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The Prospects for Developing Internationally Comparable Education Finance Statistics for Latin American Countries: A Preliminary Assessment

Stephen M. Barro

September 1998

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Summary of Findings

This paper reports on a preliminary assessment of the prospects for developing internationally comparable education finance statistics in Latin America. The findings reflect information provided by education officials in Argentina, Chile, and Colombia, plus more fragmentary information concerning several other countries.

In general, (1) the existing national expenditure statistics of Latin American countries cannot be used "as is" for international comparisons of education spending, but (2) conditions are favorable, at least in the countries examined, for producing revised finance statistics that will be comparable not only within Latin America but also between Latin American countries and the member countries of OECD.

The key findings concerning particular comparability problems and potential solutions are as follows:

Coverage of public expenditures. Except for certain specific omissions, the statistics of Argentina, Chile, and Colombia provide near-comprehensive coverage of public spending for education; however, the same appears not to be true for such other countries as Brazil, which lack complete data on the outlays of their subnational governments. To deal with the main gaps and inconsistencies in coverage and to conform to OECD standards,

- Each country examined would have to add to its expenditure figures outlays for certain activities not customarily counted as part of education, including preprimary and vocational training programs administered by noneducation agencies,

- Some countries would have to strengthen their systems for collecting data on state or provincial and local education expenditures,

- Some countries may have to identify and incorporate currently unreported expenses for education support functions and ancillary services, and

- Most countries would have to deal with certain specialized problems concerning postsecondary spending, including problems related to research and hospital expenses, student subsidies, and measurement of postsecondary enrollment.

Coverage of private expenditures. Given the large role played by private expenditures in some Latin American education finance systems, the lack of adequate—or sometimes of any—data on private spending is a major obstacle to valid international comparisons. Fortunately, the countries examined appear to be well-equipped with the types of statistical resources—economic censuses, household expenditure surveys, institutional budgets—from which estimates of private spending can be derived. The development of such estimates would be essential to any effort to develop useful finance indicators for the region.
Categorization of expenditures. The categories used in Latin America to classify expenditures by level of education deviate from those used by OECD and are often inconsistent among the Latin American countries themselves. To produce internationally comparable figures, some Latin American countries would have to alter their classification schemes, splitting and recombining levels and reallocating expenditures as necessary to conform to the standard international definitions.

Producing an internationally standardized classification by source of funds should not be difficult for Latin American countries. However, the issue of how one should take into account general-purpose intergovernmental transfers that help to support education has never been resolved by OECD, and remains to be addressed in Latin America as well.

As to categorization by use of funds, the existing Latin American finance statistics do not permit meaningful inter-country comparisons of allocations of funds among different categories of personnel and other educational resources. Any solution to this problem will require new data collection, which means that little improvement can be expected in the near term.

Next steps. In Latin America, as in OECD, it would be important for an international comparison project to produce a usable, even if far from perfect, initial set of indicators at a relatively early stage. Accordingly, it would make sense to give priority to short-term measures that would yield at least roughly comparable statistics, even if doing so means deferring important but longer-term improvements. In the cases of Argentina, Chile, and Colombia, these measures would include (1) using existing government finance data information to fill gaps and correct certain inconsistencies in the coverage of public spending for education, (2) developing preliminary, even if rough, estimates of private spending for both public and private institutions, and (3) reclassifying nationally reported expenditures to conform to the OECD taxonomy of levels of education. In certain other cases, this agenda would have to be expanded to include efforts to fill gaps in the coverage of spending by regional and local authorities.
I. Introduction

This report, prepared for the World Bank, offers a preliminary assessment of the prospects for developing internationally comparable indicators and statistics of education expenditures for selected countries of Latin America. It responds to two interests of Bank staff responsible for activities in the Latin America and the Caribbean (LAC) region: first, improving the information base underlying the Bank's own human capital formation and education improvement efforts; second, enhancing the information available to national education policymakers in the individual LAC countries.

While the inquiry deals specifically with Latin America, it also reflects a more general, growing worldwide interest in drawing on international-comparative information to improve national education systems. Thus far, that interest has been translated into practice most effectively by the Organization for Economic Cooperation and Development (OECD), which has developed a wide-ranging set of education indicators, including indicators of education finance, for its member countries. Efforts have recently been initiated to extend these indicators, and the statistical system that supports them, to non-OECD countries in several regions. Among the major issues for this assessment, therefore, are whether it will be feasible to develop finance statistics and indicators for Latin America that fit within the OECD framework and, if so, what it will take to accomplish that result.

