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Working Papers in
Trade and Development

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Indonesia**

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December 2010
Working Paper No. 2010/14

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Fiscal Transfers to Regional Governments in Indonesia*

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Abstract

This paper examines the design of the fiscal 'equalisation', or 'balancing', arrangements introduced in Indonesia in 2001, when many functions were devolved from the central to regional governments. This new and needlessly complex system of fiscal transfers was introduced hurriedly, and lacked clarity as to the objectives it was intended to serve, resulting in a number of seemingly undesirable outcomes. One such is the fragmentation of the Indonesian polity through widespread splitting of provinces and districts. Another is that there are huge differences among jurisdictions in the levels of per capita transfers, implying that recipient governments end up with vastly differing capacities to provide services such as education and health to their citizens. Although the relevant law and regulations have already been modified to some extent, the changes fall well short of the far-reaching adjustments needed if the scheme is to serve Indonesia's needs into the future.

Key Words: decentralisation, fiscal transfers, regional autonomy

JEL Classification: D78, H71, H77, R58

* Many of the detailed data presented here have been obtained through the Regional Finance Information System of Indonesia's Ministry of Finance, for which the authors are extremely grateful. Other data are from the Central Statistics Agency (BPS), local government statistics offices and BPS, Bappenas and UNDP (2004).

** This paper is based on research work currently being undertaken by Fadliya towards her PhD degree.

INTRODUCTION

Indonesia experienced a dramatic change in the system of fiscal transfers following the enactment of new laws on regional autonomy in 1999 (Law 22 of 1999, revised by Law 32 of 2004), designed to bring to an end the previous almost total dominance of the central government over the Indonesian polity. The Law shifted responsibility for a wide range of government functions to local government level (i.e. districts/municipalities, or *kabupaten/kota*). Unlike under the previous Law 5 of 1974, local governments are no longer subordinate to provincial governments. The latter now serve as an administrative extension of the central government, coordinating and harmonizing relations between it and local governments, although they retain limited authority in relation to functions that are not yet able to be carried out by particular local governments within their jurisdiction. The devolution of much of the authority and functions of government to local level transformed Indonesia into one of the largest decentralised countries in the world (Alm, Aten and Bahl 2001: 83).

Much has been written about Indonesia's decentralisation, which commenced from the beginning of 2001. Among others are McLeod (2000), who commented on Law 22 and 25 of 1999 before they were implemented; Lewis (2003), who focused on the degree to which local governments use their powers to create new taxes and charges; Bahl and Wallace (2001) and Silver, Azis and Schroeder (2001), who looked at fiscal transfers and macroeconomic stability; World Bank (2003) and Hofman and Guerra (2007), who analysed the impact of the fiscal transfers mechanism on local government fiscal disparities and poverty reduction; and Brodjonegoro and Martinez-Vasquez (2004), who investigated the system of transfers. However, no studies have been found of the actual pattern of fiscal transfers as a whole or the relationships between the three components: 'general allocation funds' (*Dana Alokasi Umum*, DAU), 'shared revenue funds' (*Dana Bagi Hasil*, DBH) and 'special allocation funds' (*Dana Alokasi Khusus*, DAK). The tendency of the transfer arrangements to result in the fragmentation of regional government jurisdictions (*'pemekaran'*) has been noted by, among others, Fane (2003) and Fitriani, Hofman and Kaiser (2005), who argue that the fiscal transfer arrangements give distorted signals to political and local leaders, resulting in strong incentives to create new jurisdictions.¹ We expand on this aspect below.

¹ Before decentralisation Indonesia had 26 provinces (excluding the now independent East Timor) and 336 local governments. By 2010 it had 33 provinces and 491 local governments.

The delegation of authority by the central government to autonomous regions encompasses the provision of a wide range of government services, with the explicit exclusion of monetary and fiscal policy, foreign policy, security and defence, and judicial and religious affairs.² Regional autonomy aims to increase the prosperity of society, and to improve the provision of public services and regional 'competitiveness'.^{3,4} In order to achieve this, lower-level governments must have sufficient funding. For the time being, however, the central government has kept for itself a monopoly on most of the major sources of tax revenue, so a large proportion of regional government funding needs to be in the form of transfers from the centre.

Fund transfer types

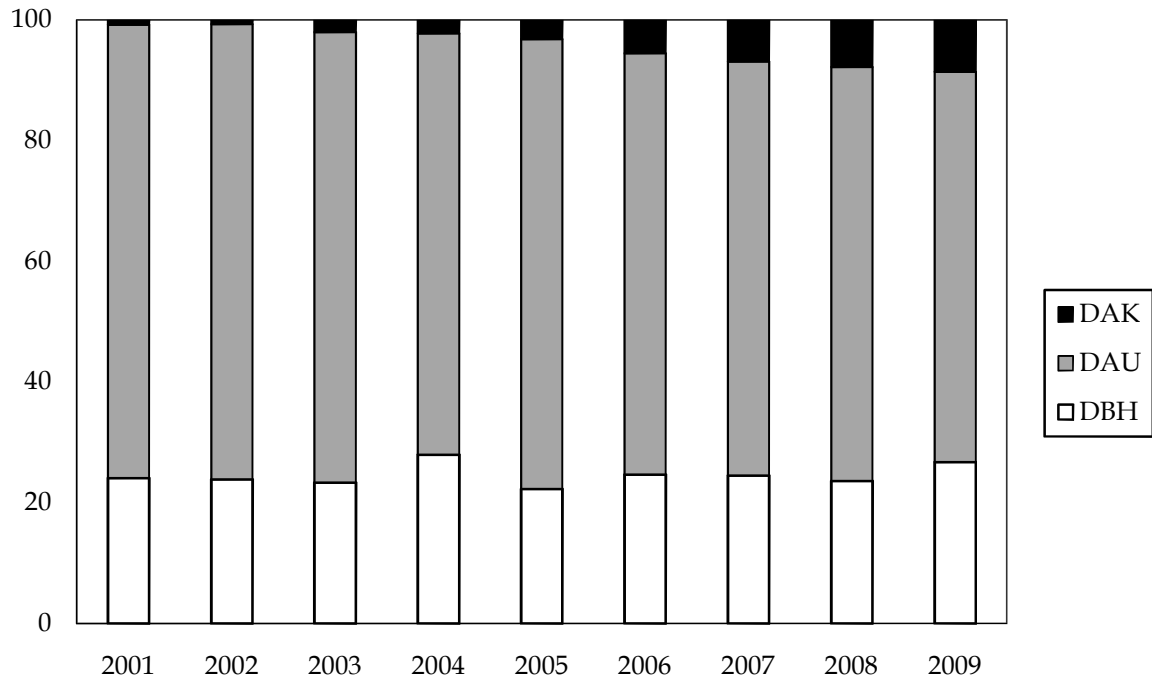
Funds transferred from the central government to regional governments under the new system, based on the Law on Fiscal Balance (Law 25 of 1999, revised by Law 33 of 2004), are referred to collectively as 'fiscal equalisation funds', or 'balancing funds' (*Dana Perimbangan*). Before the enactment of the Law on Fiscal Balance a small part of local government expenditures was funded from locally generated revenue, while the much larger part was covered by routine subsidies to autonomous regions (SDO, *Subsidi Daerah Otonom*) for the payment of local civil servant salaries, and presidential instruction (INPRES, *Instruksi Presiden*) specific grants for expenditures on health, education and local infrastructure. With the shift to decentralisation from the beginning of 2001, the combined SDO and INPRES grants were replaced by the DAU, which is the biggest component of the fiscal equalisation funds (Figure 1). Such funding is intended primarily to finance expenditure on the functions for which local governments now have responsibility, but also partially to offset differences in the availability of fiscal resources between different local governments—in other words, to push in the direction of equality in the provision of services by local governments to their constituents.

² It may be noted in passing that local governments in fact retain responsibility for fiscal policy within their own jurisdiction, and that monetary policy is the responsibility of the (independent) central bank, not the central government.

³ These aims were not particularly clear in Law 22 of 1999, but this defect is rectified in Law 32 of 2004.

⁴ It is logically impossible for all regions to become more competitive, because this is a relative concept: if one region becomes more competitive, others must become less so. 'Competitiveness' presumably really means efficiency or productivity here, therefore.

FIGURE 1 *Component Shares of Fiscal Equalisation Funds 2001-2009*
(%)



Source: Directorate General of Fiscal Balance, Ministry of Finance.

By contrast, the amount of DBH is not related to the provision of services by regional governments, but to the generation of state revenues – mainly from the exploitation of natural resources, but also in the form of income tax and certain other taxes. On the face of it at least, these various kinds of revenue are distributed to regional (that is, provincial and local) governments throughout Indonesia, in most cases with larger proportions going to the regions where they are generated. As we shall see later, however, the reality is quite different. Unlike the DAU and the DBH, over which local governments have discretion as to their use, the DAK aims to support specific local government responsibilities considered to be national priorities, especially the provision of basic public services and infrastructure. The allocation of DAK follows criteria determined by the central government.

We now turn to provide more details on each component of the fiscal equalisation funds transfers.

Shared revenue funds (Dana Bagi Hasil, DBH)

There are two categories of DBH, based on the source, namely: taxes (DBH *Pajak*), and natural resources (DBH *Sumber Daya Alam*). The general pattern for sharing these revenues is that the centre retains amounts ranging from 0% to as high as

84.5% of the total, while the remainder is allocated in varying proportions to the source province and to local governments (districts and municipalities). The allocations to the latter group vary enormously depending on the category of natural resource revenue, with specific shares directed to one or more of the source district/municipality, other districts/municipalities within the source province, all districts/municipalities within the source province, and all districts/municipalities in Indonesia. In some cases the entire share goes to the source local government, but in many more cases an equal amount is shared among all of the other local governments within the source province – which favours jurisdictions with relatively small populations in terms of the size of per capita transfers.

a) DBH from tax

The first category, in turn, has three components: Personal Income Tax (*Pajak Penghasilan*, PPH), Territory and Building Tax (*Pajak Bumi dan Bangunan*, PBB), and Property Title Transfer Fees (*Bea Perolehan Hak atas Tanah dan Bangunan*, BPHTB). Table 1 shows the shares of each tax allocated to the various regional governments.

