

**Intergovernmental Transfers in
Developing and Transition Countries:
Principles and Practice**

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INTRODUCTION

Intergovernmental transfers are the cornerstone of sub-national government financing in most developing and transition countries. Transfers are a compromise in that they allow the central government to hold control over the public financing system while they offer a way to channel money into the budgets of provincial and local government. However, the general term "transfers" refers to a number of different kinds of public financing instruments: Grants, shared taxes, subsidies, and subventions are but a few. Some of these transfers may be designed to be very centralizing in nature while others are decentralizing. They may be intended to address a wide variety of different issues. Some are in constitutions while others are presidential decrees or even annually legislated.

This paper is about the design of intergovernmental transfers. The objective is to make two points. The first is that there are many different forms of intergovernmental transfers, and the right choice for a country depends on the objectives to be achieved. The second is that most countries adopt several forms of transfer, and these have to be viewed as a system with the important evaluation issue being their overall impact.

OBJECTIVES OF INTERGOVERNMENTAL TRANSFERS

Governments introduce intergovernmental transfers for one of four good reasons, and for a number of not-so-good reasons. In this section we review the reasons for transfers, and we stress the point that the design of the system should be driven by the objectives to be accomplished. The principles of fiscal federalism, as they have come to be known, have been taught to a couple of generations of students of public finance. While these principles provide good guidance in most cases, there are variations related to the specifics of public finances in developing and transition countries.

Vertical Balance

There is an imbalance between the expenditure responsibilities of subnational governments and their revenue raising powers. At the early stages of development, the priority public sector responsibilities are infrastructure development and the provision of basic living necessities, and the protection of economic stability. This dictates fiscal centralization. But with economic growth and urbanization, public expenditure needs shift more toward services provided by local governments, e.g., social services, water supply, etc. The result is an inability of local governments to provide adequate levels of public service. The gap must be filled in one of two ways: by giving local governments more revenue

raising powers or by revenue transfers from the central government to the subnational governments.

Local Taxes or Local Transfers?

In developing and transition countries, there are limited choices for the delegation of taxing autonomy to local governments. The alternative is to leave the bulk of revenue raising power at the central level, and to provide a subsidy to local government revenues to accommodate the mismatch. The result is that transfers comprise a major component of subnational government revenues. As local governments grow into the ability to use modern instruments of local taxation, the importance of transfers diminishes. In the U.S., for example, transfers finance less than one-fourth of all state and local government expenditures and subnational governments have access to a wide variety of consumption and income taxes.

But the story is very different in developing and transition countries. In Table 1, we outline the major tax sources. By process of elimination, we can conclude that relatively few of these are suitable as sub-national government revenue sources.

We live in a value-added tax world. Cnossen (1998) points out the widespread use and revenue dependence on the VAT, and its growing importance. But as much as the VAT is a boon for national government finances, it is not suitable as a subnational government tax. It raises problems as regards the taxation of imports (will one allow certain port cities to tax all incoming imports?) And the taxation of exports (will one allow certain port cities to pay all of the tax credits due to exporters?) Moreover, local taxation of value-added will encourage protectionist type activities by subnational governments. Most important of all, subnational governments could compromise the administrative integrity of the value-added tax. Bird and Gedron (1997) have pointed out that subnational governments could carry off an effective value-added tax provided that the local government and the national government used the same base and provided that the central VAT were well administered. In most developing and transition countries, these conditions are not likely to be met.

Issues Related to Vertical Balance

Those who design transfer systems and are driven by the vertical balance objective must face up to two major issues. The first is how does one measure vertical fiscal balance. In order to know how much transfer is necessary, one must estimate the difference between the revenues available to subnational governments, and the expenditure needs of those governments. This is quite a subjective matter, because expenditure needs are almost limitless. Most countries who use the vertical balance approach determine a "minimum service level", and fill the gap with transfers. In some cases, the amount of transfers is determined by a central budget constraint rather than by a "minimum requirements" approach.

The second issue to be faced by grant designers is that there is a mismatch between the reliance dictated by vertical balance considerations on the one hand, and efficiency considerations on the other. For example, vertical balance considerations might dictate that subnational governments receive \$X in transfers. But this amount may result in some services that should be tax-financed being covered by grants. (See Box 1). This could lead to overspending by the subnational governments because certain services that should be financed with local taxes and user charges would be financed with external grants.

Equalization

Equalization is another justification for intergovernmental transfers. Developing and transition countries are characterized by wide fiscal disparities among regions. It is not unusual for the average income in the richest places to be 20 times greater than that in the poorest places. To the extent that subnational governments are given more revenue raising powers, these disparities will widen because the more urbanized local governments have the greatest taxable capacities and the strongest administrative infrastructures.

If countries are to equalize inter-regional differences in financial capacities, it must be done with intergovernmental transfers. As will be underlined below, the potential to equalize does not necessarily mean that equalization will occur, nor does it mean that equalization is necessarily a good policy for a country. In order to assess equalization as a justification for intergovernmental transfers, we must consider three questions: How are intergovernmental transfers financed (i.e., what taxes support the transfers), what services do subnational governments deliver, and what distribution formulae are used to allocate resources among the local governments?