Although education finance is only one of the many aspects of education covered by current and contemplated international comparisons, it is one with special significance for policy audiences. Comparisons of education finance touch on some of the education variables most directly subject to policymakers' control—budget levels, fund distributions, and manifold aspects of the allocation of educational resources. With respect to the countries of Latin America in particular, international-comparative information on levels and patterns of education spending should help policymakers address such issues as the following:

- Whether particular Latin American countries are investing adequate shares of gross domestic product (GDP) in education, compared not only with other countries in Latin America but also with countries in other developing regions and in the developed world
- Whether the Latin American countries are spending sufficient amounts per student to produce a reasonable expectation of acceptable educational outcomes
- Whether the Latin American countries' allocations of funds among levels and types of education are rationally related to economic development strategies and priorities
- Whether the responsibility for financing education is appropriately divided in each country between the more centralized and less centralized levels of government and between the public and private sectors
• Whether the mixes of personnel and other resources purchased for each country’s schools reflect a productive use of education funds

One can see from the diversity of these questions that it would be necessary to develop internationally comparable statistics on many, not just a few, aspects of Latin American education finance to accommodate the full range of policymakers’ concerns.

Background

Two strands of history set the context for the subsequent discussion. One has to do with the emergence of the OECD indicators and the associated international statistical system; the other concerns recent developments on the Latin American scene.

Development of the OECD Indicator System

Before the 1990s, there was no capacity for making valid comparisons of education expenditures among the OECD countries (or, for that matter, any other group of countries). Although both OECD and UNESCO had been in the business of compiling education statistics, including finance statistics, for many years, the finance statistics were incomplete, conceptually and technically flawed, and notoriously noncomparable across countries. They did not meet even the most basic needs of policymakers, analysts, and other potential users. To address these problems, OECD launched the Indicators of Education Systems (INES) project, an effort to develop technically sound, policy-relevant, internationally comparable education statistics and indicators. In 1991, the project issued its first indicator report, Education at a Glance. Four subsequent editions have been published, each offering a broader and more refined set of indicators than its predecessor.

Prominent among the OECD indicators is a cluster of indicators of education expenditures. These indicators compare, among other things, the amounts spent by countries (in both absolute and relative terms) for education as a whole and for particular types of education, the distribution of funds by level and sector of education, sources of education funds, and allocations of spending among different categories of resources. From the outset, these expenditure indicators have attracted disproportionate attention from policymakers and other policy-oriented audiences as well as the national and international media.

The finance indicators also became the focus of OECD’s most intensive effort to assess and improve international comparability. A major study of the topic—known as the International Education Expenditure Comparability Study—was undertaken, with support from the U.S. National Center for Education Statistics (NCES). The inquiry centered around detailed case studies of the statistics of ten selected OECD countries (Barro, 1997a). The study’s findings regarding comparability problems and potential solutions provided the basis for a complete redesign (1994-95) of the instrument for collecting international data on education finance. The improved finance data collection forms, with their accompanying
definitions and instructions, have been incorporated into the UOE (UNESCO-OECD-Eurostat) system of education statistics, which is now the main source on which the OECD countries depend for international-comparative quantitative information on education.

In 1997, OECD and UNESCO launched the World Education Indicators (WEI) project, an effort to extend the UOE statistics and the OECD indicator set to selected non-OECD nations. The World Bank is substantially involved in supporting this effort. With several Latin American countries now participating in WEI, it seems likely that any system of education indicators developed in Latin America will strongly reflect, if not replicate, the OECD/UOE model.

Developments in Latin America

Only a few, relatively modest attempts have been made in the past to compare education expenditures among the Latin American countries. UNESCO's annual *Statistical Yearbook* and its *World Education Report* (various editions) cover Latin America along with other regions. They offer country-by-country figures on public spending for education relative to GDP and total government spending; current expenditure per pupil relative to GDP per capita; the distribution of public spending by level of education; and the percentages of current expenditure devoted to teachers' emoluments and teaching materials. But the UNESCO statistics, as already noted, have not been good enough to provide even roughly valid inter-country comparisons of education spending.

