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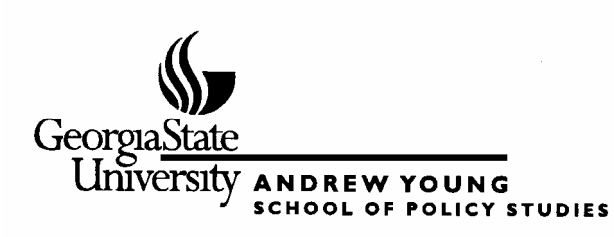

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Earmarking in Theory and Korean Practice[*]

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Abstract

In the first part of this paper we present a non-technical analysis of earmarking. We then briefly review some international experience with earmarking and its apparent results. The main new contribution of the paper is the concluding description and evaluation of the nature, efficacy, and effects of earmarking in Korea.

Earmarking – assigning revenues from designated sources to finance designated expenditures – is an old and popular practice in many countries around the world. In Section 1, we set out a taxonomy of earmarking to set the stage for discussion in Section 2 of the reasons why countries might decide to earmark particular revenues. In Section 3 we review briefly some international experience with earmarking and its apparent results. Against this general background, in Section 4, the main new contribution of the paper, we describe the perhaps surprising amount of earmarking in Korea and present a preliminary evaluation of its efficacy and effects. A brief Section 5 concludes.

Keywords: earmarking; benefit taxation; Korea

JEL codes: H29, H59

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1. The Three Faces of Earmarking: The Good, the Bad, and the Irrelevant

A necessary first stage in understanding any institution that is as complex in practice as fiscal earmarking is to establish a meaningful taxonomy to distinguish and relate the many different varieties of earmarking found around the world. A useful starting point in this exercise is Table 1, drawn from Bird (1997), which categorizes eight distinct types of earmarking with reference to three different aspects of the way in which taxes and expenditures are connected -- the degree of specificity of the expenditures involved, the strength and nature of the linkage between the earmarked revenues and the expenditure, and whether or not there is an identifiable benefit rationale for the linkage. The meaning of some of these terms may be made clearer by considering the different types of earmarking set out in Table 1 in turn, as follows;

- Type A is both the strongest and in economic terms the best and most rational form of earmarking depicted in Table 1. The revenues earmarked come directly from those who benefit from the expenditures to which the revenues are directed. An example might be a self-financing public enterprise such as a water supply company, in which revenues from the sale of the service - and only those revenues – are use solely to finance the activity.

- Type B earmarking, in contrast, may as specific as Type A in terms of which revenues are earmarked for which purpose - gasoline taxes for highway expenditures, for instance - but the linkage between revenues and expenditures is considerably looser in the sense that the amount of expenditure is not necessarily increased if revenues from this source increase, nor is it necessarily reduced if revenue falls. Like most of the categories set out in this table, Type B encompasses a range of cases. At one extreme, in which the earmarked tax contributes only a small proportion of the total expenditure on the activity, such earmarking may have no practical effect. At the other, it approximate closely to Type A as described above in terms of both rationale and effectiveness: some ‘road funds’ (discussed later) may fit this description. Except in this last case, however, although Type B earmarking may be sensible in economic terms, its effects are usually inframarginal and hence economically irrelevant.

- Type C earmarking is similar to Type A except that the designated expenditure area is less narrowly defined. Many social security systems broadly fit this description, with clearly defined payroll taxes financing a range of social payments - pensions, maternity benefits, sick pay, etc. Even if the amount spent in total is strictly restricted to the amount raised by the earmarked tax (which is of course not always the case), the amount spent on any one benefit, let alone for any one contributor, is not specifically related to the revenues received. Such earmarking may thus be effective and (at least loosely) rational in economic terms; or, depending on its precise characteristics, it may be neither rational nor effective.

- Type D earmarking is analogous to Type B in that there is a conceivable group 'benefit' connection, but the connection between the taxes collected and the expenditures made in the broad area for which the revenues are earmarked is quite loose. For example, some might argue that tobacco taxes should be earmarked for health expenditures because smokers both pay tobacco taxes and benefit disproportionately from health care outlays --although this argument is not really correct, since because smokers die at younger ages they are, on average, likely to impose lower costs on public health systems than non-smokers (Cnossen and Smart, 2005)

- Type E earmarking may be as tightly linked as Type A to the expenditure it finances, but it does not have even a vestige of a benefit rationale. For example, it may be politically attractive to direct revenues from environmental taxes to expenditure related to the environment but it is not economically logical to do so since there is no necessary or logical connection between those who pay the tax and those who benefit from the expenditure.[1]

- Type F earmarking similarly has no benefit rationale. In addition, as with Type B, the connection between the revenue (e.g. a payroll tax) and the general area it is supposed to finance (e.g. health) is loose in the sense that the amount spent on the area is not affected

[1] The beneficiaries from the expenditure may in this case be those who were hurt by the action giving rise to the tax payment, but this is a different argument, to which we return later.

by the amount collected from the tax. Such earmarking is thus neither rational nor effective in economic terms.

- Type G earmarking is even further removed from any conceivable benefit rationale although in this case the yield of the earmarked tax may strictly determine the amount spent of the designated expenditure area. Such earmarking is common, for instance, in so-called 'revenue sharing' arrangements in which the amount of revenue collected by some national tax (or set of taxes), and only that revenue, is distributed to sub-national governments. An example of Type G (in which the yield of a non-benefit tax strictly determines the amount spent on a particular outlay) is thus when a fixed share of income (or other) tax revenues is used as the sole source of finance for transfers to local governments. For the most part, however, we shall not further discussed such 'earmarked' transfer funding here.[2]

- Finally, Type H earmarking may be spent in some similarly 'general' fashion but the amount actually spent is only loosely, if at all, related to the amount collected from the earmarked tax or taxes. A common example is the earmarking of taxes collected from liquor or lotteries to such worthy causes as education and health. 'Laundering" money in this way from sources that some may consider disreputable may perhaps to some extent make such taxes a bit more politically acceptable - though this rationale seems weak when it comes to such 'sin' taxes since it is precisely such taxes that generally give rise to the least political resistance in any case . But it definitely has no economic rationale and generally no real economic effect.

In addition to the three dimensions of earmarking considered in Table 1, there are of course many additional questions that need to be answered with respect to any particular example of earmarking before its real nature can be fully understood. For example:

- Are the earmarked revenues channeled through the budget or do they go directly to the recipient institution(s) in some off-budget fashion?

- Are the revenues collected by the government or directly by the benefiting institution, as is usually the case with enterprise revenues and often also true with respect to payroll taxes for social security?[3]
- Is the earmarking for a fixed time period or indefinite?
- Is the rate of the earmarked tax fixed or subject to change as part of the normal budgetary process (in which case the 'earmarking' has no real significance)?
- Must the earmarked revenues be spent in the period in which they are received?

Within the house of earmarking, even within any one country, there are thus often many different rooms. Generalizations with respect to either the virtues or vices, of earmarking are thus of little use unless we define carefully exactly what we mean by the term with respect to all the various characteristics mentioned.[4]

Focusing for the moment only on the taxonomy set out in Table 1, one can broadly distinguish two approaches to earmarking which have very different fiscal implications. The first approach, again following Bird (1997), we label *substantive* earmarking. In effect, substantive earmarking operates as though the earmarked revenues flow into a special fund and are the sole, or at least at the margin the incremental, source of funding for a particular expenditure item. This form of revenue-expenditure linkage has what Rajkumar (2004) calls 'bite' in the sense that what happens to revenues has a direct effect on expenditures: an increase in revenues means an increase in expenditures on the linked service and a decrease in revenues means a decrease in expenditures, more or less on a dollar for dollar basis. Types A, C, E and G in Table 1 work like this to a greater or lesser extent since, in the terms used there, the linkage between expenditures and revenues is 'tight." The 'good' earmarking mentioned in the title of section 1, and discussed in more detail in section 2.1.1 below essentially consists of Types A and C,[5] where there is both a benefit rationale

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[2] See Bird (2000) for some discussion of such transfers.

[3] It may be argued, for example, that when an agency is responsible for collecting revenues that it can use for its ow n purposes, it is more likely to take the job seriously and do it well.

[4] We should perhaps note that 'earmarking' is sometimes given a much broader definition that adopted for the most part in this paper: for example, there is what may be called 'expenditure earmarking' (under which a fixed percentage of all expenditures must be devoted to e.g. education or the judiciary) as well as the (implicit) earmarking owing to the division of government into separate units (sub-national governments, public enterprises, agencies, funds, and various sorts of 'off-budget' institutions), each with a designated set of revenue sources and expenditure responsibilities. We discuss a few aspects of such arrangements later but they are not our main concern here.

[5] And perhaps also Type B when, as mentioned earlier, it approximates closely to Type A.

for the tax-expenditure linkage and that linkage directly impacts on expenditures. On the other hand, in economic terms– if not necessarily in political terms, as discussed in section 2.1.3 below, - Types E and G are 'bad' earmarking precisely because they affect budgetary allocations but have no benefit rationale.

All the other types of earmarking set out in Table 1 fall for the most into the second broad category, which we call *symbolic* earmarking. Because none of Types B, D, F, or H directly affect how much is spent on the expenditure items to which they are linked, such earmarking is, in economic terms (but again not necessarily in political terms) 'irrelevant.' Certain taxes (or charges) may formally be designated as paying for particular services, and the funds collected may actually go to these activities, but the revenues from these taxes, whether or not designated as a 'special fund', might as well flow into the general fund since they finance only some of expenditures on the service in question and hence have no economic 'bite', even when (as with Types B and D) there may in principle be at least some benefit rationale for the earmarking. In contrast to substantive earmarking, the marginal expenditure decision with symbolic earmarking thus remains firmly in the hands of the budgetary authorities. The earmarking is, as it were, strictly window dressing.

