General Purpose Central-provincial-local Transfers (DAU) in Indonesia

From Gap Filling to Ensuring Fair Access to Essential
Public Services for All

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Abstract

Indonesia has come a long way from centralized governance to decentralized local governance, and today Indonesia ranks among the most decentralized developing countries. The Government of Indonesia is revisiting all aspects of local governance to make appropriate legal and institutional adjustments based on lessons learned during the past decade. An important area of this re-examination and possible reform is the central financing of subnational expenditures. The system of intergovernmental finance represents one of the most complex systems ever implemented by any government in the world. The system is primarily focused on a gap-filling approach to provincial-local finance in an objective manner to ensure revenue adequacy and local autonomy but without accountability to local residents for service delivery performance. This paper takes a closer look at *Dana Alokasi Umum*—the most dominant program of unconditional central transfers to finance provincial-local government expenditures in Indonesia. The paper also

presents illustrative simulations of alternative programs and compares these with the existing *Dana Alokasi Umum* allocations.

The paper concludes that super complexity leads to lack of transparency, inequity, and uncertainty in allocation. Simpler alternatives are available that have the potential to address autonomy and equity objectives while also enhancing efficiency and citizen-based accountability. Such alternatives would represent a move away from the complex gap-filling approach to simple output-based transfers to finance operating expenditures. Capital grants would deal with infrastructure deficiencies. And the alternatives would institute fiscal capacity equalization as a residual program with an explicit standard to ensure that all local jurisdictions have adequate means to deliver reasonably comparable levels of public services at reasonably comparable levels of tax burdens across the country.

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1. Introduction

Provincial and local government reforms continue to dominate the national policy agenda today in Indonesia inspite of the sweeping legislative and administrative changes affecting the organization, functions and finance of sub-national government undertaken since 1999. During the past decade, Indonesia has come a long way from a centralized governance to decentralized local governance. By the big bang in 2001, Indonesia has leap-frogged to the community of decentralized nations, and today Indonesia ranks among the most decentralized developing countries (see Ivanyina and Shah, 2011; see Figure 1). With this transformation, the Central Government still accounts for 91% of revenue collection and 64% of direct spending (2011 figures). Provinces and local governments account for 9% of revenue collection and 36% of expenditures. Provincial governments are relatively less important than local governments and command only 9% of national expenditures. Local government expenditure share (27%) in Indonesia compares favorably with most developing and industrial countries (see Figure 2).

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Figure 1. Local Government Share of Total Expenditures (2005)

Figure 2. Expenditure, Employment and Revenue Collection Shares by Order of Government

Source: Ministry of Finance and Ministry of Home Affairs, Indonesia

Indonesia quite remarkably achieved this status without experiencing any service delivery disruptions even during the early stages of this rapid transformation. Today, the Government of Indonesia is revisiting all aspects of local governance to make appropriate legal and institutional adjustments based upon lessons learned during the past decade. An important area ripe for this re-examination and possible reform is the central financing of subnational expenditures. The system of intergovernmental finance in vogue today represents one of the most complex system ever implemented by any government in the world. The system is primarily focused on a gap-filling approach to provincial-local finance in an objective manner to ensure revenue adequacy and local autonomy, but without accountability to local residents for service delivery performance. This is done through a great degree of academic rigor using highly complex procedures with the objective of providing precise justice and more importantly to keep politics at bay. Do these complex programs serve their explicitly stated objectives? This

paper takes a closer look at the most dominant program of central transfers to finance provincial-local government expenditures in Indonesia.

The paper concludes that super complexity leads to a lack of transparency, inequity and uncertainty in allocation. Simpler alternatives are available that have the potential to address equity objectives while also enhancing efficiency and citizen-based accountability. Such alternatives would represent a move away from complex gap filling and special allocation approaches to simple output based transfers to finance operating expenditures, complemented by capital grants to deal with infrastructure deficiencies and instituting fiscal capacity equalization as a residual program with an explicit standard to ensure that all local jurisdictions have adequate means to deliver reasonably comparable levels of public services at reasonably comparable levels of tax burdens across the country. The paper argues that such an alternative system of intergovernmental finance would preserve autonomy, while enhancing equity, simplicity, objectivity, transparency and accountability.

The rest of the paper is organized as follows. Section 2 provides a bird's eye view of central transfers to sub-national governments. Section 3 presents a critical review of general allocation transfers (*Dana Alokasi Umum*—DAU). Section 4 presents simulations of alternative approaches to such transfers. Section 5 discusses the merits and demerits of a popular proposal to set up an independent grants commission. A final section presents concluding remarks and presents a forward-looking view about the reform of intergovernmental finances in Indonesia.

2. Central Transfers to Finance Provincial-Local Public Services in Indonesia – A Review

Central transfers to provincial-local governments in Indonesia—a brief synopsis

Central transfers are the most important source of revenues for sub-national governments in Indonesia. These financed 90% of sub-national governments, 54% of provincial, 86% of cities and 93% of districts expenditures in 2010. Major transfers (Balance Grants or *Dana Perimbangan*) to finance provincial and local expenditures are as follows.

Table 1. Central-Provincial/Local Transfers in Indonesia (2010)

Transfer	Share of total transfer in 2010	Share of sub-national expenditures in 2010
Tax sharing	25%	20%
Gap filling (DAU)	56%	46%
Special Allocation Grant (DAK)	6%	5%
Other specific purpose	13%	10%
All	100%	90% (Provinces: 54%; Cities: 86% and Districts: 93%)

Source: Ministry of Finance, Indonesia

Tax by tax sharing (Dana Bagi Hasil—DBH). Central Government collects taxes on personal income, property, and renewable and non-renewable natural resources and returns by origin a pre-defined share of the revenues to the originating jurisdiction. These transfers accounted for 25% of total central transfers in 2010 and financed 20% of sub-national expenditures.

Transfers to deal with vertical and horizontal fiscal gaps. Central government provides a basic allocation for wages and salaries and a fiscal gap transfer (*Dana Alokasi Umum* or DAU) if a jurisdiction's revenues fall short of calculated expenditure needs using macro indicators. These transfers accounted for 56% of total central transfers and financed 46% of sub-national expenditures.

Specific Purpose Grants. These grants include the Special Allocation Grant (*Dana Alokasi Khusus* or DAK), Special Autonomy grants for Aceh, Papua and Papua Barat, Adjustment Fund compensation, and Special Incentives Grants (*Dana Insentif Daerah* or DID) and *Hibah*. DAK is intended to influence local government spending on areas of national priority. It accounts for 6% of central transfers and finances 5% of sub-national expenditures. Adjustment Fund compensation (*Dana Penyesuaian* or DP) provides special ad-hoc assistance e.g. for school operational assistance (BOS), allowances for certified teachers etc. Special Autonomy grants (*Dana Otonomi Khusus* or DOK) are intended to provide special and preferential support to Aceh and Papua provinces. DID is a small grant program accounting for less than 1% of total transfers and are granted to better performing provinces and cities on public financial management, tax effort, having higher HDI relative to fiscal capacity, higher economic growth, higher reductions in poverty, unemployment and inflation. *Hibah* transfers are primarily financed by external assistance and are intended to finance sub-national infrastructure and social development expenditures. Specific purpose transfers in total accounted for 19% of central transfers in 2010 and financed 15% of sub-national expenditures (see Qibthiyyah, 2011).

