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An Analysis of Indonesia's Transfer System: Recent Performance and Future Prospects

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and
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1. A brief historical overview

Fiscal decentralization in Indonesia had been a slow-burning affair since the mid 1970s, with the country being one of the most centralized in the world, until the "Big Bang" of the 1999 reforms, when, in the period of one year, Indonesia became in terms of expenditure shares one of the most decentralized in the world. It was with significant trepidation and fear that observers saw the share of subnational government spending in total government spending almost double from 2000 to 2001, up to over 30 percent, and at the same time over two million civil servants and thousands of facilities were re-assigned to the local level. The widespread concerns about chaos and disarray did not materialize. In fact, the transition to the new decentralized system, despite some bumps, was fairly smooth.

There are many reasons for this successful transition, it has become clear with hindsight. There is little doubt that despite some defects, the institutional framework for fiscal decentralization, laid out in Laws 22 and 25 of 1999, deserves much credit for the success. The centerpiece for the new fiscal decentralization institutions in Indonesia is the new system of transfers comprising *revenue sharing* of natural resources, personal income tax and property taxes, the *DAU (Dana Alokasi Umum,)* a large unconditional grant intended to fund subnational governments in an equalizing manner, and the DAK (Dana Alokasi Khusus), a set of yet to-be-developed conditional grants.

Transfer systems have a long history in Indonesia. From the time of independence in 1945, Indonesia's experience with intergovernmental fiscal finance can be classified into three periods: Pre-SDO period, SDO period, and DAU period. In the pre-SDO period, which expands from 1945 to 1972, there were many forms of intergovernmental transfers, often introduced to reduce tensions between central and local governments. Until 1956, the stated goal was to have ensured local governments the ability to finance their planned budget deficits through central government subsidies. Not surprisingly, the central government was not able to operate the system and largely had to avoid its original commitment. In 1956, the government issued law 32/1956 with a defined concept of intergovernmental fiscal transfers based on a formula and including the list of variables to be used in the formula. This proved to be too advanced for the time and never got off the ground., but law did not 32/1956 get canceled until 1999.

From 1956 to1964, the central government introduced a tax revenue sharing scheme in which local governments received some percentage of central government tax revenue. In 1965, the central government replaced the tax sharing system with the direct subsidies that were based on the total wage bill of local governments. The scheme was called the “intergovernmental subsidy system” and it would become the basic concept later applied in the SDO (autonomous region subsidy). Approximately over the same period (1965 – 1974), the central government applied other types of intergovernmental transfers, such as central government contributions to local governments, some types of development assistance funds, and natural resources revenue sharing in terms of royalty for the forestry products, and land rent for the mining activities. These other transfers often lacked adequate legal basis.

The SDO system was first fully implemented in 1972/1973. The core concept behind the SDO was that the central government would fully support the costs of local government employees. Two-thirds of SDO was allocated to provincial governments and the rest for the district/municipality governments. Due to its characteristics, the SDO is best classified as the specific purpose or conditional grant with no discretion at the local government level. Aside from the SDO that was intended to support routine activities, local governments also received INPRES, which was earmarked to local development activities. An important objective of the INPRES system was to reduce regional disparities. The allocation of INPRES was based on several criteria such as population, local own revenue (PAD), minimum transfer per local government, area, previous transfers, and so on. In reality, there were many types of INPRES grants. Some of them could be classified as specific purpose grants such as INPRES for basic education, for health services, for reforestation, or for small retailers. Some others could be classified as general purpose or block grants such as INPRES for provincial development, for district/municipality development, and for village development. General purpose or block INPRES grants generally had larger funding than specific purpose INPRES grants. Both SDO and INPRES were Indonesia's transfers system until the introduction of the DAU in 2001.[1]

This paper first reviews the structure and performance of the new system of transfers in Indonesia and then focuses on the unfinished agenda for reform. The discussion concentrates on the DAU, which finances over three-fourths of subnational expenditures.

The short story with the development of the equalization grant or DAU in Indonesia is that the Government in 2001 got the fundamental concepts right but got many of the particular details wrong. The performance of the DAU in addition was hindered by several choices made on the implementation of the new system, the most

[1] See Silver, Azis, and Schroeder (2001) for an evaluation of the SDO and INPRES system

important being an extremely rigid interpretation of the hold harmless provision. The Government has proceeded to reform the DAU for 2002. Although real improvements took place in 2002, some important issues still remain, including how the new system may move away from the suffocating grip of the hold harmless provision. The government faces important challenges but also good opportunities in shaping and increasing the importance of the DAK conditional grant system. With respect to transfers in the form of revenue sharing on a derivation basis, [2] this paper recommends that government not develop it further but that instead focuses on developing revenue autonomy of subnational governments.

2. The current system of transfers

Law 25 of 1999 introduced three types of intergovernmental transfers: revenue sharing, general allocation fund (DAU), and specific allocation fund (DAK).

Revenue sharing

Three types of taxes are currently shared between the central and subnational governments on a modified derivation basis. These are natural resource taxes, the personal income tax, and property taxes (the property tax or PBB, and land transfer fee or BPHTB).

The most significant of the three is the natural resources revenue sharing. From a historical perspective this is a new type of revenue sharing introduced by Law 25 of 1999 with the intention of compensating natural resource-rich regions that had felt unfairly

[2] This means that the central government shares revenues with the subnational governments where the revenues have been collected or derived.

exploited during the Soeharto era and which more recently had demonstrated their aspirations to controlling and benefiting from the natural resources in their territories. There are four natural resource commodities whose tax revenues are shared between central and local governments: gas and oil, general mining, forestry, and fishery. At the subnational level of government itself, there is revenue sharing among the provincial governments, the producing district/municipal governments, and other district/municipal governments within provinces. The revenue sharing rates for natural resource taxes are shown in the table 1.

Table 1
Natural Resources Revenue Sharing Scheme
(in percent of total revenues collected)

Item	**Central Govt**	**Prov. Govt**	**Resources Producing Local Govt**	**Other Local Govts in the same Province**	**All Local Govts in Indonesia (Equal Share)**
Oil	85	3	6	6	
LNG	70	6	12	6	
Mining: Land-rent	20	16	64	0	
Mining: Royalty	20	16	32	32	
Forestry: Land-rent	20	16	64	0	
Forestry: Resources Provision	20	16	32	32	
Fishery	20				80

Source: Law 25 of 1999 and Government Regulation 104 of 2000

Revenue sharing of natural resources has remained controversial since Law 25 of 1999 because several of the resource-rich regions still seemed to believe that they were not getting a fair share. Part of the problem has been the lack of transparency in the calculations of total revenues from natural resources and part of the problem has been the sharing rates.

In response to the tensions surrounding the sharing of natural resource revenues, the central government approved in 2001 special regimes for the most politically assertive provinces: Aceh and Papua. These laws represented the first important instance in which the central government legally accepted the *asymmetric treatment* of subnational governments.[3] Aceh's Special Autonomy Law 18 of 2001 gives this province 55 percent of petroleum taxes and 40 percent of gas taxes (as opposed to the standard 15 percent and 30 percent, respectively. Papua's Special Autonomy Law 21 of 2001 gives this province70 revenue sharing rates for oil and gas.[4]

The revenue sharing for other taxes is new with the 1999 reforms for the personal income tax. The property tax and land transfer fee revenues were already shared between central and local governments prior to the 1999 reform. Through the revision of income tax law (law 17 of 2000), the central government added the personal income tax (including the payroll tax) as part of the tax sharing scheme, where 80 percent of personal income tax revenues are still retained by central government and the rest goes to the provincial (8 percent) and to the district/municipal governments.[5]

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[3] Of course, the common accusation outside Jakarta has been that the central government has practiced *de facto* asymmetric decentralization policies by benefiting Jakarta and more generally Java at the cost of the other provinces. This is a complex issue. Before 1999, there was no revenue sharing from natural resources but rural provinces, such as Papua seem to have been favored under the INPRES system.

[4] In addition, Papua gets a special grant equal to 2 percent of the DAU transfer. Another important asymmetric benefit for these two provinces is that the additional revenue sharing provided in the special autonomy laws is not to be taken into account in the computation of fiscal capacity in the DAU formula. This benefit is on top of the general benefit that all natural resource producing provinces and local governments receive because the measurement of fiscal capacity in the DAU formula in 2002 only recognizes 75 percent of shared revenues, when all other shared revenues are recognized at 100 percent.

[5] The current practice is to apportion the PIT among jurisdictions by the "place of work" rather than the "place of residence." This can lead to the unfair apportionment of revenues among jurisdictions in large metropolitan areas where many individuals reside in one jurisdiction, and where they consume most of their public services, but have their place of work in different jurisdictions.

Table 2
Other Taxes Revenue Sharing Scheme
(in percent of total revenues collected)

Item	**Cen. Govt**	**Prov. Govt**	**District/Mun. Govt in the same Province**	**Collection Fee**	**All District/Mun.Govts in Indonesia (Equal Share)**
Property Tax		16.2	64.8	9	10
Land Transfer Fee		16	64		20
Personal Income Tax	80	8	12		

Source : Government Regulation 104/2000, Law 17/2000

Revenue sharing on a derivation basis is helping with general funding of subnational governments and thus it is being used as a way to address vertical imbalances in Indonesia. Revenue sharing is also being used to address the important political issue of redressing perceived past injustices toward natural resource-endowed regions. But revenue sharing can also be a source of problems. The most serious is that of increasing fiscal disparities. However, this is a problem that can be addressed through equalization transfers. It is noticeable that Indonesia has avoided so far the problems associated with revenue sharing arising from the difficulty encountered with the fair apportionment of taxes such as the VAT or the corporate income tax. It was a wise decision not to share those taxes with subnational governments and it should be kept that way.