As with almost anything else one may say about earmarking, it is far from simple to categorize real-world examples of earmarking as either clearly substantive or simply symbolic. For example, with respect to 'green taxes' there may be some loose association between greater environmental spending and the collection of more revenue from taxes linked to the use of the environment (Type E), but neither is there anything automatic about this relationship, as in the case of substantive earmarking, nor is such a linkage necessarily economically efficient as, we shall argue, it would be in the case of earmarked benefit taxes. In reality, it is usually very difficult to determine empirically just how effective such loose earmarking actually is in terms of increasing expenditures in any particular area owing to the fungibility of money, which makes it a tricky exercise to distinguish the extent to which earmarked funds are genuinely incremental rather than simply a substitute for funds that would have been spent in any case.

2. Earmarking in Theory

As turns out to be depressingly common when one examines in detail many fiscal institutions – another example is the 'revenue-sharing' mentioned earlier -- that exist in a variety of forms around the world, neither theory nor empirical research as yet provides us with as much guidance when it comes to earmarking as might be hoped. Earmarking has existed since the earliest recorded fiscal practices (Webber and Wildavsky, 1986), at first perhaps in lieu of any other budgetary system and more recently because both politicians and taxpayers seem often to find earmarking to be an attractive and feasible way in which to finance social security, road works, education, environmental programs, and other good things. Politicians like earmarking as a means of reducing taxpayer resistance to higher taxes, and taxpayers like the greater accountability they perceive with respect to how their tax dollars are spent. Economists, however, have come only lately to the table when it comes to understanding and analyzing this common fiscal practice.

The first economists to pay serious attention to earmarking were those concerned with budgeting, who almost unanimously concluded it was a bad thing, essentially because – as an unfriendly critic might say – they appeared to believe that the alternative was that budgetary decisions would be made by some 'benevolent dictator' who could and would maximize social welfare in the process. More charitably, these experts saw the mess that rampant earmarking had created and realized that no rational budgetary process was conceivable unless the ground was first cleared by getting rid of earmarking. (As discussed in section 3.4 below, we would ourselves say much the same about China today.) In any case, around the same time, the leading tax experts of the day assumed, almost unanimously, that their main task was essentially to design a tax system that would allocate fiscal burdens in accordance with (someone's notion of) 'ability to pay.' They thus did not think it important to consider any possible role for benefit taxation.

This orthodox public finance approach remained essentially unchallenged until James Buchanan (1963) revived the important efficiency argument made much earlier by Wicksell and Lindahl in favor of establishing as tight a linkage as possible between taxing and spending decisions through such devices as earmarking.[6] Since then, a small but steady stream of literature

6. Interestingly, although Musgrave (1959) in many ways represents the culmination of the traditional approach to public finance analysis, from his first published paper (Musgrave, 1938) he has repeatedly noted that in principle

has examined the economic argument that earmarking is not, at best, a kind of second-best way of securing political consent for a necessary fiscal increase but rather in principle the *best* way we know to deal with the fundamental normative problem of public economics -- how to provide people with the public services they really want - where 'want' is interpreted in the only economically relevant sense of what they are (collectively, as determined through their political institutions) willing to pay for.[7]

We shall first summarize the theoretical arguments that have been made for certain forms of earmarking and then consider some arguments that have been against earmarking.

2.1 The Case for Earmarking

2.1.1. The Benefit Rationale. In principle, the case for earmarking is strongest when there is a close benefit link between the payment of the earmarked tax and the use of the revenues to finance additional expenditures. If properly done, such benefit-related earmarking reveals taxpayer preferences for public services, sending a clear demand signal to the public sector about how much of the public service should be supplied. Moreover, since the revenues received are spent on the service in question, supply is automatically adjusted to demand and economic efficiency is achieved. Such earmarking may also be considered equitable in the sense that no one either receives a service without paying for it or pays without receiving service.. Provided the public service in question resembles a privately supplied service in the sense that both an individual's consumption of the service and the marginal cost of providing the service can be satisfactorily measured, most people would probably consider user charge or benefit-tax payment fair in such cases, apart perhaps from general distributional concerns when it comes to very low-income persons.[8]

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earmarking constitutes a theoretically superior approach to budgeting, although he has always been careful to specify the important limitations this approach generally encounters in practice. Given the very different philosophical stances they have adopted on many issues (as set out clearly in Buchanan and Musgrave, 1999), this remarkable agreement on the theoretical superiority of earmarking by the two intellectual "fathers" of most modern public finance - Buchanan and Musgrave – is particularly noteworthy.

7.Examples of such arguments to varying degrees may be found in e.g. Goetz (1968), Browning (1975), Oakland (1985), Teja (1990), Wagner (1991), Breton (1996), Brett and Keen (2000), Bos (2000), and Dhillon and Perroni (2001).

From this perspective, such earmarking is not only good but actually essential for the efficient utilization of public sector resources. Its virtue is that it establishes a different budgetary process from the alternative of general-fund financing prescribed by most budgetary experts, under which all government revenues flow into one big pot and all government expenditures are made out of this pot. In that system, taxation and expenditure decisions are made separately and no linkage exists between the revenues generated by any particular tax and the level of expenditure on any particular activity. With such general fund financing, if a government wishes to increase spending on any activity, to the extent that preferences are affected by how a particular program is financed, citizens will have no rational basis for knowing the true costs of any particular expenditure decision and hence fully informed budgetary decisions cannot be made.[9]

In contrast, with strict earmarking the sequence of revenue and expenditure decisions is essentially reversed: revenue collections drive expenditure levels. Since taxpayers are aware that when certain tax (or user charge) payments are extracted from them the funds will be used to pay for certain kinds of expenditures, they will presumably support the charges if and only if they support the expansion in the supply of government services for which the earmarked revenues are targeted. In principle, both tax and expenditure decisions may thus be made more rationally than under general fund financing.

Of course, how well such a system works in the real world depends upon many things, and it is not surprising that in reality perfection seems seldom to have been achieved. Among the reasons that may be suggested for the relatively disappointing experience observed in practice are the cost and difficulty of controlling many separate funds (Fullerton, 1995), the inappropriateness of many of the linkages that have been established for political reasons between particular revenues and expenditures (McCleary, 1991), and the understandable resistance of citizens to attempts to charge properly for services that initially were provided ‘free’ or at highly subsidized prices (Bird and Tsiopoulos, 1997).

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[8] Partial earmarking may be appropriate even if consumption of a particular public service generates external benefits for other households although of course in the limiting case in which the service is a pure public good and the marginal cost of extending service to another household is zero, there is clearly no role for either user pricing or earmarking .

[9] See Bird (2005) for more detailed examination of the linkage between financing and expenditure evaluation in the context of benefit-cost analysis.

In addition, as noted in section 2.2.1 below, it is of course more difficult to have a coherent fiscal policy if governments no longer have the ability to determine some major expenditures and revenues. The fear of budgetary rigidity as a result of earmarking is often exaggerated, however, since the degree of constraint on expenditures may be more apparent than real, for instance, when it is possible to change the rate of an earmarked tax, or when, as is often the case, earmarking is more symbolic or notional than substantive. Moreover, when earmarking is both substantive and rational (Types A and C in Table 1), the fact that governments cannot alter outcomes is, by definition, a desirable constraint on their actions. This does not mean, of course, that most of the earmarking found around the world makes sense. As we discuss in Section 3, it does not. Nonetheless, it is important to understand that is a very strong case in at least some limited instances for the right kind of earmarking.

2.1.2 .The Contractual Rationale. Properly designed earmarking may also in certain circumstances be an effective way to enforce an inter-temporal agreement (Teja, 1990). Suppose, for example, that an earmarked excise tax on chemical stocks is levied to finance the clean-up of toxic chemicals. Unless the proceeds of the tax are strictly earmarked for this purpose, taxpayers in 'clean' areas might resent having to pay for improving 'dirty' areas. Unless those living in the areas that benefit from clean-up are reciprocally bound in their turn to finance any future costs of cleaning up areas that may subsequently become contaminated, nothing may ever be cleaned up because no one is willing to pay for benefiting others without a firm commitment that they themselves will be looked after in the future, if necessary. If earmarking is seen as a way of insuring that funds will be available for clean-up no matter when such funds may be needed in the future, it may provide a acceptable political solution and overcome the 'incomplete' contracting problem that would otherwise exist, in effect by increasing the political costs to future governments of breaching the contract (Cremer, Estache, and Seabright, 1995).[10] Such contractual (or quasi-contractual) arrangements may make most political and economic sense when there is some logical connection between the revenues and expenditures thus linked. Examples of earmarking that may to some extent be justified along these lines are not only some

[10] For a related approach, stressing that in some instances earmarking may provide voters a way to pin down politicians about whom they are uncertain and politicians a way to 'signal' their concerns to voters in a credible way, see Brett and Keen (2000).

enviromental taxes and expenditures (Type E in Table 1) but also various forms of road user charges (Type B), as in the case of 'road funds' (Gwilliam and Shalizi, 1999).

2.1.3. The Political Economy of Earmarking. By definition, symbolic earmarking – as with Types F, G, and H in Table 1 - has no clear economic rationale. It may, however, make good political sense, at least when it is first put in place. When, for example, a government imposes a new payroll tax and calls it a Health Tax even though the funds flow into the general budget and have absolutely nothing to do with how much is spent on health, such labeling is clearly for political purposes only. A particularly egregious example is when something like a tobacco taxes or lottery revenues is 'earmarked' to, say, education. Not only is there no logical link between smoking or gambling and education, but there is also almost never any budgetary link either. How much is collected from the designated source and how much is spent on the designated activity is decided independently. This may be just as well, of course, since the craving for nicotine or the lure of chance has absolutely no connection to the need for public education finance. Such linkages simply make no sense, and their only possible rationale seems to be for revenue enhancement (Rajkumar, 2004) e.g. by capitalizing on the presumed 'halo effect' of some popular expenditure to justify the imposition of additional taxes.