Externalities

Another justification for the use of intergovernmental transfers is to offset externalities. That is, left to make their own decisions, local governments may underspend on services where there are substantial external benefits. For example, subnational governments may underspend on education and health services relative to that desired by the nation as a whole. In this case, theory tells us that a grant conditional on spending for the service in question could stimulate spending on that service.

The design of an intergovernmental transfer system to address externalities raises two important issues that must be addressed by policy makers. The first is the size of the grant required. That is, how much of a subsidy is required, and how much expenditure response will be required by the local government? This is a subjective question that must be answered by the central government. In fact, this issue is very often ignored by fiscal planners.

The second issue has to do with three-level fiscal federalism. If the grant is made to the provincial or state government, it may not reach the government that is responsible for the underspending. Related to this is the issue of how the intermediate level government will allocate its resources to the local level government.

Administrative Justifications

A final justification for intergovernmental transfers is that part of the public financing system is administrative. The argument goes that the central government has a capacity to assess and collect taxes that is much greater than that of subnational governments. It is less costly, therefore, for the central government to collect the taxes and then to allocate the revenues to local government in the form of transfers.

There are two issues to raise about this justification. One is that it may not be true that all taxes are more efficiently administered at the central level. In fact, some taxes are known to be more cheaply administered, and with higher collection rates at the local level. The property tax, user charges and local licences are better administered at the local level and certain types of taxes related to the ownership and use of automobiles can be more efficiently administered at the local level. The second issue is that the charge of local government tax administrative inefficiency can become a self-fulfilling prophesy.

Bad Justifications for Intergovernmental Transfers

The above are the proper justifications for intergovernmental transfers. But governments in transition and developing countries often do not use these justifications. Rather, they adopt intergovernmental transfers for other, less justifiable reasons. These "bad" reasons fall into four categories. The first is to discourage local government autonomy. That is, the central government is resistant to give up control over governance that would come with giving revenue raising powers to local governments. As an alternative, intergovernmental transfers are given as a local government revenue source.

The second reason might be an attempt to maintain or enforce uniformity. The goal of the central government might be to resist diversity on the part of local governments, in terms of expenditure mix or revenue structure.

A third reason could be a belief that local governments are more corrupt than the center, and therefore that a shift of responsibility to subnational governments would lead to a waste of revenues. There is some reason to argue that local government officials are more susceptible to influence by local citizens, because they are closer to the local electorate.

Fourth, a transfer system may be put in place as part of a strategy to offload the budget deficit on to local governments. For example, a grant system

may be put in place but underfunded at a later time when the central budget is pressed.

DESIGNING A TRANSFER SYSTEM

After the objectives are set, the next step in designing a system of intergovernmental transfers is to structure the horizontal and vertical dimensions of the transfer. In fact, every intergovernmental transfer has two dimensions: the first is the vertical dimension, the distribution of revenues between the central and local government. The second is the horizontal dimension, the allocation of transfers among the recipient units.

Following a dichotomy developed by Bahl and Linn (1992), we may describe a number of different types of transfers commonly found in developing and transition countries (See Table 1). As may be seen from the table, there are three more or less common approaches to determining the size of the total grant pool (i.e., the vertical dimension). The total to be allocated may be determined as a share of some central government revenue source, it may be determined on an ad-hoc basis, or it may be determined on a basis of cost reimbursement. Most countries use one or more of these three methods.

The horizontal dimension, the allocation of revenues among eligible recipients, is described in the rows in Table 2. As may be seen, transfers might be distributed according to a derivation basis, i.e., local governments may retain a share of what is collected within their boundaries. Alternatively, they may receive grants distributed by formula, by cost reimbursement or according to ad hoc methods. Until one decides on both the horizontal and the vertical dimensions, the transfer system is not defined.

The main point in describing this dichotomy is this: each of the 12 different types of grants shown in Table 2 is different in terms of impact. Another way of saying this is that each meets a different objective. Those who would design a new intergovernmental transfer system, or evaluate an existing one, would do well to begin with a full understanding of the match between the objectives of the program and the horizontal and vertical dimensions of the system.

DESIGNING THE GRANT POOL

The grant pool can be designed to accommodate either a decentralized fiscal system, or a very centralized fiscal system.

The Shared Tax. Arguably the most decentralizing form of vertical revenue sharing is the *shared tax* approach (the first column in Table 2). In this case, the central government allocates a share of national collections of some tax to the provincial/local government sector. Two design questions arise here: the first is the tax to be shared, and the second is the percentage of collections to be shared.

