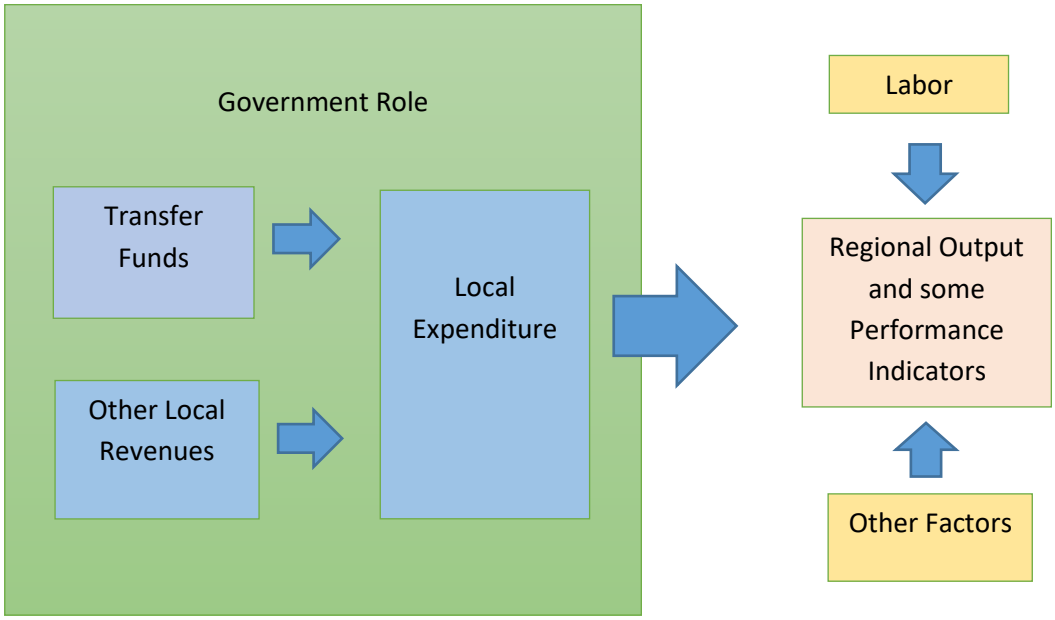
Figure 3. Relationship between Fiscal Imbalance and Regional Inequality, 2007-2015



Impact of Fiscal Transfer on Some Development Performance Indicators

The simultaneous model framework used to assess the impact of transfer funds on several performance indicators is shown in Figure 4. Each type of transfer fund is expected to affect optimal local spending, especially for capital expenditures for infrastructure improvements, rather than administrative spending which is dominant for local civil servant salaries. This local expenditure will affect the regional output (GRDP) and other development performance indicators, such as unemployment. In this simultaneous model, the transfer funds are detailed in General Allocation Fund (DAU), Specific Allocation Fund (DAK), Shared-Revenues (DBH), and other transfer funds (Oth-TF).

Figure 4. Simultaneous Model Framework



Based on the estimated model in Table 6, it can be seen that DBH, DAK, and Local Own Revenue (PAD) have a positive and significant impact on capital expenditure, while for the response of administrative expenditure the factors that give positive and significant influence are DAU, DBH, other transfer funds (Oth-TF) and PAD. Among all factors that affect significantly on capital expenditure, DAK is the most influential factor, where 1% increase of DAK can increase capital expenditure by 0,396%. In administrative expenditures, the DAU has the greatest effect, where a 1% increase in DAU can increase administration spending by 0.535%.

DAK is a specific type of transfer, in which its use has been regulated for special nature activities and shall be in accordance with established provisions. DAK is allocated to specific regions to fund specific activities that are part of the national priority programs which is regional affair. These specific activities are generally related to the basic public service function of government. The estimated model result in Table 6 strengthens the importance of DAK utilization which has a positive and significant impact on capital expenditure. This is in line with the function of public services, where capital expenditures are used for the provision of public services to communities through infrastructure development, such as roads, drinking water and sanitation.