Apart from its role as misleading advertising, such earmarking may perhaps also be motivated in some instances by rent-seeking behavior and be promoted by those who expect to benefit by securing more reliable funding for their favored expenditure. To illustrate, a decreasing number of North American adults smoke and most of them probably feel increasingly guilty about doing so. An increase in tobacco taxes with the proceeds earmarked for increased health spending would thus likely receive support on all sides: from non-smokers, who would not pay the tax,; from smokers who feel guilty about smoking and are worried about the health consequences of smoking; and also, of course, from the very large number of people who are engaged in the health business who would (one assumes) not only really believe that higher taxes on tobacco and more spending on health are both positive things but also (no doubt subconsciously) think that they would be clear gainers because health spending would increase as a result – which of course need not necessarily be the case. How can any politician be expected to resist such a win-win combination even though most studies (e.g. Cnossen and Smart, 2005) suggest that tobacco taxes

are both highly regressive and already, in many countries, higher than can be rationalized on any externality arguments?[11]

Of course, what is earmarked for one use today may always be diverted to an alternative use tomorrow as competing rent seekers continue to struggle for budgetary gain. If, for example, a tax on motor fuel is earmarked to pay for highways, groups interested in raising safety standards and reducing speeding may soon be successful in including highway patrol costs in the expenditures made for highways. Other groups may strive to include, say, rail passenger transport or urban mass transit within the favored expenditure category. As many (e.g. Bird, 1976) have argued, such extensions may indeed make sense in many instances, but the main point here is simply that what is 'contracted' with a government today and what is delivered by the (same or different) government tomorrow may differ substantially. In politics, since almost nothing is forever, no contract is ever 'complete'.

Nonetheless, even in situations in which people feel overtaxed and are inclined to resist strongly attempts to raise general taxation, new earmarking initiatives may be welcomed for a number of reasons. A very few may view earmarking as the rational choice mechanism it can be under certain conditions and welcome the opportunity to exert greater control over how their tax dollars are spent. Others may perceive an opportunity to engage the public sector in redistributive activities favorable to themselves. Still others may support earmarking as a way of protecting at least to some extent from future political whims some activity that they support, although the logical case for thus facilitating the imposition, as it were, of the 'dead hand' of past political compromise on future political decisions is by no means obvious. And finally still others may simply accept new taxes allegedly supporting something they like, not knowing that it is chimerical. Governments may both wish to impose their decisions on their successors through earmarking and also to enhance their revenues by selling new taxes by creating the illusion that the funds collected will lead to greater expenditures on popular programs. In the end, however, although such earmarking may appeal to politicians as an easy source of new revenues, if it is really nothing but fiscal sleight-of-hand and if one believes that in the long run one cannot fool all

[11] Of course, earmarking tobacco taxes to health programs can be rationalized to some extent on 'benefit' grounds but doing so seems unlikely to have any significant effect on health spending in most countries. On the other hand, earmarking such taxes to e.g. 'anti-tobacco' advertising campaigns may significantly increase the flow of funds to such activities (Jha and Chaloupka, 2000, chap. 10).

of the people all of the time, governments seem unlikely to be able to sustain through such means higher revenue levels than would otherwise be achieved.[12]

2.2. The Case Against Earmarking

2.2.1. The Budgetary Argument. Perhaps the most general argument against earmarking of any variety is, as already mentioned, that it leads to inefficient budgeting, essentially because it creates rigidities into the expenditure allocation process and prevents authorities from smoothly reallocating funds when spending priorities change. This criticism is both correct, and incorrect. It is correct in that escaping from the rigidities of the budgetary control system and insulating the favored expenditure from budgetary discipline is precisely what many proponents of earmarking have in mind. "Off-budget" often means "out of sight and out of mind." It is also correct, as already noted, when earmarked revenues become so large a fraction of total revenues that some loss of macroeconomic and budgetary control is inevitable and it becomes difficult for governments to implement policy changes – a situation that, for example, has been argued to have occureed in the case in countries such as Colombia (Comision de Gastos, 1996) and Brazil (Rajkumar, 2004).

Although, as noted in section 2.1.1. these arguments can be countered when earmarking is both rational (benefit-linked) and substantive (effective at margin), they carry much more weight when it comes to the many examples of what we called above symbolic or notional earmarking to be found around the world, particularly when such earmarking actually has substantive effects. With such earmarking, it is often correct to say that there may be undesirable results in terms of reducing budgetary accountability. However, this conclusion really follows only when two conditions are met. The first is that in fact the earmarking affects the amount spent in some significant fashion, which does not often seem to be true with such earmarking with the notable exception of Type G revenue-sharing arrangements like those that lie at the root of the perceived problems in Colombia and Brazil. The second condition is that there is fact a serious attempt to appraise and assess general budgetary expenditures, a condition seldom satisfied in countries in

[12] A possible exception that deserves exploration might be when the central tax administration is, for reasons that cannot be readily corrected, weak while separate 'earmarked' tax administrations, which in effect can keep what they collect, can do a better job – a situation that one might argue may exist in some countries with respect to social security taxes. In such cases, 'official tax farming' as such earmarking might perhaps be called may indeed permit a sustainable expansion of public sector activities.

which earmarking is common. Indeed, although this hypothesis has not been tested (and it is not easy to see how it could be tested),it might be suggested that those who criticize earmarking as causing poor budgetary practices have got it backward. It is precisely because general budgeting and expenditure control is so bad that earmarking has become so common in some countries.[13]

2.2.2. The Distributional Argument. Imposing user charges on consumers of publicly-provided services is perhaps the most obvious variety of rational of earmarking (Type A) whether it is done directly by a government department or indirectly through the agency of a public enterprise. In practice, however, much less use is made of such charges by the public sector than seems warranted in most countries, in part because user charges are often thought to produce adverse distributional effects. If a service that was previously provided free of charge to everyone will now extract the same payment from everyone who uses it, how can user charges not hurt low-income households? One answer is that in many countries it is higher-income households frequently benefit disproportionately from the consumption of free, or low-cost, public services (Bird and Miller, 1989). Flat-rate water charges, for example, favor households with large lawns to water and multiple vehicles to wash. More importantly in many developing countries, failure to charge full-cost university tuition fees clearly results in an 'upside down' subsidy to the rich from the poor. Because university students are disproportionately drawn from the ranks of upper-income families, and costs not covered by tuition are financed from general revenues, numerous studies have shown that university spending generates significant income redistribution from the poor to the rich.[14] Increasing tuition charges would thus be a highly progressive move. In short, while the distributional aspects of particular earmarking proposals deserves attention, there is certainly no general distributional argument against earmarking.

2.2.3. Earmarking May Not Work.. Finally, earmarking simply may not work as its proponents (or opponents) expect. On one hand, if earmarking is rational and substantive the result may well be to shrink rather than to expand the size of public revenues and expenditures, as it turns out people are not willing to pay for as much of whatever it is as had been previously assumed. On the other hand, even if earmarking is introduced strictly for its 'sales' potential as a means of increasing revenues in general, it may not be successful. To some extent, revenue

[13] As Goode (1984, p.12) says: "The prevalence of earmarking indicates a lack of confidence in the governmental system and the budgetary process."

[14] See, for example, recent detailed studies of this issue in a number of African countries reported in Castro-Leal et al., 1999 and Sahn and Younger, 2000.

collection depends on voluntary tax compliance, which in turn depends on 'tax morale' which itself depends in part on the use made of the tax revenues. If people like how they think their taxes will be spent, they seem to be more willing to pay (Bird, Martinez-Vazquez, and Torgler, 2004). Symbolic earmarking – linking taxes (bad) to favored expenditures (good) may then indeed increase revenues. On the other hand, some studies (e.g. Alm, Jackson and McKee, 1992) suggest that uncertainty about the tax system may also increase compliance by risk-adverse taxpayers. Combining these two findings, in the uncertain environment of many developing countries increasing people's certainty about taxes and expenditure through earmarking may to some extent reduce compliance and revenues as some taxpayers become more prone to 'free ride' on the assumption that others will now be more likely to comply. While the final outcome is of course not obvious in such cases, more earmarking thus need not always mean more taxes. We return in section 3.5 below to the question of the effectiveness of earmarking.

3. International Experience

The variety and complexity of earmarking and the difficulty of getting a clear picture of the extent and effects of this practice in any one country obviously renders it impossible to present a comprehensive picture of earmarking around the world. Our aim in this section is therefore simply to give a few country examples, concluding with a brief look at the interesting case of China, to serve as both background and counterpoint to the more detailed examination of recent Korean experience in Section 4. In the last sub-section we also summarize briefly the surprisingly sparse empirical work on the effects of earmarking on revenues and expenditures.

3.1 North America

Ebel (1990) reported that on average 21 percent of state tax revenues were earmarked in the United States, that 64 percent of local own source revenue was earmarked, and some 28 percent of federal spending took the form of "trust funds" financed by earmarked revenues – mainly social security taxes but also gasoline taxes and other vehicle-related levies to the Highway Trust Fund, air transportation taxes to the Airport and Airway Trust Fund, and a variety of small 'environmental' levies such taxes on chemical feedstock sales to the Hazardous Substances Superfund (Fullerton, 1995). There is no evidence, however, of any increase in such earmarking

over time. On the contrary, Ebel (1990) found, that the proportion of state taxes earmarked had fallen sharply from as high as 51 percent in the early 1950s.

Although there is less earmarking in Canada than in the United States, in part since motor fuel taxes are not earmarked for road expenditures, Hickling (1991) still found 36 percent of federal revenue (including enterprise revenue) to be earmarked in Canada, as well as up to 25 percent of provincial revenues (although this includes earmarked federal transfers), and about 45 percent of local revenue. Although comparable data over time are not available, two point estimates, for 1971 and 1990 respectively, found that user charges and benefit taxes - many (but not all) of which are earmarked - declined, from 24 percent of all revenues in 1971 to 17 percent in 1990 (Bird, 1997). Nonetheless, as in the United States, where the expansion of lotteries across the states has been accompanied in many instances by some earmarking of lottery revenues (Novarro, 2002), new examples of earmarking continue to occur from time to time in Canada – for example, the Air Travellers Security Charge imposed on air tickets to finance enhanced airport security after the World Trade Center attack.