Education expenditure statistics covering a number of Latin American countries have been presented in two studies of social expenditures carried out by CEPAL, the United Nations Comisión Económica para América Latina y el Caribe (Cominetti and Di Gropello, 1994; Cominetti and Ruiz, 1996). They include statistics on expenditure relative to GDP and relative to total government spending, expenditure per capita (in U.S. dollars), the current and capital shares of education spending, and the percentage distribution of expenditures by level of education. But the CEPAL figures were obtained in response to a general request to countries to submit existing government statistics, and are not standardized with respect to scope, category definitions, or coverage. Like the UNESCO figures, they are often grossly incomplete (some countries reported only the education expenditures of their central government), and cannot be construed as even roughly comparable across countries. CEPAL staff themselves have indicated that the statistics are intended more to illuminate expenditure trends in the individual countries than to support inter-country comparisons.

Two recent developments have brightened the prospects for generating more serious comparative finance statistics for Latin America. One is that the aforementioned World Education Indicator project has enrolled three Latin American participants, Argentina, Brazil, and Chile. By now, these countries should have submitted their initial sets of statistics to OECD. These statistics include the key expenditure variables specified in the UOE data collection instrument—although, for reasons to be explained later, it would be surprising if the countries concerned were able in the first round to deliver all the requested finance data items.
The second development is an initiative launched by Mercosur to develop international education indicators, including finance indicators, for the five Mercosur member countries (the three countries just mentioned plus Uruguay and Paraguay). At a meeting held in Santiago, Chile in October 1997, these countries tentatively agreed on an initial indicator set and on the broad outlines of an indicator development effort. Despite the overlap in participation between the WEI and Mercosur projects, there may be considerable substantive differentiation between the two efforts and their respective products. Whereas the WEI project would extend the OECD/UOE framework to a range of non-OECD countries, the Mercosur effort seems more likely to yield indicators and statistics specifically attuned to Latin American policy concerns.

Also notable as a Latin American development is the fact that Mexico has been, since 1994, the only Latin American member of OECD. As a full participant in the OECD indicator work, Mexico has been exerting special efforts to develop finance statistics that conform to the OECD specifications. If Mexico's experience could be shared and disseminated, it might greatly facilitate the indicator development efforts of other Latin American countries.

**Nature, Scope and Limitations**

A full assessment of the prospects for developing internationally comparable expenditure statistics in Latin America would address the following questions:

1. To what degree are the existing national education finance statistics comparable among the Latin American countries themselves?

2. To what degree do the existing education finance statistics of the Latin American countries conform to the OECD/UOE specifications?

3. In what specific respects do the existing finance statistics deviate from comparability, and how serious is each significant deviation?

4. What changes in, or additions to, the finance statistics of each country would be necessary to make them internationally comparable within the OECD framework?

To provide good answers would require detailed inquiries in a reasonably representative sample of Latin American countries, more or less along the lines of the individual-country case studies carried out for the previously cited International Expenditure Comparability Study. In that light, the present inquiry can be viewed as no more than a brief reconnaissance of the Latin American situation. It is a preliminary assessment in several senses:

First, it is based on direct, firsthand information about national education finance statistics from only three countries—Colombia, Chile, and Argentina. These are too few
countries to yield generalizable results, and they are by no means a representative sample. According to World Bank experts, the quality of each of these countries’ statistics greatly exceeds the Latin American norm.

Second, the information obtained even from these three countries is far less extensive and detailed than one would need for a thorough evaluation. To be specific, the total duration of my discussions with each country’s officials ranged from two to five hours. In comparison, the field work in each country covered by the International Expenditure Comparability Study lasted four or five days. Because of the time limitations, it was possible to deal with only a subset of the relevant comparability issues, and many of the issues could not be pursued in adequate depth.

Third, I have obtained some information regarding the statistics of a few other Latin American countries—in particular, Brazil and Mexico—but it is fragmentary and secondhand. It covers only a few comparability issues, and none in any detail. This information was gleaned partly from documents and research reports and partly from World Bank staff and other experts.