Tax sharing is widely practiced among developing and transition countries. There seems to be no rhyme nor reason to the choices made as to which tax base to share, as is indicated by the following examples:

- Russia and China: VAT
- Colombia: The Tax on Beer
- India: Excise Duties
- Indonesia and The Dominican Republic: Property Tax
- Peru: Sales Tax
- Nigeria: Natural Resources Taxes
- Mexico: Payroll Tax
- Brazil and Colombia: Motor Fuel Taxes

As to the percentage of the tax shared, countries vary widely in their choices, and again, there seems no particular pattern. Interestingly, both China and Russia allocate about 25 percent of VAT collections to subnational governments, but Russia allocates about 60 percent of company income tax collections to subnational governments while China allocates it all. In the Philippines, about 40 percent of total internal revenue collections go to the subnational governments.

The more relevant question is not the practice, but how the tax to be shared and the sharing rate should be determined. This brings us back to the question of objectives of the transfer system and how it fits into the general decentralization program of the country. A shared tax can be used for no more than some degree of vertical balance to offset the mismatch between local expenditure responsibilities and local revenues. In this case, countries have assigned shares of a variety of different types of excises to the local governments, or even property taxes in the case of Indonesia. This is a centralizing approach, and it protects the central government from having committed a significant share of the tax base to the subnational government sector. However, the shared tax pool may also be used as a serious approach to decentralizing the fiscal system, and strengthening the fiscal position of local governments. In this case, a larger tax base with a more income-elastic growth may be sought. Consumption and income taxes are shared between levels of government in many countries. But this is a big commitment for a developing or transition country, and unless there is an intention to withhold distributions in times of budget tightness, it can seriously compromise the fiscal flexibility at the central level.

Ad Hoc Transfers

A second approach is for the central government to decide on the amount of transfers on a discretionary basis. That is, each year the parliament or the President will decide on an allocation to the subnational government sector. Obviously, there are great drawbacks to this approach.

1. It is not transparent, and quite subject to political manipulation.
2. It leads to great uncertainties on the part of the local government sector, as they do not know what they will receive each year. Fiscal planning and effective budgeting are discouraged.
3. It encourages the central government to think of the subnational government sector as a lower priority item, and provides an inducement to think of reduction in transfers as a way to offload budget deficits.
4. This approach denies the link between expenditure responsibilities and revenue resources. While the central government cuts or increases the local revenue share each year, they are less likely to change the expenditure functions assigned to local governments and a revenue shortfall can produce harmful effects on the level of public services provided.
5. Subnational governments are likely to be discouraged from increasing efficiency and from becoming self-reliant if all grants are made on an ad hoc basis. Local officials will feel less in control of their budgets, and less accountable to their voters for the level of services provided. It will be very convenient to blame any service delivery shortfalls on the inadequate services provided by the center.

On the other hand, the ad hoc approach also has some advantages.

1. From the point of view of the central government, it provides maximum flexibility. The government can implement a fiscal stabilization program with a minimum regard for a fixed committed share to the local government sector. For example, if the stabilization program calls for a tax increase of x percent, the increase can be accomplished without having to pay a fixed share of the increment over to the local governments sector. If an expenditure austerity program calls for cuts in government spending, the central government can accomplish this by simply reducing the transfer rather than mandating local government spending reductions.
2. Another advantage is that this approach will enable the central government to change spending priorities without changing expenditure assignments. For example, subnational governments are more likely to spend for consumption than for infrastructure purposes. An ad-hoc grant will allow the center to reduce the flow of revenues to the local sector and use the funds for infrastructure purposes.

In sum, the ad-hoc approach to determining the size of the distributable pool is the most centralizing approach to designing an intergovernmental transfer system. Despite some very apparent flaws, it is widely used, even in some countries that feature decentralization as part of their development plan.

Cost Reimbursement

The third approach to determining the size of the revenue pool that will go to each level of government is the cost reimbursement approach. The scheme works as follows:

- The central government defines a service for which it will guarantee to cover the cost incurred by the local government in delivering this service. For example, teachers salaries, drugs and dressings, highway construction and maintenance.
- The transfer to cover these costs may be *open ended*, i.e., the central government stands ready to cover the cost of all expenditure incurred by the local government. More often, the transfer is *closed ended*, i.e., the central government will incur the costs up to some maximum.
- Cost reimbursement grants often carry conditions. For example, a teachers salary grant will cover the costs up to specified salary levels and up to a specified number of teachers.

Cost reimbursement grants have some significant advantages. First, they can be used to direct investment to high priority national needs. Local governments, left to their own devices, will underspend on services with regional and national benefits. Conditional grants based on costs incurred for specified purposes will redirect these funds toward the priority areas. Cost reimbursement transfers may also be used to ensure uniformity of standards across the country. For example, highway construction or maintenance grants will be awarded only if construction or maintenance are up to specified standards, and uniform standards for public employee standards can be mandated.

The disadvantages of cost reimbursement grants is that they compromise local choice and can retard true fiscal decentralization. Decentralists almost always argue that central governments do a bid job of setting standards, and in any case, standards should not be uniform because demands for services and local conditions vary across regions within the country. The requirement of uniformity also discourages innovation by local governments, because standards are being set by the central government. Finally, cost reimbursement grants impose an administrative cost on the central government, which must monitor the program, and a compliance cost on the local governments who must do significant reporting on their use of funds and their adherence to standards.