3.2. South America

Bird (1984) estimated that over half of all central government revenues were earmarked in Colombia, a result largely confirmed by McCleary and Uribe Tobon (1990) and Comision de Gastos (1996). The taxes earmarked ranged from export taxes earmarked to price stabilization through payroll taxes earmarked to social security expenditures to a variety of miscellaneous levies earmarked to activities such as health, sports, and tourism promotion. Again, however, there is no evidence of any marked increase in earmarking over time, with the important exception of the tendency in Colombia, as in some other Latin American countries in which increasing democracy has been accompanied by increasing decentralization, to earmark a larger share of revenues collected by the national government for transfers to sub-national governments (Acosta and Bird, 2005).

Perhaps the most dramatic case of earmarking in Latin America is Brazil. Rajkuman (2004) shows that the percentage of national revenues earmarked for specific purposes rose from an already substantial 30 percent a few decades ago to the astounding level of almost 80 percent by the end of the century. Despite the obvious problems earmarking at such a level would appear

to imply for good budgeting, Rajkumar (2004) notes that much of it has no real effect – it is, in the terms used in Section 1 above, symbolic rather than substantive – and thus gives rise to no real problems. In addition, he argues that even some of the substantive earmarking may not cause problems because it resulted in revenue enhancement. Finally, and perhaps most strikingly, Rajkumar (2004) very detailed examination of Brazilian earmarking turned up no cases at all of what we called in Section 1 'rational' earmarking and indeed no instances in which there was any discernible benefit rationale.

3.3. Other Countries

At the other extreme from Brazil lies the United Kingdom, the traditional home of strong centralized and consolidated general fund financing. Wilkinson (1994), for example, concluded that the only visible type of earmarking (or hypothecation, as it tends to be called in the UK) was the essentially notional (Type B) one of social insurance levies. Anecdotal evidence from various developing countries suggests that many of them, while neither at the Brazilian nor the British extremes, fall somewhere on the continuum in between with earmarking of various types being perhaps especially common in Latin America, although by no means exclusively there.[15]

In Asia, for example, countries such as Thailand have various "special accounts" for specified activities, in some instances financed in whole or in part by specific levies. An example is the Health Promotion Fund tax imposed in 2001, which consists of 2 percent of the excise tax imposed on both tobacco and alcohol. Another Thai example of earmarking takes the form of directing a portion of a national tax to sub-national treasuries: a Provincial Administrative Organization (PAO) Tax is levied nationally, at different rates for different groups of provinces, and distributed. In Taiwan, a Health and Welfare surcharge is imposed at a specific rate on tobacco products, with 70 percent of the proceeds flowing to the National Health Insurance Scheme, and 10 percent to each of central and local programs for tobacco control, health promotion, and social welfare.. In Japan, fuel taxes are allocated to the Special Account for Road Construction and Improvement (Ishi, 1993), customs duties on petroleum go the "Special Account for Coal, Petroleum and More Sophisticated Structure of Demand and Supply of Energy Policy,"

[15] Perhaps the high (or low) point in Latin American earmarking was reached in Ecuador in the 1960s, when one (unpublished) study found around 300 separate earmarked taxes, including a tax on air transportation earmarked to finance the salaries of supreme court judges!

and yet another earmarked levy goes to a Special Account for Promotion of Electric Power Resources Development (Institute of Fiscal and Monetary Policy, 1996).

Most recently, "extra-budgetary funds" have loomed increasingly large in the budgetary picture of a number of countries in transition, although the very nature of these funds often makes it difficult to pin down their significance in any rigorous quantitative sense. In Russia, for example, extra-budgetary funds (EBF) of all sorts were created in the early transitional years at all levels of government. Excluding certain 'industrial' funds, which amounted to 20 percent of federal budgetary revenues but are really only partly public in nature, EBF expenditures were almost at the level of the federal budget in 1994, at 13 percent of GDP (World Bank, 1996). Studies of Ukraine (Coopers & Lybrand, 1993), Belarus (Sewell, 1996), and Kazakhstan (McLure, Martinez, and Wallace, 1997) reported similarly wide use of a variety of "off-budget" linkages of revenues and expenditures.

3.4. China

Extra-budgetary funding is equally or more important in China, in which the formal budget is only part of the fiscal story and not necessarily the most important part. Wong and Bird (2004) report that various official studies in recent years have estimated that EBF is between 6 to 15 percent of GDP in China. Taking EBF to constitute all resources managed directly or indirectly by administrative branches of the government outside the normal budgetary process (World Bank, 2000), Wong (2003) estimates that such off-budget financing was – depending upon precisely how one defines it -- actually probably closer to 18 to 27 percent of GDP, or considerably larger than China's formal budget. As this range of numbers suggests, China's extensive use of EBF appears to provide a particularly egregious example of the murky world of inadequate accountability that shields many such extra-budgetary expenditures from rational weighing of expenditures against each other or against revenues.

Of course, as mentioned in section 3.3., many countries other than China have such EBF in one form or another. One common form, found in Korea (see Section 4), for example, is a special account, segregated from the budget and intended for carrying out a specific activity, or to benefit a specific agency, and often organized as a fund or a self-balancing accounting entity. In effect, such accounts are earmarked revenues protected from annual budgetary deliberations. In

addition, many branches and agencies of governments around the world have 'non-budgetary' revenues that are essentially outside the budget framework. The first type of EBF may perhaps be called 'earmarking by use' and the second type 'earmarking by source' (Wong and Bird, 2004). In most countries, most earmarking is of the former type; in transitional countries like China, however, the latter seems more common. China, however, takes matters even further than other transitional countries since most Chinese EBF are in effect earmarked both by use and by source because no transfer of budgetary funds to EBF is permitted.

Much discussion of EBF in China is focused somewhat more narrowly and refers only to fees and funds that are not formally taxes or budgetary items but that are nonetheless specifically authorized by some government body. This definition leaves out significant public resources that are neither budgetary nor extrabudgetary in this sense. Such funds have been given many names in China - self-raised funds, off- budgetary funds, extra-system revenues, and, most delightfully perhaps, extra-extra-budgetary funds. An example is local government revenue from the sale of land leases, which the Ministry of Finance agreed that should not be included in local budgetary revenues in order to avoid affecting the revenue sharing base. In some localities such revenues are treated as extra- budgetary revenue; elsewhere, however, they are listed as 'self-raised funds' since this revenue is not specifically authorized as a fee or fund. It is not easy to know exactly what is meant by either EBF or earmarking in China.

Nor is it easy to assess the effects of this prevalent practice. What does seem clear in the Chinese case, however, is that both earmarking and EBF tend to increase under conditions of fiscal stress. As formal budgetary revenues fell from 35 percent of the GDP to less than 12 percent at one point, the government came increasingly to depend upon various extra-budgetary levers to achieve its policy goals. Since in China, sub-national governments are responsible for providing both significant social expenditures and capital investment, they have unsurprisingly led the way down the EBF path – not least because they have essentially no control over their taxes, which are determined by the central government.

The existence of such extensive earmarking in China has, Wong and Bird (2004) argue, had serious implications for the ability of the public finance system to perform its core functions of stabilization, equalization, and resource allocation adequately, resulting in continual erosion of the budget and a breakdown of the budget process. Until recently, for example, once a fee was

authorized, in most cases local finance departments had no idea how much was collected or what was done with the funds. Unsurprisingly, access to such funds softened the budget constraint for all levels of government, allowing even governments in poor localities to maintain bloated workforces and to engage in such frivolous activities as karaoke bars. Although budget reforms launched in 2002 have attempted to bring extra-budgetary revenues under better control, many problems remain.

Of course, as with earmarking in general, not all EBF in China are necessarily bad,. Arguably, for instance, the system has provided an important degree of probably desirable autonomy to local governments. On the other hand, it has also clearly added considerably to the obscurity of the general public finance scene in China. No one really knows what is going on within the bowels of China's complex and opaque fiscal system, and no news is not necessarily good news. In fact, as Wong and Bird (2004) argue, it is almost certainly bad news from the perspective of building a more transparent public sector to support China's continuing drive to modernization.

In terms of the taxonomy set out in Table 1, the first three of these items may, if properly set up, make economic sense. The last two, although they may be politically attractive are less likely to do so. In all cases, however, as yet it still remains largely unknown whether, and to what extent, earmarking actually matters in terms of altering expenditures, which lead us to the next and final matter reviewed in this section.

3.5 Does Earmarking Affect Expenditures and Revenues?

As is not uncommon, much of the surprisingly sparse empirical evidence on this question relates to U.S. experience. In one of the earliest studies of the empirical effects of earmarking, for example, Deran (1965) found no relationship between the importance of earmarking and the level of expenditures in U.S. states. Her main focus was on the earmarking of gasoline taxes to roads. In contrast, Eklund (1972, 1980) found that earmarking of funds to highways in a cross-section of developing countries was associated with higher expenditures on highways. The subsequent evidence on road financing reported for various countries in Johansen (1989), however, can best be described as "mixed." Nonetheless, more recently Gwilliam and Kumar (2003) provide evidence that earmarking revenues through 'road funds' appears in a number of developing

countries to have improved allocative efficiency without either undermining fiscal flexibility or fostering rent-seeking. Finally, Dye and McGuire (1992) found that when state taxes were earmarked to highways, even though general-fund support for highways was reduced to some extent, Dye and McGuire (1992) total spending on highways increased (as Eklund (1972, 1980) had suggested) - though by only a fraction of the earmarked revenues.

There is no reason, of course, to expect all earmarking to have similar effects irrespective of the designated expenditure, since different publicly-provided goods, like highways and education, may have different elasticities of demand. With respect to education, however, the results are, if anything, even more mixed than for roads. Borg and Mason (1988) found that increasing lottery revenues earmarked for school aid actually resulted in a *decline* in such aid, as general-fund spending for this function was cut back more than proportionately. Less drastically, Dye and McGuire (1992) found that changes in the level of earmarked revenues per capita appeared to have no effect on the level of total state expenditures per capita, as Deran (1965) had also found., and that spending on education did not change when more taxes were earmarked for education - a similar, though less strong, result to that found by Borg and Mason (1988). In contrast, Novarro (2002) concluded that even though educational expenditures greatly exceeded the funds earmarked to education from state lotteries, there was nonetheless evidence to suggest that earmarking increased such spending.