The allocation of Personal Income Tax is straightforward: the bulk of this revenue stays with the central government. Allocation of the Territory and Building Tax (on land, inland waters, and the ocean within Indonesian territory, and on buildings and permanent technical constructions built on them) is far more complicated. The share nominally going to the central government is 10%, of which 6.5% is distributed in equal amounts to all local governments; the remaining 3.5% is available for distribution as an ‘incentive’ to all local governments that achieve their PBB collection targets for the previous year. The (source) province where the taxed asset is located receives 16.2%, while the largest part (64.8%) accrues to the (source) districts/municipalities where the taxed asset is located (except for DKI Jakarta Province, which receives the full 81%).⁵ A seemingly arbitrarily determined balance of 9% is nominally allocated to cover ‘collection expenses’, as shown in Table 2. The Land and Building Title Transfer Fee is imposed on transfers of ownership of land and buildings. The regions receive 100% of this revenue: 16% is allocated to the source province and 64% to the source district/municipality. The remaining 20% is

⁵ In contrast to other regions, central government responsibilities in DKI Jakarta have been devolved to the provincial government, not local governments (based on Law 29 of 2007 on DKI Jakarta Province).

distributed equally to all other districts and municipalities (providing disproportionate benefits to those with small populations, as noted above).

TABLE 1 *Allocation of Shared Revenue Funds Sourced From Taxes*

(%)

	Centre	Source province ^a	Source local government ^a	Other local governments within source province ^{a, b}	All other local governments ^b
Personal Income Tax (PPH)	80	8	8.4	3.6	0
Territory and Building Tax (PBB) ^c	3.5 ^d	16.2	64.8	0	6.5 ^d
Land and Building Title Transfer Fees (BPHTB)	0	16	64	0	20

^a Source province/local government is jurisdiction where the taxed asset is located or taxpayer is registered.

^b Distributed in equal amounts to local governments outside the source jurisdiction (regardless of their circumstances). For PBB revenue only this also includes the source local government.

^c Row total is 91%. The balance of 9% is nominally allocated to cover 'collection expenses', as shown in Table 2.

^d The share nominally going to the central government is 10%, of which 6.5% is distributed in equal amounts to all local governments. The remaining 3.5% is available for distribution as an 'incentive' to all local governments that achieve their PBB collection targets for the previous year.

Source: Law 33 of 2004 and Government Regulation 55 of 2005.

TABLE 2 *Distribution of PBB 'Collection Expenses'*

(%)

	Revenue source	
	Urban sector	Rural sector
Directorate General of Tax	20	10
Provincial government	5	5
Local government	75	85

Source: Directorate General of Tax, Ministry of Finance.

b) DBH from Natural Resources

The second category of shared revenues is derived from forestry, general mining, oil, natural gas, geothermal energy and fisheries. The shares for each category of natural resource revenues are shown in Table 3.

General allocation funds (Dana Alokasi Umum, DAU)

Beginning in 2008, the total DAU allocation must be at least 26% of the central government's net domestic revenue – an increase of 1% from the previous requirement.⁶ The respective shares for provinces and local governments are nominally to be based on the division of responsibilities between them (*bobot pembagian kewenangan*), but until this can be quantified, the proportion is set at 10:90. The DAU transfer is intended to reduce fiscal imbalance among local governments: that is, it is intended to be relatively more generous to local governments that are financially weaker.

The formula for calculating the DAU amount for any regional government is

$$\text{DAU} = \text{Base Allocation} + \text{Fiscal Gap Allocation}$$

The base allocation is equal to the amount of spending on personnel, and this is augmented or reduced according to the recipient governments' 'fiscal gap'. The latter is the difference between its 'fiscal need' and its 'fiscal capacity', which may be positive or negative, thus resulting in a corresponding addition to, or subtraction from, the base allocation (subject to the constraint that DAU may not be negative). Fiscal capacity is defined as the sum of own source revenue plus shared revenue funds (DBH), while fiscal need is computed using a formula that encompasses indices of population, area, construction prices, human development⁷ and GRDP, as is explained below. The broad outline of these arrangements is shown in Figure 2.

⁶ Net domestic revenue is central government domestic revenue after deducting shared revenue funds (DBH) transferred to regional governments (elucidation of Government Regulation 55 of 2005).

⁷ The Human Development Index (HDI) is a composite index based on three indicators: life expectancy at birth; educational attainment (measured by a combination of adult literacy and mean years of schooling); and per capita consumption expenditure. The index value ranges from 0–100.

TABLE 3 Allocation of Shared Revenue Funds From Natural Resources

	Centre	Source province ^a	Local governments			
			Within source province			
			Source	Non-source ^a	All ^a	All ^a
Forestry						
Forestry permit operating levy (IHPH)	20	16	64			
Forestry resources commissions (PSDH)	20	16	32	32		
Reforestation fund	60		40 ^b			
General mining						
<i>Source from district/city</i>						
Mining sector land rent	20	16	64			
Mining sector royalties	20	16	32	32		
<i>Source from province</i>						
Mining sector land rent	20	80				
Mining sector royalties	20	26		54		
Oil						
<i>Source from district/municipality^c</i>	84.5	3.1	6.2	6.2		
<i>Source from province^d</i>	84.5	5.17			10.33	
Natural gas						
<i>Source from district/municipality^c</i>	69.5	6.1	12.2	12.2		
<i>Source from province^d</i>	69.5	10.17			20.33	
Geothermal energy						
Central share deposit ^e	20	16	32	32		
Land rent and production	20	16	32	32		
Fisheries						
Fisheries operations	20				80	
Fisheries production	20				80	

^a Distributed in equal amounts (regardless of local circumstances).

^b Earmarked for reforestation.

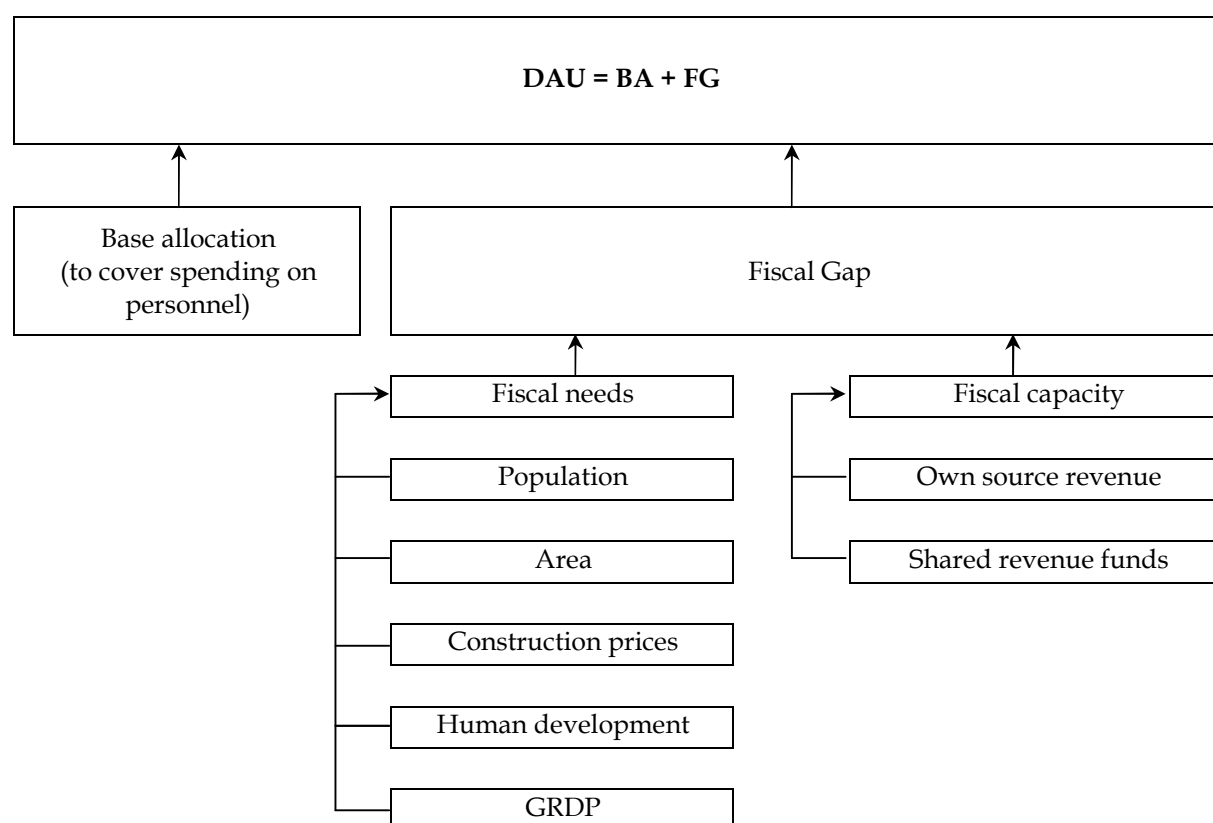
^c Of which 0.1% of source province, 0.2% of source local government and 0.2% of all local governments within the source province shares are earmarked for basic education.

^d Of which 0.17% of source province and 0.33% of all local governments within the source province shares are earmarked for basic education.

^e Central share deposit is state revenue from geothermal energy companies whose operational contract was signed before Law 27/2003 on Geothermal Energy was enacted.

Sources: Law 33/2004 and Government Regulation 55/2005.