Cost reimbursement grants are widely used as a method of determining the total flow of funds to subnational governments. It gives the central government control over the amount of funds allocated to the local government sector, and it gives the center some say in how the funds will be spent. It is a centralizing approach to intergovernmental transfers.

Horizontal Balance: How to Distribute the Pool of Resources Available.

No matter how the total grant pool is determined, the distribution of this pool among eligible local governments is a separate question. The impact of a grant system, however, depends on both dimensions of grant design. In the sections below, we track through each of the options for designing transfers that are reported in Table 2.

The Derivation Approach. A type A transfer, as shown in Table 2, can be referred to as the derivation approach to intergovernmental fiscal flows. Under this approach, the total grant pool is determined as a share of a national tax, and each local government receives an amount based on collections of that tax within their geographic boundaries. For example, 25 percent of value-added taxes in Russia are allocated to the subnational government sector, and the allocation is made according to amounts collected inside the boundaries of each regional government.

It is important to note that this is a transfer and not a local tax, because the local government has no control over the tax rate or the tax base. The amount received by the subnational government is determined fully by central legislation. An alternative, tax base sharing, where the local government may piggyback on to a central tax, is in fact a local tax and not a transfer. But among the developing and transition countries, piggybacking is not yet common.

The derivation approach is practiced widely among developing and transition countries. It is arguably the most common approach to revenue sharing. Some examples of derivation based sharing are described in Table 3. As may be seen from the table, there is much diversity in the taxes shared and the sharing rates. However, in many countries, derivation-based sharing has been a way for local governments to gain access to the more productive tax bases. Note that VAT, company income taxes, individual income taxes, and some of the productive excises have been included in the sharing base.

Some taxes are more suitable for derivation based sharing than others. Much controversy centers around the VAT as a choice for a shared tax. A strong argument can be made that in most developing and transition countries, the VAT is not a suitable choice. There are a number of reasons for this. The first is that the administrative integrity of the credit-invoice VAT requires uniformity in the definition of the tax base, and uniformity in the administration of the tax across the country. This cannot be guaranteed under derivation based-sharing where subnational governments often attempt to redefine the tax base to better fit local conditions, or may administer the tax differently in one province versus another.

A second reason has to do with protection-like behavior of subnational governments that might be induced by a derivation-shared VAT. Provincial governments, under pressure to create jobs and undertake development enhancing projects, are tempted to institute policies to force producers to buy from local suppliers. This increases revenue, increases jobs, and shifts some of the tax burden on to residents of other provinces. It is not in the interest of efficient national growth, but it does fit the objectives of local politicians.

Third, the VAT treatment of internationally traded goods may unduly compromise or enhance the fiscal position of certain local governments. Suppose that one province contains the major urban area and a major port. Imported goods passing through this port would be subject to VAT, whether their final destination is in the urban area or in the country side. The urban area might be a beneficiary of this location advantage. The reverse is true if a province is home to a port where exports pass through. The province would be faced with the prospect of refunding the VAT credits for taxes paid on all inputs. The answer to this problem is to move all VAT on international trade to the national level and omit this from the sharing pool. But this is not a perfect solution either.

Finally, there is the headquarters problem. Many enterprises pay their combined tax bill (for VAT and company income tax) at the headquarters location. The provincial government where the headquarters is located may receive the full share of the VAT from this enterprise, even though production or consumption did not take place at this location.

The company income tax is another unsuitable candidate for derivation based sharing. A major problem is the ablation of company profits across all provinces where the company does business. In the U.S., where the corporate income tax is used by 46 states, a proration formula is used to allocate profits. This has turned out to be a subjective exercise, to encourage transfer pricing by corporations who attempt to lower their overall tax liability, and "formula competition" among the states. This will emerge as a major issue in the developing and transition countries as enterprises increasingly move to multi-location activities.

A second problem with the company income tax is that it is cyclically unstable and susceptible to national industrial policy. Profits rise and fall with the cycle, and profits of certain types of companies may move dramatically with changes in national industrial policy decisions, e.g., an investment tax credit, a subsidized price for certain inputs, etc. Since local governments in many countries deliver services that are essential (e.g., schools, public health services, utilities, etc.) , such revenue uncertainty is not desirable.

The individual income tax is more suitable for derivation-based sharing. Its burden is more or less borne by local residents, and it is relatively easy to administer. In most developing and transition countries, the individual income tax is essentially a payroll tax, with capital income and earnings of the self-employed

generally outside the tax base. This makes the calculation of income tax entitlements to a particular province an easier matter than in the case of the VAT or the corporate income tax.

Some countries share excise taxes and taxes on natural resources on a derivation basis. The sharing of excise taxes is acceptable if most of the sales of the company, and production by the company, are in the region where the tax sharing will occur. Natural resources are a good case in point. Many countries allocate a portion of the revenues collected for the activity to the location of the extraction, as a kind of compensation for the exhausting of resources and the social costs associated with the production.