Table 6. Estimated Models in *First Stage Regression*

Explanatory Variables	Dependent Variables	
	Ln_CapExp	Ln_AdmExp
Ln_DAU	0.125	0.535***
	(0.187)	(0.000)
Ln_DBH	0.349***	0.144***
	(0.000)	(0.000)
Ln_DAK	0.396***	0.002
	(0.000)	(0.953)
Ln_Oth-TF	-0.047	0.119***
	(0.276)	(0.000)
Ln_PAD	0.192***	0.186***
	(0.000)	(0.000)
Constant	0.540	1.186***
	(0.525)	(0.000)
Observations	160	160
P-Values in parentheses		
R-squared	0.902	0.977
*** p<0.001, ** p<0.01, * p<0.05		

Source: CBS and DGFB. Province as observational unit in 2011-2015

On the other hand, DAU is one type of block grant transfer funds, where its use is not specified and Local Government can use the fund in accordance with its need for governance. However, until now there is a tendency that the use of DAU is more widely used for personnel expenditure or salaries of local civil servants. The trend is reinforced by the estimated model where the effect of DAU is not significant on capital expenditure, but positive and significant on administrative expenditures, which personnel expenditure is one part in it. In addition to DAU, DBH also has block grant properties, where local governments can use it for capital expenditures as well as administrative expenditures. This is then demonstrated in the estimated models in Table 6, where the DBH effect on capital expenditures and administrative expenditures is positive and significant.

In the second stage, this simultaneous model is estimated to examine the effect of capital expenditure and administrative expenditure on regional output or economic growth (Table 7). The accuracy of these simultaneous models (Tables 6 and 7) is excellent with very high R-squared so that explanatory factors in this simultaneous model have been able to explain well the variance of local expenditures and regional outputs among provinces.

The estimated model in the second stage of simultaneous models, after removing administrative expenditure variable due to high correlation with capital expenditure, yields a higher R-squared value (0.967). All determinant variables in this model affect economic growth positively and significantly. Variable of gross fixed capital formation (FixCapForm) is the factor that has relatively high elasticity coefficient compared to other variables, where 1% increase in FixCapForm can increase economic growth by 0,711%. While a 1% increase in capital expenditure can increase economic growth by 0.285%, still bigger than the labor elasticity. Interestingly, this model also shows that education is a crucial factor in increasing

national output, whereby a 1% increase in net enrollment rate of high school (APMsma) will increase output 0.9% (= 0.009 * 100%) if other factors are equal.

Table 7. Estimated Model in *Second Stage Regression*

Explanatory Variables	Alternative Model Ln_GDRP	Estimated Model Ln_GDRP
Ln_AdmExp	-1.584***	
	(0.000)	
Ln_CapExp	1.231***	0.285***
	(0.000)	(0.000)
APMsma	0.022***	0.009***
	(0.000)	(0.000)
Ln_FixCapForm	0.556***	0.711***
	(0.000)	(0.000)
lnLabor	0.831***	0.129***
	(0.000)	(0.000)
_constant	9.763*	-5.285***
	(0.013)	(0.000)
N	160	160
R-sq	0.919	0.967
p-values in parentheses		
* p<0.05, ** p<0.01, *** p<0.001		

Source: CBS and DGFB. Province as observational unit in 2011-2015

Factors Contributing to Regional Inequality in Indonesia

One of the factors contributing to regional inequality is that the Java-Bali region is still **the main destination of investment in Indonesia**, both domestic investment (PMDN) and foreign investment (PMA). The economic growth of a region in Indonesia is largely determined by private investment factors, as the role of government spending (including transfer funds) is still relatively low. Total (central and local) government spending only reaches about 20% of GDP. When viewed from the GDP expenditure side, the contribution of government expenditure in 2014 accounted for only about 7.5% of GDP. Meanwhile, gross fixed capital formation (FixCapForm) in 2014 accounted for nearly 25% contribution. In other words, investment is much more than government spending in determining economic growth, and this has been supported by the econometric model in Table 7.