FIGURE 2 Components of DAU Formula



Source: Government Regulation 55 of 2005.

Special allocation funds (Dana Alokasi Khusus, DAK)

The DAK is allocated among regions to assist with particular responsibilities that are considered to be national priorities (as set out in the central government's associated Annual Work Plan, *Rencana Kerja Pemerintah*). There are two stages for allocating DAK among regional governments. First, the eligibility of a region to receive DAK is determined, and then the amount each eligible region should receive is calculated for each DAK sector. The details of this process are quite complex; for reasons of limited space we do not discuss them here.

Reflecting the reality that most central government ministries have been reluctant to accept the diminution of their power and authority implied by decentralisation, and that virtually any local government activity can be deemed a 'national priority', there has been a significant and steady increase in both the size and scope of DAK funding over the years since decentralisation occurred. In 2003, nine provinces, 22 districts and 18 municipalities received no DAK allocation. By 2008 the number of provinces not receiving any DAK allocation had fallen to seven, declining further to just four in 2009 (DKI Jakarta, Riau, South Sumatra and West Java), while all

districts/municipalities received an allocation in both these years. Initially DAK was used to fund only a single activity – reforestation – but five new core DAK activities were added in 2003. In almost every subsequent year the list of these activities has been extended, such that by 2009 some 13 sectors were included, despite re-classification of the regions’ share of reforestation funds in 2006 to become part of DBH (Table 4). Accordingly, even though the total DAK allocation remains the smallest of the three fiscal balance components in percentage terms, its share has been increasing significantly (as we saw in Figure 1).

TABLE 4 *Proliferation of DAK sectors 2001–09*

Sector	2001	2002	2003	2004	2005	2006	2007	2008	2009
Reforestation ^a	√	√	√	√	√				
<i>Early core DAK activities</i>									
Education			√	√	√	√	√	√	√
Health			√	√	√	√	√	√	√
Roads			√	√	√	√	√	√	√
Irrigation			√	√	√	√	√	√	√
Governance infrastructure			√	√	√	√	√	√	√
<i>Creeping proliferation of DAK activities</i>									
Marine & fisheries				√	√	√	√	√	√
Water & sanitation					√	√	√	√	√
Agriculture					√	√	√	√	√
Environment						√	√	√	√
Family planning								√	√
Forestry								√	√
Rural infrastructure									√
Trade									√

^a Reforestation was re-classified as a (natural resource) revenue sharing (DBH) item from 2006.

Source: Directorate General of Fiscal Balance, Ministry of Finance.

Fiscal Equalisation Funds (*Dana Perimbangan*)

Policy-makers need to worry about the adequacy of these transfers in total, bearing in mind the functions that local governments are now expected to undertake. They also need to concern themselves about the relative amounts being allocated to individual regional governments. The formulae used to allocate these transfers have potentially significant implications for behaviour at regional government level, and for the distribution of national income. In particular, there are indications that they

have provided a very strong impetus for fragmentation at the local government level, with large numbers of local governments being split into multiple jurisdictions in order to tap into this substantial flow of funds from the centre. We leave discussion of the distributional impact of the current fiscal transfer arrangements until later.

The funding allocation formulae were introduced very hurriedly, arguably without the benefit of sufficiently careful analysis (McLeod 2005:46). Although the governing law has been revised subsequently, the changes made appear to be quite superficial by comparison with those that would be suggested by a more thorough analysis. One of the main objectives of this paper is to provide both theoretical and empirical analyses of the way the system has been working until now. It is expected that this will constitute useful input for policymakers seeking to fine-tune the system in the future.⁸

THE REGULATIONS ON FISCAL EQUALISATION FUNDS

The broad outlines of the regulations on fiscal equalisation funds are contained in Law 33 of 2004 on Fiscal Equalisation Funds (amending Law 25 of 1999); additional details are contained in Government Regulation 55 of 2005. As already noted, fiscal equalisation funds are funds sourced from the state budget and allocated to regional governments to fund their activities under decentralisation. What matters to recipients of transfers from the central government is not the individual amounts of the DAU, DBH or DAK allocations, of course, but the sum of all of these. That is, these three components should not be looked at separately but as a whole package, since they are to complement each other, as mentioned in the elucidation of Article 10 (1) of Law 33/2004:

Fiscal equalisation funds, which are intended to fund the implementation of decentralisation, consist of three kinds of fund sources, the allocation of which cannot be separated one from the other because each type of fiscal equalisation fund is intended to complement and supplement the others.⁹

That said, our impression is that it is rare for analysts or policy makers to focus on total transfers, rather than the constituent parts – and that this has resulted in

⁸ Further revisions were under consideration at the time of writing.

⁹ Translation by the authors.

widespread and considerable misunderstanding as to the overall impact of the transfer scheme.

Before proceeding to discuss the details of the regulations, it may be helpful to look at one aspect of their consequences. Figures 3a & b show the variation in the level of per capita fiscal equalisation funds received in 2008 by districts and municipalities, respectively. It can be seen immediately that there is an astonishing range of variation, from Rp 0.27 million to Rp 24.42 million. This may be compared with 2007 district and municipality average per capita Gross Regional Domestic product (GRDP) levels of just Rp 6.62 million and Rp 12.01 million, respectively. On the face of it, it is difficult to imagine any reasonable justification for the citizens of one jurisdiction receiving from the central government (through services delivered by their local government) a transfer almost 100 times greater than that received by their fellow citizens in another. Indeed, when we compare ratios of per capita transfers to the all Indonesia per capita GRDP averages for districts and municipalities, respectively (which are the same as the ratios of total transfers to total GRDP), we see again an extraordinary range of variation – for example, from as little as 4.7% to as high as 331% for districts in 2007 (Table 5). At the lower end local governments receive almost trivial amounts of transfers relative to the size of the average district/municipality economy, while at the higher end, the transfers exceed the average size of these economies by very large margins. It is noticeable also that these ratios are much lower for municipalities than for districts: the average municipality received less than half as much per capita relative to the corresponding all Indonesia average per capita GRDP than did districts in 2007.

This provides significant cause for concern. The government has adopted an ambitious target of reducing poverty from its 2009 level of around 14% to just 8-10% by 2014 (Resosudarmo and Yusuf 2009:303). While this will certainly require the maintenance of continuously high rates of economic growth, the provision of heavily subsidised services such as education and health, in particular, are two of the most effective means by which such an objective can be pursued. But such services are largely the responsibility of local governments, so a pattern of fiscal transfers that fails to discriminate consistently in favour of relatively poor regions will make achievement of the poverty reduction target even more difficult to achieve.

FIGURE 3a *Ranking of Districts by Annual Total Transfers, 2008*
(Rp million per capita)

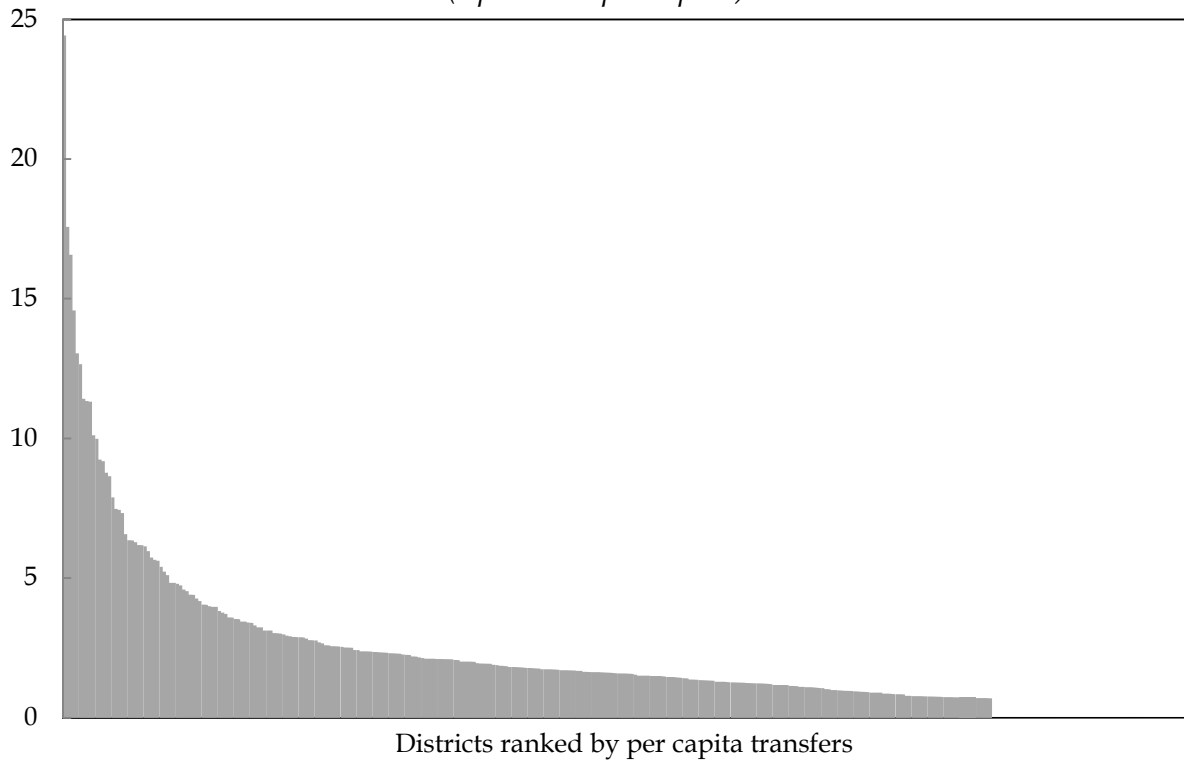


FIGURE 3b *Ranking of Municipalities by Annual Total Transfers, 2008*
(Rp million per capita)