The following paragraphs present a review of the general-purpose transfer (DAU).

3. The General Purpose Gap Filling Transfer—*Dana Alokasi Umum* (DAU): An Introductory Overview

The general-purpose unconditional transfers, DAU, constitute the dominant sources of revenues for provincial and local governments in Indonesia. As part of the DAU transfers, the Central Government of Indonesia provides a basic allocation for wages and salaries and a fiscal gap transfer if a jurisdiction's revenues fall short of calculated expenditure needs using macro indicators. These transfers accounted for 56% of total central transfers and financed 46% of sub-national expenditures in 2010.

These transfers according to Law 33 (2004) are intended to balance revenue means with expenditure needs for sub-national governments providing central financing in “proportionate, democratic, fair and transparent manner” by taking into account “local potential (fiscal capacity) and conditions and local needs”. Total pool of these transfers is arbitrarily set at of 26% of central revenues net of tax sharing transfers in 2011. The 20% of the total pool is allocated to provinces and the remaining 80% to all cities and districts. The DAU provides a basic allocation to cover wages of provinces cities and districts. The remaining funds are allocated by formula that determines fiscal gap based upon the differences between fiscal needs and fiscal capacity. Formula factors for both provinces and cities are the same but receive differential weights due to the peculiar application to DAU allocation of the weighted coefficient of variation- the so called Williamson's Index.

Fiscal capacity of a province is determined by summing up 50% of own source revenues, 80% of non-resource tax sharing and 95% of resource and mining tax sharing. Fiscal capacity of a city or district government on the other hand is based upon 93% of own source revenues, 100% of non-resource tax revenue sharing and 63% of resources and mining tax revenue sharing.

The weights for individual revenue sources to determine fiscal capacity varies from year to year as weights are picked up to achieve a given numerical value for the Williamson's index for each year. Table 2 provides these choices for numerical values of the index for the past few years.

Table 2. Williamson's Index as Equalization Standard in Indonesia: 2005 -2011

	2005	2006	2007	2008	2009	2010	2011
Provinces	0.941	0.769	0.975	0.793	0.802	0.836	0.801
Cities and Districts	0.630	0.678	0.699	0.710	0.690	0.718	0.694

Source: Ministry of Finance, Government of Indonesia

Fiscal needs of provinces and cities/districts are determined separately for each of this group by developing a composite index based upon relative population, relative area, relative construction price index, inverse of human development index (comprising arbitrary weights for life expectancy, literacy rate, mean years of schooling and purchasing power adjusted relative real GRDP per capita) and inverse of relative nominal per capita GRDP. The weights for the above mentioned factors vary for provinces and districts/cities and over time for each group based upon the specified value to be achieved for the Williamson's index (see Table 3). The resulting indexes are multiplied by the average aggregate spending for the past year to arrive at numerical values of the expenditure need component. DAU allocation for each jurisdiction is then determined as follows:

$$\text{DAU} = \text{Basic Allocation} + \text{Fiscal Gap (Fiscal needs minus Fiscal Capacity)}$$

The DAU is a gross program and compensates a jurisdiction for excess needs but does not tax regions with excess fiscal capacity. The jurisdictions displaying negative fiscal gap (surplus fiscal capacity) e.g. Jakarta metropolitan region receive only the basic allocation and the negative fiscal gap is ignored.

Table 3. Williamson's Index Determined Weights for Fiscal Capacity and Expenditure Need Factors in DAU allocations

Province	DAU 2006	DAU 2007	DAU 2008	DAU 2009	DAU 2010	DAU 2011
DAU variable weight						
Fiscal Need Variables						
Population	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Area	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Construction price index	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Inverse of human development index	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Index of Inverse per capita GRDP	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Fiscal Capacity Variables						
Own source revenue	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Tax revenue sharing	100.00%	75.00%	75.00%	95.00%	73.00%	80.00%
Resource revenue sharing	100.00%	50.00%	41.25%	70.00%	95.00%	95.00%

Cities/Districts	DAU 2006	DAU 2007	DAU 2008	DAU 2009	DAU 2010	DAU 2011
DAU variable weight						
Fiscal Need Variables						
Index of population	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Index of area	15.00%	15.00%	15.00%	15.00%	13.25%	13.50%
Index of construction price index	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Index of inverse of HDI	10.00%	10.00%	10.00%	10.00%	11.00%	10.00%
Index of inverse per capita GRDP	15.00%	15.00%	15.00%	15.00%	15.75%	16.50%
Fiscal Capacity Variables						
Own source revenue	100.00%	75.00%	75.00%	70.00%	93.00%	93.00%
Tax revenue sharing	100.00%	75.00%	75.00%	73.25%	100.00%	80.00%
Resource revenue sharing	100.00%	50.00%	50.00%	100.00%	100.00%	63.00%

Source: Ministry of Finance, Government of Indonesia

DAU – An Evaluation

In the interest of tax harmonization, limiting differentials in sub-national fiscal capacities and lowering tax administration costs, Indonesia has adopted a highly centralized tax system with the Central Government raising 91% of total revenues. This creates a large vertical fiscal gap (almost 90%) that is filled by revenue sharing and transfers. Revenue sharing by origin while reducing vertical fiscal gap accentuates horizontal fiscal inequalities. DAU is the foremost program to bridge horizontal inequities. It is an objective formula based transfer program that partially compensates for civil service wages and partially tries to limit the differentials the fiscal capacity across jurisdictions by focusing on reducing the variations in regional allocation of transfers as measured by the weighted coefficient of variation. This results in reducing overall inequality in fiscal capacities and some redistribution of income across provinces and cities and districts as shown by Eckardt and Shah (2007). However, the current program has a number of important limitations.

One size fits all approach leads to fiscal inequity. The foremost concern is that the program equalizes jurisdictions with widely dissimilar responsibilities and characteristics. This is especially true when you group metropolitan areas, cities of varying population sizes and rural municipalities or districts of varying geographical areas as done under the current program. This violates the most fundamental dictum of transfers that “one size does not fit all”. The Constitutional Court of Indonesia in South Sulawesi case had earlier ruled that, “Uniform treatment of different entities causes injustice”. Indeed it would be a travesty of justice to consider that a small town with a tiny population such as Kabupaten Puncak has the similar fiscal needs and capacities as a large city like Kota Bandung or for that matter a small district in terms of area, Tangaran has similar revenue means and expenditure needs as a large district of Tangerang. The existing program ignores the fiscal capacity or fiscal need differentials of various size and class of municipalities and assumes that they all have equal per capita needs and revenue means other than from those factors explicitly considered in the formula. If one examines local finance in other countries, there are wide justifiable variations in per capita revenues and spending across various size and urban/rural class of municipalities in view of the diversity of needs and preferences and responsibilities. Equalizing unequals leads to injustice

for all. One cannot possibly have the same standard and access and diversity of services in a small remote district as opposed to a large city.