The DAU

The general allocation fund or DAU is by far the most important type of transfer in Indonesia. The DAU can be classified as a general purpose grant that gives full discretion to local governments to spend the funds according to their priorities. The DAU finances approximately three-fourths of subnational government expenditures. The DAU is a well-developed equalization grant system with explicit funding rules and formulas for the distribution of the funds. The overall pool of funds under the DAU comes from 25 percent of net domestic revenues (total domestic revenue minus revenue sharing) in the central government budget. From that amount, provinces receive 10 percent and district/municipal governments 90 percent. The formula used for the allocation of DAU will not be described here in detail but the different steps in its calculation in 2001 and 2002 are shown in Appendix 1. The formula is practically identical for provinces and district/municipal governments. The basic concept behind the DAU formula is the fiscal gap concept of the difference between measures of expenditure needs and fiscal capacity for each local government. Expenditure needs for each jurisdiction are approximated by applying a weighted index of four variables (population, area, cost differences, and poverty) to all jurisdictions' average expenditure. Fiscal capacity is approximated by adding an estimate of own revenues to actual shared revenues.

The actual allocation of the DAU transfers in 2001 and 2002 have been only partially determined by the DAU formula. In reality, only 20 percent of the DAU overall funds were allocated through the formula in 2001. In 2002 this figure improved, but only to 40 percent. The rest of the DAU funds were allocated to the provinces and district/municipalities on the basis of two additional sets of considerations or factors. The first factor has been a lump sum or equal amount that each jurisdiction (province and district/municipality) received during the fiscal year. The lump-sum factor represented 10 percent of the total DAU funds in 2002 as specified by Parliament.[6] The lump-sum factor has been justified as covering fixed or overhead costs of the jurisdictions but it is feared to be giving an incentive to the further fragmentation of local governments.

[6] In 2001 the lump sum was determined in a residual fashion, as the moneys left after the funds distributed through the formula and the balancing amount. The latter is defined below.

The second additional factor governing the final allocation of the DAU is the so called "balancing factor" which is predicated on the basis of a "hold harmless" condition. The balancing factor for 2001 was proposed by the Ministry of Finance and applied only to the districts/municipalities. This balancing factor assured every district/municipality a minimum transfer equal to 130 percent of the SDO funds and 110 percent of the INPRES funds they got in 2000. This took the bulk of the DAU funds in 2001. The interpretation of the hold harmless provision in 2002 was demanded by Parliament as meaning that no province or district/municipality would get less than the funds they got in 2001. This meant that in addition to the 10 percent of the DAU going to the lump sum factor, an additional 50 percent of the DAU went to the balancing factor in 2002. The funds of the balancing factor in 2002 were distributed among local governments in proportion to their relative wage bill for public employees.[7] As discussed further below, the balancing factor could not only work against the objective of equalization in the DAU,[8] but also introduced in 2002 an incentive to for local government to hire more employees and spend more on wages and salaries.

Law 25 of 1999 emphasized the equalization role of the DAU, but in reality the DAU has served several objectives other than equalization. By virtue of the "balancing factor" (also known as the minimum allocation or the hold harmless provision), all jurisdictions receive a DAU amount no matter how well off they are. This means that the

[7] The wage bill for each jurisdiction was computed as the money spent for that purpose in September 2001 times twelve months.

[8] This clearly could be the case if public employees per capita were not evenly distributed across the territory. Historically, better off regions had more services and public bureaucrats.

DAU also functions as a general funding mechanism to address vertical imbalances. The DAU is also being used as a way to redress historical injustices. [9]

A recent government regulation requires that local governments report on the uses of the DAU on a quarterly basis. More than a restriction of any kind, this regulation raises the question of whether the DAU will remain an unconditional grant in the future. There is little question that the equalization factor of the DAU should remain unconditional. Below we discuss the possibility of transforming some of the funds now used for the balancing factor into conditional grants. But the question with reporting requirements and even more so with any conditionality is whether the central authorities have the means to monitor and enforce them.

The DAK

Law 25 of 1999 introduces specific purpose or conditional grants for two types of objectives: to help fund important needs which cannot be incorporated in the DAU formula,[10] and to provide funding for activities which relate to national priorities or commitments.[11] A third category contemplated as part of the DAK is truly a mechanism for intergovernmental sharing of forest exploitation fees.

The specific allocation fund or DAK is still a minor part of Indonesia's system of inter-governmental transfers. The DAK is conceived of in the law as a specific or conditional matching grant. Local governments receiving DAK funds are supposed to

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[9] Recall that revenue sharing from natural resources is not fully taken into account in the derivation of fiscal capacity of local governments.

[10] Law 25 of 1999 seems to be referring here to the financing of physical capital investment. However, there is also the possibility of interpreting the DAK to a system of conditional grants for current and capital expenditures.

[11] This is a much broader term, which would seem to allow all sorts of conditional grants for defined sectoral objectives in health, education and so on.

provide at least 10 percent of the total amount of the project on their own.[12] The source of funding for the DAK is the central government budget, except for reforestation activities, which are covered directly by fees from the reforestation fund.[13]

Since the DAK system has not been used, except for the reforestation funds, in either 2001 or 2002, this is a blank page still to be written. Two types of questions arise. First, where is the funding for the DAK to come from? One answer commonly offered,[14] is that some of the development expenditures now going through the central government agencies (DIP) could be transformed into conditional grants as part of the DAK. Another possibility is to use some of the funds now used as the balancing factor in the DAU as funding for conditional grants in the DAK.

The other type of question that arises with the DAK is how to organize these transfers. The approach for the allocation of the DAK is vague in the law. The possible lack of transparency will eventually raise questions of arbitrariness. Several approaches are possible to increase transparency in the DAK. The funds may be distributed as part of national sectoral programs, which may include investments in capital infrastructure, and distributed according to clear and objective criteria. These criteria may be summarized into explicit formulas. DAK funds may also be used as contingency funds for natural disasters and so on. But again rules should be used for the annual allocation, purpose, authority to disburse, and the final disposition. In general, DAK funds should be distributed responding to central government such as stimulating regional spending on activities of national interest or addressing externalities across regional governments.

[12] This matching rule does not apply to reforestation funds.
[13] The reforestation fees are distributed 40 percent to the producing regions while the rest is kept by the central government to do reforestation activities all over the country, especially in non-producing regions.
[14] See for example Hofman et al. (2002).

Redistribution or equity need not be emphasized if the DAU does a sufficient job in equalizing fiscal disparities.

3. The changes in the DAU from 2001 to 2002

A remarkable feature of the new system of transfers in Indonesia has been an officially guided process of rigorous examination and improvement. This is good because the short time available to put together the DAU in 2000, from principles to the most concrete detail of implementation, inevitably meant that the new transfer system would have problems. These problems were indeed quite a few. However, the introduction of the DAU also got may things right and these were in general very fundamental aspects of the transfer system.[15]

The accomplishments of the DAU in 2001 were in three areas. First, the government used a transparent rule for how to fund the DAU and also clearly established the division of the overall pool of funds between the two tiers of regional governments, the district/municipalities and the provinces. The funding rule has been kept for the second year. Second, the formula used for the DAU looked at the difference between estimated expenditure needs and revenue capacity as opposed to actual expenditures and actual revenues of regional governments. This avoided moral hazard problems of providing incentives to regional governments to spend more and collect too little in an attempt to increase their DAU allocations. Third, the DAU used a phasing-in approach although the "hold harmless" provision was carried too far.

There were also in 2001 several questions and also problems with the DAU. One question was about the adequacy of the DAU overall funding at 25 percent of central

[15] See Martinez-Vazquez (2001)

government domestic revenues. There were also questions about how to improve on the variables used in the estimation of fiscal or expenditure needs, [16] and the weights attached to them.[17] Among other problems, the DAU formula lacked aggregate consistency because some of the variables in the definition of fiscal capacity and expenditure needs were not properly scaled. Another problem is that for the computation of "fiscal capacity," the 2001 formula applied an "index of industry, natural resources and human resources" equally weighted, to both "local own revenues" and "shared revenues." However, this methodology to derive fiscal capacity needed to be applied only to "local own revenues." The other component, "shared revenues" could have been entered in the formula directly as forecasted by the government authorities. The reason for using an estimate for fiscal capacity using an index approach, or any other approach, is that in general there exists a moral hazard problem with using direct estimates of revenues. When direct estimates of revenues are used in the formula, local governments are given an incentive to collect less revenue by either lowering tax enforcement and administration efforts or by lowering tax rates or modifying the tax base (assuming they have discretion over any of those dimensions of actual revenue effort.) In the case of Indonesia, local governments have some discretion on the level of tax effort they can exercise for local own revenues. However, they have no discretion at all over shared revenues. This of

[16] All four factors (population, land area, poverty, and geographical conditions as proxied by the construction price index) are mentioned in Law 25 of 1999. A general interpretation has been that the reference in Law 25 does not mean that these variables need to be entered the way they were entered in 2001, or that other variables could not be entered.