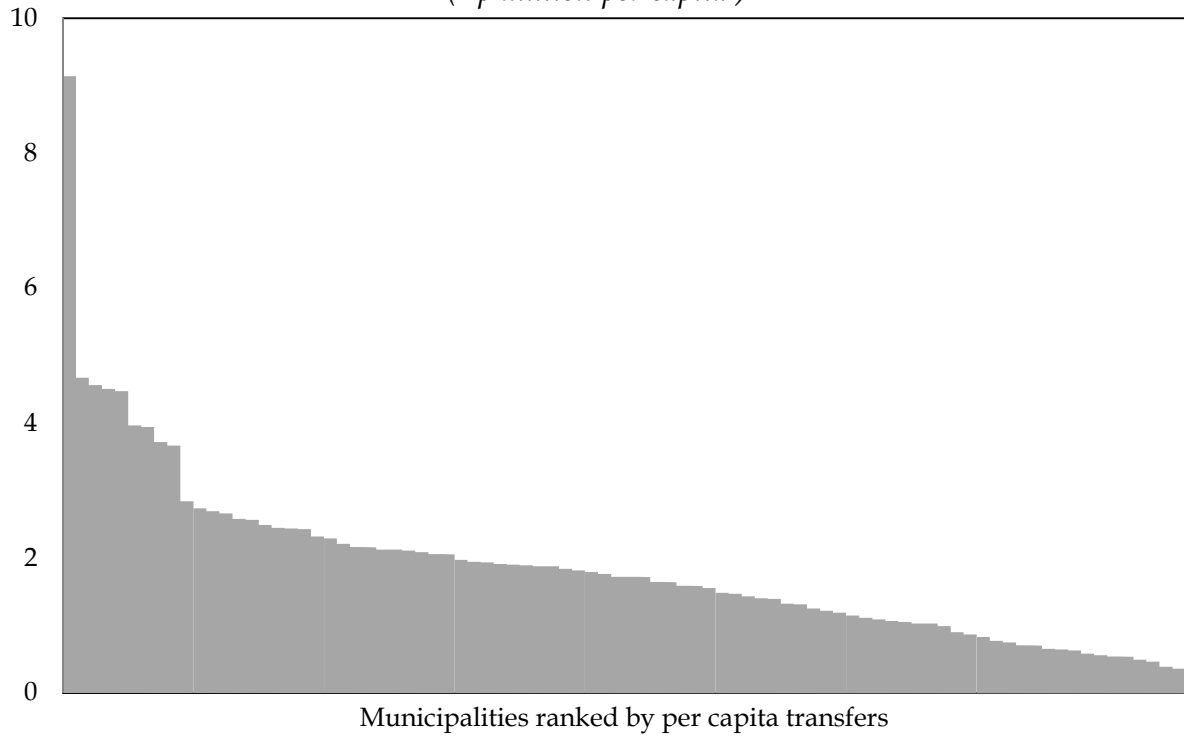


TABLE 5 *Annual Transfers Per Capita 2006–08*
(Rp million)

	Maximum	Minimum	Average
<i>Districts</i>			
2005	6.29	0.18	0.78
2006	17.82	0.25	1.92
2007	21.91	0.31	2.24
<i>Municipalities</i>			
2005	4.11	0.22	0.91
2006	7.39	0.28	1.59
2007	8.49	0.34	1.76
<i>Ratio of Per Capita Transfers to Average Per Capita GRDP (%)</i>			
<i>Districts</i>			
2005	103.86	2.90	12.96
2006	280.18	3.95	30.16
2007	331.05	4.69	33.77
<i>Municipalities</i>			
2005	33.89	1.83	7.49
2006	59.48	2.27	12.75
2007	70.67	2.85	14.66

An analysis of the fiscal equalisation funds arrangements

Having discussed in detail the individual components of total ‘fiscal balance’ funding, we are now in a position to show that the very complexity of its components has led inadvertently to a ‘bottom line’ outcome that is not consistent with its stated goals. The most obvious indication of defective design of the scheme is that, under DBH, a large amount of funds is transferred to regions that are rich in natural resources, whereas the DAU component is intended to provide *less* funding to such regions. Thus the DBH and DAU components are working at cross purposes (as observed by McLeod 2000). We shall explore this issue in greater detail in the following discussion.

The nominal purpose of fiscal equalisation funds is to bring about a ‘balancing’ of finances between different levels of governments and among different regions, as already mentioned. This section analyses these arrangements using Government Regulation 55 of 2005 on Fiscal Equalisation Funds as a basis, since this regulation

provides greater detail than Law 33/2004. As we have just seen, a glance at the pattern of total transfers to the various regions is sufficient to show that, far from offsetting differences in financial capacity among regions, the arrangements appear to exacerbate them.

The three components of fiscal equalisation funds should not be considered individually, but should be viewed as a whole. We turn now to deriving an algebraic expression for the total amount of fiscal balance funds received by any given regional government.

We can define total fiscal equalisation funds as

$$D \quad \equiv DBH + DAU + DAK \quad \text{Art. 2 (1)}$$

Article 40 (1) stipulates that the DAU allocation for a given local government is calculated as the sum of its 'basic allocation' and its fiscal gap. The basic allocation is the amount needed to cover spending on personnel, which includes base salaries, family assistance, and other related allowances (Elucidation of Art. 40 (5)). The fiscal gap is the difference between 'fiscal need' and 'fiscal capacity' (Art. 40 (2)). We postpone discussion of fiscal need for the moment. Fiscal capacity here is defined as the sum of the government's own source revenue and its entitlement to DBH (Art. 40 (4)). The minimum amount of DAU is zero (Art. 45 (4)).

Using the following additional notation

- BA = basic allocation (*alokasi dasar*)
- PS = personnel spending (*belanja pegawai*)
- FG = fiscal gap (*celah fiskal*)
- FN = fiscal need (*kebutuhan fiskal*)
- FC = fiscal capacity (*kapasitas fiskal*)
- OSR = own source revenue (*pendapatan asli daerah*)

we can write:

$$\begin{aligned} DAU &= BA + FG && \text{Art. 40 (1)} \\ &= PS + FG && \text{Art. 40 (1) and (5)} \\ &= PS + (FN - FC) && \text{Art. 45 (1)} \\ &= PS + FN - (OSR + DBH) && \text{Art. 45 (1) and 40 (4)} \end{aligned}$$

That is,

$$DAU = PS + FN - OSR - DBH, \text{ subject to } DAU \geq 0.$$

By 2009 almost all local governments were deemed eligible to receive DAK allocations. Therefore, in the general case in which the regional government receives all three components, the total can now be expressed as:

$$\begin{aligned} D &= DBH + (PS + FN - OSR - DBH) + DAK \\ &= PS + FN - OSR + DAK \end{aligned}$$

The remarkable thing to note here is that, despite the elaborate scheme for determining the Shared Revenue (DBH) entitlement, this is *totally irrelevant* in almost all cases (i.e. all those for which $DAU \geq 0$), because when we focus on the fiscal balance transfer as a whole, the entitlement to DBH is exactly offset by the inclusion of DBH as a negative item in the entitlement to DAU.

In cases where the region is rich in natural resources, DBH can be large enough to result in the calculated value of DAU becoming negative, so the region in question receives zero DAU (Art. 45(4)). For these governments,

$$D = DBH + DAK$$

The threshold value, DBH^* , of shared revenue funds at which DAU falls to zero is given by

$$DAU = PS + FN - OSR - DBH^* = 0$$

or

$$DBH^* = PS + FN - OSR$$

In words, governments lose any entitlement to DAU once their entitlement to DBH is large enough to cover their personnel spending plus fiscal needs, net of their own source revenue. For brevity, we refer to this as the 'resource-rich case' (although, in the case of Jakarta special province, a more apt description would be 'income tax-rich case').

Table 6 describes province, district and municipal governments' access to each of the components of fiscal balance transfers during 2008 and 2009. All regional governments received DBH allocations in both years, and all municipalities received

all three components of fiscal equalisation funds in both years. The number of provinces receiving no DAK fell from seven in 2008 to four in 2009, one of which (the special case of Jakarta capital city province) also received no DAU in either year. Among districts just five in 2008 and four¹⁰ in 2009 (from a total of 386) received no DAU. In short, the reality in recent years has been for almost all regional governments to receive all three components of the fiscal balance transfers.

TABLE 6 *Regional Government Access to Fiscal Balance Transfers, 2008–2009*

Type of government	Region did <i>not</i> receive			2008	2009
	DBH	DAU	DAK		
Provinces				33	33
				25	28
			√	6	3
(DKI Jakarta)		√	√	1	1
Districts				363	386
				358	382
		√		5	4
Municipalities				88	91
				88	91

Source: Directorate General of Fiscal Balance, Ministry of Finance.

The two possible outcomes for fiscal balance transfers are summarised in Table 7. In the general case, regional governments nominally receive all three components of the overall transfer but, in reality, receive a total amount that has no revenue sharing component (DBH): whatever they receive as DBH is deducted from their DAU entitlement. The other case is that of ‘resource rich’ regional governments, which receive no general funds allocation (DAU). The general case outcome is beneficial to the central government in the sense that even though it requires no actual DBH *payout*, the DBH *entitlement* as calculated reduces the minimum aggregate amount of DAU, given that this is specified as a percentage of central government revenue net of DBH transfers to the regions. The higher the DBH aggregate, the lower is net revenue and, therefore, aggregate DAU transfers.

¹⁰ Bengkalis, Rokan Hilir and Siak (all in Riau province), and Kutai Kertanegara (in East Kalimantan province).

TABLE 7 Possible Outcomes for Fiscal Balance Transfers

	Size of Fiscal Balance Transfer (D)
General case	$PS + FN - OSR + DAK$
'Resource-rich' case	$DBH + DAK$

Note: 'Resource-rich' is defined by $DBH \geq PS + FN - OSR$.