The high impact of shared-revenues (DBH) on provincial output in the econometric models supported by the fact that high GRDP tends to be in resource-rich regions with high DBH, such as DKI Jakarta. Infrastructure in these regions is relatively good so it encourages high private investment.

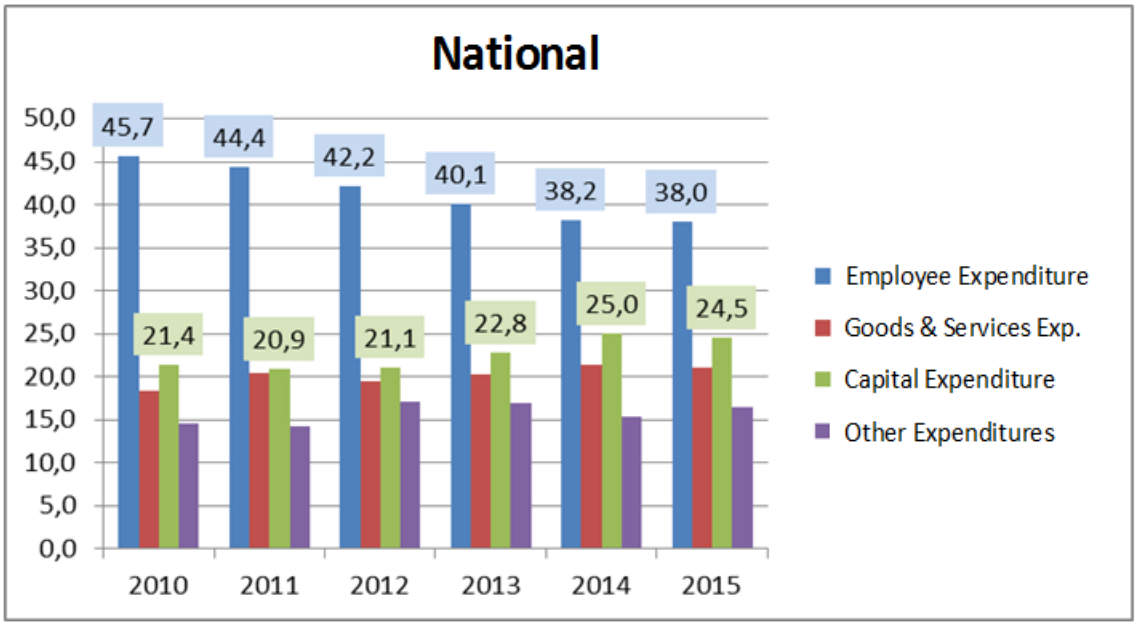
Average data on domestic and foreign investment (PMDN and PMA) realization shows that in the last six years, 56% of PMDN is located in Java-Bali region, whereas 62% of PMA is located in Java-Bali. Investments in other regions such as Sulawesi, Maluku-NT, and Papua are relatively small both for PMA and PMDN. The low investment in the region outside Java-

Bali is caused by various factors such as the availability of regional infrastructure and energy, human resources, and others. Therefore, based on the model in Table 7, **DAK for infrastructure spending should be aimed at priority regions that will drive the regions' output and ultimately reduce regional disparities**.

The second causes of both regional economic and public services imbalances are **factors of local financial management and resource allocations** that have not been efficient and effective. Although the transfer funds have been distributed to regions outside Java-Bali, but if the management is not efficient and effective, the limited amount of funds will certainly not be able to catch up with other developed regions. Based on data from DGFB of MOF, the Java-Bali region has the largest percentage of regions in the high fiscal health performance category (12.8%), much larger than Papua (4.5%), NT-Maluku (6.7%) and Kalimantan (1.8%). In contrast, Kalimantan has the largest percentage of regions with low fiscal health performance category (57.9%), followed by Papua (45.5%), Sumatra (43.5%) and Sulawesi (38.7%). This means that regions in the Java-Bali islands, in general, have fiscal health Performance is much better than outside Java-Bali.