[17] The equal weights used in 2001 were widely believed to be off the mark. For example, population seemed to be significantly under-weighted vis-à-vis the other variables. To arrive at the right weights it is necessary to remember that the expenditure need index serves as a substitute for a bottom-up approach that would estimate expenditure needs on the basis of the costs of delivering a standard basket of public services across local governments. This bottom-up approach would more likely reflect disparities in expenditure needs than a simple index. But the bottom-up approach is also more complex and expensive and fraught with political complications.

course raises the question of whether local governments with a negative fiscal gap would receive zero funds from the DAU.[18]

During the first few months of the implementation of the DAU in 2001, it became clear that the government would have to review an important issue related not to the structure of the DAU but rather at the implementation process for the DAU. This was the "hold harmless" provision. The analysis used to back up the quantification of the "balancing factor" had been incomplete and ultimately led to erroneous policy. The fact is that the budgetary position of local governments in 2001 was very different from their respective position in 2000. There were major differences arising from major changes in expenditure assignments, as specified in Law 22 of 1999, and from changes in revenue assignments including revenue sharing in natural resources, according to Law 25 of 1999. Therefore, providing regional governments with transfers at least equal to the SDO and INPRES funds they got in 2000 did not guarantee by any means that local governments were held harmless in the new fiscal environment of 2000. The "hold harmless" provision could have been framed better by comparing the old plus new expenditure assignments (the latter could have been costed at the level of funding required last year before those responsibilities had been decentralized) against own regional government revenues plus new resources from revenue sharing plus new transfers from DAU and special allocation grants. The latter transfers (DAU and special allocation grants or DAK) should have been at least as large as the SDO and Inpress transfers in 2000. But, it must be noted, this was not a sufficient condition for holding local governments harmless. That is, the DAU

[18] Another possibility would be to introduce negative transfers or compulsory extractions from these local governments as payments to the pool of funds to be distributed through the equalization mechanism. This is essentially the approach adopted by countries that have horizontally funded (also known as fraternal) equalization grant systems. This approach would appear to deviate significantly from the spirit of the current DAU system.

transfers in 2001 may have exceed the SDO and Inpress transfers in 2000 but the remainder may be quite less than the funding required for the new expenditure assignments net of revenue sharing. On the other hand, some regional governments may have gotten so much more funding through revenue sharing in 2001 that they would have been held harmless even without DAU transfers. In such cases, holding harmless would not have required the transfer of funds equivalent to SDO and Inpress received in 2000, when there was no revenue sharing.

Even though it was not possible to phase out the "hold harmless" provision in the DAU 2002, generally the DAU 2002 represents a marked improvement over the DAU 2001. The major improvement occurred at the revenue side. In 2002 DAU, all revenue components reflect capacity either coming from actual revenue sharing or from estimated local capacity. On the expenditure, or need side, progress has been slower due to the limited data availability.

4. The rationale for transfers in Indonesia

Vertical imbalances

One of the most important objectives of the intergovernmental transfer system in Indonesia is to reduce vertical imbalances. The decentralization process has transferred significant expenditure responsibilities to subnational governments. What subnational governments now require is reliable sources of financing. The question, of course, is whether there is a vertical imbalance now in Indonesia and if so, how significant this imbalance is.

There is no unique precise definition of vertical imbalances. Broadly speaking, a vertical imbalance arises when there is no correspondence between the expenditure responsibilities and the revenue sources assigned to each level of government. Several approaches are used to measure the presence and importance of vertical imbalances. One approach is to identify the existence of persistent budget deficits at a particular level of government. In this approach the size and persistence of the deficits is taken as prima facie evidence of an imbalance against a particular level of government. Independently of its accuracy,[19] this diagnostic tool cannot be used for Indonesia because there is no information available on subnational government deficits for recent years.

Another approach is to carefully quantify expenditure needs or requirements at different levels of government and compare them to their available resources. One possible outcome here is that both central government and subnational governments are short of funds. The reason lies in the ambiguity associated with the expenditure levels (quantity and quality of services) that can be associated with the assignment of expenditure responsibilities at each level of government. One answer to dealing with this ambiguity, and which is currently being debated in Indonesia, is to do an exhaustive listing of standards or norms for provision and conduct an accounting of the expenditures required for explicitly stated and agreed upon levels and quality of public services. This approach is very costly and time consuming; it also requires a significant degree of intergovernmental consensus and communication. Without those requirements, the listing

[19] The measure may be institutionally biased against subnational governments since typically subnational governments, for many good reasons, are not as free as the central government to run budget deficits and borrow to finance their expenditures.

and costing of expenditure norms can lead to intergovernmental friction and poor budgeting practice.[20]

A third approach to identifying vertical imbalances is to examine to what extent different levels of government are able to finance expenditures from their own sources of revenues. The attraction of this approach is that it by-passes the uncertainty surrounding any measurement of government needs. A simple and effective guarantee against vertical imbalance is to provide each level of government with enough revenue autonomy so that they can make their own decisions regarding what services to cover and at what level. By this measure, there is a considerable vertical imbalance against subnational governments in Indonesia.

Current local tax power only contributes a small proportion of the total tax revenue in Indonesia, and certainly it is far from enough to finance most of new expenditure responsibilities transferred to the local governments. Table 3 shows that local own revenue (local taxes and charges) only contributed between 3-4 percent during the last two fiscal years, 2000 and 2001. Clearly it will be impossible for local governments in Indonesia to finance their basic needs or basic expenditures if their sources are only local own revenues.

[20] The question of revenue adequacy at different levels of government must be answered politically. For any assignment of expenditure responsibilities among different levels of government, what revenue sources and other funding is provided for subnational governments is a question of establishing clear national priorities. How much of the national resources does the country wish to spend on education, health, and other subnational expenditure responsibilities vis-à-vis other important services, such as national defense, assigned at the central level? These decisions about spending priorities are also likely to change over time and they are most conveniently made within the context of a medium-term expenditure framework. Revenue adequacy and vertical balance should logically be interpreted within the context of the overall constraint on public sector resources. It is always helpful to have a national dialog on what constitutes "adequate resources," with participation of all stakeholders. Although perfect consensus is unlikely to be reached, the dialog can protect subnational governments from the central governments using decentralization as a way to solve its own fiscal shortcomings and also as a way to facilitate the role of the central authorities by making subnational governments more solidarious and aware of the existing fiscal constraints.

Table 3
Central and Local Fiscal Indicators, 1998 – 2001
(in percent)

Fiscal Year	Local/ Total Expenditure	Local Own / Total Revenue	Intergovernmental Transfer / Total Local Expenditure
1998/00	15.81	3.31	97.19
1999/00	16.61	3.63	79.23
2000	17.88	3.10	85.87
2001*	24.82	3.80	103.04

Source : Authors' calculations
Note : Total Expenditure = National expenditure – Intergovernmental Transfer + Total Local Expenditure
Total Revenue = National Revenue + Local Own Revenue
Local Revenue = Local Own Revenue + Intergovernmental Transfer
* estimated data for 2001 using proposed budget

In practice, the current discourse of measuring vertical imbalances in Indonesia has been to examine whether the 25 percent funding for the DAU together when own revenues (PAD) and shared revenues have been enough to finance old and new expenditure responsibilities. Often, the discourse is reduced to examining whether the personnel staff attached to that level of government can be covered with the overall funds made available to that level of government. The most authoritative study of this question is Lewis (2001). He concludes that while provincial government may have been a bit short in 2001, the district/municipalities were amply funded. Clearly, the transfer system, especially DAU, play a key role in reducing the possible vertical fiscal imbalance between central and local governments.

Horizontal Imbalances

Horizontal imbalances arise from existing fiscal disparities across subnational jurisdictions. Subnational governments generally have different tax capacities or abilities to raise revenues through their assigned taxes at standard rates because they differ in their economic bases. In Indonesia there are significant disparities in gross regional product per capita (GDRPCAP). At the district/municipality level the coefficient of variation in 1999 was 2.12 (Table 4) and the maximum value 172 times higher than the minimum value. At the province level, the corresponding values are lower with a coefficient of variation of 0.93 and a gap between maximum and minimum of 16 times (Table 5).

