



# THE FISCAL TRANSFER EFFECT ON REGIONAL INEQUALITY

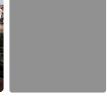
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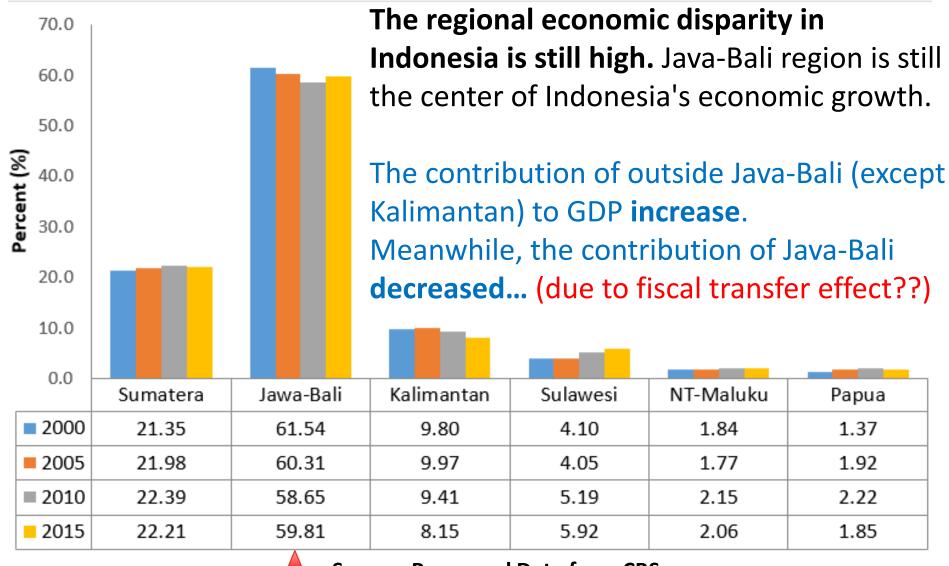


#### **Outline**

- Trend of Economic and Fiscal Disparities
- Relationship Between Transfer Funds and Regional Inequality
- Effect of Each Type of Transfer Fund on Some Development Performance Indicators
- Conclusion and Recommendation



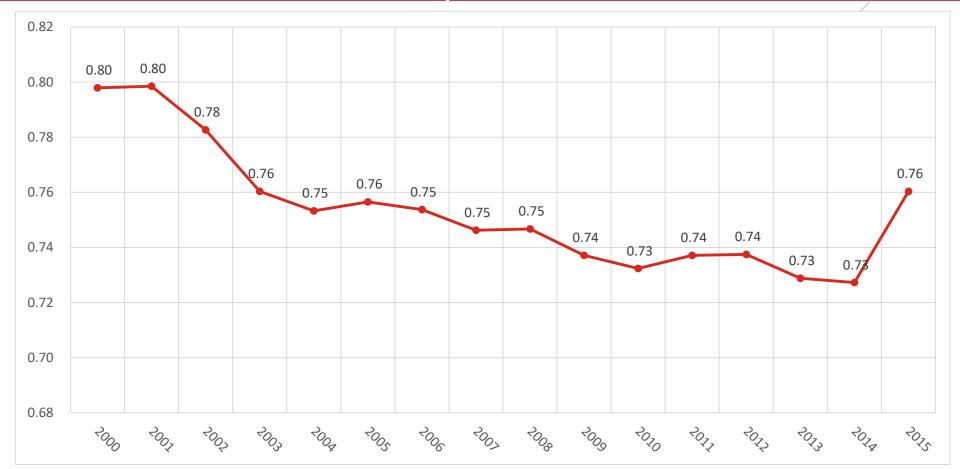
## Regional Role in the Contribution to National Output (Nominal GDP) for the Period 2000-2015