In addition to the underlying suspicion about the precise comparability of the various earmarking programs necessarily treated as identical for analytical purposes in all these studies – especially of course the few cross-country studies -- and the different elasticities of demand for different services mentioned above, the fungibility of revenues is another important reason for these mixed results. A dollar is a dollar, no matter where it comes from or whence it is supposed to flow. Pinning a label on a given dollar does not alter the fact that it is basically substitutable for another dollar, and directing more funds from one source of revenues to a given expenditure may easily be offset by reducing the flow of funds to that expenditure from other sources.[16] Dye and McGuire (1992) suggest that, although voters may be hoodwinked into supporting tax increases that are earmarked for purposes they consider desirable, they should be encouraged to lift their

[16] The relative attractiveness of social security as an expenditure is suggested by the apparent "flypaper" effect noted by Shoup (1991), who found that tax rates were positively related to the level of total financing of programs rather

hoods and to recognize that earmarking rarely results in increased spending on the desired category but rather simply frees up general fund monies that officials may then allocate to other spending purposes in accordance with their own priorities. Finally, another study by Kimenyi, Lee, and Tollison (1990) took a different tack focusing not on spending but on the possible revenue enhancement effect of earmarking (as stressed also by Rajkumar, 2004, in the Brazilian case). These authors argued that the introduction of earmarking should result in an increase in the revenue of the earmarked tax, essentially because earmarking provides an incentive for interest groups to lobby not for a larger share of a fixed total budget but rather for increases in the earmarked tax, and found some support for this rent-seeking approach (see section 2.2.2 above) in their analysis of the effects of earmarking the U.S. federal fuel tax to the Highway Trust Fund in 1956.

No doubt there are other empirical studies of earmarking that may perhaps be uncovered by further examination of the literature. Analytically, the problem of the effects of earmarking on either revenue levels or expenditure patterns is similar to the much more fully explored question of the effects of intergovernmental transfers on local revenue levels and expenditure patterns, and, as with that literature, much more sophisticated and careful empirical analyses of panel data and the like are clearly conceptually possible. Practically, however, in view of the enormous complexity and difficulty of understanding the institutional structure of earmarking in even one country, as we discuss in the next section, we think it is likely to be quite some time before we can claim even the still quite limited degree of knowledge we can now assert with respect to the effects of intergovernmental fiscal transfers.[17]

4. The Korean Experience

4.1. Description of the System

As Table 2 shows, the tax burden in Korea in 2003 was 20.5 percent of GDP. The value added tax, the corporate and the personal income taxes accounted for more than half of the total tax revenues or about 70 percent of national taxes collected. In addition, a group of ‘officially’ earmarked taxes comprising transportation tax, education tax and special tax for rural

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than substituting for general-fund financing; that is, when programs were funded from both earmarked and general sources, increased revenues from the earmarked source increased expenditures in the area.

development provided 10.6 percent of total and 13.6 percent of national taxes. Earmarking is thus important in Korea. One reason may be because Korean tax authorities have clearly found it difficult to enforce income and value-added taxes effectively with respect to self-employed taxpayers. Earmarked taxes, the revenue from which normally flows into a special account or fund and which appear to arouse less resistance from taxpayers, have appeared to be an attractive source for financing various public services without much resistance from the taxpayers.

Table 3 depicts the level and nature of earmarked taxes in more detail. At the national level, the special excise tax on automobile sales and the liquor tax can properly be added to the official list of earmarked taxes -- the transportation tax, the special tax for rural development and the education tax – increasing the importance of earmarked revenues in 2003 to 18.3 percent of national taxes or 14.2 percent of total tax revenues. At the local level, we count only the local education tax as a 'true' earmarked tax although there are several other items which are officially classified as such.[18] In addition, 45 percent of revenues from the tobacco tax are earmarked to finance local education.[19] Revenues from these two sources accounted for 3.0 percent of total tax revenues in 2003. All together, the total revenue from earmarked taxes amounted to 3.5 percent of GDP or 17.2 percent of total taxes collected, or about as much as the corporate income tax. In addition to these earmarked taxes, a fixed proportion of internal tax revenue is earmarked to central government grants: 15 percent for local expenditure and 13% for local education.[20] If these grants are taken into account, almost 35 percent of total tax revenue was earmarked in 2003.[21]

Table 3 also shows the bases and uses of the main earmarked taxes. While the transportation tax and excise taxes are based on the sales of relevant products, the other taxes take the form of surcharges on other taxes. Typically, the revenue of an earmarked tax is funneled into a special account of a specific expenditure purpose. In certain cases, the revenue is divided among multiple destinations: for example, 85.8 percent of the proceeds from the transportation tax go to

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[17] For a recent summary, see Bird and Smart (2002).

[18] These include the community facilities tax, the regional development tax, the urban planning tax and the business place tax. In reality, however, revenues from these taxes cannot be distinguished from general tax funds.

[19] More accurately, 45% for revenue collected by metropolitan cities and 50% for that collected by the remaining provinces.

[20] The ratio for revenue sharing will be increased from 15 to 18.3 percent in 2005.

[21] Customs duties imposed on railroad-related imports are also earmarked to an account for railroad facilities. In addition to taxes, numerous fees, charges and levies are earmarked to various government activities, many of which are operated through on- or off-budget funds.

the transportation facilities account, and the remaining 14.2 percent is earmarked to an account for transfers to localities.[22] Earmarked taxes for education are collected both at the national and the local level. In some instance, the earmarked ratios may vary between localities (e.g., tobacco taxes) and years (e.g., special excise on automobiles).

As Figure 1 shows, earmarking has been important in Korea for many years. Except for a few years in the early 1990s, earmarked taxes have been an important source of revenue throughout the period shown.[23] Figure 2 depicts the same trends as in Figure 1 as a share of GDP rather than of total taxes and shows that revenue from earmarked sources amounts to about 3 percent of GDP in recent years, a level close to that for the corporate income or the personal income tax.

The breakdown of earmarked taxes presented in Figure 3 shows that there was a major shift in their mix in the early 1990s. During the 1980s the defense tax was the most significant example of earmarking, with revenue up to about 2 percent of GDP. When this tax was repealed in 1991, the government initially had to struggle to make up the lost revenue. It did so essentially by introducing new earmarked taxes. The transportation tax and the special tax for rural development were introduced in 1994, and the bases of the education tax were broadened. As a result, the revenue from the earmarked taxes came back to the level experienced in the 1980s. Despite a modestly declining trend, the steady share of liquor tax revenue (as a percent of GDP) over the past two decades is notable.

4.2. The Tax-Expenditure Linkage

Table 4 reveals the extent to which Korean government depends on special accounts and public funds to finance a specific set of public activities. In 2003, there were 17 non-enterprise special accounts, 61 public funds[24], and 5 public enterprise special accounts in addition to the general account. The special accounts and public funds together accounted for about 45 percent of the consolidated central government in terms of expenditure, leaving barely over half of central government activities for the general account. Figure 4 shows that the general account and the

[22] From 2005, this portion of the transportation tax will be earmarked to financing environment-related expenditures.
[23] The earmarked taxes shown here do not include the special excise tax on automobiles and the cigarette tax, since data for these were not readily available for the whole sample period.
[24] 47 funds are included in the consolidated budget. The remaining 14 funds are off-budgetary. Although efforts have been made in recent years to close unnecessary funds and merge redundant one, 57 funds remain as of 2005.

special accounts have been following different directions. The share of general account spending even fell below 50 percent in the late 1990s when earmarked government activities expanded. In part perhaps because not all of these accounts and funds were established on the basis of any clear benefit rationale linking specific taxes and expenditures, the government has been under steady pressure to reduce the extent of budgetary fragmentation. Since 1999, the trends have been reversed to some extent, and general account activities have again become more important.

Among various types of special accounts[25], those financed by earmarked taxes are of particular interest in the present context. Revenues from each major earmarked tax (the transportation tax, the special tax for rural development, the national and the local education tax, special excise tax on automobiles, and liquor tax) flow into one or two specific accounts: accounts for transportation facilities, rural development, environmental improvement, transfers-to-localities, transfers-to-local education, etc.[26]

Table 5 presents a detailed breakdown of revenue sources for the account for transportation facilities. As noted in Table 3, revenue from the transportation tax is split into financing two specific but independent sets of activities: 85.8 percent of revenue is earmarked to the 'Transportation facilities account' and the remaining 14.2 percent to the 'Transfers-to-localities account.' Revenue from the transportation tax was a primary source of funding for this account, accounting for 64.9 percent of its total budget in 2003. Other earmarked sources -- the special excise tax on automobiles, tariff on railroad-related imports, and fees charged on the use of transportation facilities -- made up another 16.5 percent. All of these earmarked sources combined accounted for 81.5 percent of total revenue, with the balance financed mainly by transfers from the general account.

In view of all these different revenue sources, the link between any specific source and expenditure does not appear to be tight. Although a major portion of transportation tax receipts is earmarked to this account, the marginal source of funds is more likely to be the transfers from the general account. In 2003, for example, the receipts of the transportation tax (10,000 billion won, as shown in Table 1) fell short of the budgeted account expenditures (13,223 billion won).

[25] Besides special accounts housing earmarked revenues, other non-enterprise special accounts include those for fiscal financing, post-office insurance, national property management, patent management, registration, prison management, environmental improvement, energy and resources management, agriculture and fishery infrastructure, etc.

Nonetheless, 14.2 percent of the receipts from transportation tax are earmarked for other purposes, thus intensifying still more the dependence at the margin on general account transfers. The marginal expenditure decision thus appears to remain firmly in the hands of the budgetary authorities, not taxpayers. The trends in revenue sources for the transportation facilities account shown in Table 6 provide further evidence of the extent to which general account funds maintain fund stability. During the sample period, the shares for earmarked revenues and general account transfers moved in opposite directions: In 2002-2003, for example, transfers from the general account dropped significantly, seemingly in response to a sharp increase in earmarked revenues, while the level of expenditure remained pretty stable.