Source: Derived from Government Regulation 55/2005.

Based on this analysis it can be seen that hardly any local governments have any monetary incentive to increase their own source revenues, because each additional rupiah they collect will be fully offset by an induced equal reduction in the total transfer entitlement. In view of this it is surprising that so much effort is expended by local governments in raising their own revenue (Lewis 2003), and that there are so many complaints from them about the constraints they face in trying to do so.¹¹ Indeed, it is hard to conclude other than that local governments simply do not understand the fiscal transfer arrangements. In addition, hardly any local governments have any incentive to reduce (or avoid growth in) the number of their personnel, because any reduction in this cost will result in an equal reduction in the total transfer entitlement. In fact, given that they obtain various benefits from having additional personnel without having to pay the cost themselves, they therefore have an incentive to increase staffing levels beyond what is optimal.¹² In other words, all the benefits from efforts to raise additional revenues locally or to economise on personnel costs flow to the central government.

The actual patterns of per capita personnel spending and own source revenue collections show extreme variations across local governments. In 2007, for example, the fiscal transfer arrangements described in this paper led to outcomes in which the top 10% of districts spent on average more than *eight times* as much per citizen on personnel than the bottom 10% (Table 8). Since spending on personnel is probably the most direct indicator of the volume and quality of services potentially able to be

¹¹ During January–October 2009 the central government annulled no less than 688 local government regulations on local taxes and user fees ([http://www.kontan.co.id/index.php/nasional/news/23483/Tahun-*ini*-Pemerintah-Membatalkan-668-Perda](http://www.kontan.co.id/index.php/nasional/news/23483/Tahun-<i>ini</i>-Pemerintah-Membatalkan-668-Perda)).

¹² In reality, local government staffing decisions appear to be tightly controlled by the central government.

delivered to the public, it is hard to imagine how this could possibly be justified. To put it differently, there would appear to be an urgent need to look in detail at these kinds of outcomes, because they seem wildly at odds with the nominal objectives of the arrangements laid out in the law and associated regulations.

TABLE 8 *Local Government Personnel Spending and Own Source Revenue, 2007*
(Rp million per capita)

	Personnel spending	Own source revenue
Districts		
Maximum	4.47	2.01
Minimum	0.17	0.02
Average	0.77	0.10
Average top 10%	2.06	0.29
Average bottom 10%	0.26	0.05
<i>Top 10%:bottom 10%</i>	<i>8.07</i>	<i>6.43</i>
Municipalities		
Maximum	4.78	0.48
Minimum	0.22	0.04
Average	0.85	0.15
Average top 10%	1.91	0.27
Average bottom 10%	0.31	0.12
<i>Top 10%:bottom 10%</i>	<i>6.24</i>	<i>2.33</i>

Fiscal need

The so-called 'fiscal need' of an individual government is determined by calculating the average level of spending of all governments, grouped into two types (i.e. province and local governments), and then modifying this figure by reference to five different indices of 'need' for budgetary resources.¹³ Art. 44 (1) defines spending to include that on personnel, goods and services, and capital goods. The modifying factors are population (*P*), land area (*L*), construction prices (*C*), the level of 'human

¹³ It is surprising that these arrangements do not distinguish between municipalities and districts, because the different characteristics of each kind of government lead to quite different spending requirements.

development' (H),¹⁴ and per capita Gross Regional Domestic Product (G) of the jurisdiction in question.

The modifying factors are all expressed as indices (I_i), calculated as the ratio of the value of the factor in question, v_i , to its average value for all regional governments of a given type, V_i :

$$I_{ij} = \frac{v_{ij}}{V_i} = \frac{v_{ij}}{\frac{\sum_j v_{ij}}{n}}$$

where

$$j = 1, 2, \dots, n \text{ (regions)}$$

$$i = 1, 2, \dots, 5 \text{ (modifying factors)}$$

A weighted average of all five indices is then calculated, which serves as the overall multiplying factor to be applied to average spending.

We define

S = average level of spending across all governments of the given type,
and

α_i = weight given to modifying factor i .

Thus the fiscal need of government j is given by (Art. 44(1)):

$$FN_j = S \sum_i \alpha_i I_{ij}$$

The values of α_i are shown in Table 9. Note that they were modified in 2006, when GRDP per capita was introduced as an additional modifying factor, with the weights given to population and construction prices reduced and that to area increased.

¹⁴ As indicated by the Human Development Index.

TABLE 9 *Weights of Fiscal Need Components 2005–09*

(%)

Component	2005	2006–09
Population	40	30
Area	10	15
Construction price index	40	30
Human development index	10	10
GRDP per capita	-	15

For convenience we define

$$x_i = \frac{S\alpha_i}{V_i}$$

so we can write

$$FN_j = \sum_i \left(S\alpha_i \frac{v_{ij}}{V_i} \right) = \sum_i x_i v_{ij}$$

The next step is to determine the level of non-personnel spending that can be undertaken by government j (denoted by NPS_j). Combining the budget constraint (spending is limited to available funds) with the general case expression for total fiscal transfers, we can write

$$S \equiv PS + NPS + DAK = D + OSR = PS + FN - OSR + DAK + OSR$$

That is, spending, defined as spending on personnel and non-personnel items, plus that in areas given special support from the central government, is constrained to the amount of funds available, which consists of fiscal transfers from the centre plus own source revenue. Simplifying this, and omitting subscript j for simplicity, we obtain

$$NPS = FN = \sum_i \left(S\alpha_i \frac{v_i}{V_i} \right)$$

In other words, the amount of spending able to be undertaken by regional governments on their own behalf (assuming they balance their budgets) depends only on the five modifying factors just mentioned. Note that the governments of regions that have relatively high levels of development (as indicated by the Human

Development Index and per capita GRDP) are enabled to provide more and/or better services to their citizens: the well off become better off.

A further interesting implication is that the fiscal transfer arrangements provide a clear financial incentive for fragmentation of existing jurisdictions, especially those that are relatively highly developed. To see this, consider a region, j , that is contemplating splitting into two regions, a and b , with populations P_a and P_b and land areas L_a and L_b . On the assumption that construction prices, the Human Development Index and per capita GRDP remain the same in both new regions, the level of non-personnel spending that would now be possible for the two new regions combined is given by

$$\begin{aligned} NPS_a + NPS_b &= S \left[\alpha_1 \frac{(P_a + P_b)}{P} + \alpha_2 \frac{(L_a + L_b)}{L} + 2 \sum_{i=3}^5 \left(\alpha_i \frac{v_i}{V_i} \right) \right] \\ &= S \left[\alpha_1 \frac{P_j}{P} + \alpha_2 \frac{L_j}{L} + 2 \sum_{i=3}^5 \left(\alpha_i \frac{v_i}{V_i} \right) \right] = NPS_j + S \sum_{i=3}^5 \left(\alpha_i \frac{v_i}{V_i} \right) \end{aligned}$$

where subscripts 1 and 2 denote population and area, respectively. The excess over the pre-split amount indicated by the second term on the right means that all citizens in the original region have reason to support its splitting into two, in the expectation that they will benefit from the increased spending that would become possible.

For the very few 'resource-rich' regions, by contrast, a process similar to that above yields the following expression for non-personnel spending:

$$NPS = DBH + OSR - PS$$

Non-personnel spending by governments of these regions is not affected by *any* of the modifying factors, but is constrained to an amount equal to their receipts of shared revenue plus their own source revenue, less their spending on personnel. The richer their resource base, the higher their level of spending. In this case there is no direct financial benefit from subdivision of the region, and the governments in question do have an incentive to economise on personnel spending and to raise more revenue.

Returning to the general case, we now make use of our expression for FN to show how total fiscal balance transfers are affected by variations in each of the indicators of fiscal need.

It seems reasonable to argue that bigger regional economies have bigger governments, as indicated by the size of their bureaucracies and their ability to generate revenue. For simplicity, we assume that personnel spending (PS) and own source revenue (OSR) are constant proportions of GRDP of the region in question:

$$PS_j = b G_j P_j$$

$$OSR_j = c G_j P_j, \text{ where } b \text{ and } c \text{ are constants.}$$

We assume also that $b > c$, because regional governments have limited opportunities for raising their own revenues. That is, $(b - c) > 0$.

Except for regions rich in natural resources (for which DAU is zero) we found previously that (rearranging slightly):

$$D = PS - OSR + FN + DAK$$

As we have seen, DAK has been increasing significantly year by year, but it is still small compared to D . We therefore assume here, again for simplicity, that DAK is zero. Combining the above equations we can write:

$$D_j = (b - c)G_j P_j + \sum_i x_i v_{ij}$$

$$= (b - c)G_j P_j + x_1 P_j + x_2 L_j + x_3 C_j + x_4 H_j + x_5 G_j$$

Expressing the transfer funds in per capita terms (d), we obtain

$$d_j = (b - c)G_j + x_1 + \frac{1}{P_j} (x_2 L_j + x_3 C_j + x_4 H_j + x_5 G_j)$$

Influence of the modifying factors on per capital transfers

We are now in a position to see how per capita transfers change in response to variations in the five modifying factors that describe each jurisdiction, by taking the partial derivatives of the expression for d_j with respect to each factor. The partial derivatives, second derivatives and selected cross derivatives are as follows:

Population (P_j)

$$\frac{\partial d_j}{\partial P_j} = -\frac{1}{P_j^2} (x_2 L_j + x_3 C_j + x_4 H_j + x_5 G_j)$$

$$= -\frac{S}{P_j^2} \left(\alpha_2 \frac{L_j}{L} + \alpha_3 \frac{C_j}{C} + \alpha_4 \frac{H_j}{H} + \alpha_5 \frac{G_j}{G} \right) < 0$$

That is, transfers per capita *decrease* with increases in population. Two jurisdictions identical in all respects except population receive different per capita transfers, with the one with greater population receiving less. There is no obvious reason why this should be the case: it seems to be an unintended consequence of the design of the transfer funding arrangements. Although it is perfectly reasonable to argue that governments that serve larger populations have a greater need for funds in order to provide comparable levels of services to their citizens, careless design of the details of the scheme leads to outcomes where the citizens of large population jurisdictions are in fact heavily penalised. Figures 4a & b show the very strong influence of population on transfers per capita.