One might evaluate the derivation based shared taxes as follows:

First, derivation based shared taxes are not equalizing. The richer local jurisdictions have the stronger tax base and probably the strongest administrative machinery for collection. The result is that the disparities in taxable capacity between rich and poor regions will be widened.

Second, shared taxes might stimulate some increase in tax effort. Derivation based sharing does not offer the same strength of incentive for increased tax effort as does a local tax, because normally only part of the shared tax is retained. On the other hand, there is more incentive than in the case of a grant, because there is a link between tax collection and revenue accruing to the local government. The basic issue here is whether the local government has some discretion to effect the level of tax collections. In some transition countries, and in some developing countries, they do because local governments play a role in tax collection. In Russia, for example, the local government's ties to the enterprises are strong enough to influence their rate of tax compliance. And in most transition countries, the linkages between central tax administration officials stationed at the local level, and the local political leadership are strong. Tax effort may be encouraged or discouraged by this relationship.

Derivation-based tax sharing probably discourages local government autonomy in the sense that local governments cannot set the tax rate or the tax base and therefore cannot influence the amount of revenue coming to the local budget. Moreover, the local population, seeing that revenues are centrally determined, will not hold the local officials accountable for the quality of local service provision as they would in the case of a financing from local taxes. On the other hand, derivation based transfers tend to be unconditional and to carry relatively few strings. Local governments do not get much choice on the level of revenue, but they do have freedom in deciding on the expenditure of this money (unless expenditure mandates are also present in the intergovernmental system).

Derivation-based sharing should produce more certainty in local budgeting and fiscal planning than would most other forms of intergovernmental transfer. Local governments are in a position to forecast, with some accuracy, the year to year movements in revenue, and unless the central government

changes the sharing rates, this enables a proper budget planning process to take place.

The other side of the coin, however, is that derivation based sharing leaves the central government with less flexibility to make ad-hoc changes. If local governments can identify their entitlements with some certainty, then it may be difficult for the central government to make regular changes in the derivation formulae.

The administrative costs associated with derivation based sharing are low relative to the forms of transfers. In the transition countries, the funds are collected locally and then divided at the local level, usually by payment of fixed proportions to the banking accounts of the sharing governments. Where collection is by the central government, the transfer is allocated as a grant. But there usually are not significant compliance costs imposed on the subnational governments, because there are few strings attached. Nor does the central government need to monitor the use of the funds by the local government. However, Where the subnational government plays a role in the collection process, as in Russia or China, then the central government will need to monitor collection rates at the local level and to carefully watch "back-door" approaches whereby local governments try to keep certain funds out of the sharing pool.

Formula Grants

A second common approach to allocation of intergovernmental transfers among local governments is the formula grant. A formula grant uses some objective, quantitative criteria to allocate the pool of revenues among the eligible local government units.

What are the objectives that might drive the design of a formula grant? The most common reason why governments move to formulae based distribution is to gain transparency and certainty in the distribution of grants. This creates a sense of fairness in that all know the exact criteria by which distributions are made, and there is flexibility in that distributions may change as the needs for public expenditures change. In short, formulas are meant to remove judgement.

The Elements of a Formula. What are the considerations in designing a formula grant? There are four: (a) the elements of the formula, (b) the data necessary to implement the formula, (c) the costs associated with administering the grant program, and (d) conditionality. All four elements are important considerations in grants design, as is mentioned below.

The design of the formula is arguably the most difficult issue, because it calls into question the purposes of the grant. The formula should reflect the objectives of the grant program. In general, a formula might reflect four objectives. The first is to allocate grant funds so as to reflect regional differences in expenditure needs. Countries have used many different indicators of expenditure needs, including the following:

- Population, i.e., a straight per capita distribution.
- Indicators of physical factors that may lead to greater costs of service provision, e.g., land area, population density, urbanization.
- Measures to reflect the concentration of high cost population in the local government areas, for example, the percent of families living below the poverty line, the percent of people on pensions, the percent of school aged children, etc.
- Indicators of infrastructure needs, such as miles of paved highways, percent of households with access to adequate water supply, infrastructure needs to support economic development, etc.

The second approach is income or fiscal capacity equalization. In this case the formula grant attempts to provide more money to those jurisdictions who have a weaker capacity to raise taxes. The problem comes in trying to find an indicator that will enable us to allocate funds to those places with an inherently weaker fiscal capacity. There seem to be two general approaches:

- Allocate funds according to the level of average income in the local area, or according to the level of some indicator of the size of the tax base.
- Calculate the amount of money that could be raised if all appropriate tax bases were subjected to "normal" rates.

A third approach to formula based grants is to include a tax effort provision directly in the formula. The goal here would be to provide local governments with some positive incentives to increase the overall level of revenue mobilization. One option is to introduce a measure of tax effort directly in the formula. Bahl (1998) has discussed and demonstrated the use of such an index, and this approach has been used in the past in India. Another approach is to require a maintenance of some level of revenue mobilization as a condition of receiving the grant.