Although the links between earmarked sources and expenditures for the transportation facilities account thus seem relatively loose, there is nonetheless a benefit rationale for each linkage, although to a varying degree. The special excise tax on automobiles, the tariff on railroad-related imports and user fees are all strong cases of benefit taxation since their receipts are earmarked to an appropriate sub-account for roads, railroads, airports, and so on. In all likelihood, the proceeds from these sources are likely to be used for the benefit of those who use these facilities. Nonetheless, the combined revenue from these sources in 2003 accounted for only 16.5 percent of the fund. The benefit tax rationale is less strong in the case of the transportation tax, however, since although its revenue comes mainly from road users, only 65.5 percent of it is earmarked to the road account with the balance dispersed over various sub-accounts.

In contrast to the transportation facilities account, the linkage between the special tax for rural development and the destination of its revenue appears tight at first sight, since all the tax receipts initially flow into the ‘Rural development account’ (Table 5). However, about 24 percent of the revenue is redirected to funds and grants for local expenditure, although the funds part is still earmarked for rural development purposes.[27] In addition, this expenditure area is so broad that the level of spending might not be much constrained by the variations in revenue. Moreover, since this tax takes the form of surcharges on the receipts of other taxes, there is clearly no benefit rationale.

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[26] In 2005, special accounts for transfers-to-localities and transfers-to-local education will be repealed. The revenues earmarked for these funds will be redirected into relevant grants.

Education is another area in which earmarked taxes account for a major portion of financing, as shown in Table 7. Education taxes levied both at the national and the local level amounted to 25.6 percent of total educational financing in 2003.[28] The remaining portion is made up by grants from the central government, the amount of which is determined as a fixed ratio (13 percent) of 'internal taxes,'[29] as well as various other sources including tuition receipts and transfers from localities and central government ministries. In 2003, 66.1 percent of the education budget was financed through earmarked revenue, and the remaining 33.9 percent by more or less discretionary sources. As in the case of the transportation facilities account, these 'other' sources are likely to be the marginal source of funds for education. Like the special tax for rural development, education taxes are collected in the form of surcharges, leaving little room for a benefit rationale.

Revenue sharing to localities is yet another area in which earmarking is utilized in Korea. In addition to specific tax items (the liquor tax, etc.), as shown in Table 8, a fixed share (15 percent) of internal tax revenue is assigned to central government grants to localities.[30] Since the expenditure area is very quite broad and earmarked revenue finances a relatively minor portion of spending (11.5 percent in 2003), the tax-expenditure linkage is very loose and removed from any benefit rationale.

4.3. Overview

Table 9 summarizes what we have found so far with respect to earmarking in Korea. Along the lines of Table 1, we indicate for each earmarked source the specificity of the expenditure designation, the tightness of the revenue-expenditure linkage, and the existence or not of a benefit rationale for the linkage. In most cases, the linkage is loose and does not reflect any benefit tax principle. As in the case of intergovernmental grants, for which the only really solid economic rationale is to deal with inter-jurisdictional spillovers although many grants but few that that satisfy this rationale are to be found in the world, it appears that other, vaguer, explanations,

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[27] About 15.3 percent (23/50) is distributed to the 'Transfers-to-locality account' with specified destinations, and the remaining 8.7 percent to the revenue sharing grant.
[28] 13.4 percent and 12.2 percent, respectively.
[29] See Table 2 for the major items and the 2003 receipts of the internal taxes.
[30] From 2005, transportation tax revenues will be no longer earmarked to local expenditure. Instead, the proportion of internal tax earmarking will be increased to 18.3 percent.

perhaps along the lines of some of those discussed briefly in Section 2 above, must provide the main rationale for earmarking in Korea as in most countries.

5. Conclusion

Experience in Korea, as elsewhere thus suggests that earmarking, like many fiscal instruments is sometimes good in principle and sometimes bad, that sometimes it is used well and sometimes badly, and that there is not always a neat mapping from good earmarking in principle to good earmarking in practice. Earmarking may be at least to a limited extent an allocatively efficient and distributionally acceptable way to structure public finance. But the practice also carries with it many potential problems, ranging from unduly constraining sensible fiscal and tax policy to enabling the 'dead hand' of past political compromises to weigh unduly heavily on the living reality of public budgets. The strongest case for earmarking is clearly with respect to user charges, particularly when – as seems seldom to be the case in practice, alas – such charges are determined in an economically rational fashion. User charge revenue should always be earmarked because an important aspect of the efficiency argument for user charges - as well as the probable political acceptability of such charges – pivots on the extent to which the prices charged go to finance the services for which charges are levied.

Along somewhat similar lines, some view earmarking primarily as a way to reduce taxpayer resistance to higher taxes and perhaps also to achieve greater accountability with respect to how tax dollars are spent. When it makes sense to introduce some 'market logic' into the budgetary process – when, to repeat, there is a strong benefit linkage between a tax and the expenditure it finances -- earmarking may indeed be a good idea on these grounds, even though (as mentioned in passing in section 2.2.3) it may sometimes reduce rather than expand the scope of public sector activities. When there is no benefit link, however, the case for earmarking is always rather tenuous and, if such earmarking takes the 'strong' form discussed earlier, the amount spent is in effect being determined in an arbitrary and irrational manner. Such earmarking seems more likely to reduce than enhance both economic efficiency and, in the long run, perhaps political legitimacy.

The point may be illustrated by referring to a popular, and generally justified, form of earmarking found in many countries in which taxes on motor vehicles and fuel are earmarked to roads. In principle, there is clearly much to be set for setting up a separate "road fund" and running it like any other public enterprise (Perret, 1991), although experience with such funds, especially in developing countries has not always been good for a variety of reasons ranging from improperly designed taxes and charges to badly-managed expenditures (Heggie, 1995).[31] More recently, some developed countries, have come up with a variety of ways to link 'green' (environmental) taxes and charges with equally green expenditures. While there is no economic rationale for such a linkage, since any economic benefits from such charges arises from the simple fact that they are levied rather than how they are spent, practical politics may sometimes require at least nominal linking of environmental revenues to environmentally-related activities. In this case, however, unlike the user charge or road fund cases, the best kind of such earmarking may be 'symbolic' rather than substantive, since there appears to be no good reason why how much should be spent from the public budget on the environment should be tightly related to the amount of revenue raised from green levies. [32]

As this last point indicates, to say as we have done that much of the earmarking found in the real world probably has more of a political than an economic rationale and is symbolic rather than substantive in both intent and effect, is not to say that all such earmarking is a bad thing. As is so often the case when it comes to summary evaluations of complex fiscal institutions, it may be; or it may not be. For example, if the evidence indicates that smoking, drinking and driving all give rise to negative externalities, a case can of course be made for Pigouvian taxes to induce consumers to act in the public interest by making them pay for the costs inflicted on the rest of society by their consumption choices. If there is resistance to such 'good' taxes, and that resistance can be overcome to some extent by linking the taxes to some desired expenditure such as health, then again such earmarking might be justified. (No efficiency loss is likely to be involved in doing so since health expenditures are in any case likely to greatly exceed the earmarked revenue.) Apart perhaps from the case of driving, however, it seems unlikely that 'sin' taxes need such political shielding to be widely acceptable in most countries in any case.

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[31] For a generally more positive perspectives on road funds, see Gwilliam and Shalizi (1999) and Newbery and Santos (1999).

[32] Of course, clever people can provide a good reason for anything, and Brett and Keen (2000) provide a somewhat elaborate 'political economy' rationale under which such a linkage may turn out to be socially beneficial.

On the whole, in the absence of a clear benefit rationale, it is hard to defend what we have called substantive earmarking, in which the level of expenditure on any particular activity is determined at the margin by the amount of revenue collected from any particular tax or charge. Beyond this limited realm, and despite its obvious political attractiveness to many, it seems best to keep earmarking to a minimum in the interests of sound public finance.[33]

[33] Although this subject cannot be explored in the present paper, countries might perhaps be particularly be well adv ised to keep this mind when it comes to decentralization, a process that many countries, even in Asia (World Bank, f orthcoming) are now undergoing to varying degrees. Inappropriate earmarking related to decentralization has create d mild or major havoc in a number of countries around the world. Either too large a share of national revenues is ea rmarked to sub-national governments, sometimes ruining both national budgeting and any vestige of a 'hard budget constraint' at the local level. Or the money flows down only with a heavily constrained set of 'earmarking' conditio ns attached as to how and on what it may be spent, thus ruining any chance at sensible local budgeting as well.

Table 1. Varieties of Earmarking

Variety	Expenditure	Linkage	Rationale	Example
A	Specific	Tight	Benefit	Public enterprise
B	Specific	Loose	Benefit	Gasoline tax and road finance
C	Broad	Tight	Benefit	Social security
D	Broad	Loose	Benefit	Tobacco tax and health finance
E	Specific	Tight	None	Environmental taxes and clean-up programs
F	Specific	Loose	None	Payroll tax and health finance
G	Broad	Tight	None	Revenue sharing to localities
H	Broad	Loose	None	Lottery revenues to health

Table 2. The Tax Structure of Korea, 2003

	billion won	% of GDP	In percent		
Total taxes	**147,797**	**20.5**	**100.0**	**-**	**-**
National taxes	**114,664**	**15.9**	**77.6**	**100.0**	**-**
1. Internal taxes	92,231	12.8	62.4	80.4	100.0
Personal income tax	20,787	2.9	14.1	18.1	22.5
Corporate income tax	25,633	3.6	17.3	22.4	27.8
Value added tax	33,447	4.6	22.6	29.2	36.3
Special excise tax [3]	4,733	0.7	3.2	4.1	5.1
Liquor tax [1]	2,726	0.4	1.8	2.4	3.0
Etc. [2]	4,905	0.7	3.3	4.2	5.3
2. Transportation tax [1]	10,000	1.4	6.8	8.7	-
3. Education tax [1]	3,651	0.5	2.5	3.2	-
4. Special tax for rural development [1]	1,932	0.3	1.3	1.7	-
5. Customs duties	6,847	1.0	4.6	6.0	-
Local taxes	**33,133**	**4.6**	**22.4**	**100.0**	**-**
1. Ordinary taxes	26,554	3.7	18.0	80.1	-
Acquisition and registration taxes	13,053	1.9	8.8	39.4	-
Resident tax	4,558	0.6	3.1	13.8	-
Tobacco consumption tax [1, 4]	2,384	0.3	1.6	7.2	-
Etc.[5]	6,559	0.9	4.5	19.7	-
2. 'Objective' taxes	6,047	0.8	4.1	18.3	-
Local education tax [1]	4,009	0.6	2.7	12.1	-
Etc.[6]	2,038	0.3	1.4	6.2	-
3. Carry-over from previous year	532	0.1	0.4	1.6	-

Sources*: Statistical Yearbook of National Tax,* National Tax Service and *Financial Yearbook of Local Governmen t,* Bureau of Local Finance and Economy Ministry of Government Administration and Home Affairs; and author' s calculation

[1] Earmarked taxes

[2] Inheritance tax, gift tax, revaluation tax, excess profit tax, excessively increased value of land tax, telephone tax , securities transaction tax, stamp tax, carry-over from previous year, etc..