A complex and opaque standard of equalization. A second important concern has to do with the choice of the Williamson's index as the equalization standard. Most industrial countries adopt a simple, transparent but an explicit standard to reach a broad political and social consensus on overall amount of equalization payments (see Table 4). This is important because equalization programs can have important efficiency and equity tradeoffs. An excessive standard of equalization can lead to adverse impacts on growth just as too little equalization can create potential for succession. While equalization standards vary in terms of their relative emphasis on fiscal capacity versus fiscal need equalization, all bear some affinity to providing reasonably comparable levels of public services at reasonably comparable levels of tax burdens across all jurisdictions to ensure a common political and economic union. The central focus of an equalization program is to help disadvantaged jurisdictions have comparable public service standards to allow them to integrate with the wider economy. Indonesia is unique in selecting complex statistical criterion—the weighted coefficient of variation or the Williamson's index—as the equalization standard. This choice is unfortunate as it introduces complexity and lack of transparency in the allocation criteria. Further the Williamson's index has relatively greater sensitivity to outliers. For example, it is possible to redistribute income among the two top quintiles and have a lower value of the Williamson's index while there may be no significant redistribution to the poorest quintile. Its use in determining factor weights is particularly worrisome as multiple distributions of component weights can yield the same index. The use of this index in determining factor weight introduces uncertainty and inequity in allocations as without any material changes in need and capacity factors, changes in weights alters the allocation of transfers across jurisdictions. In a developing country context, complexity is sometimes cited as a way to hold the politics at bay as policy makers may not fully comprehend the limitations of a complex design and may hold fire. The Indonesia program cannot be justified on this basis as Table 3 shows that while policy makers may not understand the working of such an index, they have not refrained from forcing the choice of higher variations in inequality in a subsequent year if the resulting allocations lead to more satisfactory outcomes for their jurisdictions of interest.

Table 4. The Choice of An Equalization Standard: Indonesia in the International Context

<i>Standard of Equalization</i>	<i>None (general revenue sharing)</i>	<i>National Average (Per Capita)</i>	<i>Complex statistical criteria</i>
Determines grant pool			
Determines allocation to jurisdictions	UK and most developing countries e.g. Brazil, India, Thailand	Australia, China, Russia, Switzerland	Indonesia (weighted Coefficient of Variation – the so-called Williams' Index)
Determines both the pool and the allocation		Canada, Germany, Finland, Denmark, Sweden	

An erroneous view of fiscal capacity. A third concern has to do with how fiscal capacity is measured. Various sources of revenues are given arbitrary and differential weights for provinces and cities/districts and revenues from specific purpose transfers (DAK) are excluded. This gives an erroneous view of fiscal capacities of various jurisdictions.

Discouraging local tax efforts. The use of actual revenues as opposed to potential revenues creates disincentive effects for own tax effort. Jurisdiction may not have incentive to improve collection of own revenues as any increase in own tax effort at the margin is mostly offset by decrease in DAU entitlements (see Table 5). There is some evidence to show that such reduced tax effort is indeed happening.

Table 5. Share of Own Revenue to GRDP 2008 and 2010

Type of Regions	Correlation TE 2010 with DAU 2010
Provinces	-0.1385
Districts	-0.2075
Cities	-0.1928

Notes: TE is tax effort refers to share of Own Revenue to GRDP.

Source: calculated from Ministry of Finance, Indonesia

From Figure 3 and 4, majority of jurisdictions experienced lower tax effort in 2010 in comparison to 2008. All provinces have lower tax effort in 2010 in comparison to 2008, as shown in Figure 3. For some of the provinces, such as Kalimantan Timur, Papua, and Riau, decline in share of own source revenue to GRDP is quite high, and it may have arisen from a change and higher weight of fiscal capacity for resource sharing taxing in DAU formula. In addition to low growth of own source revenues, revenues from resource sharing in resource rich provinces is also taxed more than other type of revenues.

Figure 3. Proportion of Provincial Own Source Revenue to Gross Regional Domestic Product in 2008 and 2010

A similar pattern of a decline in tax effort also occurred at districts and cities. Figure 4 shows that on average, share of own source revenue to GRDP have declined in 2010 from 2008 levels in both districts and cities. 74 percent of districts and 84 percent of cities have lower tax effort in 2010 in comparison to 2008.

Figure 4. Average Proportion of Own-Source Revenue to GRDP 2008 and 2010: Provinces (Provinsi), Districts (Kabupaten), and Cities (Kota)

Undermining agreements with special autonomy regions. The Government of Indonesia (GOI) has entered into special arrangements with Aceh, Papua and Papua West and allows them a greater share of resource revenues through the tax sharing system. The DAU offsets a large part of those gains by including 95% of those gains as increases in fiscal capacity for the provinces and 63% for cities and districts. Thus the GOI taxes back most of the gains to resource rich regions through the operation of the DAU formula.

Incentives for local governments to serve as employment creation agencies to the neglect of their role as service providers. The basic allocation provides financing for public sector wages. This creates incentives for padding up local rolls. Such perverse behavior in Indonesia is circumvented by central controls over local recruitment and staffing. But this takes away local autonomy for hiring and firing and setting terms of employment of local employees. It also ties local governments to the personnel policies of the central government taking away any incentives they might have to experiment with new public management paradigms to improve accountability for service delivery performance e.g. through contracting out or partnership arrangements within and beyond government agencies. In short, wages compensation creates an incentives and accountability regime that works against good local governance.

Inappropriate indicators of fiscal need. Beyond basic allocation, formula based expenditure needs determination as done in Indonesia has important limitations. Regional per capita income is used twice as a need factor—real per capita GDP adjusted for purchasing power parity in the formation of the Human Development Index and nominal per capita GDP more directly. Regional per capita income is an imperfect measure of fiscal capacity but not a very useful measure of fiscal need. The inclusion of resources and mining based GDP in both concepts of income inflates the fiscal capacity of resource rich local jurisdictions although significant portions of these incomes may accrue to foreigners and non-residents. It also undermines special autonomy agreements with resource rich provinces. Further local jurisdictions may have limited and partial access to taxing these bases as is the case in Indonesia. Expenditure need determination uses both fiscal capacity and fiscal need factors that work at cross purposes. Further other than population and area, indicators used have little or only remote relationship to service needs. There is also multiple hierarchy of arbitrariness in determining relative factor weights. First the HDI index uses arbitrary weights for life expectancy, literacy rate, and mean years of schooling and per capita GDP. A second degree of arbitrariness arises from the

application of the Williamson's index as multiple distributions of relative weights can lead to the same value of the index. The use of the Williamson's index in determining formula factor weights also causes complexity, non-transparency, uncertainty and inequity in individual allocations. Individual jurisdictions entitlements can change from year to year and relative to others for no apparent justification.

Non-neutrality to amalgamation and incorporation decisions. The expenditure need determination component formula is also non-neutral as to the amalgamation and incorporation decisions. Using composite index indicator and referencing the transfer not to per capita but to average of total fiscal need or fiscal capacity may contribute to non-neutrality to fragmentation of jurisdictions. Amalgamation of existing jurisdictions leads to lower central transfers for amalgamating jurisdictions and break up of existing jurisdictions benefits all in terms of higher per capita central transfers (see Table 6 from Marwanto Harjowiryo, 2011). No wonder, three new provinces have been created and the number of cities/districts mushroomed from 336 in 2001 to 502 in 2010.