In additions, data in Figure 5 shows that the structure of regional spending is still problematic where the ratio of employee expenditure is still high and vice versa **capital expenditure Ratio is relatively low**. The ratio of employees spending to Total Expenditures of Provinces, Districts and Cities in APBD 2010-2015 is still too large, reaching around 41.4% while Capital Expenditure Ratio is still below 25%.

Figure 5. Expenditure Structure of Local Budget (APBD) in 2010-2015



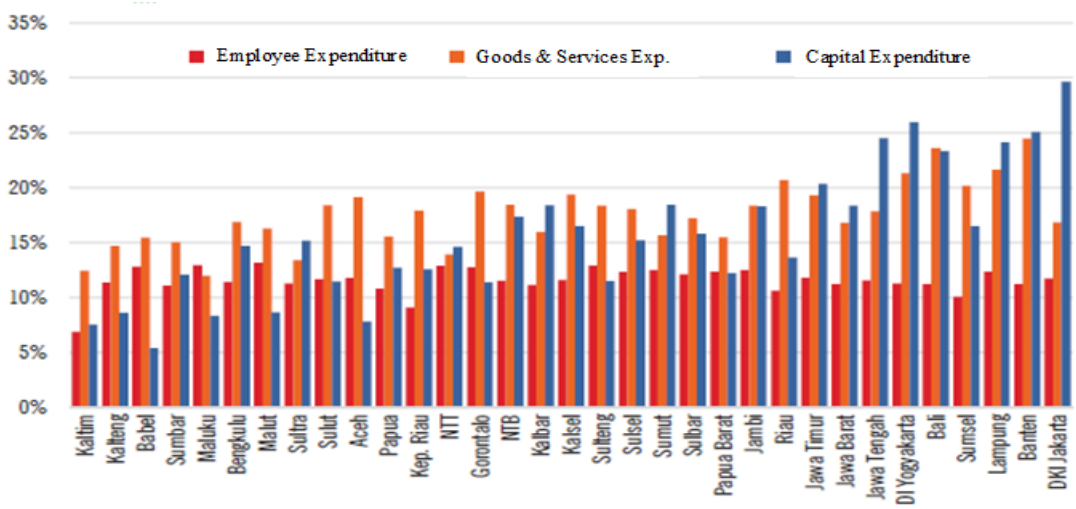
Source: Presentation of DGFB, MOF on 25 May 2015

The 2017 APBN Act already regulates at least 25% of the General Transfers Funds to be allocated for infrastructure spending. Thus if the allocation of capital expenditure of a region is less than 25% of total APBD expenditure, this means that the regional spending structure is relatively poor. In the absence of "benchmarks" in the expenditure structure, this paper

uses the average national spending ratio as the comparison. If the capital expenditure ratio of a region is lower than the average ratio of national capital expenditure, then the region is categorized as less good. Similarly, if the personnel expenditure ratio of a region is higher than the average ratio of national personnel expenditure, then the region is also categorized as less good.

By 2015 it is known that most regions in Indonesia (18 provinces) have poor spending structures because their Employee Expenditure ratios exceed the national average. In fact there are 5 provinces that have employee expenditure ratio of more than 50%, namely West Nusa Tenggara, Bengkulu, West Sumatra, Central Java and the special region of Yogyakarta. The ideal APBD spending structure is unlikely to be realized because in the period of 2010-2014 there are still 9 provinces with average employee spending growth higher than capital expenditure growth (see Figure 6).