[3] Special excise tax on automobiles earmarked for road facilities.

[4] Forty five percent of cigarette tax earmarked for local education.

[5] License tax, property tax, automobile tax, motor fuel tax, agriculture income tax, butchery tax, cigarette tax, agg regate land tax, leisure tax, and farmland tax.

[6] Includes urban planning tax, community facilities tax, business place tax, and regional development tax.

Table 3. Earmarked Taxes in Korea, 2003

Tax	Base	Destination	billion won	percent of		
				Total taxes	National taxes	GDP
Transportation tax	Gasoline, diesel, and substitute oils	85.8%: Transportation facilities account 14.2%: Transfer-to-localities account [4]	10,000	6.8	8.7	1.4
Special tax for rural development	Surtax [1]	Rural development account [5]	1,932	1.3	1.7	0.3
Education tax	Surtax [2]	Transfer-to-local-education account	3,651	2.5	3.2	0.5
Special excise tax on automobiles	Automobile sales	72%: Transport. facilities account (road) [6] 15%: Grants for revenue sharing [7] 13%: Grants for local education	2,675	1.8	2.3	0.4
Liquor tax	Liquor sales	Transfer-to-localities account	2,726	1.8	2.4	0.4
National level			**20,984**	**14.2**	**18.3**	**3.0**
Local education tax	Surtax [3]	Local education account	4,009	2.7	-	0.6
Tobacco tax	Cigarette sales	45%: Transfers for local education [8]	443	0.3	-	0.1
Local level			**4,452**	**3.0**	**-**	**0.6**
Total			**25,436**	**17.2**	**-**	**3.5**
Related items	15% of internal taxes [7]	Grants for revenue sharing	13,835	9.4	12.1	1.9
	13% of internal taxes	Grants for local education	11,990	8.1	10.5	1.7
	Part of customs duties [9]	Transportation facilities account (railroad)	n.a	n.a	n.a	n.a

Sources*:* Author's calculation based on budget sources

[1] Surtax on (1) exemptions of corporation tax, individual income tax, customs duties, acquisition and registration taxes; (2) securities transaction tax, special excise tax, acquisition tax, aggregate land tax, and leisure tax.

[2] Surtax on special excise tax, transportation tax, liquor tax.

[3] Surtax on automobile tax, inhabitant tax, property tax, registration tax, leisure tax, and cigarette tax.

[4] From 2005, this portion of transportation tax will be earmarked for the Environmental improvement account.

[5] Part of this fund(about 24%) will subsequently be transferred to local-spending accounts and grants

[6] The earmarked portion varies by year.

[7] The ratio will be increased to 18.3% in 2005.

[8] 50% for local provinces other than metropolitan cities.

[9] Imposed on railroad-related imports.