Note that

$$\frac{\partial^2 d_j}{\partial P_j^2} = \frac{2S}{P_j^3} \left(\alpha_2 \frac{L_j}{L} + \alpha_3 \frac{C_j}{C} + \alpha_4 \frac{H_j}{H} + \alpha_5 \frac{G_j}{G} \right) > 0$$

The rate of decrease of the per capita transfer decreases as the size of population increases. Furthermore,

$$\frac{\partial^2 d_j}{\partial P_j \partial L_j} = -\frac{S}{P_j^2} \frac{\alpha_2}{L} < 0$$

$$\frac{\partial^2 d_j}{\partial P_j \partial C_j} = -\frac{S}{P_j^2} \frac{\alpha_3}{C} < 0$$

$$\frac{\partial^2 d_j}{\partial P_j \partial H_j} = -\frac{S}{P_j^2} \frac{\alpha_4}{H} < 0$$

$$\frac{\partial^2 d_j}{\partial P_j \partial G_j} = -\frac{S}{P_j^2} \frac{\alpha_5}{G} < 0$$

The partial cross derivatives show that the rates of decrease of per capita transfers with respect to population increase with increases in land area, construction prices, HDI and per capita GRDP, for no obvious reason.

FIGURE 4a District Per Capita Total Transfers and Population, 2008
(Rp million; thousand)

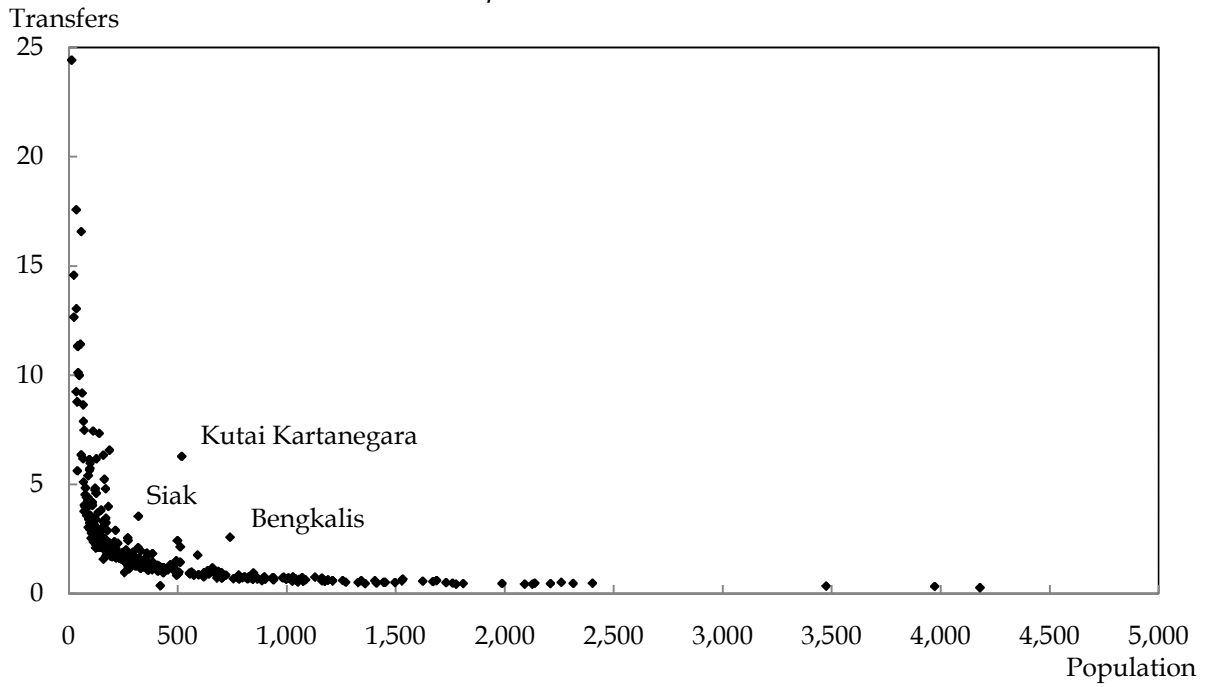
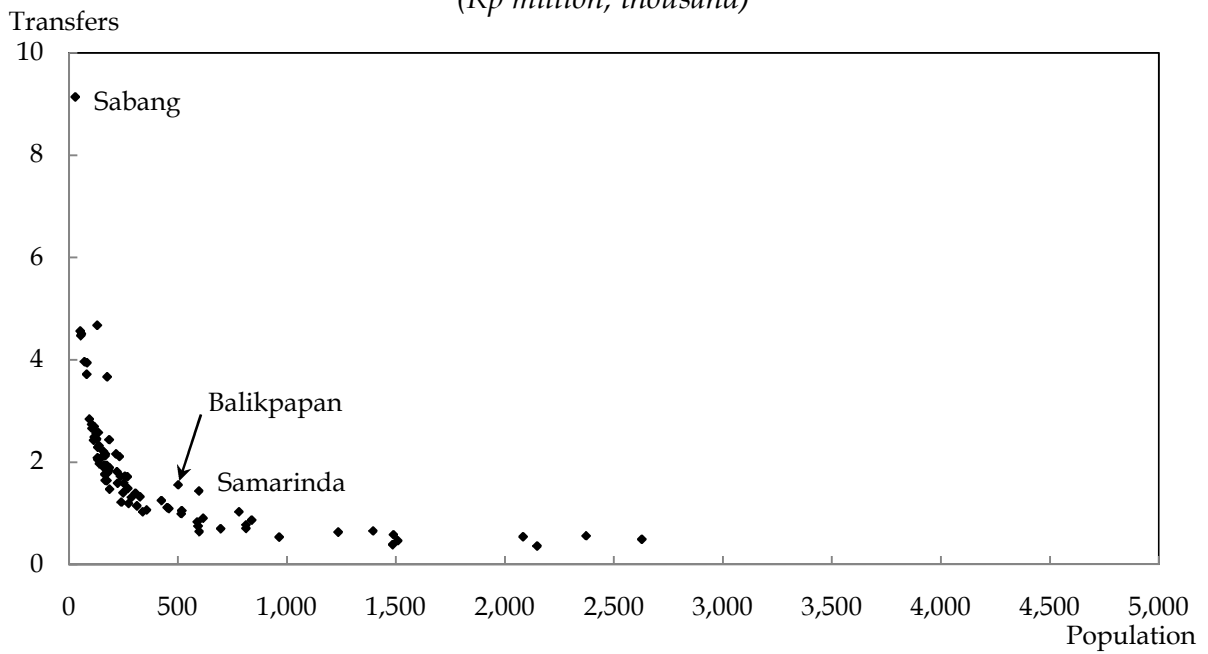


FIGURE 4b Municipality Per Capita Total Transfers and Population
(Rp million; thousand)



Land (L_j)

$$\frac{\partial d_j}{\partial L_j} = \frac{x_2}{P_j} = \frac{S\alpha_2}{LP_j} > 0$$

$$\frac{\partial^2 d_j}{\partial L_j^2} = 0$$

That is, transfers per capita *increase* at a constant rate with increases in land area. This tends to compensate regions facing above average infrastructure and transport costs because of their above average physical size. This helps to explain why municipalities tend to receive lower per capita transfers than districts: their typical land area is significantly smaller. This actually calls into question the logic of treating districts and municipalities in the same manner in relation to transfers. So far as the challenges of providing public services and infrastructure are concerned, there is much similarity between districts, and between municipalities, but the differences between the typical district and the typical municipality are far greater.

Note that

$$\frac{\partial^2 d_j}{\partial L_j \partial P_j} = -\frac{S\alpha_2}{LP_j^2} < 0$$

This partial cross derivative shows that the rate of increase of per capita transfers with respect to area decreases with increasing population, for no obvious reason.

Construction prices (C_j)

$$\frac{\partial d_j}{\partial C_j} = \frac{x_3}{P_j} = \frac{S\alpha_3}{CP_j} > 0$$

$$\frac{\partial^2 d_j}{\partial C_j^2} = 0$$

That is, transfers per capita *increase* at a constant rate with increases in construction prices. This tends to compensate regions facing above average construction costs, as intended.

Note that

$$\frac{\partial^2 d_j}{\partial C_j \partial P_j} = -\frac{S\alpha_3}{CP_j^2} < 0$$

This partial cross derivative shows that the rate of increase of per capita transfers with respect to construction prices decreases with increasing population, for no obvious reason.

Human development index (H_j)

$$\frac{\partial d_j}{\partial H_j} = \frac{x_4}{P_j} = \frac{S\alpha_4}{HP_j} > 0$$

$$\frac{\partial^2 d_j}{\partial H_j^2} = 0$$

That is, transfers per capita *increase* at a constant rate with increases in the HDI. This is precisely the reverse of the equity-oriented income redistribution through intergovernmental funds transfers (i.e. trying to *reduce* the variation of average incomes across jurisdictions) that presumably underlies the idea of improving fiscal balance among regions. That is, better off jurisdictions (as indicated by the Human Development Index) receive greater, not smaller, per capita transfers from the centre, making them even better off.

Figures 5a & b relate the level of per capita transfers received by individual districts and municipalities to their human development index (HDI) levels. The relationship is by no means clear. Most local government areas cluster within a fairly narrow range for the HDI level, but there is enormous variation in their transfer receipts per capita. There is at best a hint of a negative relationship, with transfers declining as the HDI increases, but only a small handful of low HDI districts receive transfers well above the average, and there are many more districts and municipalities that receive well above average transfers even though their HDI levels are close to the average.

