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The Architecture of Intergovernmental Transfers: Principles and Practice in Low- and Middle-Income Countries by Roy W. Bahl Jr.

(Chapter 2 in Intergovernmental Transfers in Federations, edited by Serdar Yilmaz and Farah Zahir. Edward Elgar Publishing, 2020.)

INTRODUCTION

There is an economic science to the design of intergovernmental transfers, thanks to the effort spent by scholars in questioning the impacts of transfers on market efficiency (Yilmaz and Zahir, Chapter 3). But there is also an art. Practitioners have spent considerable effort trying to develop efficient, equitable and politically acceptable intergovernmental transfer structures from what is often a poor database. And there is a political economy dimension, where elected officials, bureaucrats and civil society have worked hard to turn the final design of transfers to their self-interest. While much has been learned from all of this (Bahl and Bird, 2018), a 'model' design for intergovernmental transfers has not emerged.

The goals in this chapter are to explain why countries end up structuring their grant systems in so many different ways, and to offer a set of principles that might help with improving the practice. We draw on reviews of the practice and more specifically on the experiences in countries described in the chapters in this book.[1]

This chapter begins with a discussion of the normative guidelines for structuring transfers, comments on the reasons for so much variation in the practice and describes the architecture of intergovernmental transfers. We then turn to a general evaluation of the most commonly used vertical and horizontal revenue sharing regimes, and to the important question of equalization. The focus is on the practice in low- and middle-income countries, and on what might be taken from the development of transfer systems in industrial countries. A concluding section offers a retake on the principles of good design of intergovernmental transfer systems.

NORMATIVE GUIDELINES AND THE ARCHITECTURE OF INTERGOVERNMENTAL TRANSFERS

The primary missions of an intergovernmental transfer system include covering some portion of the vertical fiscal imbalance and limiting fiscal disparities to some acceptable level. But these objectives can also be addressed with expenditure and revenue assignments, and changes in the structure of governance. Under each intergovernmental fiscal arrangement, transfers play a different role and are structured differently to accommodate that role. Universal norms are not easily found.

The fiscal culture also matters in the choice that governments make about their intergovernmental fiscal structures. Almost every country faces reform options that are just not starters. China finances almost all subnational government (SNG) expenditures with transfers and does not have a strong equalization programme (Bahl et al., 2014). Neither does the German system depend on SNG taxing autonomy, but its transfer system features significant equalization (Spahn, Chapter 5). Both countries are willing to accept the absence of incentives to mobilize local revenues, and with a weak model of accountability by elected local officials. On the commitment to a national minimum service level, there is more solidarity in Australia and Germany than in other industrialized countries reviewed here (Dallon and Vaillancourt, Chapter 4). The US is committed to pre- serving subnational fiscal autonomy and competitive federalism.

It does not use untied federal grants for fiscal equalization (Chernick, Chapter 6). In this context of variation in the practice, the architecture of every intergovernmental transfer regime answers three questions, that is, (a) how the divisible pool for total grants is decided, (b) how this pool of funds is distributed across eligible subnational governments, and (c) how much autonomy SNGs will be given in making expenditure decisions. The more common methods of determining the divisible pool (the vertical share) are described in the columns of Table 2.1, and the methods of distributing this divisible pool (horizontal sharing) are presented in the rows.[2]

VERTICAL SHARING

Most countries determine the vertical share by one or both of two methods: a defined sharing of central government tax revenues, and/or a discretionary allocation in the annual central government budget.

Table 2.1 The architecture of intergovernmental transfers

	Vertical sharing	
Horizontal sharing	Specified share of national or state government tax	Annual budgetary decision
Origin of collection (derivation)	A	n.a.
Formula	B	E
Cost reimbursement (matching)	C	F
Ad hoc	D	G

Notes:
For definitions of forms A G, see text.
n.a. = not applicable.
Sources: Adapted from Bahl and Linn (1992) and Bahl and Bird (2018, p. 290).

The Size of the Vertical Share

In theory, the vertical fiscal imbalance is the difference between (a) the amount that SNGs can raise from own-revenue sources if they exert a 'normal' revenue effort and (b) the amount they must spend to provide a 'minimum' level of the government services that have been assigned to them (Bahl and Bird, 2018, pp. 282-5). The gap for all subnational government in the country is:

$$GAP = \sum_i (\tilde{E}_i - \tilde{R}_i) \qquad (2.1)$$

where

$\tilde{R}_i$ = the revenue raised from own sources at normal effort by local government *i*
$\tilde{E}_i$ = the amount of expenditure needed to provide a minimum level of assigned services in local government *i*.