Table 4
District/Municipality Disparities in Revenues and Fiscal Capacity
(in thousands of rupiahs)

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
GRDP CAP (1999)	4901.20	10372.08	2.12	147676.76	856.50
Total Collection Cap (1999)	22.42	50.31	2.24	855.25	0.30
Revenue Share Cap (2001)	157.12	457.23	2.91	4853.57	6.41
DAU 2001 Capita	445.19	365.02	0.82	3376.53	89.68
After DAU 2001 Capita	467.61	369.80	0.79	3395.64	105.33
After all Transfer 2001 Capita	624.73	721.56	1.15	6984.57	137.76
Regional Revenue (2001)	637.39	719.41	1.13	6984.57	142.46
DAU 2001 (% of Expenditure)	96.95	23.97	0.25	203.67	42.74
DAU 2002 Capita	522.55	393.35	0.75	3376.53	110.76
After DAU 2002 Capita	544.96	398.66	0.73	3395.64	128.81
After all Transfer 2002 Capita	702.08	727.77	1.04	7041.28	160.19
Regional Revenue 2002	710.83	729.76	1.03	7048.95	162.53
Exp Cap 2001	453.97	309.72	0.68	2934.81	100.70

Source: --- and authors' computations
See Table A-1 in the Statistical Appendix for a full definition of all variables

Table 5
Province Disparities in Revenues and Fiscal Capacity
(in thousands of rupiahs)

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
GRDP CAP (1999)	4977.53	4614.32	0.93	23465.08	1429.58
Total Collection Cap (1999)	20.57	36.73	1.79	201.90	0.00
Revenue Share Cap (2001)	42.14	93.79	2.23	412.51	3.14
DAU 2001 Capita	50.03	30.80	0.62	151.47	13.02
After DAU 2001 Capita	70.60	50.32	0.71	271.93	17.65
After all Transfer 2001 Capita	112.74	132.72	1.18	572.30	25.88
Regional Revenue (2001)	125.96	132.75	1.05	594.46	26.08
DAU 2001 (% of Expenditure)	62.66	87.43	1.40	414.19	18.26
DAU 2002 Capita	72.31	50.88	0.70	185.21	11.10
After DAU 2002 Capita	92.88	59.10	0.64	265.83	19.37
After all Transfer 2002 Capita	135.02	121.40	0.90	566.20	27.60
Regional Revenue 2002	140.46	131.80	0.94	594.50	27.60
Exp Cap 2001	130.50	84.11	0.64	301.87	4.26

Source: --- and authors' computations
See Table A-1 in the Statistical Appendix for a full definition of all variables

There are also significant disparities for actual revenues collected. For example, the coefficient of variation for districts/municipalities for own revenues per capita in 1999 (TOTAL COLLECTIONS CAP in tables 4 and 5) is 2.24 and for shared revenues in 2001 (REVENUE SHARECAP in tables 4 and 5) is 2.91. The coefficients of variation for these two variables for the provinces are a bit lower but still quite high.

Horizontal fiscal imbalances also may exist because of disparities across subnational jurisdictions in expenditure needs. The differences in needs may arise from either different prices or costs of service provision or different shares of the population with special needs. Tables 6 and 7 show that there is a little variation in price levels as measured by the construction price index (CONST INDEX). However, there are significant disparities in the incidence of population living under the poverty level (PCT POOR) and other expenditure need-generating features, such as the percent of the population of school age, the percent of the population that is elderly, and population density. Both disparities in fiscal capacity and expenditure needs highlight the important role equalization transfers need to play in Indonesia.

Table 6
District/Municipality Disparities in Expenditure Needs

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
Pct. Poor (%)	24.53	15.25	0.62	91.12	0.99
Pctl Abour (%)	39.85	7.37	0.18	77.05	13.25
Pct School Age (%)	15.80	4.81	0.30	41.31	4.18
Pct Old (%)	3.45	1.98	0.58	10.14	0.05
Pct Young (%)	28.55	6.64	0.23	44.46	12.10
Area (KM)	5763.13	10712.69	1.86	119749.00	16.46
Density (per KM)	976.75	1894.20	1.94	12744.48	0.86
Const Index	135.27	18.51	0.14	258.90	113.20

Source: --- and authors' computations
See Table A-1 in the Statistical Appendix for a full definition of all variables

Table 7
Province Disparities in Expenditure Needs

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
Pct. Poor (%)	24.58	12.64	0.51	55.81	4.53
Pctl Abour (%)	41.58	12.12	0.29	88.11	23.35
Pct School Age (%)	17.58	6.51	0.37	44.71	9.12
Pct Old (%)	3.18	1.54	0.49	7.96	0.88
Pct Young (%)	30.68	10.59	0.35	73.14	16.34
Area (KM)	64569.10	81718.08	1.27	414039.95	661.62
Density (per KM)	648.71	2294.68	3.54	12673.22	5.28
Const Index	134.82	14.77	0.11	203.44	116.34

Source: --- and authors' computations
See Table A-1 in the Statistical Appendix for a full definition of all variables

Externalities and inter-jurisdictional spillovers, central government policy objectives and the implementation of national programs at the local level

Indonesia currently has no conditional transfers. Most countries use some form of conditional transfers in support of subnational governments for expenditure areas such as roads, water and sewerage treatment plants, transportation, housing, education, health and so on. However, there is considerable variety across countries in the objectives pursued and the actual structural design of capital transfers. An important subcategory of conditional grants is that of capital transfers. The typical country has a variety of capital transfers which are closed-funded in the national budget, provide earmarked funds within specific capital expenditures and, as is the case for the DAK in Indonesia, require some level of matching funds from subnational governments.[21] The funds are commonly allocated either by an objective formula or on a specific project basis.

Conditional transfers and capital transfers may be used for many different objectives. Common objectives for conditional transfers include:

- addressing externalities at the subnational level because of spillover effects of some services or infrastructure across subnational jurisdictions; without addressing those externalities the level of provision of infrastructure may be too low or else inefficient migration of the population and other factors of production may take place
- addressing vertical imbalances in the assignment of revenues in favor of central authorities
- addressing limitations with borrowing at the subnational level either because of borrowing limits and other restrictions or because of lack of credit availability from the supply side
- rewarding subnational expenditure in areas of particular national importance or in support of national programs actually implemented at the regional and local levels.

In the case of Indonesia, expenditure responsibilities for health and education for example are at the subnational level as mandated in Law 22 of 1999. If these services produce positive externalities, it is likely that local governments may currently be under-spending in those services. Since the DAU is not intended to accommodate specific central government objectives, the government will have to rely on the DAK However, some parts of central government still feel strongly that it is not appropriate to promote

[21] Matching arrangements help to obtain "additionality" or "maintenance-of-effort" in subnational expenditures and tend to increase ownership of projects at the local level.

the DAK mechanism in pursuing the national objectives. Instead, they favor a deconcentration mechanism in the form of DIP (Daftar Isian Proyek or Development Project List). The total deconcentrated fund is not very far behind the total funds allocated to intergovernmental transfers. The persistence of the DIP is seen by many observers as an indication that central government agencies still want to show their power in the regions.

One last comment about conditional capital transfers. Note that the use of central government funds earmarked exclusively for capital investment at the subnational level means that the central authorities have identified a need to enhance capital expenditures at the subnational level as opposed to recurrent or ordinary expenditures. This need may arise from the existence of externalities across subnational jurisdictions or from financing constraints subnational governments face vis-à-vis lumpy capital expenditures.[22] Often, central authorities have a bias toward earmarking a large share of central government transfers for capital expenditures at the subnational level. This reflects an ingrained belief that capital expenditures are always more efficient than recurrent expenditures. Of course, there are no sound bases for this extreme position. The production of public services requires different recurrent and capital input mixes and the optimal mix should basically reflect the prices of different inputs and the physical requirements of available technologies.[23] From an equity viewpoint, capital transfers may be used to redress inequities in the distribution of capital infrastructure that arose in the past.[24]

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[22] However, often the fundamental question remains of why central authorities would have better information about the right input mix (capital versus current inputs such as labor, maintenance, supplies and materials) in the production of subnational public services.

[23] Clearly, there will not be good education services, for example, if there are no funds for books and basic supplies, regardless of the quality and newness of school buildings.

[24] Unfortunately, this is fraught with difficulties measuring the quantity and quality and because of the need to avoid rewarding subnational governments that have made clearly voluntary decisions to spend less on

5. How has Indonesia's new transfer system performed so far?

Has budget autonomy been preserved?

One of basic principles in the Indonesian decentralization process has been to give greater autonomy to local governments in managing their own budgets. Although it is true that the vast majority of revenue sources for subnational governments are under the control of central authorities, once the money is in the hands of local governments, they seem to have a significant degree of discretion to spend the funds according to their budget priorities.[25] Ironically, local governments have been slow in moving away from past practices. Many local governments during 2001 appeared to have thought that the DAU was intended to pay all local civil servant salaries as the SDO (Subsidi Daerah Otonom) did in the past. This misconception of course has been reinforced in 2002 by the computation of the "balancing factor" on the basis of the past wage bill.

Has revenue adequacy for provinces and district/municipalities been maintained?

The new system of transfers has gone a long way toward ensuring "revenue adequacy" during the past two years. As we have seen, the most significant component of the DAU allocations in 2001 and 2002 has been the "hold harmless" or balancing factor provision. These funds were supposed to allow local governments to pay all of their local civil servants, including the ones transferred from the central government offices in 2001. In addition, the central government budgeted for a "contingency fund" in 2001 and again

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capital infrastructure and more on other types of expenditures. Capital grants should not be a substitute for prudent borrowing policies by subnational governments.

[25] The most important limitation on local budget autonomy is the lack of discretion to reduce personnel and set wages.

in 2002 to allow for additional funds needed by local governments with a mismatch between transferred personnel and available fiscal resources.[26] But the claims for additional resources by local governments during 2001 had several sources. First, the transfer of central government employees was not entirely smooth and many provincial governments ended up with more transferred employees than expected. Second, there was a (convenient) misconception among local governments that only DAU funds could be used to pay local civil servants. Even though some local governments had additional sources of revenues such as from revenue sharing, they refused to use those additional funds to pay for their employees' salary. Third, in the middle of 2001, the central government suddenly mandated an increase in civil servant salaries, retroactive to January 1. This policy affected all civil servant salaries without any exception and imposed an additional obligation on local governments. Because the DAU 2001 had been formulated using pre-2001 salary data, it was not surprising that some local governments had to ask for additional funds.