Note that

$$\frac{\partial^2 d_j}{\partial H_j \partial P_j} = -\frac{S\alpha_4}{HP_j^2} < 0$$

This partial cross derivative shows that the rate of increase of per capita transfers with respect to HDI decreases as population increases, for no obvious reason.

FIGURE 5a *Transfers to Districts and HDI, 2008*
(Rp million per capita)

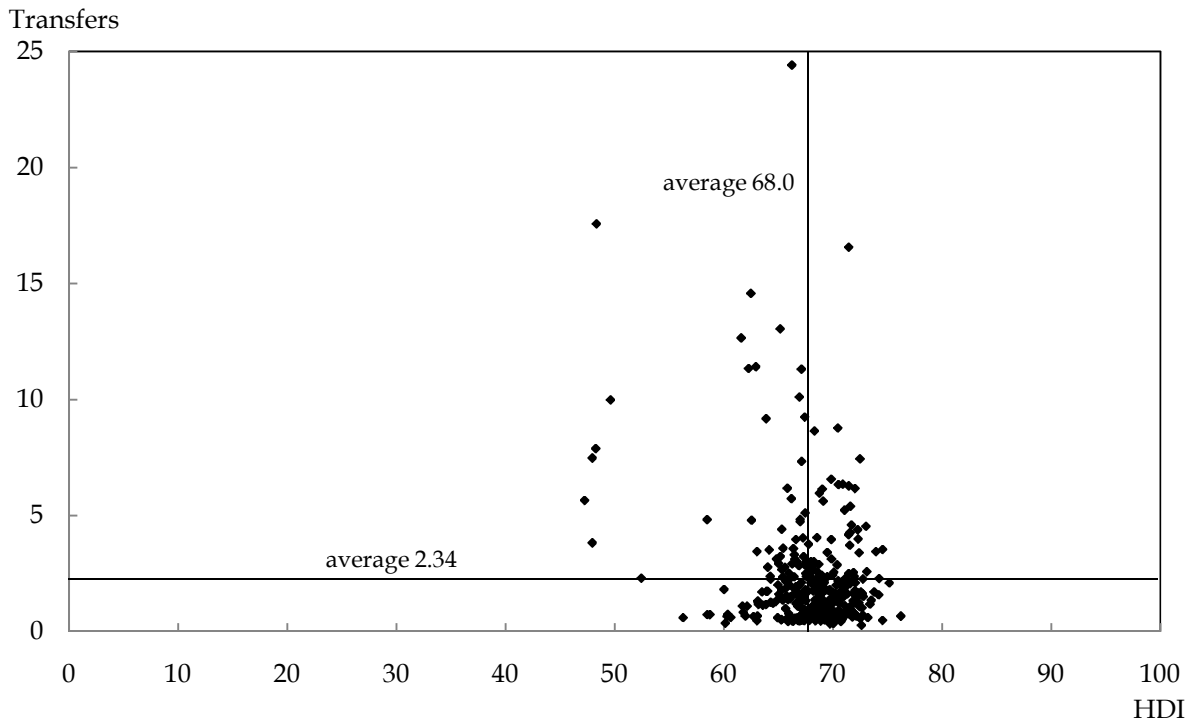
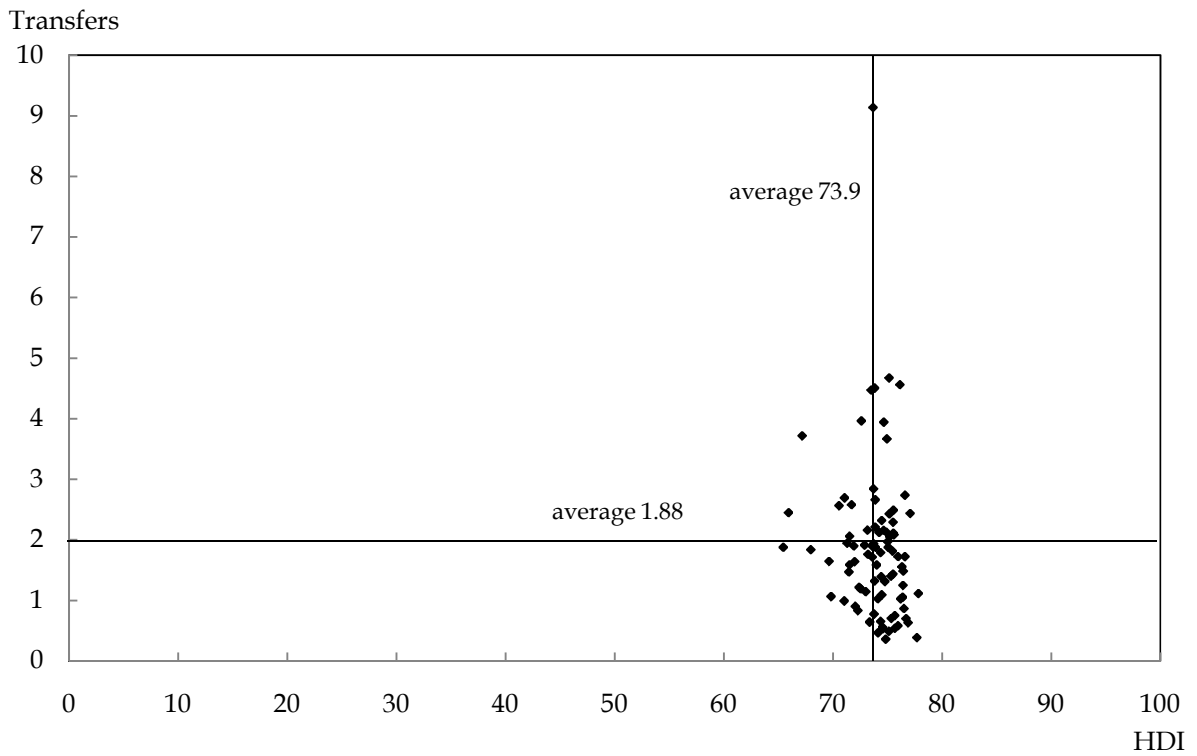


FIGURE 5b *Transfers to Municipalities and HDI, 2008*
(Rp million per capita)



Per capita GRDP (G_j)

$$\frac{\partial d_j}{\partial G_j} = (b - c) + \frac{x_5}{P_j} = (b - c) + \frac{S\alpha_5}{GP_j} > 0$$

$$\frac{\partial^2 d_j}{\partial G_j^2} = 0$$

That is, transfers per capita *increase* at a constant rate with increases in per capita GRDP. Again, this is precisely the reverse of what is required if intergovernmental funds transfers are intended to reduce the variation of average incomes across regions. Better off jurisdictions (as indicated by per capita GRDP) receive greater, not smaller, per capita transfers from the centre, making them even better off. This presumably unintended impact is considerably more severe than is the case with the Human Development Index, which is related to per capita expenditures rather than per capita output: the latter is far more variable across regions.

Figures 6a & b relate the level of transfers to local governments' levels of per capita GRDP. A large majority of districts have both low per capita output and low per capita transfers. There are many relatively well-off districts, with per capita output well above average, which also receive very high transfers (in line with the logic of the regulations), but there are quite a few that have extremely high per capita output and yet receive transfers not much different from the average. The same comments apply also to municipalities.

Note that

$$\frac{\partial^2 d_j}{\partial G_j \partial P_j} = -\frac{S\alpha_5}{GP_j^2} < 0$$

This partial cross derivative shows that the rate of increase of per capita transfers with respect to per capita GRDP decreases as population increases, for no obvious reason.

FIGURE 6a *Transfers to Districts and GRDP, 2007*
(Rp million per capita)