Table 6. Existing DAU Allocation Rewards Jurisdictional Fragmentation

Province	Number of Districts/Cities in 2001	Number of Districts/Cities in 2011	Total DAU for Districts/Cities in 2001 (billion Rp)	Total DAU for Districts/Cities in 2011 (billion Rp)	% change in DAU: 2001-2011
Kalteng	6	14	0.9	5.5	528%
Yogyakarta	5	5	0.9	2.7	216%

Source: Marwanto Harjowiryo (2011)

Inequity for large urban and rural jurisdictions. Finally and most importantly expenditure need determination uses a one size fits all approach and assumes per capita fiscal needs of large cities are similar to those of a small town or a rural district when it uses aggregate average spending for all local governments as a reference point. This creates tremendous injustice for large urban and large rural areas.

Complex, non-transparent and inequitable allocations. In sum, the gap filling approach is unnecessarily complex, non-transparent and uses a macro approach that is not well grounded in the local realities to ensure inter-jurisdictional equity. These manna from heaven transfers also create an incentive and accountability structure that is not conducive to responsible, responsive, fair and accountable local governance. Simpler alternatives as outlined in the following paragraphs have the potential to enhance efficiency and equity of such transfers mechanisms.

4. DAU Simplification Reform Alternatives

In the following three alternative options for the reform of DAU are presented. Common elements of these three alternatives are:

- One size does not fit all. Requires grouping (clustering) of local governments by population size, area and class of local governments.
- The adopted formula must have a sunset clause of five years but interim changes in the formula should not be allowed.
- The formula must have ceilings and floors to keep yearly entitlements stable and predictable.

- National average (by size and class) gap filling or equalization standard to replace Williamson's index. Pool can be adjusted by affordability and allocation determined by standard.
- Gap filling or equalization by size and class of local governments and possibly equal per capita grants to villages.
- Fiscal capacity measurement based upon potential revenues plus tax shares and other transfers and 50% of resource revenues.
- Fiscal needs measurement to discontinue wages compensation (basic allocation), discontinue use of HDI and the Williamson's index and other indexes. Instead consider need measurement based upon service/client population for each service category.

Alternative 1: A Simpler Yet More Objective Gap Filling Approach

To simplify DAU and to ground it in local comparative context, one requires meaningful grouping of local governments. One alternative in this regard is to have the following classes or clusters. Please note that the use of sophisticated statistical techniques in clustering as recently advocated by the World Bank and the Indonesian academics simply adds more complexity without having any clear advantages to a simpler and transparent approach advocated here.

Table 7. Characteristics of Each Cluster: Province, C1-C4, and D1-D4

Cluster	No. of jurisdictions	Total population (mil.)	Min. pop. (mil.)	Max. pop. (mil.)	Group average pop.	Min. area (km ²)	Max. area (km ²)	Group average area (km ²)	Per capita 2009 own revenues (IDR)	Per capita 2009 expenditure (IDR)
Provinces	32	228	0.76	43.1	7.12	3,133	319,036	59,696	164,181	666,348
Cities										
C1	11	19.2	1.02	2.63	1.74	119	683	302	148,971	853,093
C2	13	8.8	0.52	0.88	0.68	39	2,938	589	168,587	1,405,204
C3	58	12.4	0.10	0.50	0.21	16	2,400	352	189,369	2,493,247
C4	11	0.7	0.03	0.10	0.07	23	9,565	1,426	221,736	4,336,555
Districts										
D1	100	71.3	0.01	3.68	0.71	425	1,891	1,232	100,068	1,725,989
D2	99	52.1	0.01	4.09	0.52	1,901	3,802	2,710	94,200	2,345,628
D3	99	34.4	0.01	2.43	0.35	3,803	7,155	5,218	122,226	3,383,613
D4	100	26.1	0.02	1.54	0.26	7,248	49,958	19,603	202,034	5,431,698

Notes:

Cluster classification: **Provinces**—one group: P1: Provinces excluding Jakarta. **Cities (Kota)**—4 groups: C1 with population over 1 million; C2 with population 500K to 1 million; C3: Population 100-500 K; C4: Population under 100K. **Districts (Kabupaten)**—4 groups: D1: vast area—top quartile in area; D2: large area—2nd quartile in area; D3: medium area—3rd quartile in area; D4: small area—4th quartile in area.

Please note that urban *kabupatens* that are part of large metropolitan areas may be treated just like cities (*kotas*) and grouped with cities. Meanwhile, the fiscal capacity and fiscal needs would be calculated as follows:

Fiscal capacity is defined to include potential revenues from own sources (PAD) if the jurisdiction applied group average tax effort to own bases plus tax shares and transfers (DBH Pajak) plus potential natural resource revenues (DBH SDA) plus other grants. A simple way to calculate potential own source revenues would be to apply national average effective tax rate to local non-resource GRDP (in this simulation, it is proxied by using non-oil and gas GRDP). Potential resource revenues will be similarly calculated by applying national average effective resource tax rate to local resource based GRDP only (in this simulation, it is proxied by using oil and gas GRDP). Due to instability of resource revenues, and higher public expenditure needs with resource exploitation and exhaustible nature of some resources only 50% of resource revenues will be counted towards revenue capacity of resource rich regions as done in Canada. Revenues from specific purpose grants will be fully included. Capital grants and loans earmarked to finance specific projects to finance centrally determined infrastructure deficiencies will be excluded from such calculations.

Fiscal need is calculated for a representative expenditure system of about 10 functions comprising most of local operating expenditures. This expenditure system will be differentiated by size class of local governments and will have service population indicators as determinants with weights based upon aggregate group local government expenditure for the specified function based on a 3 or 5 years group moving average. Table 8 provides illustrative expenditure functions, service indicators and weights based upon 2008 expenditures only. Since the data for public housing is unavailable, its weight is distributed to other field of services.

The allocation for Alternative 1 is then determined by a simple gap-filling for the per capita fiscal gap, that is the difference of per capita fiscal capacity and per capita fiscal need. The per capita fiscal gap for each region is multiplied by the service population to give the fiscal gap or DAU allocation of the first alternative. Total allocation of DAU is, however, capped at 26% of net GOI revenues as prescribed in the law. This means a proportionate reduction of grant funds for all jurisdictions based upon the availability of funds factor.

Table 8. DAU Fiscal Need Compensation: Alternatives—Provinces, Cities (C1...C4), Districts (D1...D4)

Expenditure function	Need Indicator	Weight (%)		
		Provinces	Cities	Districts
General administration	population (66.6%) and area (33.3%)	52.1	29.3	35.0
Law and order	population	0.6		
Law, order, and fire protection			1.0	1.0
Education	school age population	7.3	30.4	20.0
Health	weighted population of age group with higher weights for age groups 0-5 and 65+	6.0	9.2	17.5
Social protection and welfare	no. of unemployed	1.0	2.3	1.5
Housing	no. of people in public housing or no. of units of public housing	Annulled	Annulled	Annulled
Roads and transportation	km of roads	10.0	10.0	10.0
Agriculture and forestry	area	6.0		

Water and sewer	no. of residential and commercial/industrial units		9.2	
Other services	population	17.0	8.6	
Rural services	area			15.0

Results from simulations of this alternative are presented in Table 9 for provinces, in Table 10 for cities and in Table 11 for districts. Figures 5-13 report the redistributive impact of various alternatives. These tables and figures show that on most indicators of fairness, Alternative 1 offers superior results for most jurisdictions. These superior results in fairness are achieved while having simpler, more meaningful and transparent allocation of resources. The suggested refinements of the existing DAU offers significant improvements over the existing program. These include simpler and more meaningful and easily understood indicators. The determination of allocation by group leads to equal treatment of equals. Factor weights are objective and would be stable as these are determined by taking moving average of aggregate spending by the group as a whole. There is more clear and transparent need equalization. Both pool and allocation are determined by formula. Total pool, however, can be constrained by affordability. Nevertheless, there is one major drawback of the proposed design— unconditional fiscal gap compensation strengthens autonomy but without accountability to local residents. A second alternative retains this drawback but moves the current program from gap filling to an equalization program.