Figure 6: Average Growth Expenditure of Aggregate Provinces in 2010-2014, by expenditure types

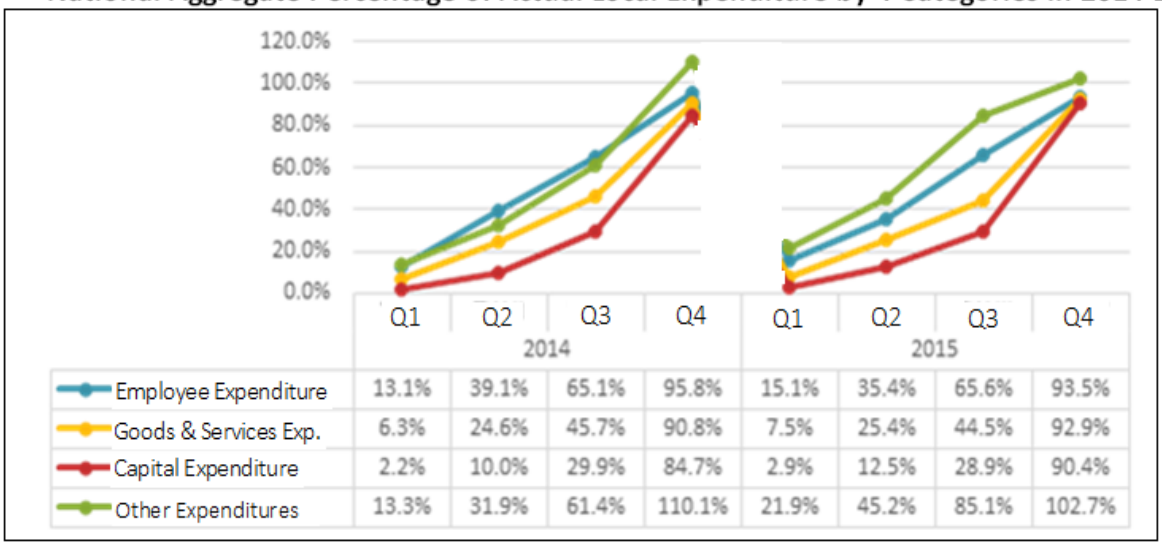


Sources: Descriptive Analysis on APDB 2014, DGFB (2015)

This condition should be a concern, since implicitly these regions have limited budget to fund programs and activities that can directly improve public services.

Another regional financial management issue is that the regions are still facing the problem of **low budget absorption**, especially capital expenditure. Every budget year, capital expenditure in Q1 through Q3 is always very low, and then jumps higher in Q4 (late November to December). In fiscal year 2015 for example, the absorption of capital expenditures until Quarter 3 only reached 28.9% and then jumped to 90.4% in Q4 (see Figure 7).

Figure 7:
National Aggregate Percentage of Actual Local Expenditure by 4 Categories in 2014-2015