It should be understood, therefore, that the findings of this report reflect only a partial exploration of the situation prevailing in a few of the larger, more advanced Latin American countries. It is almost certain that inquiries in the lower-income, less-developed countries of South and Central America would reveal more serious problems with the quality and coverage of education finance statistics. It is also likely that more thorough investigations in the countries from which information has been obtained would unearth additional statistical problems.

But all these cautionary notices notwithstanding, I believe that the inquiry has identified both a number of the major obstacles to valid education spending comparisons in Latin America and some of the options for solving them. Some of the larger problems had been anticipated, based on findings from the comparability research in OECD, and mainly needed to be confirmed by queries in Latin America. The lack of data on most private outlays for private schools is the prime example. Other findings were less evident beforehand—for example, the extent to which classifications of education spending by level differ between Latin America and OECD. Although additional comparability problems would surely be discovered if the inquiry were widened and deepened, few are likely to be as important as the major problems reported here.

Organization of the Report

The remainder of this report is organized into four sections. The immediately following section (Section 2) provides a catalog of international expenditure indicators, identifies the statistics needed to construct them, and offers an overview of comparability problems. The following two sections contain the main body of the assessment of prospects for developing internationally comparable statistics in Latin America. Section 3 examines the
problems that would be encountered in comparing magnitudes of education spending across
countries; Section 4 deals with problems in comparing the composition of expenditures. The
discussions of comparability issues in both sections draw heavily on findings from the earlier
research on comparability in OECD. Finally, Section 5 summarizes the main findings of the
inquiry and outlines the steps likely to be needed to produce reasonably comparable
expenditure figures.

II. Expenditure Indicators, Statistics, and Comparability Problems

Before considering comparability issues, one first needs to be clear about what is to be
compared: What indicators of Latin American education finance would one want to compare
internationally, and what statistics would be needed to produce them? For the most part, it
appears that the array of indicators and statistics developed by OECD is applicable to Latin
America and to other developing regions as well. In fact, if one construes the OECD
indicator set broadly, to encompass not only the indicators that have appeared in indicator
reports but also the additional indicators that can be derived from the existing UOE finance
data base, it becomes apparent that the set subsumes all the indicators presented in the
previously cited UNESCO and CEPAL reports, plus others that have been proposed or
discussed but not yet fully developed. There do seem to be a few areas, however, in which
OECD’s emphasis on concerns of the developed countries may have caused it to bypass
certain issues relevant to Latin America and the rest of the developing world, and in which,
consequently, it will be necessary to add certain supplemental indicators and to collect the
Corresponding additional statistics. Without claiming to be comprehensive, I include some of
these in the following tabulation of prospective finance indicators for Latin America.

Comparative indicators of education expenditures fall under two broad headings:
indicators of expenditure magnitudes and indicators of the composition of spending. The
indicators of magnitude include both relative measures, such as spending relative to GDP, and
absolute measures, such as spending per student. The indicators of composition include
distributions of expenditures by, among other things, level of education, source of funds,
institutional auspices (public or private), and economic nature and resource category.

The OECD indicator work focused initially (and of necessity) almost entirely on cross-
sectional, national-level comparisons of education spending, but growing attention is likely to
be paid in the future to comparisons of expenditure trends and intra-country expenditure
disparities. Trend indicators would, of course, compare countries with respect to changes, or
rates of change, in spending over time. Disparity indicators would compare countries with
respect to the degree of within-country (e.g., interregional) inequality in spending. Both types
of indicators are highly relevant to issues of education policy in Latin America.
Indicators of Expenditure Magnitudes

It is useful to distinguish under this heading between indicators of aggregate education expenditures, which pertain to all levels and types of education combined, and indicators of expenditure for specific levels and types of education. The following list includes most of the indicators that have appeared in the various OECD and UNESCO indicator reports plus a few others that might be useful to include in an indicator set for Latin America:

Indicators of Aggregate Education Expenditures

Indicators of aggregate national expenditure for education

- Aggregate national expenditure for educational institutions as a percentage of GDP (variations: same plus subsidies for student living expenses, same plus direct purchases of education goods by households)
- Aggregate national education expenditure per capita (same variations as above)

Indicators of aggregate public expenditure for education

- Aggregate public expenditure for education as a percentage of GDP
- Aggregate public expenditure for education per capita
- Aggregate public expenditure for education as a percentage of all public expenditure (or as a percentage of public “social” expenditure)

(Note: Each of the above can be defined to include only expenditures for educational institutions or also to take in public subsidies for student living expenses.)