The targeted vertical (VS) – the share of central taxes allocated to subnational transfers – is then:

$$\mathrm{VS} = \frac{\alpha(GAP)}{CR} \qquad (2.2)$$

Where α is the affordability parameter, that is, the per cent of the financing gap that the central government commits to cover with the transfer system, and CR is the total amount of revenues raised by the central government from current sources.

Few low- and middle-income countries explicitly use such a model in deciding on their vertical shares, or even attempt to define exactly what they mean by 'normal tax effort' or 'minimum service provision' . Most decisions on vertical shares are constrained by present levels of SNG expenditures with adjustments relying on a few crude indicators combined with intuition about expenditure needs, and a good sense of the political economy and the slack in the central government budget. Countries tend not to move too far from current levels of SNG expenditures in changing their vertical shares. Interestingly, the Indian Finance Commission awards have increased the vertical share by only about four percentage points of total taxes over the past 15 years (Zahir, Chapter 13).

Some industrial countries have developed approaches to determining the vertical share that are similar to the theoretical model described above. The vertical share for Canada's equalization grant is determined as a sum of provincial entitlements (Joanis and Vaillancourt, Chapter 7). However, in Australia, there apparently has been little interest in restructuring inter- governmental transfers to address the underlying issues regarding vertical fiscal imbalance (Searle, Chapter 9).

Shared Taxes

The shared tax approach is used in many low- and middle-income countries, but the specific practice varies widely in terms of which taxes are shared and the size of the sharing rate. Indonesia shares 26 per cent of all taxes with SNGs, the Philippines 40 per cent, Pakistan 57 per cent and Mexico 20 per cent. In other countries, the sharing rate varies by tax. For example, China shares 40 per cent of income taxes and 50 per cent of value added taxes with provincial governments. Only 15 per cent of Kenya's revenues are mandated to be shared with SNGs.

The practice is similarly varied in the industrial countries. Australia shares goods and services tax (GST) collections with SNGs, Germany and Switzerland share 50 and 13 per cent of income taxes, respectively, with states (lander and cantons) and Japan uses a complicated system of revenue sharing with different sharing rates for several taxes. It is difficult to find a 'common' practice (Kim et al., 2010).

The advantages of this approach in low- and middle-income countries depend on whose glasses one is looking through, and on the specifics of the tax sharing programme that is in place. SNGs as a class can benefit from the shared tax approach, because it could give them access to a broad-based and income-elastic tax base which their central government or their constitution oftentimes denies them. The tax sharing approach is transparent, usually stable enough over time to allow fiscal planning by SNGs and can involve less 'gaming' of Congress to give them a larger share than is the case for a discretionary allocation made by government in the annual budget. To gain these benefits, however, SNGs must accept some of the drawbacks to tax sharing, including vulnerability to changes in central government tax policy. And, unless tax sharing rules are enshrined in the constitution, they can be lowered by the central government.

There also are drawbacks to vertical sharing from the point of view of the central government. In particular, budget management and fiscal policy are made more difficult because SNGs are guaranteed a revenue entitlement.

The Discretionary Budget Approach

The other possibility for determining the vertical share is with discretionary allocations made as part of the budget process. Under this approach, the central government and/or the Congress can determine that a particular expenditure programme, or all SNG expenditures, will be funded by an intergovernmental transfer for the coming fiscal year (or for multiple years). The discretionary budget approach is part of the vertical sharing regime in most low- and middle-income countries. In Kenya, for example, the vertical share for the major intergovernmental transfer programme ('equitable shares') is determined as part of the annual Division of Revenue Act. It is subject to a lower limit of 15 per cent of total national revenues, and may be changed annually (Boex and Smoke, Chapter 15). South Africa takes a similar approach in regulating transfers to subnational governments through the national budget process.

A major advantage of the discretionary budget approach is that it allows specific central programmes to be terminated when they are no longer needed or are no longer meeting their objectives. Sometimes a sunset law is imposed, requiring a thorough review of the programme as a requirement for renewal.