Finally, grant formulae could reflect the balance between revenue raising capacity and expenditure needs. Many countries around the world use variants of this approach. The following are some examples:

- Some countries define a standard level of expenditures according to a formula based on physical indicators of desired levels of service. This is related to a "normal" level of revenue mobilization based on the size of the tax base. The difference is the amount of the grant. Korea has in the past been in this tradition.

- Some school aid in the U.S. is defined by a formula that links minimum expenditure requirements with property tax revenues raised if a specified level of property tax effort is exerted.
- Some of the transition countries (Russia and China, for example) have defined the required level of expenditures as equivalent to some amount from past years inflated to the present. The level of revenue needed to guarantee this expenditure level is the amount of the transfer. This might be termed a “hold-harmless” approach.

Finding the Data to Implement the System. A major constraint to designing a formula grant system is finding the data to implement and update the system. An important underlying issue is this: formula grant systems are appealing because of their transparency and objectivity. These advantages can be taken away if the data used to allocate the funds are suspect. The following is a litany of data problems of which the grant designer should be wary.

- Some data are simply not available at all. Many grant formulae are defined on the assumption that data on average family income are available. But in most countries that would be classified as developing or transition economies, regional income data are not available. This gives the term “formula equalization” grants a hollow ring.
- Many other forms of data are available, but limited in terms of timeliness. For example, some data are available only in the census year, and must be used in the interim period without adjustment, or must be interpolated. Obviously, this weakens the case for an objective formula grant system.
- Some data are limited in terms of geographic coverage. For example, in South Africa the constitution provides that transfers will flow directly from the central government to each of 850 municipalities. But census data are not available down to the municipal level. Some form of imputation is necessary to resolve the data problems.
- Another formula grant issue is that of data difficulty when manipulation is required. For example, the calculation of a tax effort index to use in a formula, or the calculation of an index of poverty to use in a formula is done in some countries. But now the problems in the underlying data re-combine with the problems of the method of computing the index. Together with the complexity introduced, these problems can undermine the confidence in the data.

- Finally, there is the issue of the reliability of the data itself. The accuracy of data is often questioned, even if gathered by official bodies.

Administrative Costs. Formula grants are administratively more costly to implement than are shared tax transfers. There are a number of reasons for this. First is the cost of maintaining the data base necessary to distribute the grant money. The department in charge of the distribution must maintain an up-to-date data base including all indexes used in the formula, and must use these data annually to make the final distributions.

If the indexes required for distribution must be calculated, then these calculations must be repeated every year. An example of an index requiring calculation is the tax effort measure that might be used in the grant formula. Another example is any interpolation required to either update data or to impute aggregate data to geographic areas.

Another administrative cost arises with respect to "special cases". In any grant formulae, there will be municipalities where the formula just "doesn't fit". There are many examples of this. Special cities such as capitols where expenditure responsibilities are greater, provinces with a heavy preponderance of natural resources where the social economic indicators used in a formula do not fit the realities of expenditure needs, former military cities, etc. In these special cases an alternative to the formula grant must be considered. This will impose an administrative cost.

Finally, whenever data are applied in a formula to allocate grant funds, the possibility of litigation is present, especially if imputations or special manipulations of the data are required, or if the underlying data are suspect in terms of accuracy. The greater the number of local government units in the transfer system, the greater the possibility of litigation. The possibility of litigation raises the issue of additional costs.

Monitoring. Formula grant systems must be monitored on a regular basis. It is the rare formula that can exist without revision. After all, developing and transition countries are in process of change, and so their grant system should also change with their economies. To assess the need for change, grant systems need to be tracked each year.

Ideally, the government ministry in charge will have developed a data system that includes both the formula elements and the actual grant distributions, as well as the fiscal outcomes of each jurisdiction. In this way, they can assess the effectiveness of the grant program in meeting the objectives laid out. In addition, they can simulate the implications of alternative formulae distributions.

A fiscal analysis unit to lead this work is essential for any country using a formula grant distribution system.

Evaluation. As noted above, one cannot evaluate formula grant systems without considering both dimensions of the grant: the method of determining the total grant pool, and the formula used in the distribution. As may be seen from Table 2, there are two formula grant systems to be considered. A shared tax distributed among local governments according to a formula is a Type B grant, and an ad hoc pool distributed by formula is a Type F grant.

The elasticity of the grant is determined by the method of determining the size of the distributable pool. The portion of the pie received by any particular local government remains fixed, irrespective of the size of the pie. A shared tax pool is likely to grow faster than an *ad hoc* determined pool.

Interregional equalization is determined by the distribution method, and a formula grant has the potential to be equalizing. Whether it actually equalizes however, depends on what is included in the formula. Sometimes the elements of a formula grant actually are counter equalizing because they include factors that benefit richer jurisdictions, and sometimes they are equalizing because they do include proper indicators. More likely than not however, governments include factors in the formula based on what is available. An example is the Philippines where land area, population and "equal amounts" are included in the formula, primarily because this is an understandable and accepted formula. However, research suggests that this is not equalizing.

A formula grant is not likely to correct for externalities because there are not usually conditions placed on the expenditure of the funds. Exceptions may be block grants where a broad range of purposes is designated as an acceptable use of the funds.