Indicators of aggregate private expenditure for education

- Aggregate private expenditure for education as a percentage of GDP
- Aggregate private expenditure for education per capita
- Aggregate private expenditure for education as a percentage of all private expenditure
- Aggregate education expenditure of households as a percentage of personal income

1 The following tabulation excludes certain OECD finance indicators of a more detailed or specialized nature, some of which have been published experimentally or produced only for developmental purposes. Among the excluded items are indicators of direct household purchases of educational goods and services, the composition of expenditure for personnel compensation (broken down into salaries, pension costs, and other fringe benefits), subsidies for student living expenses, and postsecondary expenditures net of certain outlays for university research. Some of these require special expenditure statistics not available from the UOE data collection instrument.
(Note: Each of the above can be defined to include only expenditures for educational institutions or also to take in direct purchases of education goods by households.)

**Indicators of Expenditures for Specific Levels and Types of Education**

Indicators of expenditure for particular levels of education—all types of institutions

- Expenditure as a percentage of GDP
- Expenditure per student, expressed in equivalent U.S. dollars at purchasing-power-parity (PPP) rates
- Expenditure per capita, in equivalent U.S. dollars at PPP rates
- Ratio of expenditure per student to GDP per capita
- Relative expenditure per student (base = expenditure per primary student)
- Cumulative expenditure per student over the average duration of a level

(Note: Each of these indicators may be calculated for any or all of the following levels and combinations of levels: preprimary, primary, lower-secondary, basic (primary plus lower-secondary), upper-secondary, all primary and secondary, nonuniversity postsecondary, initial university programs, postgraduate university programs, all university, all postsecondary.)

Indicators of expenditure for education in *public* institutions at each level (same indicators and levels as above)

Indicators of expenditure for education in *private* institutions at each level (same indicators and levels as above)

**Indicators of the Composition of Education Expenditures**

**Indicators of the Distribution of Expenditures by Level of Education**

- Percentages of total national expenditure for education devoted to each level
- Percentages of total public expenditure for education devoted to each level
- Percentages of total private expenditure for education devoted to each level

(The breakdown by level may include some or all of the levels listed above.)

**Indicators of the Distribution of Expenditures by Type of Institution**

- Percentages of total expenditure for each level of education expended by public and private institutions
- Percentages of expenditures of private institutions expended by government-dependent and independent private institutions

**Indicators of the Distribution by Source of Funds**

- Percentages of total expenditure for each category of education originating from public and private sources
- Percentage of total expenditure for each category of education provided by households (net of subsidies received by households)
- Percentages of initial public expenditure for each category of education derived from central, regional, and local governments and international government sources
- Percentages of final public expenditure for each category of education provided by central, regional, and local governments

("Category" refers to a combination of a level and a type of education—e.g., public primary or private secondary schools.)

**Indicators of Uses of Education Funds**

- Current and capital shares of expenditure for each category of education
- Percentages of current expenditure for each category of education devoted to Personnel compensation
  - Compensation of teaching staff
  - Compensation of other educators
  - Compensation of support staff
- Expenditure other than for personnel
  - Books and other instructional materials
  - Other goods and services

(same categories of education as above)

**Statistical Requirements**

Data on the following elements of education expenditure would have to be assembled for each country to construct the full set of indicators outlined above:

1. Total expenditure for each level of education, and for education as a whole

2. The portions of expenditure for each level attributable to public and private institutions, with the latter further divided into expenditures for government-dependent and independent private institutions
3. The current and capital portions of expenditure for each level of education and type of institution

4. The amounts expended (for each level of education and type of institution) for personnel compensation and nonpersonnel expenditures, with the personnel component further broken down into compensation of teaching staff, other education staff, and support staff and the nonpersonnel component subdivided into expenditure for books and instructional materials and expenditure for other items.