Source: Processed Data from CBS

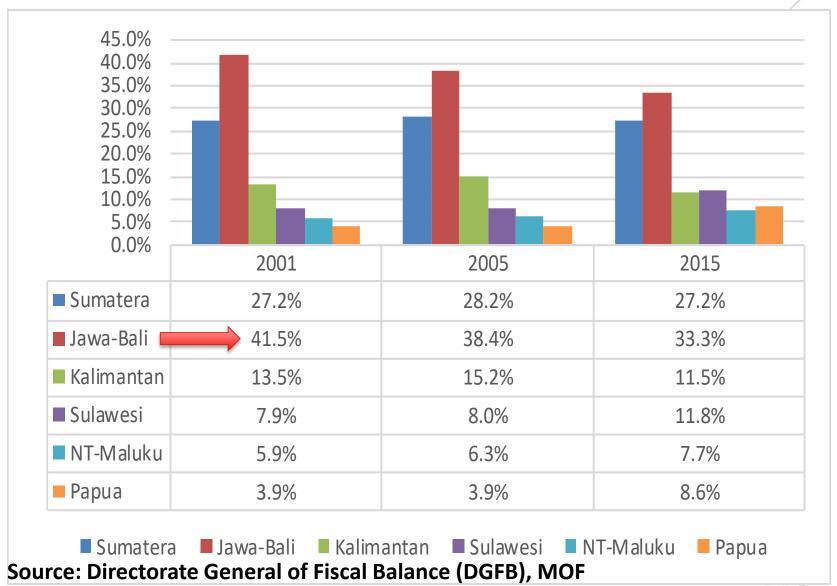


## Trend of Williamson Index of GRDP Percapita in Indonesia, Year 2000-2015



There has been a slightly improvement of regional inequality from 2000 to 2014. Nevertheles, regional disparity in Indonesia is still high  $(IW_{2015}=0.76>0.5_{high})$ .

#### **Distribution of Fiscal Transfer in Indonesia, 2001-2015**



#### Trend of Highest & Lowest Poverty Rate, 2010-2015

Poverty Rate	2010	2015
Indonesia	13.33	10.8
Province		
Highest (Papua)	36.8	25.73
Lowest (DKI Jakarta)	3.48	3.61
Difference (gap)	33.32	22.12

**Source: Processed Data from CBS** 

The gap between the eastern and western regions of Indonesia is still high.

The trend of the distance between the highest and lowest Poverty Rate indicated that there has been an improvement in regional inequality... (due to fiscal transfer effect??)

#### Human Development Index (HDI) by Province in 2010-2014

Province

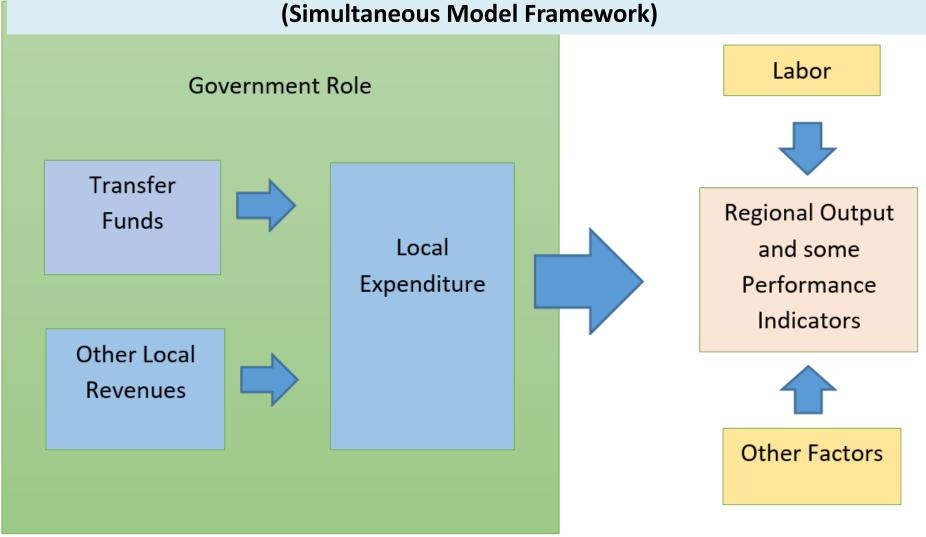
Aceh	67.09	67.45	67.81	68.30	68.81
Sumatera Utara	67.09	67.34	67.74	68.36	68.87
Sumatera Barat	67.25	67.81	68.36	68.91	69.36
Riau	68.65	68.90	69.15	69.91	70.33
Jambi	65.39	66.14	66.94	67.76	68.24
Sumatera Selatan	64.44	65.12	65.79	66.16	66.75
Bengkulu	65.35	65.96	66.61	67.50	68.06
Lampung	63.71	64.20	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 $\Delta = 21.86$	65.20	65.89	66.68	67.17	67.63
Kalimantan Timur $\Delta = 21.00$	71.31	72.02	72.62	$4\frac{1}{3.2}21.64$	73.62
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