A formula grant can include a tax effort provision to stimulate revenue mobilization, but the record of success with this approach is not encouraging. The Korean system is one effort to try to hold tax rates at about their present level: if a city drops below the standard tax rate, there is a built-in penalty in the form of a lower allocation. Other programs are more aggressive and even try to reward higher tax efforts in the allocation. For example, Indian Plan Grants include a measure of tax effort in the formula, as does the Nigerian formula for sharing central revenues with the states. Few countries can follow this practice, however, because the common measure of tax effort is the ratio of taxes to personal income and few countries have adequate measures of local personal income.

An advantage of formula grants, particularly if based on a shared tax pool, is that local autonomy is encouraged. Formula grants are generally unconditional, which gives locals a maximum of flexibility in deciding on the purpose of expenditures, and the shared tax dimension gives some degree of certainty in the distribution.

Conditional, Cost Reimbursement Grants. Another grant type is the conditional grant that is based on reimbursement of costs of specified services

(type C, G, and K in table 2.) Under such schemes, the center agrees to reimburse the locality for all or a portion of the cost of an activity (if it is a portion, a matching share from the locality is required). Grants to reimburse costs are typically tied to a particular government expenditure.

There are various methods for determining the total amount of grants for reimbursed costs available for distribution (see Table 2). If a limit on the total is desired, a specified share of a national revenue source or an ad hoc method may be used to fix the size of the pool. A more open-ended method is to reimburse all eligible expenditures. The catch here is that the central government determines what is eligible; the grant is thus always closed-ended. The closed-ended, shared tax method is often used to support current services, and ad hoc determination is more frequent for capital projects.

There is a fine line between distributing a grant amount by formula and distributing to reimburse cost. Both approaches may reflect differences in need and the objectives of equalization, and both may use exact equations to arrive at a final distribution among local governments. Only reimbursement, however, takes the cost of providing the service explicitly into account. This is a very important distinction. No less important is whether reimbursement is complete or partial; the choice suggests two very different sets of consequences.

Design Issues. The biggest problem in designing a cost reimbursement grant is choosing the matching ratio for the service. Consider the case of full reimbursement, i.e., no matching required. The idea is to stimulate the provision of certain services by lowering their marginal cost to zero and by mandating a certain level of service. Full reimbursement of teacher salaries is a common form of local grant. This method may promote the equalization of services in different parts of the country and stimulate certain types of activities, but does not encourage local governments to mobilize additional resources or lead to more efficient operations. For example, grants were made to Calcutta and Colombo to compensate the municipal budget for cost-of-living increases to local government employees, but because the local governments did not bear these costs, there was no incentive to be concerned with the productivity of these workers.

Central governments have attempted to overcome the problem of incentives by subsidizing less than 100 percent of costs, that is, by requiring a match from the recipient governments. Such grants to reimburse costs partially can stimulate the tax effort of local government on behalf of the aided function. The amount of stimulation depends on the percentage of reimbursement, which lowers the tax price of the service in question; on the income-and price-elasticity of demand for the service, which determines how the local government will expand provision of the service in the face of the lower tax price; and on the fungibility of local expenditures, that is, whether a dollar of matching funds is simply taken from a non-aided service. Despite its merits, this type of grant imposes important costs on the residents of recipient communities and perhaps on society. The stimulation of expenditure induced by the grant will distort the local budget in favor of the aided service and against other services that local

residents would have chosen. Another potential cost is that such grants may be counterproductive to the goal of regional equity. Many of the takers will be its wealthy communities, those most able to match the grants.

In short, a big problem in designing a program to reimburse costs partially is choosing the matching share. If the central share of reimbursement is set too high, there will be too few takers and low-income communities will be driven away from the program. If the central share is set too low, the opportunity to stimulate more mobilization of local resources and better management will have been bypassed. In practice, the matching shares appear to have been set without careful quantitative assessment of these possible effects.

Evaluation. The main purpose of giving a conditional grant based on the cost of providing a service is to compensate for an external effect. The grant should induce the local government to spend more for the service in question. Whether it will do this depends on the amount of match required by the local government, the extent to which spending for this service will respond to the lower price of delivering this service, and whether the grant does no more than replace higher local expenditures that would have been made in the absence of this grant. The evidence is not clear that cost reimbursement grants have stimulated spending for target public services.

A conditional grant will not give the same degree of local autonomy as will an unrestricted grant. Cost reimbursement grants usually carry restrictions on the use of the funds such as standards to which public facilities will be built, the salary rates of public employees, etc. A cost reimbursement grant based on a shared tax distributable pool will give more autonomy than either an *ad hoc* or a cost reimbursement determined distributable pool.

Cost reimbursement grants are not likely to be equalizing. In part this is because the local government may be required to put an amount of resources to qualify for the grant. The higher the match required to buy in, the less equalizing because poorer jurisdictions will buy in a much lower rate. Moreover, the standards imposed as a condition for participating in a cost reimbursement grant may rule out involvement by smaller, more rural local governments.