5. For each funding source—central, regional, and local government; international sources; households, and other private entities—and each level of education and type of institution, a breakdown of expenditures into (a) direct expenditures for educational institutions, (b) intergovernmental transfers (classified according to the receiving level of government), and (c) subsidy payments to students or households (with a distinction between tuition offsets and subsidies for living expenses)

These are essentially the categories and breakdowns of expenditures specified in the finance data collection tables of the UOE instrument, plus a few supplemental items. In other words, any Latin American country capable of filling out the UOE tables as instructed would have all the finance data needed to calculate the full suite of indicators laid out above. Experience has shown, however, that very few countries will be able to provide all the needed items without first engaging in an effort to develop education finance data specifically for international comparisons. More than a few OECD countries, after years of participation in the INES project, still have substantial gaps in their expenditure figures, and some still report expenditures in ways that deviate significantly from the UOE definitions. These problems, along with potential solutions, are discussed in the following sections.

In addition to the financial data, data on a number of nonfinance variables are needed to construct the indicators outlined above. These include population, GDP, personal income, total public-sector expenditure, the purchasing-power-parity (PPP) exchange rates needed to convert national currencies into equivalent U.S. dollars, the duration of study at each level of education, and full-time-equivalent (FTE) enrollment by level of education and type of institution. Problems with these data—the FTE enrollment figures, in particular—have sometimes led to comparability problems as serious as those attributable to shortcomings of the finance numbers.

**Overview of Comparability Problems**

The problems one encounters in attempting to use national education finance statistics to compare education spending internationally are of three main types: problems of incomplete or inconsistent coverage of expenditures, problems of inconsistent categorization, and problems of inconsistent measurement.
Problems of inconsistent coverage arise whenever countries differ with respect to which components of spending are included in, or excluded from, figures on education expenditures. Such differences may reflect (1) less-than-fully compatible national definitions of the boundaries of education, (2) inter-country variations in the coverage of public and private educational institutions, (3) incomplete coverage of the various sources (public and private) of education funds, or (4) uneven coverage of outlays for particular functions, services, or elements of education cost. Most problems of inconsistent coverage are problems of omission—that is, they result from gaps in the coverage of expenditures—but some result from the unwarranted inclusion of items not appropriately counted as part of education spending.

Problems of inconsistent categorization occur when different countries apply different, nonequivalent rules or definitions for classifying items of education expenditure. Such problems may arise in classifying expenditures by level of education, by type of institution (public or private), by source of funds, by the nature of expenditure (current, capital, debt service), or by the type of educational resource (teaching personnel, other personnel, materials, etc.) for which funds are expended.

Problems of inconsistent measurement are encountered when countries rely on different, nonequivalent methods to quantify outlays within a given expenditure category or, in some instances, to estimate categories of education spending for which data are unavailable.

All these types of problems have had to be addressed in OECD's effort (still ongoing) to develop high-quality, internationally comparable indicators of education finance for its member countries. Essentially the same range of problems will have to be addressed in Latin America as well. As will be seen, however, the relative importance of the different problem types is not always the same in Latin America as in the OECD setting.

III. Comparisons of Magnitudes of Education Expenditures

For expository convenience, the discussion of specific issues concerning the comparability of Latin American finance statistics has been divided in two parts. This section deals with issues affecting comparisons of magnitudes of education spending; the following one examines issues affecting comparisons of the composition of expenditures. The division corresponds, therefore, to the two groups of expenditure indicators outlined in Section 2. The main topics considered in this section are, first, issues in defining the boundaries of education; second, issues concerning the coverage of institutions and funding sources; and third, issues concerning the treatment of expenditures for particular functions, services, and elements of education cost. The discussion of each issue weaves together, as relevant, general findings (and sometimes specific examples) from the earlier research on comparability in OECD and information concerning the statistics of particular Latin American countries.
Issues of Defining the Boundaries of Education

Countries with different views about how broadly to define “education” generally will produce less-than-fully-compatible statistics not only on education expenditures but also on enrollment, personnel, and other aspects of the educational enterprise. Such disagreements about education’s boundaries almost never concern such core sectors as primary and secondary schooling or university-level education; rather, they arise mainly in areas where education borders and blends into other economic sectors and social institutions. The three most important ambiguous boundary areas identified in the OECD comparability research concern, respectively, preprimary education; vocational training; and adult, continuing, and other “informal” or “non-regular” education. All three are relevant in the Latin American context as well.