#### **Literacy Rate (LR) by Province in 2011-2015**

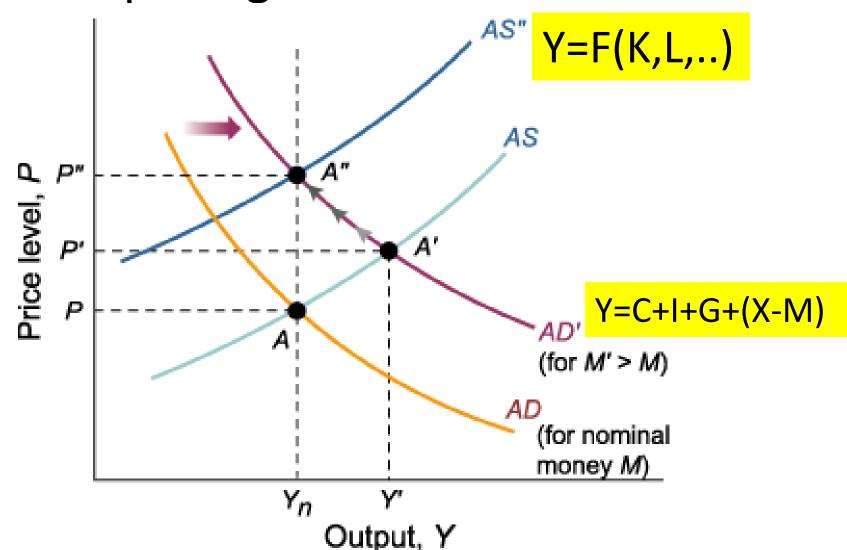
Provinsi	2011	2012	2013	2014	2015
Aceh	95.84	96.11	96.7	97.42	97/63
Sumatera Utara	96.83	97.35	97.8	98.57	98.68
Sumatera Barat	96.2	96.67	97.4	98.44	98.56
Riau	97.61	97.79	97.9	98.75	98.87
Iambi	95.52	95.97	96.7	97.77	97.84
Sumatera Selatan	96.65	96.9	97.2	98.14	98.22
Bengkulu	95.13	95.69	96.5	97.52	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 $\Delta = 34.77$	-	-	-	$\Delta$ = 28.80	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	<b>KOMBAK</b>	Australian <sub>3</sub>
Nasional	90.21	90.76	91.50	92.60	95.50

## Relationship between Fiscal Transfer and Regional Inequality

**Impact** of Fiscal Transfer on Some Development Performance Indicators (Simultaneous Model Framework)



## Perkembangan Output (PDRB) akibat peningkatan AD dan AS



#### Model Makro (Keyness) Sederhana

- AS (Aggregate Supply) = AD (Aggregate Demand)
- Y = C + I + G + (EX-IM)
- Misal: C= co + c1 (Y-T) dan EX-IM=0

• Y = co + c1 (Y-T) + I + G

Pdptn
APBD

$$Y = \frac{1}{1 - c_1} [c_0 + \bar{I} + \bar{G} - c_1 T]$$

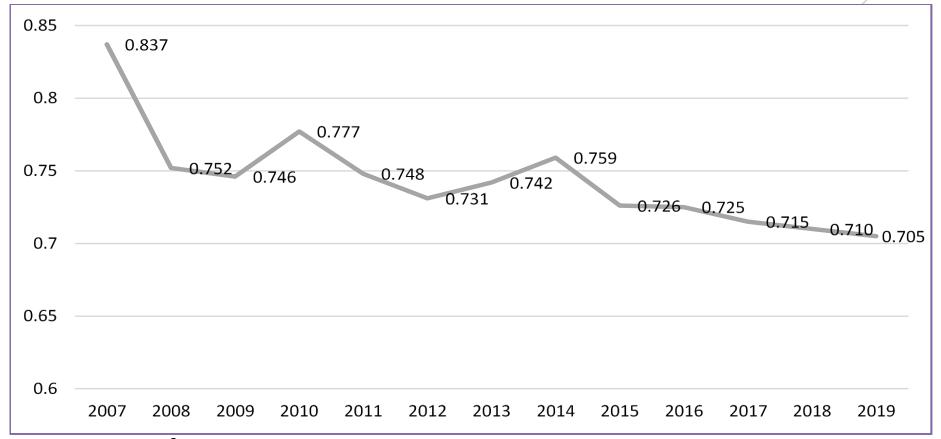
### Comparison of Distribution of Transfer Funds, Population, and GRDP Inter-Region in Indonesia, Year 2015