Table 9. Results for the Provinces Group under Various Simulation Scenarios*

	Current DAU Formula	Alternative 1	Alternative 2	Alternative 3
No. of Observed Provinces	32	32	32	32
No. of Receiver	31	30	10	32
Average DAU allocation (million IDR)	622,547	979,405	693,084	905,339
Average per capita DAU allocation (IDR)	209,547	236,475	379,869	171,008
Maximum per capita DAU allocation (IDR)	796,794	956,711	1,347,027	306,176
Minimum per capita DAU allocation (IDR)	10,629	63,671	22,309	75,320
Max to min ratio of per capita DAU allocation	74.96	15.03	60.38	4.07
Maximum per capita revenue after transfer (IDR)	3,617,952	3,777,869	4,168,184	3,124,595
Minimum per capita revenue after transfer (IDR)	170,194	228,693	71,730	240,342
Max to min ratio of per capita revenue after transfer	21.26	16.52	58.11	13.00
Coef. of variation	1.031	1.102	1.447	0.944
Weighted coef. of variation	1.051	1.013	1.411	0.838
Relative mean deviation	0.310	0.338	0.431	0.288

Gini Index	0.423	0.428	0.546	0.371
Weighted Gini Index	0.381	0.332	0.435	0.293

Notes:

*) Excluding non-receivers, inequality measures calculated for after transfer per capita revenue

Table 10. Results for the Cities Group under Various Simulation Scenarios*

	Current DAU Formula	Alternative 1	Alternative 2	Alternative 3
No. of Observed Cities	93	93	93	93
No. of Receiver	91	92	59	93
Average DAU allocation (million)	318,295	346,842	62,647	397,776
Average per capita DAU allocation	1,404,176	1,226,520	234,929	1,372,161
Maximum per capita DAU allocation (IDR)	7,301,673	2,594,625	530,996	3,242,229
Minimum per capita DAU allocation (IDR)	147,101	232,243	18214	379,163
Max to min ratio of per capita DAU allocation	49.64	11.17	29.15	8.55
Maximum per capita revenue after transfer (IDR)	9,943,591	5,115,631	5,769,565	7,029,313
Minimum per capita revenue after transfer (IDR)	510,582	671,978	283,775	736,689
Max to min ratio of per capita revenue after transfer	19.48	7.61	20.33	9.54
Coef. of variation	0.611	0.437	0.742	0.467
Weighted coef. of variation	0.598	0.488	0.739	0.507
Relative mean deviation	0.208	0.154	0.228	0.160
Gini Index	0.299	0.230	0.327	0.235
Weighted Gini Index	0.291	0.249	0.312	0.250
No. of Observed C1 Group Region	11	11	11	11
No. of Receiver	11	11	5	11
Average DAU allocation (million)	599,780	772,744	171,417	926,020
Average per capita DAU allocation	352,450	449,996	114,966	537,202
Maximum per capita DAU allocation (IDR)	506,550	543,150	170,570	634,337
Minimum per capita DAU allocation (IDR)	153,056	314,452	60,271	379,163
Max to min ratio of per capita DAU allocation	3.31	1.73	2.83	1.67
Maximum per capita revenue after transfer (IDR)	1,233,261	1,346,061	985,273	1,473,621
Minimum per capita revenue after transfer (IDR)	510,582	671,978	288,977	736,689
Max to min ratio of per capita revenue after transfer	2.42	2.00	3.41	2.00
Coef. of variation	0.240	0.197	0.365	0.192
Weighted coef. of variation	0.233	0.198	0.364	0.195
Relative mean deviation	0.092	0.070	0.137	0.070
Gini Index	0.126	0.101	0.183	0.097
Weighted Gini Index	0.128	0.106	0.193	0.103
No. of Observed C2 Group Region	13	13	13	13
No. of Receiver	13	13	9	13
Average DAU allocation (million)	367,534	484,375	86,086	578,064

Average per capita DAU allocation	544,808	710,779	128,791	851,087
Maximum per capita DAU allocation (IDR)	810,767	887,157	322,956	1,053,690
Minimum per capita DAU allocation (IDR)	147,101	330,507	49,547	642,642
Max to min ratio of per capita DAU allocation	5.51	2.68	6.52	1.64
Maximum per capita revenue after transfer (IDR)	2,932,250	3,442,057	2,811,546	3,452,077
Minimum per capita revenue after transfer (IDR)	854,038	910,819	324,900	967,542
Max to min ratio of per capita revenue after transfer	3.43	3.78	8.65	3.57
Coef. of variation	0.395	0.423	0.730	0.400
Weighted coef. of variation	0.371	0.397	0.693	0.375
Relative mean deviation	0.135	0.148	0.260	0.147
Gini Index	0.189	0.199	0.346	0.195
Weighted Gini Index	0.181	0.193	0.339	0.190
No. of Observed C3 Group Region	58	58	58	58
No. of Receiver	56	57	39	58
Average DAU allocation (million)	272,053	271,306	50,566	303,549
Average per capita DAU allocation	1,387,206	1,285,945	269,172	1,455,062
Maximum per capita DAU allocation (IDR)	2,308,378	1,526,098	519,377	1,973,908
Minimum per capita DAU allocation (IDR)	361,909	232,243	58,569	914,632
Max to min ratio of per capita DAU allocation	6.38	6.57	8.87	2.16
Maximum per capita revenue after transfer (IDR)	5,769,565	5,115,631	5,769,565	7,029,313
Minimum per capita revenue after transfer (IDR)	927,534	924,709	283,775	1,644,595
Max to min ratio of per capita revenue after transfer	6.22	5.53	20.33	4.27
Coef. of variation	0.333	0.275	0.757	0.367
Weighted coef. of variation	0.345	0.282	0.750	0.350
Relative mean deviation	0.118	0.083	0.205	0.107
Gini Index	0.168	0.124	0.299	0.150
Weighted Gini Index	0.178	0.127	0.302	0.143
No. of Observed C4 Group Region	11	11	11	11
No. of Receiver	11	11	6	11
Average DAU allocation (million)	214,035	149,815	15,376	153,297
Average per capita DAU allocation	3,557,909	2,304,629	271,529	2,385,820
Maximum per capita DAU allocation (IDR)	7,301,673	2,594,625	530,996	3,242,229
Minimum per capita DAU allocation (IDR)	2,291,657	1,991,547	18,214	1,743,818
Max to min ratio of per capita DAU allocation	3.19	1.30	29.15	1.86