Conceptually, it has been argued there is another reason why local revenues might not be adequate. This is related to how the DAU itself is formulated, especially on the expenditure need side. Due to the unavailability of minimum standards of public service, expenditure needs are approximate, not calculated. This means that the estimation of expenditure needs might not reflect the real needs of local governments. But this argument again assumes that it is politically feasible and fiscally affordable to develop an exhaustive list of budgetary standards at the local level. The international experience shows that these are difficult tasks to perform.

[26] The 2001 contingency fund was budgeted at Rp 6.2 trillion of which Rp2.8 trillion were disbursed. In 2001 the central government used the budgeted contingency fund of Rp 2.1 trillion to fund part of the hold harmless funds mandated by Parliament.

Have transfers been stable?

The stability of transfers is a desirable characteristic because it facilitates local government budgeting and planning. While flows from the DAU have been remarkably stable, the story is very different for revenue sharing transfers. The stability of the DAU has been based on the permanency of the funding rule (at least 25% of net domestic revenue) now for two years and also on the fact that the central governments allocated the funds anticipated in the budget as opposed to the funds actually collected by the tax authorities. This arrangement has allowed the central government to transfer the DAU funds on time every month.

For revenue sharing, the transfer of funds has not been stable and has not been on time either. The central government originally had promised to implement the actual transfer quarterly but, instead, the first transfer received by local governments occurred after 6 months in 2001. A similar pattern might be repeated in 2002 for both natural resources revenue sharing and other tax revenue sharing. This is due in part to the difficulty of gathering full information on actual revenue collections in the regions. With these revenues there can be no guarantee that the amount of sharing will be stable or similar from year to year, but the central authorities need to make an effort to improve the frequency of the payments.

Is the current system of transfers reasonable, transparent, and simple?

The current intergovernmental system still cannot be considered reasonably transparent and simple. For the DAU as the major part of the transfer, transparency has increased through different efforts such as book publication, dissemination ("socialization"), and, most importantly, through the use of a standard formula to allocate the funds. However, the 2002 DAU is still not "simple" enough because of the pressure exercised by natural resource-rich regions and the "hold harmless" provision insisted upon by Parliament. The original formula might be quite simple but the final formula becomes quite complicated and relatively difficult to be described even by specialists.

The issue of transparency gets complicated by the fact that the supporting data needed to calculate the allocations are not the type of data that are widely available. In fact, some government agencies and ministries still keep the data secret. The local governments naturally have had some difficulties whenever they are trying to reconfirm the calculations. The calculation method itself is far from simple and relatively difficult to understand, especially for natural resource revenue sharing. As a result, except for personal income tax revenue sharing, it is difficult for local governments to predict their possible revenue from the revenue sharing scheme.

Incentives for expenditure efficiency and the hard budget constraint. Have transfers discouraged subnational tax effort?

The structure of the DAU formula takes special care not to introduce any distortion in the expenditure decisions of local governments. All the variables used in the estimation of expenditure needs are objectively defined and beyond manipulation by changes in local government behavior. The big exception, however, is the definition and computation of the "hold harmless" provision for 2002, which, as we saw above, is defined in terms of the local government's wage bill the previous year. This, of course, gives a significant incentive to local governments to increase their personnel expenditures at the cost of other expenditure priorities.

Law 25 of 1999 implicitly introduces a hard-budget constraint for local governments by designing DAU as formula-based transfer and revenue sharing as actual revenue-based transfer. In the new set up there should be no room for local governments to be "subsidized" by the central government if they have problems with their budgets. The law clearly states that if a local government needs additional revenue, then it can borrow directly from financial institutions or by issuing municipal bonds. However, in 2001, the hard budget constraint was partially violated by the introduction of the contingency fund. As briefly mentioned above, there were some good reasons why the contingency fund had to be used. A related fact was that because of macroeconomic concerns the central government, through presidential decree, prohibited all types of local borrowing.

What has been the effect of the new transfers on local tax effort? Because the DAU formula uses estimates of fiscal capacity rather than actual revenues collected, the introduction of the new transfers should not have affected local government tax effort, defined as the ratio of "own tax and fees" revenues divided by regional gross domestic product. There was the possibility, on the other hand, of an income effect whereby too much or too little revenue for the new transfers may have affected tax effort. To test the neutrality of the new transfer system on tax effort we run a number of regressions of tax effort at the province and district/municipality levels for 2001 and 2002 on the level of DAU transfers (as percent of total expenditures) and several other control variables including gross regional product per capita. The results are shown in Tables 8 to 11.

Table 8
Explaining provincial tax effort in 2001

Independent Variable	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort
Intercept	0.35773**	0.8542*	0.40032**	0.7051*	0.35186**	0.7054*	0.38370**	0.6986*
GRDP Cap	0.00000763	0.00001111	-0.00001087	-0.00000803	-0.00001018	-0.00000710	-0.00001139	-0.00000849
DAU (% of Expenditure)	-0.0012057	-0.0012083*	-0.0011509**	-0.0011546**	-0.0017110**	-0.0016957**	-0.0013615*	-0.0013839*
Const Index		-0.003810		-0.002351		-0.002711		0.01244
Density			0.00007100**	0.00006836			0.01143	-0.002440
Income Tax (% of Tot Rev)					0.030065**	0.029048**	0.00004700	0.00004214
R^2	0.208	0.258	0.534	0.552	0.517	0.542	0.541	0.561

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level

Table 9
Explaining provincial tax effort in 2002

Independent Variable	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort
Intercept	0.35635**	0.8565*	0.39940**	0.7072	0.34046**	0.7258*	0.341139**	0.7131*
GRDP Cap	0.00000566	0.00000916	-0.00001280	-0.00000994	-0.0000092	-0.00000591	-0.00001236	-0.00000959
DAU (% of Expenditure)	-0.0006708*	-0.0006735*	-0.0006429**	-0.0006456	-0.0007340**	-0.0007335**	-0.0006215**	-0.0006262**
Const Index		-0.003837		-0.002374		-0.002951		0.00566
Density			0.00007117**	0.00006851			0.00008423*	-0.002335
Income Tax (% of Tot Rev)					0.024280**	0.023259**	0.00624	0.00008039*
R^2	0.205	0.255	0.532	0.551	0.425	0.454	0.536	0.554

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level

Table 10
Explaining local tax effort in 2001

Independent Variable	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort
Intercept	0.6903	0.2113	0.6357**	0.0405	0.5473**	0.1047	0.5429**	0.0395
GRDP Cap	-0.00000567	-0.0000072*	-0.00000593	-0.00000789*	-0.00000678	-0.00000820*	-0.00000676	-0.00000835*
DAU (% of Expenditure)	-0.001047	-0.001852	-0.000835	-0.001764	-0.000367	-0.001137	-0.000362	-0.001227
Const Index		0.004175*		0.005074*		0.003893		0.06445*
Density			0.00003626	0.00004488*			0.00001178	0.004394*
Income Tax (% of Tot Rev)					0.08157*	0.07927*	0.07393*	0.00002239
R^2	0.070	0.160	0.150	0.270	0.260	0.340	0.260	0.370

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level

Table 11
Explaining local tax effort in 2001

Independent Variable	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort	Tax Effort
Intercept	0.5882**	0.1720	0.5310*	0.0008	0.4517*	0.0579	0.4469*	-0.0147
GRDP Cap	-0.00000593	-0.0000074*	-0.00000615	-0.00000811*	-0.00000693*	-0.00000838*	-0.00000688	-0.00000853*
DAU (% of Expenditure)	0.000017	-0.000768	0.000211	-0.000723	0.000640	-0.000122	0.000631	-0.000261
Const Index		0.003792		0.004715		0.003614		0.05757
Density			0.00003718	0.00004532*			0.00001687	0.004209*
Income Tax (% of Tot Rev)					0.07912*	0.07743*	0.06686*	0.00002696
R^2	0.060	0.130	0.140	0.240	0.210	0.270	0.220	0.300

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level

The results are interesting. In the case of the provinces, we find that the higher DAU contribution in provincial government expenditures, the lower local tax effort (Tables 8 and 9). This is a surprising result in a way since provincial governments were a bit shortchanged by the DAU system in 2001 and therefore they should have made an extra effort to collect more of their own revenues. Perhaps provincial governments were attempting to signal the central government needs for contingency funds. We do not have a good explanation for why higher dependence of provincial governments on the DAU did not help provincial revenue mobilization. Other interesting results are the positive and significant relationship of population density and income tax revenue sharing to tax efforts. The higher population density could indicate active economic activities that lead to higher potential tax revenue, while the higher income tax sharing indicates higher economic capacity that should generate higher local tax revenue. For the case of district/municipalities (Tables 10 and 11) we get that DAU is, as expected, an insignificant factor in local tax effort (although the sign is negative). Among the other control variables, income tax revenue sharing contribution to the local budget and population density contribute positively to tax effort.

Have transfers been equalizing?

The short answer developed in the analysis below is that, yes, DAU transfers have in general been equalizing—have helped dampen fiscal disparities, but not very much so. Fiscal disparities (measured in local revenues per capita) after the DAU remain high. The sharing of natural resource revenues, on the other hand, has been highly unequalizing, something expected given the uneven distribution of natural resource endowments across local governments. The other tax sharing has also contributed to fiscal disparities.

How equalizing the DAU or the entire system of transfers should be is still an open policy question in Indonesia since there has never been a "white paper" or master plan of decentralization reform with explicitly stated objectives. The DAU itself has lacked formalized performance criteria. This no doubt has complicated the evaluation of the system and how it should be reformed in 2002 and later years.