	Total Transfer	Share	Population	Share	GRDP in 2015	Share
	Funds in 2015	(%)	(thousand)	(%)	Current Prices	(%)
Region	(thousand Rp)				(billion Rp)	
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

transfer funds distribution has been relatively <u>biased</u> to the eastern region. 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.

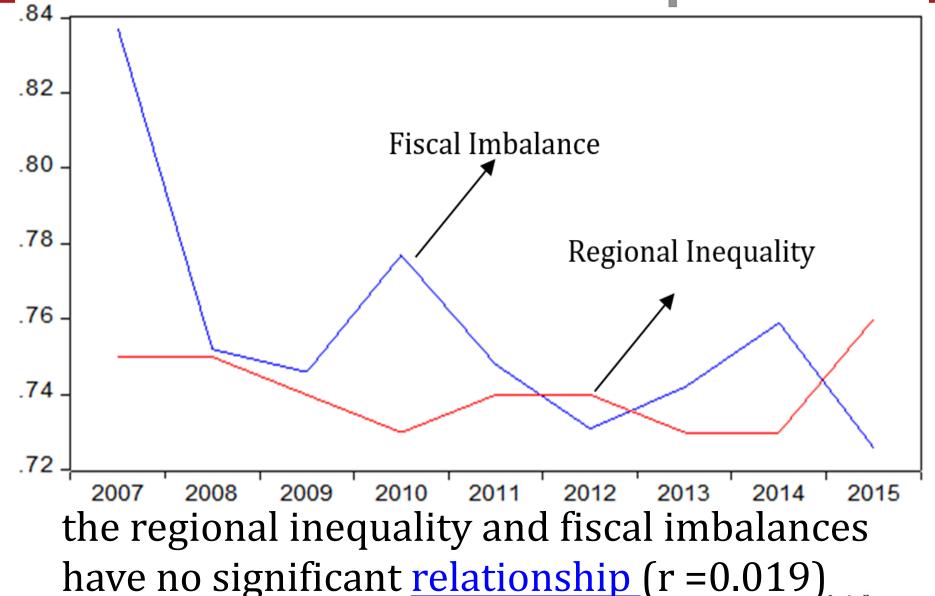
### Trend of Williamson Index of Fiscal Capacity Percapita in 2007-2019 & Targets in 2016-2019



Source: DGFB of MOF, 2016

The Fiscal transfer policy has already considered the importance of accelerating development in the eastern region by providing a relatively large proportion of transfer funds. Nevertheless, this policy still contributes to the high imbalance fiscal capacity/capita

## Relationship between Fiscal Imbalance and Regional Inequality, 2007-2015



#### Estimated Models in First Stage Regression

	Dependent Variables			
<b>Explanatory Variables</b>	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		

DBH, DAK & PAD have a positive & 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 & PAD.

#### The importance DAK

allocated to specific regions to fund specific activities that are part of the national priority programs.

DAK for infrastructure spending should be aimed at priority regions that will drive the regions' output and ultimately reduce regional disparities.