Cost reimbursement grants may impose a significant administrative cost. The central government will need to monitor the use of the funds to see if local governments abided by the rules of the grant. Moreover, there may be an evaluation of each grant proposal, *ex ante*, by the central governments. Local governments on the other hand will face a compliance cost in application for these grants.

Ad Hoc Distributions. As may be seen in Table 2, there are two possibilities for *ad hoc* distributions: one is from a distributable pool determined by a shared tax (type D) and the other is from a distributable pool determined by an *ad hoc* method (type H). Particularly the type H transfer is common among developing and transition countries.

There are fewer design issues to consider in developing an *ad hoc* program since the whole idea is flexibility for the central government to change the system as needed. Each year the President, or the Parliament, will determine the share to be received by each local government. No specific criteria for making this determination is given. There is little transparency in such a system, and usually it is a matter of negotiation between the central and the local government.

There are some advantages and disadvantages of a horizontal determination by an *ad hoc* method.

- The Parliament and President retains a flexibility to distribute among local governments as they see needs emerge. This is an advantage in countries that are changing rapidly, and it lets the government direct the location of public investments and play some role in guiding regional growth. Their side of the coin is that the right to make changes in distribution on an *ad hoc* basis makes the grant system more of a political instrument than an economic instrument.
- If data are unavailable, an *ad hoc* method can be based on judgement of those who allocate the resources. In the past, both India and Brazil have used a judgmental approach in allocating some resources to the poorest regions.
- If regions face special needs, an *ad hoc* system is always used to allocate the funds, and this is generally accepted as "fair". Such emergencies include natural disasters, major economic upheavals, civil unrest and support for large projects in the national interest.

There are a number of dangers of an *ad hoc* system, in addition to the problem of an undue influence of politics. The first is that central governments can become paternalistic with an *ad hoc* system, and take it on itself to determine what the local government is really able to absorb. Second, *ad hoc* grants lead to a great temptation for central governments to off-load deficits on the local sector. Third, local government efficiency is thwarted, as the locals see that their resources are not distributed on *ad hoc* basis of how good a job they do with service delivery. Fourth, efficient local budgeting is almost impossible because the year-to-year resource flow cannot be easily predicted. Fifth, the central governments that use *ad hoc* grants will be resistant to monitoring, therefore even further reducing the transparency of the system. Finally, the inevitable result of using *ad hoc* grants will be to add a program of deficit grants to meet the year-end revenue shortfalls of local governments.

THE SPECIAL QUESTION OF EQUALIZATION

Almost every country raises the question of equalization as a part of their grant design. Surely interregional equalization is an important consideration in designing any grant system. But there are a number of design questions that must be addressed, and that are too often ignored. These are listed below along with some of the approaches taken by developing and transition countries:

- What is the equalization objective? Among the choices are equalization of income levels, fiscal capacity, expenditure needs, per person revenues available. A related question is how far should equalization go, i.e., how much of the gap between rich and poor places should be eliminated.
- The issue of tax effort. If the central government designs a system that will encourage revenue mobilization, it will probably be designing a program that will enhance disparities between rich and poor provinces. This tradeoff is rarely considered, and tax effort provisions and equalization provisions often appear in the same grant program.
- Using a formula grant for equalization. Often times, it is assumed that a formula grant is equalizing, and relatively little testing is done. In fact, in many cases, the formulae are not equalizing at all. A major design issue is to determine whether a formula achieves the desired effect.
- Should shared tax distributions among local governments have variable rates? That is, should poorer local governments retain a greater share of collections than richer local government on a deprivation basis, or should there be uniform sharing and a formula equalization grant?
- Do conditional grants achieve their expenditure simulation effects, and do they compromise the equalization objectives of the government because of the high cost of buying in.
- Is there a place for *ad hoc* grants in the intergovernmental transfer system, or does the lack of transparency make such grants a bad public policy choice.
- How will provinces/states behave in the distribution of transfers to their lower level local governments. Will they reinforce the equalization and revenue mobilization objectives of the central government, or will they introduce offsetting policies?
- How will equalization be monitored? What index of equalization will be chosen to measure the effectiveness of the program?

Before an equalization component can be added to the intergovernmental transfer system, these questions must be addressed. In many cases the answers require a hard, quantitative analysis that few countries have been willing to carry out.

Table 1
Alternative Forms of Intergovernmental Grant Programs

Method of allocating the divisible pool among eligible units	Method of determining the total divisible pool		
	Specified share of national or state government tax	Ad hoc decision	Reimbursement of approved expenditures
Origin of collection of the tax	A	n.a.	n.a.
Formula	B	F	n.a.
Total or partial reimbursement of costs	C	G	K
Ad hoc	D	H	n.a.

n.a. Not applicable.

Note: For definitions of forms A-K, see text.

Table 2
Taxation Choices

- VAT
- Company Income Tax
- Individual Income Tax
- Excise Taxes
- International Trade Taxes
- Retail Sales Tax
- Property Tax
- Motor Vehicle Taxes
- User Charges
- Commercial Ventures

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