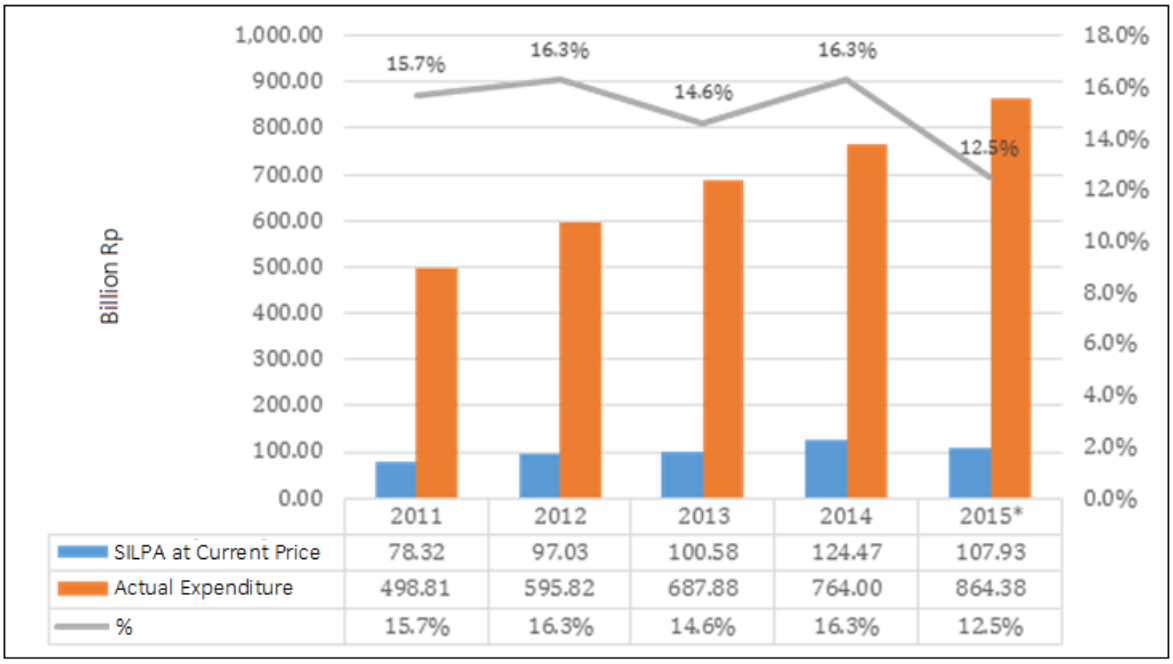
	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4
Employee Expenditure	13.1%	39.1%	65.1%	95.8%	15.1%	35.4%	65.6%	93.5%
Goods & Services Exp.	6.3%	24.6%	45.7%	90.8%	7.5%	25.4%	44.5%	92.9%
Capital Expenditure	2.2%	10.0%	29.9%	84.7%	2.9%	12.5%	28.9%	90.4%
Other Expenditures	13.3%	31.9%	61.4%	110.1%	21.9%	45.2%	85.1%	102.7%

Source: DGFB of MOF, 2016

This is partly due to poor capital expenditure planning, as well as the lack of implementation of the Medium Term Expenditure Framework (MTEF) policy in most regions that allow them to spend since the beginning of the year. MTEF is needed to help increase budget absorption, to avoid "time-consuming" discussions, and to be more certain. However, until now there are still many regions that have not run it because of the tendency that local governments prefer to negotiate each year for each activity budgeted. The low absorption of the budget will certainly harm the public because it can lead to delays in the provision of public services.

The last but not least problem is increasing SILPA of Local Budget and idle funds from year to year. SILPA in 2011 only reached 15.7% (Rp78.32 Trillion), then in the year 2014 reached 16.3% (Rp124.47 trillion). By 2015 it is estimated to be around 12.5% (107.93 trillion) compared to actual spending in 2015 (see Figure 8). There are three factors causing SILPA, namely: (1) realization of revenue that exceeded the target; (2) expenditure efficiency; and (3) low budget absorption. The first and second causative factors are often referred to as good SILPA sources, although if the excess is too large it certainly also reflects weaknesses in budget planning. While the third causal factor is the source of SILPA that must be avoided because it disturbs the achievement of local economic and social performance targets. Several research results indicate that SILPA that comes from the failure to absorb the budget, among others, is caused by unclear rules causing local financial managers are afraid to carry out work, poor human resource quality of financial manager, natural factors interfering with work, quality of work executor in the region (third party), and others.

Figure 8. Ratio of SILPA to Actual Expenditures in 2011-2015



	2011	2012	2013	2014	2015*
SILPA at Current Price	78.32	97.03	100.58	124.47	107.93
Actual Expenditure	498.81	595.82	687.88	764.00	864.38
%	15.7%	16.3%	14.6%	16.3%	12.5%

Source: DGFB of MOF, 2016

If viewed from the distribution of SILPA in 2012 and 2013, the region with the largest percentage of its SILPA on spending is Kalimantan, followed by Sumatra and Java-Bali. The other three regions experienced relatively low SILPA. The data shows that local

governments in Kalimantan are relatively less well-absorbed, because its SILPA is above 20%. This condition is in line with the slow economic growth in Kalimantan region. Meanwhile, the Java-Bali region shows a relatively normal SILPA due to budget efficiency efforts. For the Maluku-NT and Papua regions it is necessary to investigate further the causes of the relatively low SILPA.