- KOMPAK Australian Aid Aid Aid

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

#### Estimated Model in Second Stage Regression

	Alt_Model	Estimated Model
<b>Explanatory Variables</b>	Ln_GDRP	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)
InLabor	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		

All determinant variables affect economic growth. Variable of gross fixed capital formation is the factor that has 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 (*net enrollment rate*) is a crucial factor in increasing national output (e=0.9)

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





## Faktor-faktor yang mempengaruhi belanja modal (lbmodalsp)

	Nasional	KBI	KTI
VARIABLES	Lbmodalsp	Lbmodalsp	Lbmodalsp
Ldausp	0.125	0.371**	-0.169
Ldbhsp	0.349***	0.293***	0.429***
Ldaksp	0.396***	0.181*	0.524***
Lgablainsp	-0.047	-0.011	-0.041
Lpadsp	0.192***	0.188***	0.261***
Constant	0.540	-0.304	1.511
Observations	160	79	81
P-Values in parentheses			
R-squared	0.902	0.910	0.941
*** p<0.01, ** p<0.05, * p<0.1			

- Hasil simulasi menunjukkan bahwa secara nasional DBH dan DAK memberikan pengaruh yang positif dan signifkan terhadap belanja modal. DAK merupakan variabel yang pengaruhnya paling besar, dimana kenaikan 1% DAK dapat meningkatkan belanja modal sebesar 0,396%, sementara itu pada DBH kenaikan 1%nya dapat meningkatkan belanja modal sebesar 0,349%.
- Simulasi antara Kawasan Barat Indonesia (KBI) dan Kawasan Timur Indonesia (KBI) menunjukkan hasil yang berbeda, dimana untuk KBI DAU, DBH dan DAK memberikan pengaruh yang positif dan signifikan terhadap belanja modal, dengan pengaruh terbesar berasal dari DAU. Sementara itu, KTI menunjukkan pola yang sama dengan nasional, dimana DBH dan DAK memberikan pengaruh yang positif dan signifikan terhadap belanja modal sedangkan pengaruh DAU tidak signifikan



## Faktor-faktor yang mempengaruhi belanja modal (lpdrbk)

	Nasional	KBI	KTI
VARIABLES	LPDRBK	LPDRBK	LPDRBK
Lbmodalsp	0.341***	0.369**	0.409***
Lpmtb	0.666***	0.606***	0.694***
Ltkag	0.135***	0.157*	-0.044
Lipm	0.009	0.018*	-0.006
Constant	-5.393	-4.752	-4.869
Observations	160	79	81
P-Values in parentheses			
R-squared	0.962	0.969	0.946
*** p<0.01, ** p<0.05, * p<0.1			

- Hasil simulasi menunjukkan bahwa secara nasional Belanja Modal memberikan pengaruh yang positif dan signifkan terhadap PDRBK, dimana kenaikan 1% belanja modal dapat meningkatkan PDRBK sebesar 0,341%, sementara itu pada PMTB yang pengaruhnya paling besar, kenaikan 1%nya dapat meningkatkan PDRBK sebesar 0,666%.
- Simulasi antara Kawasan Barat Indonesia (KBI) dan Kawasan Timur Indonesia (KBI) menunjukkan hasil yang berbeda, dimana untuk KBI tenaga kerja dan ipm memiliki pengaruh yang signifikan pada belanja modal, sedangkan pada KTI pengaruhnya tidak signifikan. Pengaruh belanja modal dan PMTB sama-sama signifikan pada kedua kawasan, dengan pengaruh PMTB yang lebih besar jika dibandingkan dengan belanja modal.

Factors contributing to the ineffectiveness of transfer funds in the improvement of regional inequality

#### 1. The tendency of private investment location in Java-Bali

#### Percentage of Domestic Investment by Region in 2010-2015

	2010	2011	2012	2013	2014	2015	Average
Sumatera	7.0%	21.5%	15.5%	17.9%	18.9%	21.0%	20.4%
Jawa-Bali	58.5%	49.3%	60.5%	54.2%	62.3%	58.5%	55.8%
Kalimantan	24.0%	17.7%	18.2%	22.4%	13.7%	11.1%	16.7%
Sulawesi	7.2%	9.5%	5.3%	2.8%	4.6%	7.6%	5.2%
NT-Maluku	3.0%	0.1%	0.4%	2.0%	0.2%	0.9%	1.1%
Papua	0.4%	1.9%	0.1%	0.7%	0.2%	0.7%	0.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**Source: Investment Coordinating Board (BKPM)** 

The average 56% of PMDN is located in Java-Bali region. Investments in other regions are relatively small. The low investment is caused by various factors such as the availability of regional infrastructure and energy, human resources, and others →increase DAK