Maximum per capita revenue after transfer (IDR)	9,943,591	4,956,495	2,660,132	5,114,642
Minimum per capita revenue after transfer (IDR)	3,004,333	2,882,973	712,676	2,464,611
Max to min ratio of per capita revenue after transfer	3.31	1.72	3.73	2.08
Coef. of variation	0.380	0.206	0.499	0.263
Weighted coef. of variation	0.307	0.185	0.489	0.248
Relative mean deviation	0.128	0.090	0.220	0.117
Gini Index	0.171	0.108	0.260	0.135
Weighted Gini Index	0.139	0.098	0.258	0.130

Notes:

*) Excluding non-receivers, inequality measures calculated for after transfer per capita revenue

Table 11. Results for the Districts Group under Various Simulation Scenarios*

	Current DAU Formula	Alternative 1	Alternative 2	Alternative 3
No. of Observed Districts	398	398	398	398
No. of Receiver	391	397	126	398
Average DAU allocation (million)	370,746	357,357	90,961	371,465
Average per capita DAU allocation	1,903,119	1,278,589	1,449,887	1,136,520
Maximum per capita DAU allocation (IDR)	21,675,276	21,037,218	34,552,332	5,095,879
Minimum per capita DAU allocation (IDR)	136,837	32,246	4,320	333,629
Max to min ratio of per capita DAU allocation	158.40	652.39	7,998	15.27
Maximum per capita revenue after transfer (IDR)	36,078,212	24,734,346	35,392,980	21,921,194
Minimum per capita revenue after transfer (IDR)	356,598	560,275	120,262	537,761
Max to min ratio of per capita revenue after transfer	101.17	44.15	294.30	40.76
Coef. of variation	1.346	1.091	1.889	0.966
Weighted coef. of variation	1.089	0.940	2.137	0.860
Relative mean deviation	0.370	0.324	0.491	0.303
Gini Index	0.500	0.440	0.639	0.412
Weighted Gini Index	0.383	0.337	0.538	0.329
No. of Observed D1 Group	100	100	100	100
No. of Receiver	100	100	31	100
Average DAU allocation (million)	437,288	386,566	84,570	392,470
Average per capita DAU allocation	1,172,551	806,197	1,110,100	714,346
Maximum per capita DAU allocation (IDR)	15,242,422	5,084,624	7,834,006	3,777,651
Minimum per capita DAU allocation (IDR)	171,044	292,594	14,443	333,629
Max to min ratio of per capita DAU allocation	89.11	17.38	542.41	11.32
Maximum per capita revenue after transfer (IDR)	22,708,516	12,550,717	15,300,098	10,197,022
Minimum per capita revenue after transfer (IDR)	356,598	560,275	120,262	537,761
Max to min ratio of per capita revenue after transfer	63.68	22.40	127.22	18.96
Coef. of variation	1.513	1.069	2.034	0.934
Weighted coef. of variation	0.686	0.495	1.289	0.432
Relative mean deviation	0.328	0.275	0.480	0.242
Gini Index	0.438	0.362	0.612	0.321
Weighted Gini Index	0.229	0.165	0.332	0.152
No. of Observed D2 Group	99	99	99	99
No. of Receiver	97	98	40	99
Average DAU allocation (million)	376,778	340,249	56,915	348,238

Average per capita DAU allocation	1,576,243	948,519	765,176	840,495
Maximum per capita DAU allocation (IDR)	21,675,276	3,966,180	5,555,236	3,184,663
Minimum per capita DAU allocation (IDR)	273,026	353,957	15,913	461,592
Max to min ratio of per capita DAU allocation	79.39	11.21	349.10	6.90
Maximum per capita revenue after transfer (IDR)	32,266,992	14,557,896	16,146,952	11,791,707
Minimum per capita revenue after transfer (IDR)	520,858	606,292	136,799	744,153
Max to min ratio of per capita revenue after transfer	61.95	24.01	118.03	15.85
Coef. of variation	1.477	0.962	1.695	0.848
Weighted coef. of variation	0.871	0.594	1.395	0.522
Relative mean deviation	0.315	0.254	0.433	0.228
Gini Index	0.445	0.355	0.574	0.322
Weighted Gini Index	0.312	0.218	0.418	0.192
No. of Observed D3 Group	99	99	99	99
No. of Receiver	99	99	31	99
Average DAU allocation (million)	331,227	292,833	55,243	306,006
Average per capita DAU allocation	2,051,840	1,185,130	1,205,038	1,061,774
Maximum per capita DAU allocation (IDR)	16,397,758	5,053,894	7,083,893	2,240,744
Minimum per capita DAU allocation (IDR)	340,037	49,799	22,213	440,941
Max to min ratio of per capita DAU allocation	48.22	101.49	318.91	5.08
Maximum per capita revenue after transfer (IDR)	36,078,212	24,734,346	26,764,344	21,921,194
Minimum per capita revenue after transfer (IDR)	547,832	797,903	169,158	648,736
Max to min ratio of per capita revenue after transfer	65.86	31.00	158.22	33.79
Coef. of variation	1.298	1.142	1.886	1.061
Weighted coef. of variation	1.013	0.686	1.666	0.608
Relative mean deviation	0.339	0.285	0.466	0.255
Gini Index	0.462	0.385	0.609	0.351
Weighted Gini Index	0.388	0.253	0.510	0.232
No. of Observed D4 Group	100	100	100	100
No. of Receiver	95	100	24	100
Average DAU allocation (million)	335,726	408,791	202,092	438,260
Average per capita DAU allocation	2,850,914	2,166,975	3,346,229	1,925,755
Maximum per capita DAU allocation (IDR)	19,862,532	21,037,218	34,552,332	5,095,879
Minimum per capita DAU allocation (IDR)	136,836	32,246	4,320	891,093

Max to min ratio of per capita DAU allocation	145.15	652.39	7,998.02	5.72
Maximum per capita revenue after transfer (IDR)	27,022,350	21,877,864	35,392,980	12,559,045
Minimum per capita revenue after transfer (IDR)	551,144	1,244,735	194,263	1,124,271
Max to min ratio of per capita revenue after transfer	49.03	17.58	182.19	11.17
Coef. of variation	1.041	0.783	1.531	0.621
Weighted coef. of variation	0.963	0.725	1.732	0.606
Relative mean deviation	0.342	0.274	0.466	0.230
Gini Index	0.465	0.361	0.603	0.309
Weighted Gini Index	0.411	0.299	0.600	0.279

Notes:

*) Excluding non-receivers, inequality measures calculated for after transfer per capita revenue

Figure 5. Lorenz Curves for Provinces Before and After Equalizations, Weighted by Population

Figure 6. Lorenz Curves for C1 Regions Before and After Equalizations, Weighted by Population

Figure 7. Lorenz Curves for C2 Regions Before and After Equalizations, Weighted by Population

Figure 8. Lorenz Curves for C3 Regions Before and After Equalizations, Weighted by Population

Figure 9. Lorenz Curves for C4 Regions Before and After Equalizations, Weighted by Population

Figure 10. Lorenz Curves for D1 Regions Before and After Equalizations, Weighted by Population

Figure 11. Lorenz Curves for D2 Regions Before and After Equalizations, Weighted by Population

Figure 12. Lorenz Curves for D3 Regions Before and After Equalizations, Weighted by Population

Figure 13. Lorenz Curves for D4 Regions Before and After Equalizations, Weighted by Population

Alternative 2: Moving from a Gap Filling to a Comprehensive Fiscal Equalization Approach

Calculation of fiscal capacity and expenditure needs would follow the same approach as under the gap filling approach described above. However surplus or deficiency of per capita fiscal capacity and per capita expenditure needs with reference to average or other explicit standard of equalization are calculated. The jurisdictions in net deficiency positions will receive equalization payments from the center equivalent to the net deficiencies calculated after taking into account net positions with respect to capacity and needs. The jurisdictions in net fiscal surplus position will not receive any equalization transfers. Since it is a central program, the surplus is not taxed or redistributed to poorer jurisdictions.