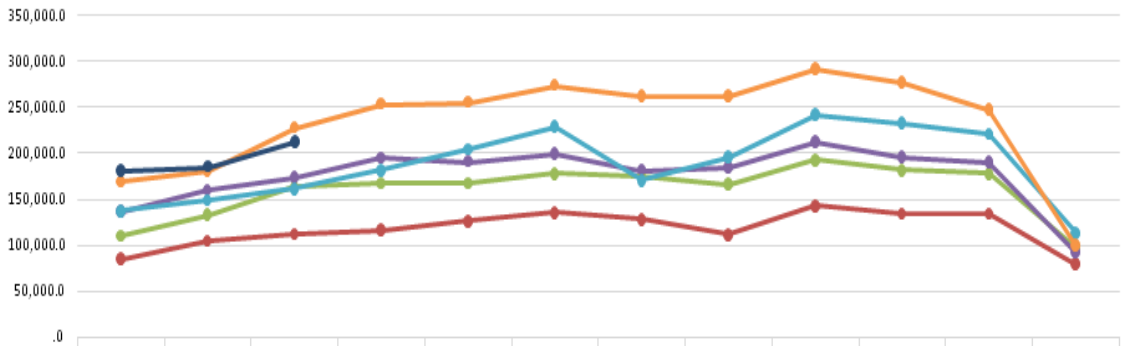
Table 11. Distribution of SILPA by Region in 2012 and 2013

Region	Actual Expenditure		SILPA			
	2012	2013	2012		2013	
	Million Rp	Million Rp	Million Rp	%	Million Rp	%
Sumatera	157.674.814	176.519.974	19.534.635	12,4%	34.427.313	19,5%
Jawa-Bali	202.183.325	234.703.046	22.964.869	11,4%	29.212.336	12,4%
Kalimantan	69.817.254	103.583.092	16.520.340	23,7%	21.403.543	20,7%
Sulawesi	55.706.142	56.279.230	5.964.181	10,7%	4.020.882	7,1%
NT-Maluku	34.512.538	40.297.912	2.730.385	7,9%	3.006.268	7,5%
Papua	38.447.725	37.302.705	4.510.138	11,7%	2.860.963	7,7%
Total	558.341.799	648.685.959	72.224.548	12,9%	94.931.306	14,6%

Source: Processed Data on Realization of Local Budget, DGFB of MOF. Java-Bali data does not include DKI Jakarta.

The amount of SILPA will certainly lead to an increase in idle funds of local government in the banking sector. Idle funds are funds that are not or have not been used by local governments. Although it slightly decreased from 2014 (Rp 113.08 trillion), the amount of Idle funds for local governments in December 2015 is still around Rp 100 trillion as shown in Figure 9 below.

Figure 9. Local Government Funds in Banking in 2011-2016



	JAN	s.d FEB	s.d MAR	s.d APR	s.d MEI	s.d JUNI	s.d JULI	s.d AGUS	s.d SEPT	s.d OKT	s.d NOV	s.d DES
2011	85,387.7	104,942.9	112,353.9	116,463.9	126,398.5	135,372.2	127,809.4	111,368.9	143,302.5	134,585.9	134,718.9	79,238.7
2012	110,404.9	132,938.3	163,255.1	167,576.2	168,072.8	178,099.6	174,767.5	166,315.6	193,206.1	182,096.0	177,740.2	97,709.7
2013	137,331.4	159,771.2	174,051.3	194,882.4	190,994.8	199,648.9	181,804.2	184,641.2	212,336.1	195,810.1	190,322.5	92,376.5
2014	136,824.9	149,259.6	161,389.4	181,272.3	203,908.4	229,005.8	170,047.2	195,295.8	241,749.4	232,305.0	220,457.3	113,076.0
2015	168,881.0	181,165.0	227,742.4	253,707.7	255,326.3	273,494.5	261,446.1	261,867.2	291,527.8	276,037.7	247,335.6	99,678.5
2016	180,713.7	185,367.3	212,503.1									