#### Percentage of Foreign Investment by Region in 2010-2015

	2010	2011	2012	2013	2014	2015	Average
Sumatera	4.6%	10.7%	15.2%	11.9%	13.5%	12.8%	13.2%
Jawa-Bali	72.6%	65.8%	57.6%	61.9%	55.6%	54.4%	62.1%
Kalimantan	12.4%	9.9%	13.1%	9.7%	16.4%	20.0%	12.3%
Sulawesi	5.3%	3.7%	6.1%	5.2%	7.2%	5.3%	5.6%
NT-Maluku	2.9%	3.1%	3.0%	2.9%	2.4%	3.6%	3.3%
Papua	2.1%	6.9%	5.0%	8.4%	5.0%	3.9%	3.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Investment Coordinating Board (BKPM)

The average 62% of PMA is located in Java-Bali region. Investments in other regions are relatively small. The low investment is caused by various factors such as the availability of regional infrastructure and energy, human resources, and others increase DAK KOMPAK AUSTRALIAN

#### Percentage of Local Governments

#### by Fiscal Health Performance Category and by Region, 2015

Pogion	Fiscal Health Performance Category (%)					
Region	High	Medium	Low	Total		
Sumatra	7.5	49.0	43.5	100		
Java-Bali	12.8	64.0	23.2	100		
Kalimantan	1.8	40.4	57.9	100		
Sulawesi	10.7	50.7	38.7	100		
Maluku-NT	6.7	66.7	26.7	100		
Papua	4.5	50.0	45.5	100		

Source: Data from DGFB of MOF for Region Incentive Fund Calculation, 2015

LGs in Java-Bali islands have fiscal health Performance is much better than those in outside Java-Bali

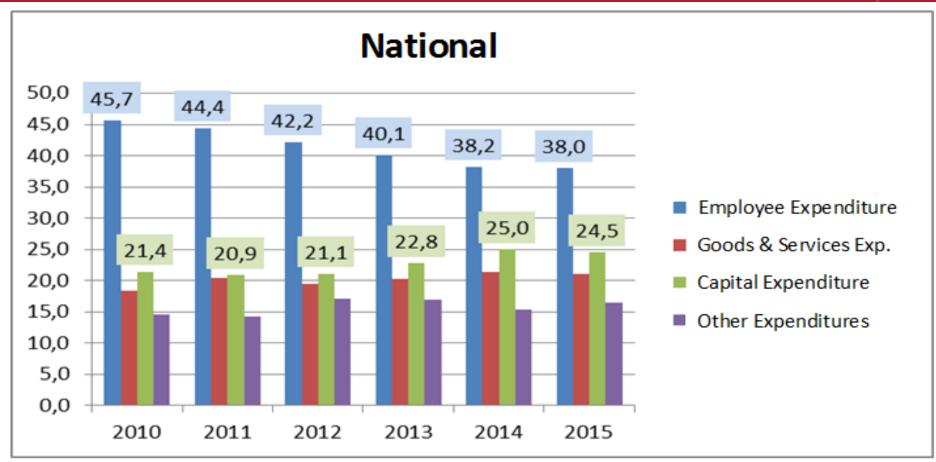
## Percentage of Local Governments by Regional Rating Category and by Region, 2015

	Regional Rating Category (%)						
Region	High	Medium	Low	Total			
Sumatra	2.5	75.5	22.0	100			
Jawa-Bali	11.0	83.5	5.5	100			
Kalimantan	0.0	67.2	32.8	100			
Sulawesi	2.6	80.5	16.9	100			
Maluku-NT	7.3	67.3	25.5	100			
Papua	2.3	34.9	62.8	100			

Source: Data from DGFB of MOF for *Region Incentive Fund* Calculation, 2015 <u>Description:</u> Low (DD- to CC); medium (CC+ to BB); and High (BB+-AA+)