Vertical shares that are established as discretionary budget allocations raise a number of issues. Three are particularly important to note. First, grant programmes tend to be owned, often by a line ministry, and so they may have a champion with enough political clout to keep them in play, even if their effectiveness is questionable. Or, if the champion does not have significant influence, a grant programme might find itself endangered, even if it is meeting its objectives. This raises the unfortunate prospect of viable programmes being discontinued midstream for political or administrative reasons (Shah, 2013). The South African system guards against this problem by managing intergovernmental transfers with a three-year rolling cycle medium-term expenditure framework (MTEF) (Savage, Chapter 16).

A second issue is that grant programmes funded in this way can proliferate in numbers and can lead to significant administrative and compliance costs. The US conditional grants system includes 1714 separately authorized programmes, equivalent in amount to about 17 per cent of all federal spending (Chernick, Chapter 6). Third, the discretionary approach usually supports grants that carry conditions about how the money will- be spent and diverts local budgets from the outcomes that voter-consumers at the local level might have preferred. Searle (Chapter 9) argues that this has led to a steady reduction over time in the autonomy of state governments.

When the vertical share for any major intergovernmental grant pro- gramme in the country is revisited annually by an elected Congress, it is at risk of being heavily influenced by political factors, as may now be the case in Kenya (Boex and Smoke, Chapter 15).

Mixed Models

Because countries are trying to do so many different things with their inter- governmental transfer system, they often use both of these approaches to vertical sharing. The tax sharing approach seems more suited for general purpose aid for SNGs in decentralized countries, because it gives recipients a more or less guaranteed base and tends toward untied grants. The annual budget approach seems

especially suited for conditional grants or special purpose assistance, because these programmes can be more short-lived and lend themselves better to earmarking for individual programmes.

Still, the practice varies widely as the following few examples illustrate.

- India directs intergovernmental transfers to the states with vertical shares based on recommendations made by the Finance Commission, which convenes every fifth year. Parallel to this is a set of 'centrally sponsored schemes', which are multiyear programmes where the funding is decided every year at the time the budget is made (Zahir, Chapter 13; Martinez-Vazquez, Chapter 14; Mathur, 2012).
- China finances provincial and local government budgets with shared income and value added tax collections. But it also funds numerous conditional grant schemes with annual allocations, though the revenue importance of these has been trending downward (Bahl et al., 2014).
- The vertical share in Kenya is determined annually by Congress, but subject to a constraint that it must be at least 15 per cent of national government revenues (Boex and Smoke, Chapter 15).
- The vertical share for Canada's Health transfer programme is funded through a budget allocation that is indexed to a three-year moving average of GDP. The funding for the Social Transfer programme was last set in 2009 and is indexed at 3 per cent per year. The vertical share for equalization grants is determined, bottom up, by provincial entitlements (Joanis and Vaillancourt, Chapter 7).
- At the canton level in Switzerland, the share of revenues received as intergovernmental transfers is 6 per cent from shared federal taxes, 4 per cent from federal equalization, 13 per cent from federal subsidies and specific grants-in-aid, and 7 per cent are contributions of communes for shared competencies (Daffion, Chapter 8).
- Under Argentina's co-participation programme, total transfers to subnational governments are equivalent to about 70 per cent and are allocated as shared taxes. The remaining 30 per cent are a set of transfers authorized by special laws (Larizza and Folgar, Chapter 12).
- Australia's transfer system is about equally divided between discretionary conditional grants and unconditional grants. The growth in untied grants is pegged to national consumption tax revenues, and the growth in conditional grants is pegged to general price increases.

HORIZONTAL SHARING

Horizontal sharing, the second dimension of the architecture of an intergovernmental transfer, is the method by which the central government divides the vertical share among the eligible subnational government units. In practice, countries seem to have followed one or more of four approaches to horizontal sharing: derivation, formula, cost reimbursement, and ad hoc distributions.

Derivation

The derivation approach (Type A in Table 2.1) distributes a shared national tax among SNGs according to where the tax is collected. For example, in China, 50 per cent of domestic value added tax (VAT) collections and 40 per cent of income tax collections in each province are kept by the province where it was collected. The appeal to this approach is that it returns national government tax collections to urban

areas where the investment may yield greater returns, and it finances intergovernmental transfers with more efficient central government taxes.