Another important complicating factor in the equalization performance of the DAU has been the introduction of the balancing factor or hold harmless provision in the DAU. For example, using a public wage bill criterion to distribute the balancing factor funds in 2002 has contributed to fiscal disparities because of historical patterns of public employment. [27] The balancing factor played a similar role in 2001. Basing the balancing factor on the previous SDO and INPRES meant that local governments that used to receive big transfer would receive them also in 2001.[28]

Some empirical evidence on the equalization impact of transfers is presented in Tables 12 to 15 below. These tables show the dispersion of revenues per capita (coefficient of variation and range between maximum and minimum values) for own revenues, the two main categories of shared revenues, and the DAU. The tables also show the dispersion for different cumulative arrangements of revenue sources starting with own revenues and adding revenue sharing and the DAU.

Tables 12 and 13 show the results for the provinces for 2001 and 2002, respectively. Tables 14 and 15 show the results for district/municipalities also for 2001

[27] See Hofman et al. (2002).
[28] Despite the inertia introduced in the system by the balancing factor, it is interesting to note that the new DAU system is more equalizing than the old system of SO and INPRES were. See Lewis (2001).

and 2002. In the case of the provinces, general revenue sharing and sharing of natural resources show more dispersion than own revenues, but the cumulative distribution of total revenues per capita after the DAU is added has a significantly lower dispersion. The coefficient of variation falls from 1.90 before the DAU to 1.18 after the DAU in 2001 and from 1.90 to 0.90 in 2002. Similar results hold for district/municipalities. The main contrasts are that the sharing in natural resource revenues appears to be much more unequalizing at the local level and the DAU distributions have a stronger equalizing effect For example, in 2002 the coefficient of variation for revenues per capita before the DAU at 2.58 drops to 1.04 after the DAU.

These results provide general evidence that the DAU has equalizing effects at the provincial and district/municipality levels. But notice that even after the DAU, the coefficients of variation remain high, always with a value over one. The very large differences between maximum and minimum values of revenues per capita dramatize the fact that DAU is still not effective in reducing fiscal disparities to acceptable levels.

Table 12
Equalizing Impact of the DAU. Provinces 2001
(thousands of rupiahs)

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
LOR 1999 (Local Own Revenue)	20.57	36.73	1.79	201.90	0.00

TS 2001 (Tax Sharing)	17.42	51.81	2.97	289.01	3.07
NRS 2001 (Natural Resc. Sharing)	24.72	73.88	2.99	376.82	0.00
DAU 2001 (General Allocation Fund)	50.03	30.80	0.62	151.47	13.02
LOR+TS	37.99	87.26	2.30	490.91	3.14
LOR+NRS	45.29	84.90	1.87	409.13	0.02
LOR+DAU 2001	70.60	50.32	0.71	271.93	17.65
LOR+TS+DAU 2001	88.02	97.22	1.10	560.94	25.85
LOR+NRS+DAU 2001	95.32	100.20	1.05	514.65	17.68
LOR+TS+NRS	62.71	118.85	1.90	502.27	3.91
LOR+TS+NRS+DAU 2001	112.74	132.72	1.18	572.30	25.88

Source: Authors' calculations

Table 13
Equalizing Impact of the DAU. Provinces 2002
(thousands of rupiahs)

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
LOR 1999 (Local Own Revenue)	20.57	36.73	1.79	201.90	0.00
TS 2001 (Tax Sharing)	17.42	51.81	2.97	289.01	3.07
NRS 2001 (Natural Resc. Sharing)	24.72	73.88	2.99	376.82	0.00
DAU 2002 (General Allocation Fund)	72.31	50.88	0.70	185.21	11.10
LOR+TS	37.99	87.26	2.30	490.91	3.14
LOR+NRS	45.29	84.90	1.87	409.91	0.02
LOR+DAU 2002	92.88	59.10	0.64	265.83	19.37
LOR+TS+DAU 2002	110.30	97.89	0.89	554.83	27.57
LOR+NRS+DAU 2002	117.60	89.41	0.76	448.94	19.40
LOR+TS+NRS	62.71	118.85	1.90	502.27	3.91
LOR+TS+NRS+DAU 2002	135.02	121.02	0.90	566.20	27.60

Source: Authors' calculations

Table 14
Equalizing Impact of the DAU. District/Municipalities 2001
(thousands of rupiahs)

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
LOR 1999 (Local Own Revenue)	22.42	50.31	2.24	855.25	0.30
TS 2001 (Tax Sharing)	28.48	37.26	1.31	265.36	4.34
NRS 2001 (Natural Resc. Sharing)	128.64	431.37	3.35	4609.57	0.27
DAU 2001 (General Allocation Fund)	445.19	365.02	0.82	3376.53	89.68
LOR+TS	50.89	67.88	1.33	924.48	6.21

LOR+NRS	151.06	435.98	2.89	4630.49	5.44
LOR+DAU 2001	467.61	369.80	0.79	3395.64	105.33
LOR+TS+DAU 2001	496.08	394.24	0.79	3504.98	131.65
LOR+NRS+DAU 2001	596.08	693.09	1.16	6740.57	111.44
LOR+TS+NRS	179.54	462.33	2.58	4874.49	11.07
LOR+TS+NRS+DAU 2001	624.73	721.56	1.15	6984.57	137.76

Source: Authors' calculations

Table 15
Equalizing Impact of the DAU. District/Municipalities 2002
(thousands of rupiahs)

Variable	Mean	Stand. Dev.	Co. of Var	Max	Min
LOR 1999 (Local Own Revenue)	22.42	50.31	2.24	855.25	0.30
TS 2001 (Tax Sharing)	28.48	37.26	1.31	265.36	4.34
NRS 2001 (Natural Resc. Sharing)	128.64	431.37	3.35	4609.57	0.27
DAU 2002 (General Allocation Fund)	522.55	393.35	0.75	3376.53	110.76
LOR+TS	50.89	67.88	1.33	924.48	6.21
LOR+NRS	151.06	435.98	2.89	4630.49	5.44
LOR+DAU 2002	544.96	398.66	0.73	3395.64	128.81
LOR+TS+DAU 2002	573.44	422.14	0.74	3504.98	159.92
LOR+NRS+DAU 2002	673.61	699.13	1.04	6797.27	129.08
LOR+TS+NRS	179.54	462.33	2.58	4874.49	11.07
LOR+TS+NRS+DAU 2002	702.08	727.77	1.04	7041.28	160.19

Source: Authors' calculations

An additional way to examine the equalization performance of the DAU is to study whether in reality it lives up to its promise of equalizing fiscal capacity and expenditure needs. With this objective in mind, we run a series of regressions explaining DAU distributions at the province level for 2001 and 2002 (Tables 16 and 17) and at the district/municipality level also for 2001 and 2002 (Tables 18 and 19). Besides using the entire DAU allocation as the dependent variable, we also add two other dependent variables by breaking up the DAU allocation into the “balancing fund amount ” and the "formula amount." For explanatory variables, in order to capture fiscal capacity we selected the variable "gross regional product per capita" (GDRPCAP) and also used as control variable "tax effort." For explanatory variables on the expenditure need side, we selected some of the variables used in the DAU formula, such as the construction price index and the percent living in poverty, but also we selected other variables that are reflective of need and are not strictly included in the DAU formula, such as percent of the population of retirement age, percent of population younger than working age, and population density.

The regression results[29] show that the DAU allocations generally do not equalize fiscal capacity. In fact DAU allocations per capita tend to increase with gross regional product per capita. Richer jurisdictions get higher allocations. This result tends to be for the most part due to the impact of the "balancing fund." However, note that the "DAU formula amount" for 2001 was also positively and statistically significant related to gross regional product per capita at the district/municipality level. However, this relationship did not hold for 2002.

On the expenditure need side, the regression results show that typically the DAU tends to increase with poverty and the construction price index as expected from the role these variables play in the DAU formula. It is interesting to note, however, that the effects of these variables in the DAU allocations per capita are often diluted—not statistically significant. Importantly, we find that the "balancing fund" component of the DAU does not only get larger with income, but in addition it explicitly penalizes those jurisdictions with higher expenditure needs (holing income constant). This is manifested

[29] Our regression results are generally consistent with those obtained by Lewis (2001) and Hofman et al. (2002).

by the negative and statistically significant regression coefficients for the "balancing factor" on poverty and the percent of population with higher public expenditure needs such as the young and the old.

In summary, the regression results provide evidence that the implementation of the DAU in 2001 and 2002 has been pushing for conflicting objectives. The "formula amount" pushes for equalization but the "balancing factor" in its pursuit of addressing vertical imbalances undermines equalization. It is quite unlikely that this is something that the policymakers in the executive and the Parliament wanted and it also highlights the need to further reform Indonesia's system of transfers.