LGs in Java-Bali islands have Regional Rating is much better than those in

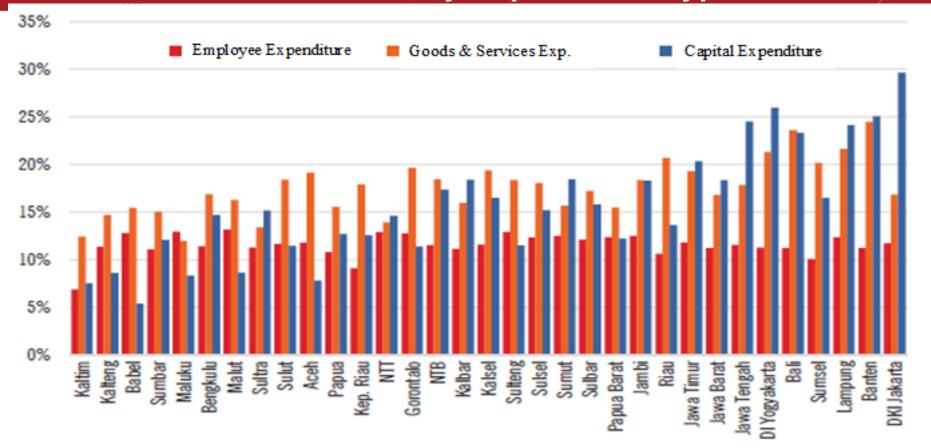
#### Expenditure Structure of Local Budget (APBD) in 2010-2015



Source: Presentation of DGFB, MOF on 25 May 2015

The ratio of employee expenditure is high and **capital expenditure Ratio is low**. The 2017 APBN Law already regulates at least 25% of the General Transfers Funds to be allocated for infrastructure spending

### Average Growth of Expenditure of Aggregate Provinces in 2010-2014, by Expenditure Type

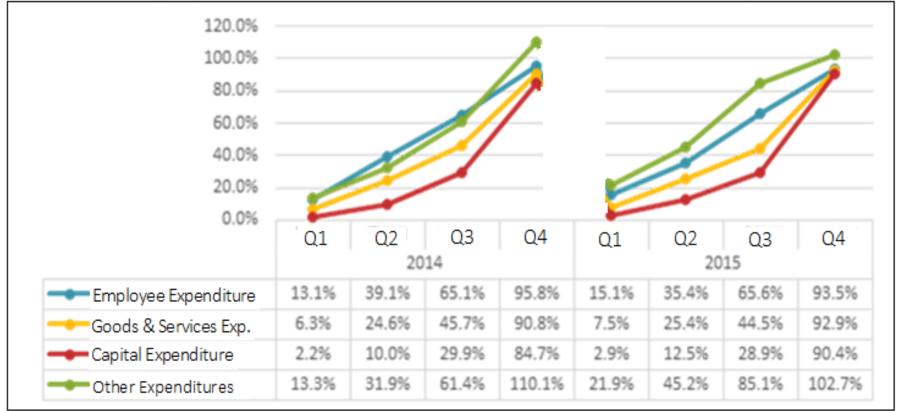


#### Sources: Descriptive Analysis on APDB 2014, DGFB (2015)

There are 9 provinces with average employee spending growth higher than capital expenditure growth. These regions have limited budget to fund programs/activities that can directly improve public services

### 3. Low budget absorption especially capital expenditure can lead to delays in the provision of public services

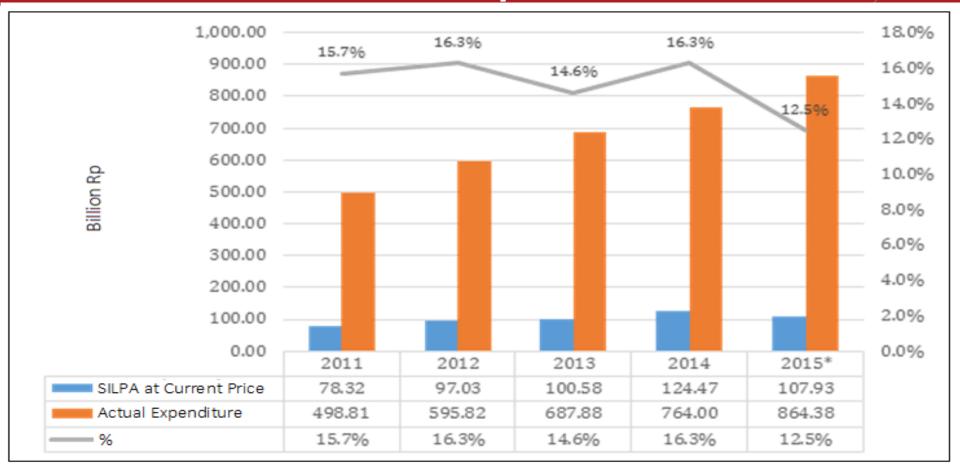
Figure 7:
National Aggregate Percentage of Actual Local Expenditure by 4 Categories in 2014-2015