The most contentious feature of derivation-based sharing is that regions with a stronger economic base will receive more transfer revenue than poorer ones. This reinforces the disparities in the quality of public services and infrastructure that already are better in many regions with a stronger economic base. Paradoxically, countries that use the derivation approach often adopt an equalization transfer to offset the advantages given to the rich provinces. For example, Germany shares 50 per cent of income taxes on a derivation basis, but mostly erases the advantage of higher income states with a sharing of the VAT and a horizontal sharing regime among the states that is equalizing (Spahn, Chapter 5). Switzerland shares 13 per cent of federal income tax collections with cantons on a derivation basis, but also has a significant equalization programme (Daffion, Chapter 8).

Formula Grants

The formula approach (Types B and E in Table 2.1) is probably the most widely used method of horizontal sharing in low- and middle-income countries. An appealing feature of a formula grant is that it offers the possibility of building equalization features into the distribution of transfers. The richer subnational governments might be less enthusiastic about the formula approach since they are home to most of the tax base and may receive less of the transfer pie.

A formula can offer transparency, simplicity and objectivity. But these advantages are not always achieved. Particularly in low- and middle-income countries, data are limited and finding a transfer formula that will do the job is often a stretch. The goal of simplicity is also hard to hold to, in part because well-intentioned 'social engineers' often lobby to insert additional variables into the formula to achieve some particular effect. Horizontal transfer formulae can become complicated to a point where support for them can be eroded. Coppel sees the Australian system as 'fiendishly com- plicated' (Chapter 10), the Argentinean system has long been referred to as a 'labyrinth' (Larizza and Folgar, Chapter 12) and fully understanding the Swiss approach is no easy matter. Most horizontal distribution formulae use indicators that reflect fiscal capacity and expenditure needs. The obvious proxy for fiscal capacity is a broad measure of the potential tax base such as regional or local GDP, or better yet, bases of SNG taxes, but many developing countries do not have good measures of either.

The expenditure needs focus is also common. Many countries have landed on the goal of giving the formula 'common sense elements' that the general population can identify with, for example, the higher cost of providing public services in more remote Indonesian provinces, or the special needs of Indian rural local governments with heavy concentrations of poverty, or simply the belief that population size is a good indicator of expenditure needs. In the end, the variable used to take account of the needs-resources gap is rough justice at best.

While there are common elements to the formulae in low- and middle- income countries, the approaches taken vary a great deal. Brazil's intergovernmental transfers are structured with different sharing rates for each tax, and extensive earmarking. The long-term trend has been to move toward a formula-based distribution of transfers (Wetzel and Vifiuela, Chapter 11). Mexico's unconditional transfers are distributed under eight different heads, each with a different formula; and Ethiopia's includes 14 indicators of expenditure needs and fiscal capacity. Over 90 per cent of South Africa's transfers to provincial governments are allocated on a basis of population size, health care needs and

education sector needs (Savage, Chapter 16). In the first six years of the operation of Kenya's equitable shares grant, Congress has prepared two horizontal distribution formulae. More than 80 per cent of the revenues are distributed according to population size, equal shares and poverty (Boex and Smoke, Chapter 15).

There is also variation in the approach taken in the industrial countries in this sample. Canada's health and social transfers are allocated across provinces on an equal per capita basis (Joanis and Vaillancourt, Chapter 7). The VAT transfer is distributed across states in Germany on a per capita basis (Spahn, Chapter 5). The horizontal sharing formulae for the equalization grants in Switzerland and Australia are structured to close the gap between resources and needs. The Swiss revenue capacity equalization fund is distributed by a representative tax approach, and the two expenditure equalization components by formula (Daffion, Chapter 8).

Cost Reimbursement and Matching Grants

Cost reimbursement grants (Types C and F in Table 2.1) usually are earmarked for a particular function. The practice with respect to cost reimbursement grants is varied, both in terms of the objectives sought and the structure of the grants. In Nepal a conditional grant funds the salaries of central government employees that were transferred to the newly formed local governments. Another justification is to compensate for an activity that the centre fears the subnational government cannot afford, or for which the central government feels some degree of responsibility, for example, medical assistance to low-income families in the US, or compensation for the abolition of a local tax. The cost reimbursement approach may also be used to support programmes of the line ministries, for example, matching grants for India's rural development schemes.