Source: DGFB of MOF, 2016

The government has actually attempted to reduce the amount of idle funds from local governments in banking by issuing PMK No.235/PMK.01/2015 on the conversion of DBH and/or DAU allocation in non-cash form. However, because the definition of unreasonably cash and/or deposits of local government in banks is loose, this rule has not been so effective. For example, the conversion amount of DAU in April 2016 (only Rp 359 billion) is very small compared to the amount of transfer funds in the same period.

Conclusion

- The increasing proportion of transfer funds to the outside of Java-Bali region could increase the contribution of GRDP of outside Java-Bali (except Kalimantan) to the national GDP. Meanwhile, as expected, the contribution of GRDP of Java-Bali region decreased from 61.54% in 2000 to 59.81% in 2015. The economic role of outside Java-Bali (Sumatra, Sulawesi, Maluku-Nusa Tenggara, and Papua) slightly went up.
- The redistribution of transfer funds from Java-Bali to outside Java-Bali has little effect on the economic role of outside Java-Bali region. The Java-Bali region is still the center of Indonesia's economic growth. In other words, the policy of transfer distribution of nearly 15 years can be expected to only slightly reduce the regional inequality in Indonesia.
- The economic imbalance among regions in Indonesia is still relatively high, especially between regions of Java-Bali with other regions. In general, however, there has been a tendency to decrease inequality among provinces. For example, the difference between the highest poverty rate (36.8% in Papua) and the lowest (3.48% in DKI Jakarta) was 33.32%, then by 2015 the difference has decreased to only 24.79%
- DBH, DAK, and local own revenue (PAD) have a positive and significant impact on capital expenditure, while for the response of administrative expenditure the factors that give positive and significant influence are DAU, DBH, other transfer funds (Oth-TF) and PAD. Among all transfer fund types that affect significantly on capital expenditure, DAK is the most influential one, where 1% increase of DAK can increase capital expenditure by 0,396%. In administrative expenditures, the DAU has the greatest effect, where a 1% increase in DAU can increase administration spending by 0.535%.
- Gross fixed capital formation (FixCapForm) is the factor that has relatively high elasticity coefficient compared to other variables, where 1% increase in FixCapForm can increase economic growth by 0,711%. While a 1% increase in capital expenditure can increase economic growth by 0.285%, still bigger than the labor elasticity. The econometric model also shows that education is a crucial factor in increasing national output.
- Factors contributing to the ineffectiveness of transfer funds in the improvement of regional inequality are, among others, the tendency of private investment location in Java-Bali region, weak regional financial management in outside Java-Bali regions,

less ideal local budget structure, uneven budget absorption along the year, and relatively large SILPA of local government.

- DAK for infrastructure spending should be aimed at priority regions that will drive the regions' output and ultimately reduce regional disparities. The economic growth which previously declined steadily from 6.02% in 2011 to 4.8% in 2015, now began to increase to 5.02% in 2016. This is likely to be associated with significant increases in DAK in 2015 and 2016. Therefore it is necessary to reform DAK mechanisms such as by proposal-based DAK policy implemented starting from 2016.
- This recommended proposal-based DAK mechanism is a combination of top-down and bottom-up principles whose designs are relatively simple and ideal if the stages are as described in Juanda and Handra (2017) and supported by DAK e-Planning application. The preparation of proposals by local governments (LGs) is to adjust the development priorities of the sectors to the conditions and needs of LGs. The absorption of DAK will be effective and efficient because the sectors/subsectors and activities are as proposed by LGs. Similarly, technical guidance from technical ministries is relatively the same within 3 years, making it easier for regions to implement medium-term expenditure frameworks (MTEF).

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