This alternative has the clear advantage of having an explicit standard of equalization determine the total pool as well as distributions. We have also followed a simpler representative expenditure system to determine needs. The pursuit of greater rigor in calculating expenditure needs can result in a complex and controversial determination of expenditure need equalization, as has been the experience in Australia (see Shah, 2004).

Simulations of results using this approach are presented in Tables 8-10 and the redistributive impacts are graphed in Figures 5-13. Using group average standard of equalization separately for the nine groups yields the overall pool of funds to be distributed as well as allocation among jurisdictions. Only 10 provinces, 59 cities 126 districts qualify to receive equalization payments. Of course such a program would serve as a residual program rather than a general revenue sharing mechanism. Since this would serve as a residual program, its overall impact on fairness has to be analyzed in conjunction with other program. In isolation as the taxing powers of local grants are quite limited, on the fiscal capacity equalization, the program will

redistribute small sums. While expenditure need equalization may redistribute more resources, as shown by calculations presented in Tables 9-11, overall redistributive impact of this program is relatively smaller than actual DAU and other alternatives presented here (see Figures 5-13) and as a result the program does not fare well on comparative indicators of fiscal equity.

Alternative 3: Back to the Future - An Almost Ideal Approach: Fiscal Capacity Equalization Supplemented by Output-based Operating Grants for Merit Services

Under this option, fiscal capacity equalization follows the same approach as under alternative #2. However expenditure need compensation is done through output-based operating transfers for merit public services only where allocation is based upon the share of service population and there is no conditionality on spending but instead customized conditions on service delivery performance in terms of service access and quality for individual jurisdictions and providers for continuation of the grant program. The design of such transfers are spelled out in Shah (2007, 2010, 2011). In addition to these operating transfers, there would also be a need to have a capital grant and capital market access program (the former for poorer and the latter for richer jurisdictions) for merit services based upon a planning view to deal with infrastructure deficiencies pertaining to a national minimum standard.

Our simulation of this alternative combines a fiscal capacity equalization grant with output based grants for education, health, transportation and social welfare and protection only. We have not included capital grants to overcome infrastructure deficiencies as such grant program must be a separate grant program based upon a planning view and must not be formula based grant program available to all. This alternative further simplifies the determination of grant pool and allocations. But the most important advantage of this alternative is that it preserves local autonomy while enhancing accountability to local government residents.

Tables 9-11 present simulations of allocations using this approach and Figures 5-13 depict redistributive impacts. The results combine fiscal capacity equalization using group average standard for each cluster/group and output based grants for education, health, infrastructure and social welfare and protection using relevant service populations. The results demonstrate clear superiority of this approach in establishing fair financing allocation to ensure fair and equitable access to merit services to all Indonesians regardless of their place of residence. In addition, this approach improves simplicity of allocation criteria, preserves local government autonomy against higher-level undue interference and enhances local government accountability to local residents. The approach is home grown as it embodies rich and successful past Indonesian experience with INPRES grants.

5. Does Indonesia Need a Grants Commission?

For determining the system of grants, one finds four stylized types of models used in practice (see Shah, 2005, for a formal framework for evaluating such institutional arrangements).

The first and the most commonly used practice is for the federal/central government alone to decide on it. This has the distinct disadvantage of biasing the system towards a centralized outcome whereas the grants are intended to facilitate decentralized decision-making. In India, the federal government is solely responsible for the Planning Commission transfers and the

centrally sponsored schemes. These transfers have strong input conditionality with potential to undermine state and local autonomy. The 1988 Brazilian constitution provided strong safeguard against federal intrusion by enshrining the transfers' formulae factors in the constitution. These safeguards represent an extreme step as they undermine flexibility of fiscal arrangements to respond to changing economic circumstances.

The second approach used in practice is to set up a quasi-independent body, such as a grants commission, whose purpose is to design and reform the system. These commissions can have a permanent presence as in South Africa and Australia or they can be brought into existence periodically to make recommendations for the next five years as done in India. These commissions have proven to be ineffective in some countries largely because many of the recommendations have been ignored by the government and not implemented as in South Africa. In other cases, while the government may have accepted and implemented all they recommend, they have been ineffective in reforming the system due to the constraints they have imposed on themselves as is considered to be the case in India. In some cases, these Commissions become too academic in their approaches and thereby contributing to the creation of an overly complex system of intergovernmental transfers as has been the case with the Commonwealth Grants Commission in Australia (Shah, 2004, 2007).

The third approach found in practice is to use executive federalism or central-provincial-local committees or forums to negotiate the terms of the system. Such a system is used in Canada and Germany. In Germany, this system is enhanced by having state governments represented in *Bundesrat*—the upper house of the parliament. This system allows for explicit political input from the jurisdictions involved and attempts to develop a common consensus.

The fourth approach is a variation on the third approach and uses an intergovernmental-cum-legislative-cum-civil society committee with equal representation from all constituent units but chaired by the federal/central government to negotiate changes in the existing arrangements. The so-called Finance Commission in Pakistan and the Indonesian DPOD represent this model. This approach has the advantage that all stakeholders—donor, recipients, civil society and experts are represented on the commission. Such an approach keeps the system simple and transparent. It is important that in such forums only the donors and recipients be the voting members (principals) with civil society members and experts to serve as observers (non-voting members) and provide feedback and technical assistance to the principals of these forums. An important disadvantage of this approach is that if unanimity rule is adopted, such bodies may be deadlocked forever as was witnessed in Pakistan in the 1990s.

The Indonesian DPOD is an important forum for decisions on grant determination. The DPOD' role in grant determination can be strengthened by requiring that only the cabinet ministers, governors and mayors can serve as members and vote on matters relating to fiscal transfers and all these decisions must require three-fourth majority of the DPOD.

In conclusion, there appears to be no clear advantage in creating an independent grant commission in Indonesia. Grant determination role is better served by the intergovernmental forum such as the DPOD supported by a technical secretariat at the Ministry of Finance.

6. Concluding Remarks on Long-Term Reform Options for Central-Provincial-Local Fiscal Relations in Indonesia

During the past decade Indonesia has made a remarkable transformation from centralized rule to decentralized and democratic local governance. This transformation can be sustained if the intergovernmental finance create the right incentives and accountability regimes for responsive and accountable local governance. Prior to the 2000 reforms, Indonesia had an intergovernment finance system the so called INPRES (presidential instruction) grants system, that was simple, transparent and focused on results based accountability. This paper has called for Indonesia to return to its roots and implement reform options that represent a “back to the future” approach—an approach that draws upon rich and successful Indonesian experiences that have often been cited in the public finance literature as examples of better practices in central transfers (see Shah, 1994, 1998 and Boadway and Shah, 2009).