Ad hoc Transfers

Finally, some intergovernmental transfers are distributed on an ad hoc basis by the legislature or by the central government (Types D and G in Table 2.1). Ad hoc grant programmes exist in most countries and are roundly criticized for their lack of transparency and susceptibility to corruption. But they survive because they are a way for the central government or the Congress to build their support base.

One version of ad hoc grants would have subnational governments compete for funding from a special pool of funds, with the higher-level government choosing those projects to be funded. Ad hoc grants may also take the form of emergency (off-budget) year-end bailouts for regions in trouble, or special support to troubled regions. Some countries, like India, have given legislators an allocation to be spent at their own discretion. The discretionary grants used in the Argentine transfer system, which could be used as conditional transfers to attack specific sectoral objectives, in practice are used as a tool of political bargaining (Larizza and Folgar, Chapter 12).

EQUALIZATION

It would be rare to find an intergovernmental transfer system in a low- or middle-income country that does not include equalization as a prominent goal for its intergovernmental transfer system. Yet, research in this area suggests that many low-income countries do not do a very good job with narrowing fiscal disparities or favouring poor regions with their distribution of transfers.[3]

Many explanations might be offered for this policy failure. Central governments and parliaments do not begin the design of an equalization programme with a precise statement of the ultimate objective, usually avoid the guaranteed minimum service level question, work with inadequate data and rarely monitor outcomes. In the end, a rough justice approach is taken, with an equalization variable included in the grant distribution formula to reflect the general level of economic and service level well-being of local populations.

Dallon and Vaillancourt (Chapter 4) argue that the approach has been flawed and call for a 'second generation' approach that better integrates expenditure needs and revenue capacity factors into the horizontal equalization approach. Martinez-Vazquez (Chapter 14) makes a similar argument with reference to equalization transfers in India.

In fact, the approach to equalization taken by the countries in this volume show a good deal of variation. The South African equitable shares grant is distributed among local governments according to a formula that provides enough funding for provision of basic services to poor households (Savage, Chapter 16). During the first five years of the devolution in Kenya, the horizontal allocation formula distributed considerably greater resources to the undeveloped and less (densely) populated counties (Boex and Smoke, Chapter 15). On the other hand, the co-participation transfers in Argentina do not show a significant impact on regional re-distribution (Larizza and Folgar, Chapter 12). While the education and health transfers in Brazil favour lower income states, the minimum supported levels are low, and wide disparities among the states continue to exist (Wetzel and Vifiuela, Chapter 11).

The experience with equalization in the industrial countries studied here brings some good lessons, though the transferability is limited because the context is so different than in low- and middle-income countries. Industrial countries tend to have a clearer policy to define what they want from their equalization system, and they have a longer experience with intergovernmental transfer regimes. The existing level of fiscal disparities tends to be less, better data are available with which to develop creative formulae, and the fiscal culture is more likely to accept a complicated regime of intergovernmental fiscal transfers. But, like the lower income countries, they must balance the gains from equalization with political considerations.

Most of these countries attempt equalization on both the revenue capacity and expenditure needs dimensions of the budget. Though Canada is committed to equalization, and its basic approach to fiscal capacity equalization is consistent with good international practice, its efforts in this direction have weakened in recent years (Joanis and Vaillancourt, Chapter 7).

Swiss cantons receive about 30 per cent of revenues from intergovernmental transfers, but equalization transfers account for only about 4 per cent (Daffion, Chapter 8). The system of equalization transfers adopted in Switzerland in 2008 includes three separate components: revenue capacity equalization, expenditure needs equalization, and a transition fund to accommodate those burdened by the shift to the new system.

The intergovernmental transfer system in Germany is structured to achieve horizontal fiscal balance. The national VAT is distributed among the states according to population, and state government revenues are reallocated among the states according to fiscal capacity (Spahn, Chapter 5). In Australia, the distribution of untied grants to the states is managed by the Commonwealth Grants Commission (CGC). In 2010, the equalization objective was redefined to say that state governments should receive funding such that,

after allowing for material factors affecting revenues and expenditures, each would have the fiscal capacity to provide services and the associated infrastructure at the same standard, if each made the same effort to raise revenue from its own sources and operated at the same level of efficiency (Searle, Chapter 9).