Table 16
Regression Analysis of the DAU, Provinces 2001
(per capita in thousands of Rp)

Independent Variable	**DAU Transfers (thousands of Rp)**	**Regional Expenditure (thousands of Rp)**	**Balancing Fund Per Capita (thousands of Rp)**	**DAU Formula Per Capita (thousands of Rp)**
Intercept	-88.63*	-77.9	-27.51	-61.12*
GRDP Cap	0.002853*	0.007186*	0.002226*	0.0006271
Const Idx	0.7163*	0.613	0.2551	0.4612*
Poor	0.8980*	2.882*	0.8392*	0.0588
Older	-4.527	-16.36	-5.826*	1.300
Younger	0.5750	0.832	0.2030	0.3720
Density	-0.001333	-0.008308	-0.001858	0.000525
Tax Effort	10.85	159.54*	37.25*	-26.40*
R^2	**0.674**	**0.473**	**0.538**	**0.477**

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level
Older: Percentage of the populations older than working age
Poor: Percentage of the population in poverty
Younger: Percentage of the population younger than working age

Table 17
Regression Analysis of the DAU, Provinces 2002
(per capita in thousands of Rp)

Independent Variable	DAU Transfers (thousands of Rp)	Regional Expenditure (thousands of Rp)	Balancing Fund Per Capita (thousands of Rp)	DAU Formula Per Capita (thousands of Rp)
Intercept	-8.6	-77.9	18.07	-26.68
GRDP Cap	-0.001495	0.007186*	0.0009881	-0.002483
Const Idx	0.1888	0.613	-0.1415	0.3303
Poor	1.6872*	2.882*	0.5761*	1.1111
Older	-5.841	-16.36	-1.925	-3.916
Younger	1.437	0.832	0.3186	1.1185
Density	0.004222	-0.008308	0.001386	0.002836
Tax Effort	-21.03	159.54*	19.43	-40.47
R^2	**0.310**	**0.473**	**0.319**	**0.426**

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level
Older: Percentage of the populations older than working age
Poor: Percentage of the population in poverty
Younger: Percentage of the population younger than working age

Table 18
Regression Analysis of the DAU, District/Municipality 2001
(per capita in thousands of Rp)

Independent Variable	DAU Transfers (thousands of Rp)	Regional Expenditure (thousands of Rp)	Balancing Fund Per Capita (thousands of Rp)	DAU Formula Per Capita (thousands of Rp)
Intercept	-754.1**	-477.2**	-519.7**	-234.45**
GRDP Cap	0.004730**	0.004521**	0.002865*	0.0018654**
Const Idx	10.159**	7.5469**	7.950**	2.2093**
Poor	-0.988	-2.130*	-1.912*	0.9247*
Older	-3.153	-3.804	1.492	-4.645
Younger	-5.530*	-1.523	-5.780*	0.250
Density	-0.014523	-0.018058*	-0.012781	-0.001742

Tax Effort	16.05	26.06	27.81	-11.764
R^2	**0.335**	**0.275**	**0.261**	**0.233**

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level
Older: Percentage of the populations older than working age
Poor: Percentage of the population in poverty
Younger: Percentage of the population younger than working age

Table 19
Regression Analysis of the DAU, District/Municipality 2002
(per capita in thousands of Rp)

Independent Variable	DAU Transfers (thousands of Rp)	Regional Expenditure (thousands of Rp)	Balancing Fund Per Capita (thousands of Rp)	DAU Formula Per Capita (thousands of Rp)
Intercept	-837.5**	-477.2**	52.9	-890.4**
GRDP Cap	0.003749*	0.004521**	0.005085**	-0.001335
Const Idx	11.352**	7.5469**	3.4472**	7.9051**
Poor	-1.752	-2.130*	-2.2181**	0.4656
Older	-1.30	-3.804	-6.277	4.981
Younger	-5.104*	-1.523	-5.717**	0.614
Density	-0.016025	-0.018058*	-0.012169*	-0.003856
Tax Effort	26.47	26.06	6.9	19.48
R^2	**0.326**	**0.275**	**0.210**	**0.387**

* indicates statistical significance at the 10 percent level
** indicates statistical significance at the 1 percent level
Older: Percentage of the populations older than working age
Poor: Percentage of the population in poverty
Younger: Percentage of the population younger than working age

6. The way forward

Conclusions

Indonesia has made remarkable progress over the last two years in putting together an efficient and effective system of intergovernmental transfers. In this very short period Indonesia has achieved what has taken other countries a decade or longer to achieve. Progress has been most evident in the design, as opposed to the implementation, of the DAU system of equalization transfers.

However, problems remain in a number of areas, including the DAU.

The most fundamental problem is that the Government has relied on the DAU to pursue too many objectives. Although current legislation proclaims the essence of the DAU as an equalization grant, in practice the Government has used the DAU to pursue other objectives, the most significant of which are closing the vertical balance between the central and subnational governments, and re-dressing perceived historical injustices in the allocation of revenues from natural resources. More recently, there have been noises in Government circles about also using the DAU to ensure that certain national expenditure priorities are safeguarded under decentralization.

So far, the outcome of pursuing these many policy objectives with one policy instrument, the DAU, has been muddled or just confused performance. The equalization results the DAU achieves through its "formula component" are to a large extent undone by the implementation of its "balancing factor component." The Government needs to develop within the system of transfers new tools to address important policy objectives other than equalization.

The recent reforms introduced revenue sharing as an almost new instrument of subnational finance in Indonesia. However, revenue sharing plays a significant role only for a minority of subnational governments and those that benefit from revenue sharing seem to be powerless in predicting how much they are going to receive in funds during the fiscal year. The other instrument of subnational finance introduced by the recent reforms, the conditional matching grants, has not been used at all.

General recommendations

We believe the future reform of the system of transfers should follow three fundamental thrusts:

First, the Government should expand revenue autonomy at the subnational level as the best way to address vertical imbalances. Politically it will be hard to retrench from the current level of revenue sharing, especially for the case of natural resource revenues. But little can be gained from expanding revenue sharing to address vertical imbalances. Providing provinces and district/municipalities with more significant discretion over tax rates can achieve the same results with the added benefits of increased efficiency and accountability at the subnational level. The central government needs to evaluate the applicability of the "piggy-backing" system for the personal income tax but also of other taxes as a way to provide revenue autonomy at the subnational level. The property tax, due to its characteristics, should be fully assigned at the local level.

Second, the DAU must be exclusively used in the pursuit of the equalization objective. This will mean that addressing the issue of perceived historical injustices in the sharing of revenues from natural resources will have to be pursued though revenue sharing as, is now the case, or even through special transfers. Similarly, the general funding or vertical imbalance issue, now pursued with the "balancing factor" within the DAU, needs to be addressed through more tax autonomy, or revenue sharing or additional transfers. The DAU structure would be updated with the goal of improving on its equalization performance. The Government will need to define explicitly its equalization target and whether zero or even negative allocations will be allowed.

Third, there is a widespread concern at the central government level that local governments might not pay enough attention to national priorities such as basic education and primary health, poverty alleviation, or basic infrastructure provision. The Government needs to develop a system of conditional grants with the legal umbrella of the DAK to pursue specific policy objectives regarding infrastructure or particular central government programs. Because of the importance of the health and education sectors in national priorities and the fact that these are now the responsibilities of local governments, the Government could develop a system of per capita conditional grants that would ensure minimum expenditure standards at the local level in these sectors. Funding for the per capita conditional grants in health and education could come in part from the funds now spent on the balancing factor of the DAU. The conditional grants would provide help with a "hold harmless" objective but would switch funding from budget inputs (public employees) to budget outputs (number of children educated and population at risk). The funding for conditional grants for infrastructure and other areas could come in part form the still large deconcentrated development funds now controlled by the line ministries in Jakarta.

It will be important that the new set of reforms in the transfer system is part of the comprehensive view of where the entire system of intergovernmental fiscal relations, and not just the system of transfers, is going. But for these reforms to fit well, it is still necessary for the Government to produce an overall strategy or "white paper" of reform.

The government also needs to examine the current administrative organization: should the reformed equalization transfers and the new conditional grants flow directly from the central government to the local governments or will they go through the intermediate level of governments, the provinces? This decision, of course, should be congruent with the choice made on the overall approach to organizing intergovernmental fiscal relations in Indonesia.

The Government should further consider the need for formalizing the management and upkeep of the system of transfers (DAU and DAK). There is a need to collect better statistics and improve the existing ones. For the calculation of DAU 2002 , for example, there are some variables still using the data for 1999. Ideally, the data used for calculating DAU should be at most two years prior to the year of DAU. So, for DAU 2002, all of data used should be 2000 data. In addition, the reliability and consistency of data key to the DAU are sometimes doubtful, especially for the data on population and area. The data on the construction price index is also questionable in its reliability. There is also a need to update the equalization formula, introducing changes in the mechanism to keep within its objectives, and to maintain a dialog with the subnational governments and other stakeholders. Several government agencies currently are in charge of administering the DAU. The choice is whether to imitate other countries such as Australia and India, and to create a "grants commission," a semi-autonomous institution at the central government level, to be exclusively charged with the administration and upkeep of the transfer system. The advantage of a "grants commission" is its greater impartiality and objectivity in administering the equalization grant system.

Specific recommendations on the DAU

Several concrete measures should be considered regarding the DAU:

The current practice of distributing the DAU pool of funds as fixed in the budget is a desirable approach because regional governments have more certainty to plan and execute their budgets once the state budget is approved. The actual rule of 25 percent of net domestic revenues can and should be changed in the overhaul of the system of transfers, but it will be desirable that the new percentage stay stable for a period of several years. The overall funding for the DAU needs to be decided in the overall context of intergovernmental fiscal relations and national priorities. How much of the national available resources should be dedicated to equalizing subnational fiscal disparities is a political decision, which requires the direct involvement of parliament and the government. But in order to reach the right level of funding, the DAU funding rule needs to be openly discussed and the country priorities reflected in it.