Figure 1. Trends in Major Taxes (percent of total taxes), 1981-2003

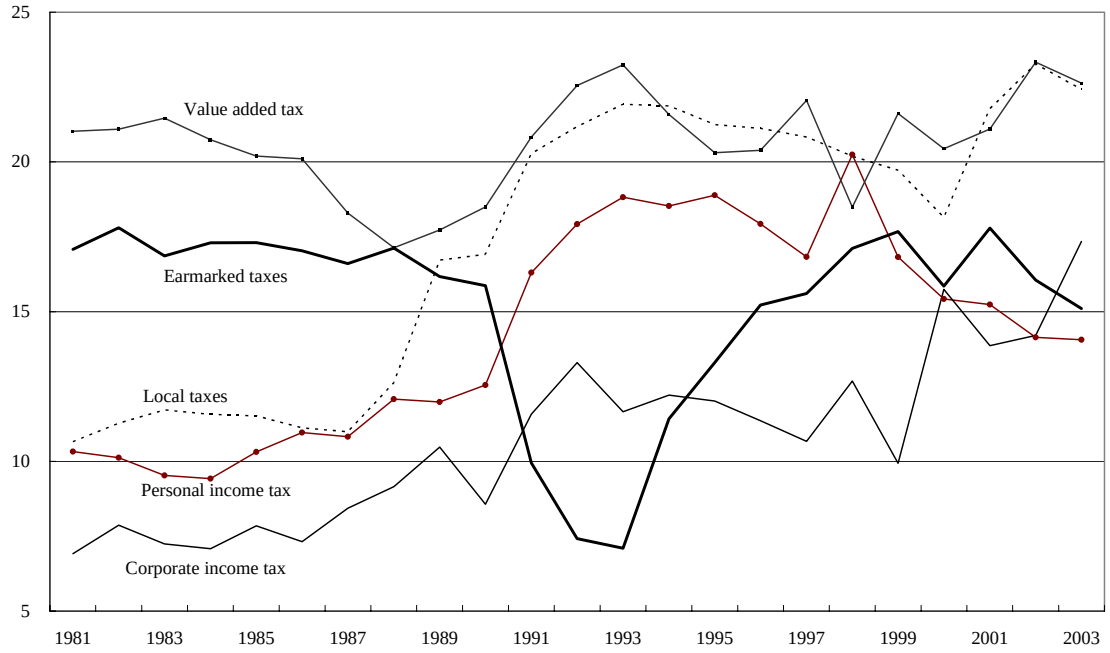

Figure 2. Trends in Major Taxes (percent of GDP), 1981-2003

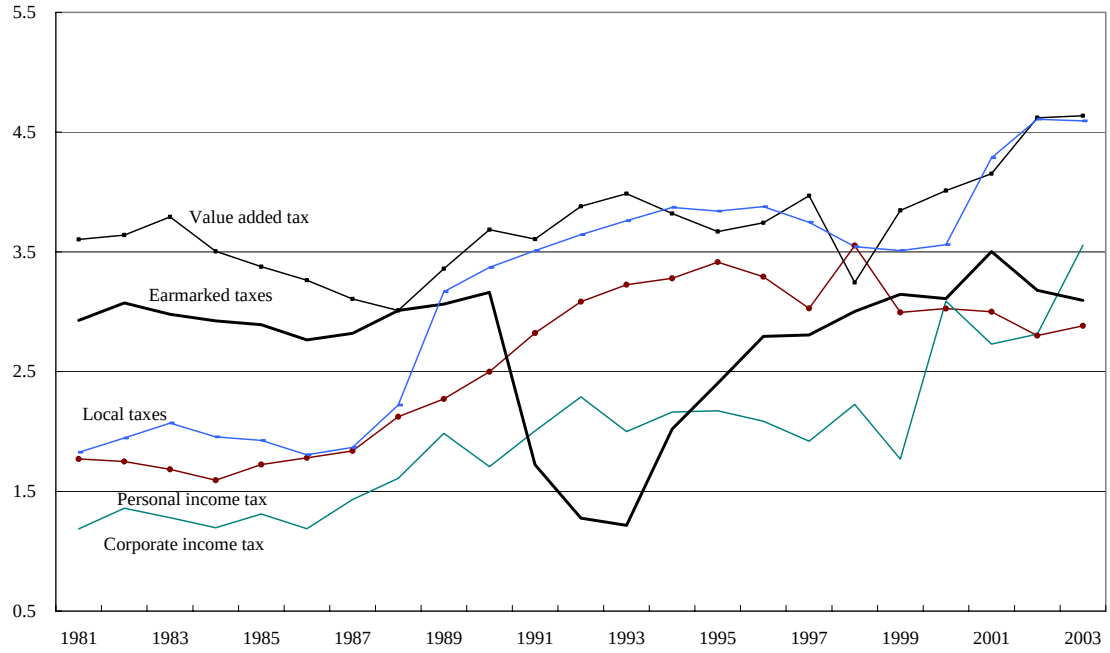

Figure 3. Trends in Earmarked Taxes (percent of GDP), 1981-2003

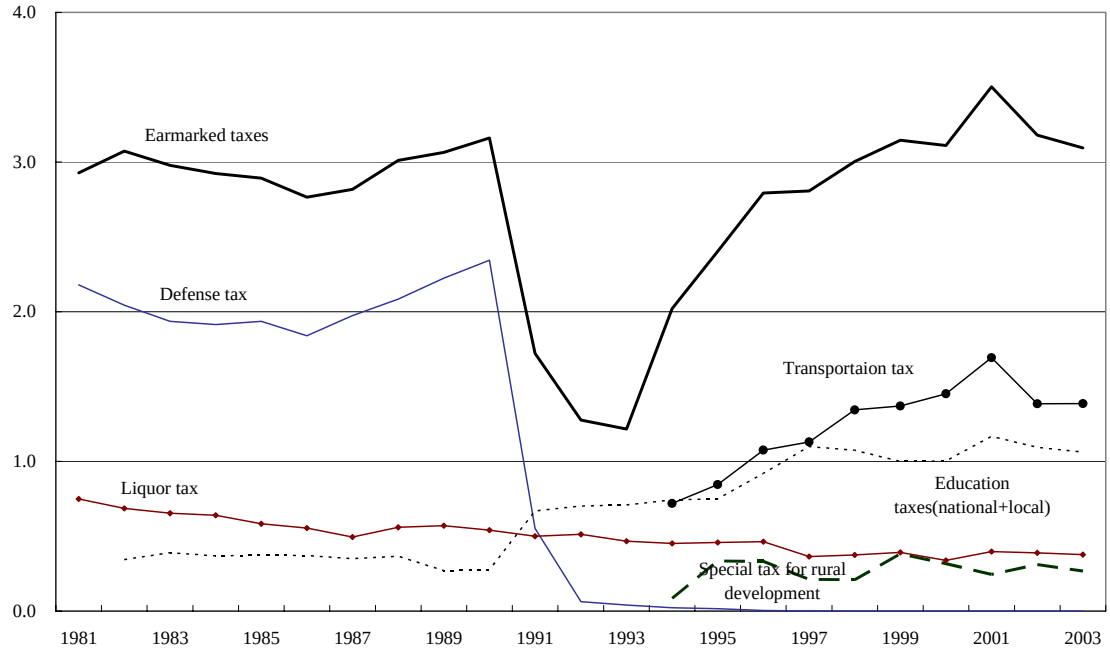

Table 4. Consolidated Central Government, Korea, 2003

	Central Government						Public enterprise special accounts [3]	Total [4] (C)
	Accounts				Public funds [2]	Total (B)		
	General account	Special accounts [1]	Surplus	Total (A)				
Revenue								
(billion won)	110,828	16,405		127,233	42,377	169,610	2,335	171,945
(% of GDP)	15.36	2.27	-	17.64	5.87	23.51	0.32	23.84
(% of Total)	64.46	9.54		74.00	24.65	98.64	1.36	100.00
Expenditure [5]								
(billion won)	89,154	22,639	102	111,895	45,133	157,028	7,275	164,303
(% of GDP)	12.36	3.14	0.01	15.51	6.26	21.77	1.01	22.78
(% of Total)	54.26	13.78	0.06	68.10	27.47	95.57	4.43	100.00
Balance								
(billion won)	21,674	-6,233	-102	15,338	-2,756	12,583	-4,940	7,642
(% of GDP)	3.00	-0.86	-0.01	2.13	-0.38	1.74	-0.68	1.06

Source: *Government Finance Statistics in Korea*, Ministry of Finance & Economy; and author's calculation

[1] 17 accounts: Agriculture and fisheries structural adjustment, Energy & resources, Fiscal financing, Management of funds transferred to local education authority, Management of funds transferred to local govt., Rural development tax management , Transportation facilities, etc..

[2] 47 funds: National housing, National pension, Public management fund, etc. In addition, there are 14 off-budget funds.

[3] 5 accounts: Communication service, Government supply, Grain management, Agency, and National railroad account (repealed in 2004), etc..

[4] While the official budget covers general and special accounts, the budget balance is measured according to this consolidated basis.

[5] Includes net lending items.

Figure 4. Trends in Expenditure for General Account, Special Account, and Public Funds (percent of consolidated central government), 1981-2003

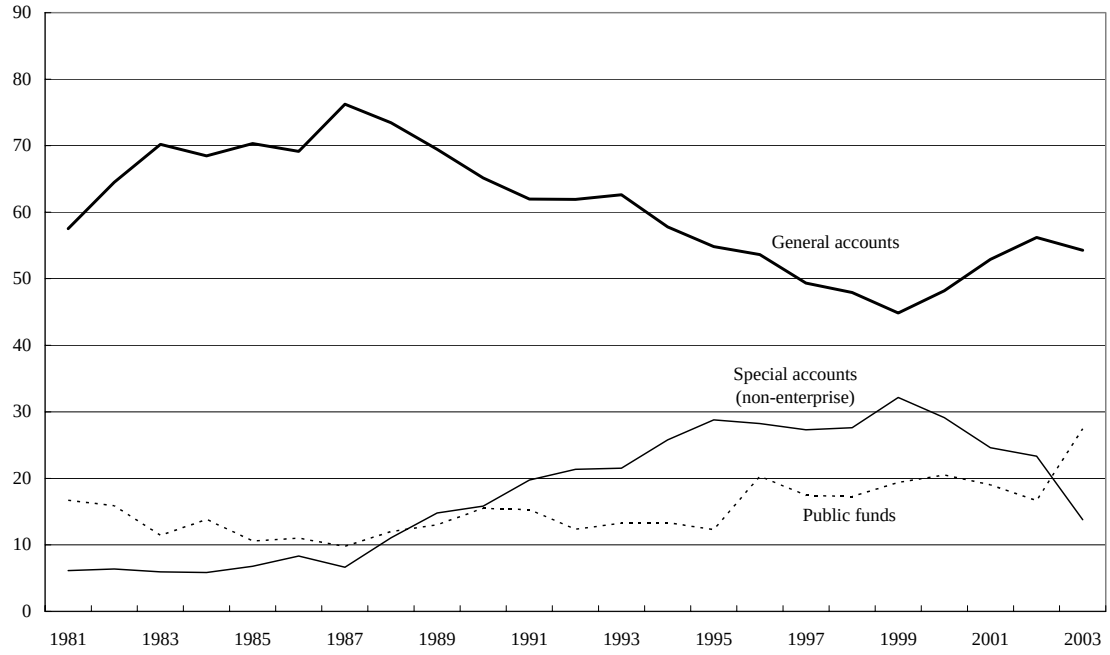

Table 5. Special Accounts for Transportation Facilities and Rural Development, 2003 planned budget [1]

Special accounts	Revenue sources (earmarked portion)	billion won	percent
Transportation facilities account	Earmarked taxes and fees	10,780.2	81.5
	- Transportation tax (85.8%)	8,585.8	64.9
	- Special excise tax on automobiles (72%): earmarked to 'road' part	1,565.8	11.8
	- Tariff on railroad-related imports: earmarked to 'railroad' part	253.8	1.9
	- User fees: respective sub-accounts	374.8	2.8
	Transfer from general account	2,101.3	15.9
	Others	342.0	2.6
	Total	13,223.5	100.0
Rural development account [2]	Special tax for rural devp. (100%)	2,079.3	98.0
	Etc.	41.7	2.0
	Total	2,121.0	100.0

Sources: Author's calculation based on budget sources

[1] Since specific breakdown of special account for 2003 was not available when this draft was being written, we u sed the figures in the planned budget here. Thus, some tax measures deviate from corresponding one in Table 2. We will revise this table as final budget figures are available.

[2] Technically, about 24% of rural development tax revenue will be transferred to funds and grants for local spendi ng, while they are still earmarked for rural development.

Table 6. Transportation Facilities Account, 1994-2003 (planned budget)

	1994	1996	1998	2000	2002	2003
Earmarked revenue	91.5	85.5	84.3	90.4	72.7	81.4
- Transportation tax	71.1	64.8	69.9	79.7	57.7	64.9
- Special excise on autos.	12.7	13.1	8.1	7.1	10.3	11.8
- Tariff on railroad-related imports	1.7	2.6	2.0	1.1	1.9	1.9
- User fees	6.0	5.0	4.3	2.5	2.8	2.8
Transfers from general account	5.2	12.7	14.4	7.5	25.1	15.9
Others	3.3	1.8	1.4	2.0	2.2	2.6
Total: percent	100.0	100.0	100.0	100.0	100.0	100.0
billion won	4,534.5	6,531.0	10,333.9	12,330.9	13,255.8	13,223.5
(% of GDP)	(1.3)	(1.5)	(2.1)	(2.1)	(1.9)	(1.8)

Sources*: The Korea Transport Institute(2003)* and author's calculation

Table 7. Financing of Local Education, 2003 planned budget

Revenue sources	billion won	percent
Earmarked revenue	20,140.8	66.1
- Earmarked taxes: special accounts	8,301.0	27.3
Education tax (100%)	4,091.0	13.4
Local education tax (100%)	3,720.0	12.2
Tobacco tax (45%)	490.0	1.6
- Internal taxes (13%): grants	11,279.8	37.0
- Province taxes (3.6%)	560.0	1.8
Others [1]	10,319.2	33.9
Total	30,460.0	100.0

Sources: Author's calculation based on budget sources

[1] Various sources including transfers from central government ministries and localities, tuition, etc.

Table 8. Financing of Local Expenditures, 2003

Revenue sources (earmarked portion)	billion won	percent
Earmarked revenue	17,552.8	11.5
- Earmarked taxes: special account	4,155.5	2.7
Liquor (100%)	2,726.1	1.8
Transportation tax (14.2%)	1,418.3	0.9
Etc.	11.1	0.0
- Internal taxes (15%): grants	13,397.3	8.8
Local revenue	98,901.5	64.7
- Local taxes	33,062.0	21.6
- Non- tax revenue	59,337.6	38.8
- Province revenue sharing	2,558.5	1.7
- Borrowing	3,943.4	2.6
Adjustable transfers	36,409.0	23.8
- Subsidies	31,104.0	20.3
- Supplementary local share tax	1,640.4	1.1
- Metropolitan city revenue sharing	3.664.6	2.4
Total	152,863.3	100.0

Sources: Author's calculation based on budget sources

Table 9. Characteristics of Earmarking in Korea

Tax	Expenditure	Linkage	Rationale
Transportation tax		Loose	Mixed
(85.8%)	Specific (Road, railroad, port, etc.)		
(14.2%)	Specific (Environment, from 2005)		
Rural development tax	Broad (Variety of uses)	Tight?	None
Education taxes	Specific (Education)	Loose	None
Liquor tax	Broad (Local expenditure)	Loose	None
Tobacco tax (45%)	Specific (Education)	Loose	None
Special excise tax on automobiles		Loose	Mixed
(72%)	Specific (Road)		
(28%)	Broad (Local expenditure)		
Internal taxes		Loose	None
(15%)	Broad (Local expenditure)		
(13%)	Specific (Education)		