The US is the outlier in this group in that it has no general purpose equalization grants. The approach to equalization is to subsidize SNG provision of merit goods, using matching or block grants. Overall grant distributions have moved toward favouring rich states because of their higher Medicaid expenditures (Chernick, Chapter 6).

Evaluations of the impacts of the intergovernmental transfer system are more common in industrial countries, in fact it is legally required in the Swiss system (Daffion, Chapter 8). There is a system in place to manage and evaluate horizontal fiscal equalization in Australia, though it now may involve the national treasury as well as the CGC.

The fiscal capacities of German and Australian states are significantly levelled by vertical and horizontal transfers (Spahn, Chapter 5, and Coppel, Chapter 10). Australia is the only OECD country that takes the objective of fully eliminating disparities in fiscal capacity (Coppel, Chapter 10). In the Swiss system, seven cantons with taxable capacity above the national average contribute to the equalization pool, and post-distribution, all cantons are levelled at 85 per cent of the national average (Daffion, Chapter 8). The extent to which the expenditure needs formulae contribute to equalization are less clear.

CONCLUSIONS: GUIDELINES FOR STRUCTURING HORIZONTAL AND VERTICAL SHARING

No single 'model' regime for intergovernmental transfers has emerged from the practice in low- and middle-income countries. This is partly because these governments have shaped their intergovernmental fiscal systems in different ways, partly because they do not have the data to develop a proper approach, and partly because they do not have the political mandate to make the sweeping and sensitive changes that might be necessary. But even within this wide variation in the practice, there are some more or less universal principles that can help guide the practice. These are outlined below.

1. The place to begin in designing (or reforming) an intergovernmental transfer regime is with a policy outlining the objectives that the government wants to achieve. 'How much vertical fiscal balance and how much equalization is desired, what incentives will be imbedded in the system, and how much autonomy will be released to the SNGs' are the kinds of questions that will be answered by government with its policy and its laws.
2. The intergovernmental transfer system should be designed, or reformed, in a context of the overall system of intergovernmental finance. Expenditure and revenue assignment, and capital finance, all will impact the choices made for the best design of the grant regime.
3. The maintenance of the intergovernmental transfer regime is as important as the design of its architecture. Governments could greatly benefit from an intensive review of the system, carried out periodically by an apolitical, professionally staffed research cell. Governments should redouble their efforts to provide a database that can support the work of the evaluation unit.
4. There is no one best way to structure the vertical share of intergovernmental transfers. In fact, some valuable diversity comes from using both the shared tax and the discretionary budget

approach. Tax sharing is well suited to support general expenditure programmes for subnational governments in that it can provide access to a broad and income-elastic tax base, and it tends not to carry spending conditions. The annual budgetary approach to vertical sharing fits conditional grants and special purpose transfers because of their special conditionalities and monitoring requirements. While they can be structured as multiyear programmes, they should be structured to face a sunset at which time their continuation would depend on a full evaluation.

5. The right choice for horizontal distributions depends on the objectives the government has set down for its grants system. The derivation approach puts the funds back to the richer p laces where presumably the greatest return can be received from the transfer, but it favours rich subnational governments to such an extent that a significant equalizing transfer programme is necessary to undo the equity damage. Many low- and middle-income countries pair a shared tax approach to vertical sharing with a formula approach to horizontal sharing.
6. Formula systems for horizontal sharing should follow the objectives laid out in government policy. They should be monitored regularly and changed as better data become available or when the formula becomes compromised by political considerations.
7. Intended and unintended incentives are present in almost all inter- governmental transfer systems and should be reviewed periodically to understand their effectiveness and impact.
8. The equalization component of intergovernmental transfers should be subjected to comprehensive, regular review. The benchmark for evaluation should be the government's policy statement about the goals of equalization.

NOTES

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[1] This chapter draws heavily from Bahl and Bird (2018), Chapter 7, where there is a more in-depth and comprehensive discussion of this topic, and where more extensive referencing is provided
[2] This taxonomy of intergovernmental transfers was first developed in Bahl and Linn (1992) and was enhanced and upgraded in Bahl and Bird (2018, p. 290).
[3] For reviews on this, see Bahl and Bird (2018) and Mathur (2012). For a more positive view about the effectiveness of second-best solutions, see Boex and Martinez-Vazquez (2007).

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