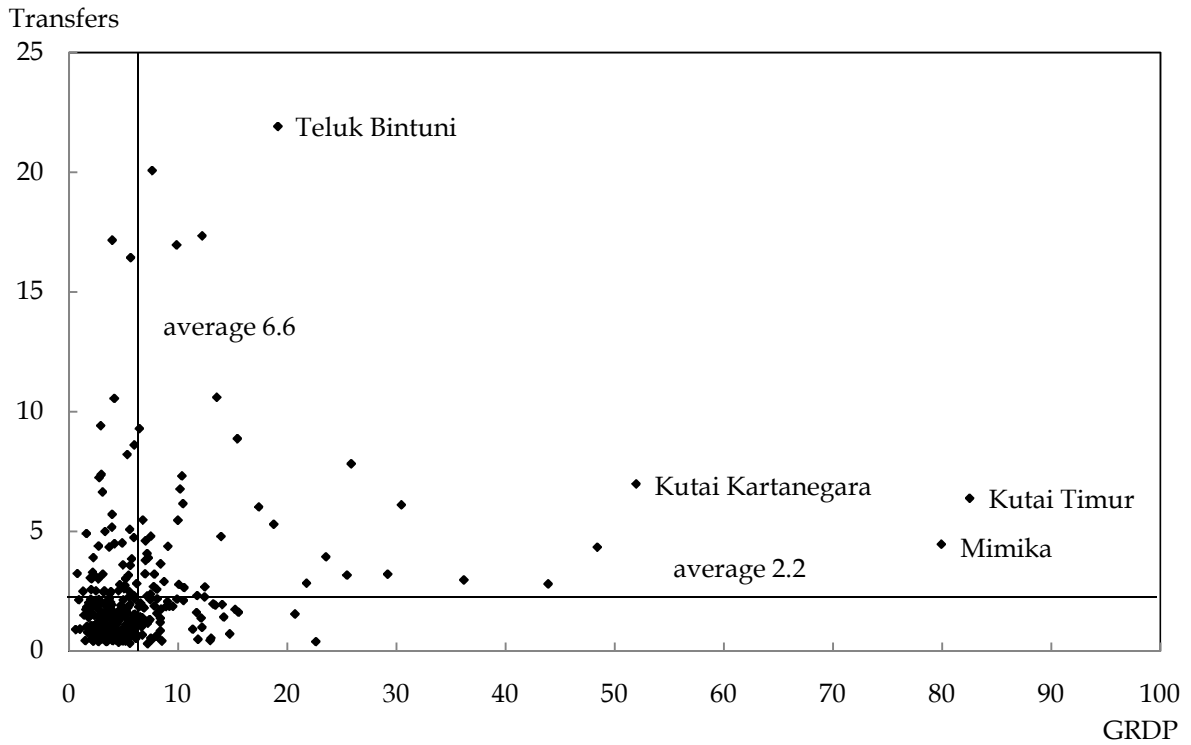
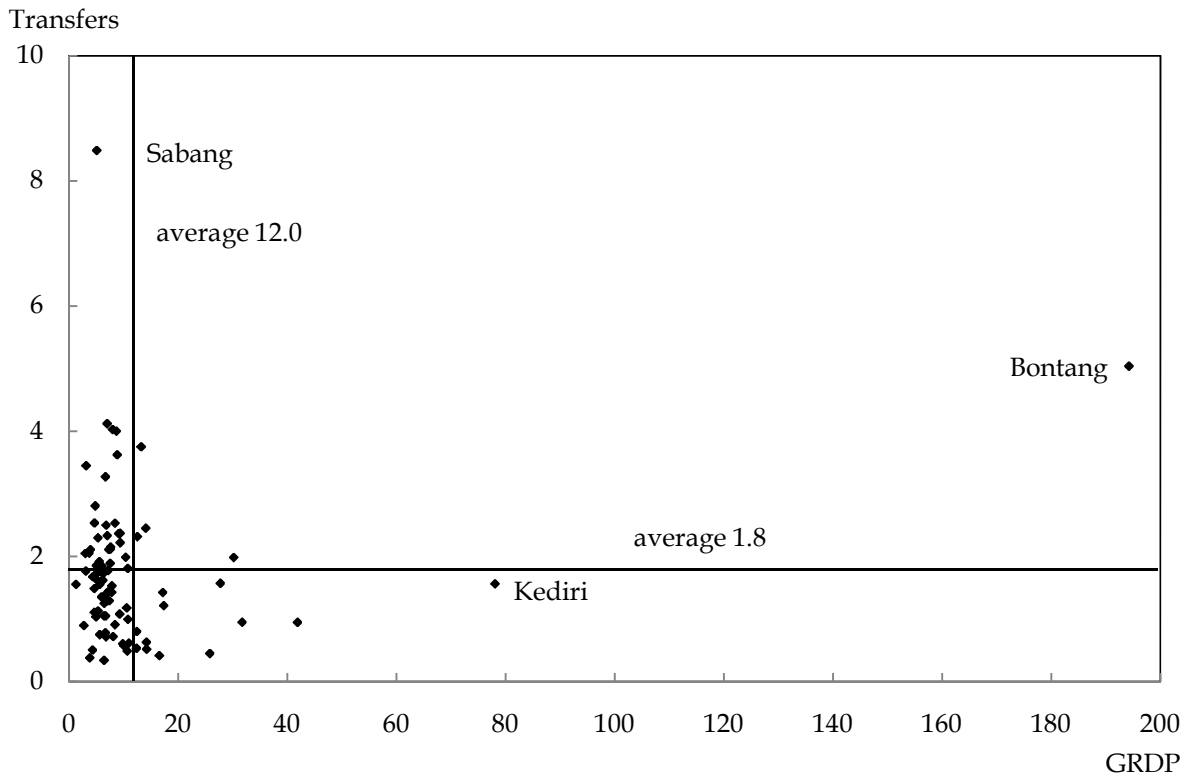


FIGURE 6b *Transfers to Municipalities and GRDP, 2007*
(Rp million per capita)



POLICY IMPLICATIONS

Careful analysis of the regulations relating to fiscal transfers yields a number of conclusions that are either surprising, or cause for concern, or both. One of the main surprises is that, despite all the emphasis on the sharing of revenues generated by natural resources and the personal income tax, these revenue sharing arrangements are *totally irrelevant for almost all regional governments*. Natural resource revenue sharing turns out to be a myth for all provinces, all municipalities, and all but a tiny minority of district governments, because the amount received under this heading is exactly offset by the reduction in the entitlement to general allocation funds.

Notwithstanding what the law and regulations say about its objectives, the system for sharing natural resource revenues was in fact introduced to serve a clear political purpose: namely, to deflect complaints from resource-rich provinces along the lines that the central government had been expropriating resource rents that (supposedly) rightly belonged to the residents of the regions where those resources were located. In the aftermath of the province of East Timor seceding from Indonesia in 1999 (which, it may be noted, had little or nothing to do with natural resource revenues), and given similar secessionist pressures from the provinces of Aceh and Irian Jaya (both of which had always been reluctant participants in the Indonesian nation-state, but in both of which natural resources are indeed of considerable importance), the government of the day felt it necessary to offer seemingly very generous fiscal financial arrangements to resource-rich regions in order to forestall further agitation aimed at secession. Indeed, both Aceh and Irian Jaya were also given special autonomy status later, in a further attempt to assuage secessionist sentiment.¹⁵

There has been surprisingly little debate about either the credibility of the secessionist threat, or the constitutionality of the new natural resource revenue sharing arrangements. Discussion of the first of these issues is beyond the scope of this paper. In relation to the second, however, the legal rationale for the revenue sharing arrangements – that natural resources belong (mainly) to the people in the areas in which they are found – seems clearly at odds with the Constitution, Article 33 (3) of which states that

¹⁵ Secessionist aspirations also made an appearance in the resource rich provinces of Riau and East Kalimantan after the fall of Soeharto, but they were of minor import.

The land, water and the natural resources contained within them are to be controlled by the state and used for the greatest possible prosperity of the people.

Since no distinction is made between citizens who happen to live in the vicinity of the resources being exploited and those who live elsewhere in Indonesia, the Constitution says, in effect, what commonsense dictates: all Indonesians are equally entitled to share in the revenues generated from natural resource exploitation.¹⁶ Thus the arrangements outlined here for dealing with natural resource revenues under decentralisation are, on the face of it, unconstitutional, because a disproportionately large share of resource revenues seems to be directed back to the source jurisdictions, local and provincial, depriving citizens elsewhere of any benefit. Nevertheless, the foregoing analysis shows that the conflict actually arises only in the case of a very few districts that are rich in natural resources. Whether by accident or by design, therefore, the resource revenue sharing regulations would appear to have served their political purpose, despite the fact that they provide no financial benefit to the provincial governments where resources are located, nor to the municipalities and most of the districts in these provinces. Again, it is hard to conclude other than that regional governments simply do not understand the fiscal transfer arrangements. Having said that, it is worth noting that secessionist pressure appears to be on the rise again in the provinces of Papua and West Papua (created by the division of the former province of Irian Jaya), perhaps because their citizens have come to realise that they have not been benefiting as much as first imagined from the financial aspects of decentralisation.

A second important finding is that the fiscal equalisation regulations remove the incentives for regional governments to economise on personnel costs or to generate additional own source revenue. As we have shown above, every rupiah saved in either of these ways benefits only the central government, not the regional governments in question. To elaborate this point further, recall the huge differences in these aspects of local government performance revealed in Table 8. The implication is that regional governments that have been irresponsible in the past by maintaining bloated bureaucracies and making little effort to raise revenue of their own are now being 'rewarded' because of their relatively high 'fiscal gap'; conversely, those which – for whatever reasons – have had very low spending on

¹⁶ The same sentiment is at the heart of the national slogan: '*satu nusa, satu bangsa, satu bahasa*' (one archipelago, one people, one language).

personnel and/or have managed to build up their own revenue generating capacity are now being 'punished'. Clearly, a well designed fiscal transfer scheme would need to pay attention to these kinds of distortionary incentives: it should aim to move in the direction of ideal outcomes, not perpetuate existing patterns that appear to be nothing more than accidents of history.

The third implication of our analysis, and one that gives considerable cause for concern, is that the regulations on fiscal 'equalisation' do not serve the objective of altering the distribution of income in favour of the poor, as might have been expected from a policy that purports to make more generous transfers to regional governments that are less well off. Part of the problem is that the focus is on the *financial condition of governments* – which may simply reflect how well or poorly they have been governed – rather than on the *incomes of their citizens*. Intuition suggests that, broadly speaking, governments in poor regions are likely to be less well off than those in richer regions, because the former face both greater challenges in raising the quality of the services they provide closer to national average levels, and greater difficulty raising their own revenues because of their reliance on smaller tax bases. But our analysis shows that the regulations can be expected to generate perverse results, with per capita transfers *increasing* as the population of the region in question becomes better off (as indicated either by the human development index, or by per capita GRDP). They also generate seemingly 'accidental' results, such as per capita transfers that decrease with increases in population, other things equal. No useful purpose would appear to be served by this outcome. On the contrary, this provides an additional explanation for the proliferation of new jurisdictions, because splitting a jurisdiction into two parts leads to higher per capita transfers to both new constituent parts.

The broad conclusion of the analysis presented above is that the design of current fiscal transfer arrangements leaves much to be desired. Implicit in the analysis is the underlying value judgement that per capita total transfers to regional governments should be of a similar order of magnitude, but should be somewhat higher for jurisdictions whose citizens have relatively low incomes, such that the transfer system contributes to the objective of redistributing national income in favour of those least well off. A national discussion of the relative merits of focusing on average personal income levels rather than the financial condition of governments would appear to be the appropriate starting point for reconsideration of the existing arrangements.

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