Source: DGFB of MOF, 2016

Partly due to poor capital expenditure planning, as well as the lack of implementation of the MTEF policykompak Australian

#### Ratio of SILPA to Actual Expenditures in 2011-2015



Source: DGFB of MOF, 2016

3 factors causing SILPA: (1) realization of revenue that exceeded the target; (2) expenditure efficiency; and (3) low budget absorption.

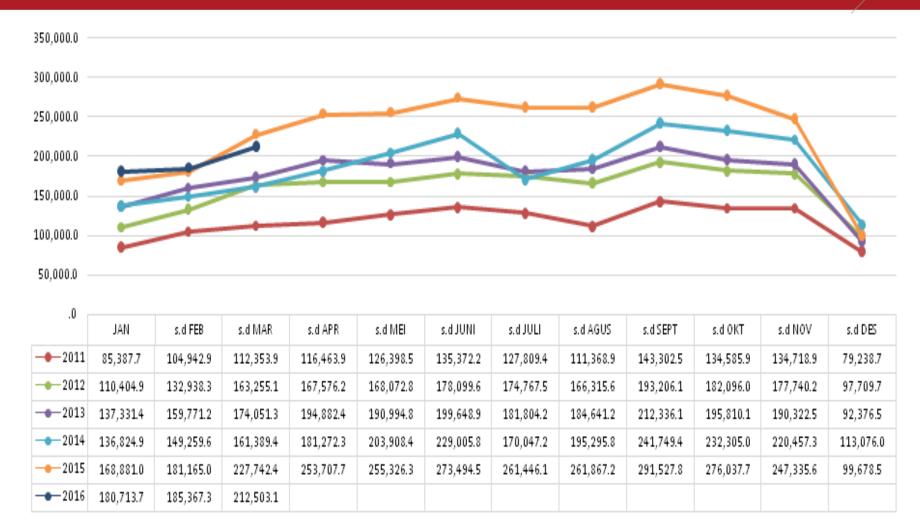
#### Distribution of SILPA by Region in 2012 and 2013

	Actual Expenditure		SILPA			
Region	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: DGFB of MOF. Java-Bali data does not include DKI Jakarta

LGs in Kalimantan are less well-absorbed → 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.

#### Local Government Funds in Banking in 2011-2016



Source: DGFB of MOF, 2016

to reduce idle funds →PMK No.235/PMK.01/2015 on the conversion of DBH and/or DAU allocation in non-cash form.

KOMPA

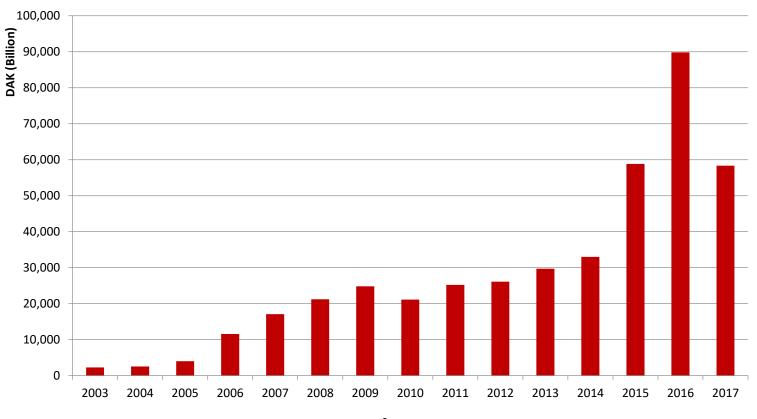
#### Conclusion

- 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
- Tendency to improvement in inequality among provinces, e.g. in poverty rate and public service.
- 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, inefficient 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.

#### Recommendation

- 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.
- The proposal-based DAK mechanism is a combination of topdown 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).

#### Trend of DAK for Infrastructure Spending, 2003-2017



Source: DGFB of MOF, 2016

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.



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