To strengthen accountable local governance, Indonesia needs to consider the following reform options:

- *Tax decentralization and tax base sharing.* Tax base sharing is feasible for personal income taxes on residence principle. Tax decentralization may be feasible for royalties, fees, severance, production, output and property taxes, sin taxes (gambling, liquor and massage parlors) and local environmental taxes and charges.
- *Output based per capita operating (non-matching) grants for setting national minimum standards for merit services such as education, health and infrastructure.* These grants should embody simple allocation criteria to local governments based on service population, e.g. school operating grant based upon school age population. Local governments would disburse these grants to all providers – government and non government as done in Canada, Brazil, Chile, Finland and Thailand. Continuity of finance can be assured by maintaining or improving upon existing standards of access and service quality. Such transfers will preserve local autonomy while enhancing simplicity, transparency and citizens’ based accountability for service delivery performance. Indonesia in the past had a measure of success with a grant program (INPRES grants) that embodied at least some of these features.
- *Fiscal capacity equalization grants based upon national average standard for each cluster/group* to enable all jurisdictions to provide reasonably comparable levels of public services at reasonably comparable levels of tax burdens. Adoption of fiscal capacity equalization grants would also simplify the use of indirect fiscal capacity equalization on specific grants.
- *Capital (with 10 to 90% matching) grants to fiscally disadvantaged jurisdictions* to overcome infrastructure deficiencies in setting national minimum standards for merit services. These grants should be based upon a planning view of identified infrastructure deficiencies and should contain matching requirements that vary inversely with per capita fiscal capacity. These grants combined with output based operating grants will create a level playing field and enable poorer jurisdictions to integrate with the broader national economy and help reduce regional income and fiscal disparities.
- *Assistance for responsible capital market access* to richer local jurisdictions.

The above mentioned reforms will result in an intergovernmental finance system that is more transparent, objective, predictable and simpler with a sharper focus on objectives. These reforms may be considered as integral elements of any effort at fine tuning the existing fiscal system of multi-order governance in Indonesia.

This paper has demonstrated the need for simpler and transparent allocation criteria for greater fairness and accountability. Complex systems compromise both fairness and accountability as has been happening under the current DAU system.

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Annex

Table A1. Result Summary of Alternative 1 versus Current Formula*

	Current Formula				Alternative 1						Per Capita Difference (Current – Alter. 1)
	Average DAU Allocation (million)	Average Per Capita DAU Allocation	Per Capita DAU Allocation		Per Capita Fiscal Need	Per Capita Fiscal Capacity	Average DAU Allocation (million)	Average Per Capita DAU Allocation	Per Capita DAU Allocation		
			Max	Min					Max	Min	
Province	622,547	209,547	796,794	10,629	576,351	171,593	979,405	236,474	956,711	63,671	(26,928)
C1	599,780	352,450	506,550	153,056	975,775	151,810	772,744	449,996	543,150	314,452	(97,546)
C2	367,534	544,808	810,767	147,101	1,520,083	218,612	484,375	710,779	887,157	330,507	(165,971)
C3	272,053	1,387,206	2,308,378	361,909	2,539,058	264,076	271,306	1,285,945	1,526,098	232,243	101,261
C4	214,035	3,557,909	7,301,673	2,291,657	4,445,029	225,142	149,815	2,304,629	2,594,625	1,991,547	1,253,280
D1	437,288	1,172,551	15,242,422	171,044	1,563,318	87,132	386,566	806,197	5,084,624	292,594	366,354
D2	376,778	1,576,243	21,675,276	273,026	1,817,404	110,371	340,249	948,519	3,966,180	353,957	627,724
D3	331,227	2,051,840	16,397,758	340,037	2,317,179	147,148	292,833	1,185,130	5,053,894	49,799	866,710
D4	335,726	2,850,914	19,862,532	136,836	4,214,821	246,985	408,791	2,166,975	21,037,218	32,246	683,939
Indonesia	376,658	1,712,272	21,675,276	10,629	2,356,092	165,778	391,449	1,209,122	21,037,218	32,246	503,151

Notes:

*) excluding non-receivers

Table A2. Result Summary of Alternative 2 versus Current Formula*

	Current Formula				Alternative 2						Per Capita Difference (Current – Alter. 2)
	Average DAU Allocation (million)	Average Per Capita DAU Allocation	Per Capita DAU Allocation		Per Capita Fiscal Need	Per Capita Fiscal Capacity	Average DAU Allocation (million)	Average Per Capita DAU Allocation	Per Capita DAU Allocation		
			Max	Min					Max	Min	
Province	622,547	209,547	796,794	10,629	576,351	171,593	693,084	379,869	1,347,027	22,309	(170,323)
C1	599,780	352,450	506,550	153,056	975,775	151,810	171,417	114,966	170,570	60,271	237,484
C2	367,534	544,808	810,767	147,101	1,520,083	218,612	86,086	128,791	322,956	49,547	416,017
C3	272,053	1,387,206	2,308,378	361,909	2,539,058	264,076	50,566	269,172	519,377	58,569	1,118,034
C4	214,035	3,557,909	7,301,673	2,291,657	4,445,029	225,142	15,376	271,529	530,996	18,214	3,286,380
D1	437,288	1,172,551	15,242,422	171,044	1,563,318	87,132	84,570	1,110,100	7,834,006	14,443	62,451
D2	376,778	1,576,243	21,675,276	273,026	1,817,404	110,371	56,915	765,176	5,555,236	15,913	811,068
D3	331,227	2,051,840	16,397,758	340,037	2,317,179	147,148	55,243	1,205,038	7,083,893	22,213	846,802
D4	335,726	2,850,914	19,862,532	136,836	4,214,821	246,985	202,092	3,346,229	34,552,332	4,320	(495,315)
Indonesia	376,658	1,712,272	21,675,276	10,629	2,356,092	165,778	113,272	1,027,412	34,552,332	4,320	684,860

Notes:

*) excluding non-receivers

Table A3---. Result Summary of Alternative 3*

	Alternative 3								Per Capita Difference (Current Formula–Alter. 3)
	Per Capita Equalization Grant	Per Capita Output-Based Grant	Average Allocation Based on Equalization (million)	Average Allocation Based on Output (million)	Average DAU Allocation (million)	Per Capita DAU Allocation	Per Capita DAU Allocation		
							Max	Min	
Province	57,136	129,941	287,054	699,018	905,339	171,008	306,176	75,320	38,539
C1	62,463	508,810	98,728	881,143	926,020	537,202	634,337	379,163	(184,752)
C2	89,302	782,393	57,373	533,931	578,064	851,087	1,053,690	642,642	(306,279)
C3	139,798	1,332,136	28,595	278,406	303,549	1,455,062	1,973,908	914,632	(67,856)
C4	98,465	2,341,063	6,531	150,328	153,297	2,385,820	3,242,229	1,743,818	1,172,089
D1	26,244	694,926	18,083	379,088	392,470	714,346	3,777,651	333,629	458,204
D2	55,546	792,804	25,294	326,522	348,238	840,495	3,184,663	461,592	735,748
D3	80,115	995,417	30,363	280,857	306,006	1,061,774	2,240,744	440,941	990,066
D4	151,540	1,799,976	36,388	408,058	438,260	1,925,755	5,095,879	891,093	925,159
Indonesia	86,010	1,050,604	43,442	374,089	408,809	1,119,346	5,095,879	75,320	592,926

Notes:

*) excluding non-receivers