Equalization transfers in Indonesia are correctly conceived of as unconditional (general funding) grants and therefore, their final use conceptually left to the discretion of local governments. Pressure to impose conditionality on the use of those funds must be resisted. Conditional grants should be used for the pursuit of other objectives.

There is a need to remove the negative incentives that remain in the form of using the wage bill as the basis of the distribution of funds for the hold harmless or balancing factor funds.

The introduction of explicit public service standards for the computation of expenditure needs may bring more problems than benefits. Clearly the expenditure norms defined by the Ministry of Finance or any other agency cannot under the present economic circumstances be anywhere near the level that subnational governments would consider adequate or else there would be a very significant budget deficit at the subnational or central levels. Thus, the use of explicit standards may contribute to the feelings of insensitivity and injustice toward subnational governments. The current approach now used in the DAU of using an index to approximate needs is used in many other countries.

There is a need for better data and improved measurements of fiscal capacity at the provincial and local levels. Natural resources revenue sharing has to be considered 100 percent revenue to the local governments and not just 75 percent as is now the case. The central government must not accept local government demands to switch to actual or collected own revenues in the measurement of fiscal capacity. Agreeing to that will certainly create negative incentives for revenue mobilization by local governments. Instead, there is a need to develop better estimation methods of potential local own revenue.

Specific recommendations on the DAK

If conditional grants for education and health are introduced, they should be computed on a per-student and per-inhabitant basis, respectively.[30] This shall offer the advantages of the grants being inherently equalizing, provide local authorities with budgetary autonomy in terms of expenditure priorities (within education and health) and provide the most efficient method of service delivery.[31] These grants may imply, among other things, changes in revenue sharing and quite likely a reduction in the pool of funds dedicated to equalization under the DAU.

As is the case of the DAU, the design of conditional transfers must take into account the potential strategic behavior of subnational governments and the incentive signals provided to them in the structure of capital grants. A good dose of realism will

[30] The per-capita basis could be modified, if needed, by some adjustment coefficient to reflect different costs of provision or needs.

[31] It must be made clear that the conditional grants should not be made for economic categories of expenditure, such as wages and salaries. This would eliminate any of the advantages of a decentralized delivery and implementation system and the full centralization of those services would produce the same results. Naturally, for local governments to be able to increase efficiency in the delivery of services, it would also be necessary to reduce, if not eliminate, central government norms and mandates that interfere with their choices.

also be necessary. It will be typically desirable that DAK grants satisfy the requirement of "additionality," so that capital grants are not a substitute for the capital expenditure that otherwise subnational governments would have undertaken. For this reason, DAK transfers should keep the co-financing or matching requirements now in the law.

It will be more efficient and transparent to allocate conditional grant funds by using objective formulas. When a formulary approach is not feasible, still the allocation of funds and the selection process for the grants should be according to explicitly legislated criteria.

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Appendix 1

The 2002 and 2001 DAU Formulas

A. 2002 General Allocation Fund (DAU) Formula

I.Fiscal Gap = Fiscal (Expenditure) Needs – Fiscal Capacity

II.Fiscal Capacity = LORadj + (PT + LTF + PIT + 0.75*NRS)

LORadj : Local Own Revenue Adjustment (or Predicted) = a + b*GRDP Services

PT : Property Tax Revenue Sharing
LTF : Land Transfer Fee Revenue Sharing
PIT : Personal Income Tax Revenue Sharing
NRS : Natural Resources Revenue Sharing

III.Fiscal Needs = ALE (0.4 PI + 0.1 AI + 0.1 RPI + 0.4 CI)

ALE : Average Local Expenditure
PI : Population Index
AI : Area Index
RPI : Relative Poverty Index
CI : Construction Index

V.DAU_i = AM + (LDW * DAU_n)

Local DAU Weight (LDW) = Local Fiscal Gap / National Fiscal Gap
DAU_i : DAU for each province or district/municipality
DAU_n : DAU total, for all province or district/municipality
AM : Minimum Allocation = LS + (a * CSS)
LS : Lumpsum (equal for each province or district/municipality)
a * CSS : Proportion of Civil Servant Salary in 2001

B. *2001 General Allocation Fund (DAU) Formula*

I. Fiscal Needs

Fiscal Needs = Average Local Expenditures * 1/4(Population Index + Area Index + Construction Price Index + Poverty Index)

Fiscal Needs Variables :

a. Average Local Expenditures

Average Local Expenditures =

(Total Local Expenditures + Deconcentrated Funds) / Number of Local Governments

b. Population Index

Population Index = Local Population / Average Local Population

c. Area Index

Area Index = Local Area / Average Local Area

d. Construction Price Index

Construction Price Index = Local Construction Price Index / 100

e. Poverty Index

Poverty Index = Number of Local Poor People / Average Local Poor People

II. Fiscal Capacity

Fiscal Capacity = Average Local Revenue * 1/3(Industrial Index + Natural Resources Index + Human Resources Index)

Fiscal Capacity Variables :

a. Average Local Revenue

Average Local Revenue = (Local Own Revenue + Tax Revenue Sharing) / Number of Local Governments

b. Natural Resources Index

Natural Resources Index =

(GRDP of Natural Resources/ GRDP) / (GDP of Natural Resources/GDP)

c. Industrial Index

Industrial Index =

(GRDP of Non Primary Sectors/ GRDP) / (GDP of Non Primary Sectors/GDP)

d. Human Resources Index

Human Resources Index =

(Local Labor Force/ Local Population) / (National Labor Force / National Population)

III. General Allocation Fund (GAF)

GAF of A Local Government = Fiscal (Expenditure) Needs – Fiscal Capacity

Local GAF Weight = GAF of A Local Government / GAF of All Local Governments

GAF Distributed for A District/Muncipality = 0.9 * 0.25 * Total Domestic Revenue in National Budget * Local GAF Weight

GAF Distributed for A Province = 0.1 * 0.25 * Total Domestic Revenue in National Budget * Local GAF Weight

Statistical Appendix

Table A-1 Variables Definitions and Unit of Measurement

VARIABLE		DEFINITION	MEASUREMENT
POP (000)	:	Number of people	Thousands people
POOR (000)	:	Number of people in poverty	Thousands people
POVGAP	:	Poverty Gap	Thousands people
LABOUR (000)	:	Number of people in working age (age 15-59)	Thousands people
SCHOOL AGE (000)	:	Number of people in School	Thousands people
OLDER (000)	:	Number of people in older than working age (> 59)	Thousands people
YOUNGER (000)	:	Number of people in younger than working age (< 15)	Thousands people
PCT POOR (%)	:	Percentage poor people of population	%
PCTL ABOUR (%)	:	Percentage working people of population	%
PCT SCHOOL AGE (%)	:	Percentage school age people of population	%
PCT OLD(%)	:	Percentage older people of population	%
PCT YOUNG(%)	:	Percentage younger people of population	%
AREA (KM)	:	Land area of local authority	Km2
DENSITY (PER KM)	:	Population devided Area	People/km2
CONST INDEX	:	Construction price index	
GRDPCAP (1999)	:	GRDP devided by population	Thousands rupiahs

VARIABLE		DEFINITION	MEASUREMENT
TAXEFFORT (1999)	:	(Local Tax +User Charges) devided by population	Thousands rupiahs
TOTAL COLLECTION CAP(1999)	:	Local Own Revenue devided by population	Thousands rupiahs
REVENUE SHARECAP (2001)	:	(Tax Sharing+Natural Share) devided by population	Thousands rupiahs
DAU 2001 CAPITA	:	DAU 2001 devided by population	Thousands rupiahs
AFTER DAU 2001 CAPITA	:	(local Own+ DAU 2001) devided by population	Thousands rupiahs
AFTER ALL TRANSFER 2001 CAPITA	:	(Local Own+DAU 2001 + Revenue share) devided by population	Thousands rupiahs
REGIONAL REVENUE (2001)	:	(Local Own+DAU 2001 + Revenue share+Contingency fund) devided by population	Thousands rupiahs
DAU2001 (PCT OF EXPENDITURE)	:	Dau 2001 devided by expenditure	%
DAU 2002 CAPITA	:	DAU 2002 devided by population	Thousands rupiahs
AFTER DAU 2002 CAPITA	:	(local Own+ DAU 2002) devided by population	Thousands rupiahs
AFTER ALL TRANSFER 2002 CAPITA	:	(Local Own+DAU 2002 + Revenue share) devided by population	Thousands rupiahs
REGIONAL REVENUE (2002)	:	(Local Own+DAU 2002 + Revenue share+Contingency fund) devided by population	Thousands rupiahs
DAU2002 (PCT OF EXPENDITURE)	:	Dau 2002 devided by expenditure	%
EXPCAP (2001)	:	Expenditure fy 1999 with adjusment devided by pop	Thousands rupiahs
TRANSFERS	:	Dau 2001 or DAU 2002	Billions Rupiahs
REVENUE SHARES	:	(Tax Sharing+Natural Share)	Billions Rupiahs
TOTAL COLLECTION	:	Local Own Revenue	Billions Rupiahs
REGIONAL REVENUE	:	(Local Own+DAU + Revenue share+Contingency fund/balancing fund)	Billions Rupiahs
AFTER TRANFERS	:	Local Own Revenue +DAU	Billions Rupiahs
AFTER ALL TRANFERS	:	Local Own Revenue +DAU+Revenue Share	Billions Rupiahs
REGIONAL EXPENDITURE	:	Routine Expenditure + Development Expenditure	Billions Rupiahs