Preprimary Education

The main boundary issue concerning preprimary education is where education begins. Early in the OECD indicator development effort, there was serious disagreement among countries about (1) the minimum age a child must reach to be considered a preprimary pupil and (2) whether (and if so, how) a distinction should be made between “educationally oriented” and “non-educationally oriented”—i.e., primarily custodial—programs for children above the specified age threshold. To illustrate the sharp differences that then existed, France classified all programs for children ages two and older as integral components of education and treated them as such statistically, while Sweden characterized all its extensive programs for children younger than six as “noneducational” day care and consequently excluded them from education statistics. In other instances, the decisive factor was program auspices or official status: programs operated by the public education authorities were reflected in national statistics, while programs operated by noneducation authorities or private organizations, even if educationally equivalent, were excluded. The resulting differences in coverage were large enough to rule out most inter-country comparisons of the finances (and other aspects) of preprimary education.

OECD eventually dealt with the issue by (1) designating age three as the standard starting age for preprimary education and (2) stipulating that all school-based or center-based (i.e., institutionalized) programs for children three and older should be reflected in international statistics, regardless of whether they are officially labeled “educational” by the country concerned. These steps have made it possible, for the first time, to produce meaningful international comparisons of the financial and other aspects of preprimary schooling.

It appears that similar, though perhaps less drastic, inter-country differences in the statistical coverage of preprimary education will have to be dealt with in Latin America. Clearly, a number of Latin American countries have substantial early-childhood programs for children ages three and older that fall outside the official education system and hence are not reflected in national education statistics. In these instances, adjustments similar to those
already made by some OECD countries would be needed to achieve international comparability.

The most important omitted sector potentially classifiable as preprimary education that came to my attention during this inquiry operates in Colombia. The Instituto Colombiano de Bienestar Familiar (ICBF), a public agency separate from the Education Ministry, administers an extensive network of home-based early-childhood programs serving children from birth to age seven, including many children three and older (Waizer, 1995). This program, funded by a payroll tax on private companies, is not officially part of Colombia’s national education system, and its expenditures are not included in national education finance statistics. Thus, if Colombia’s statistics were used “as is,” the country’s preprimary outlays would be understated relative to those of countries that adhere to the more inclusive OECD definition.

According to Waizer (1995), officially organized home-based early-childhood programs similar to Colombia’s also operate in Venezuela, Bolivia, and Ecuador. It is likely—although this needs to be verified—that these programs would not be considered parts of the respective national education systems and, consequently, that their expenditures (and enrollments) would be omitted from national education statistics. In each such instance, the country in question would have to broaden its definition of preprimary schooling to produce statistics suitable for international comparison.

Chile’s definition of preprimary education, on the other hand, apparently corresponds closely to OECD’s—that is, it seems to cover all or most types of programs, private as well as public, serving children three and older. Even so, Chile’s expenditures for preprimary education are substantially understated in official figures for a different reason—namely that many preprimary pupils attend privately financed private schools whose outlays are not covered by standard education finance statistics (see the discussion of private spending, below).

Argentina’s situation is similar to Chile’s in that (1) preprimary education generally is understood to comprise both publicly and privately provided services for children from age three to the beginning of preprimary schooling and (2) preprimary expenditures are understated in the country’s standard education finance statistics because private outlays are not covered. But there is a further complication: To be recognized as an “official” preprimary school for statistical purposes, an institution must offer services to children in the grade immediately preceding entry into primary school (i.e., five year-olds). Thus, if a private school serves three, four, and five year-olds, all its pupils will be counted as preprimary pupils, but if it serves only three and four year-olds, the school will not be covered, and none of its pupils will be counted. It seems to follow, then, that even if Argentina developed statistics on private funding, they would probably not reflect the spending of the latter “unofficial” private early-childhood institutions, and the figures on total preprimary spending would be correspondingly incomplete.
More generally, one can expect to find in Latin America, as in the OECD countries, multiple instances in which national finance statistics omit the expenditures of preprimary institutions that are "unofficial," "informal," privately operated, or controlled by noneducation authorities, as well as the private funds (mainly fees paid by families) received by institutions that are otherwise covered. Uncorrected, these omissions would either degrade or invalidate (depending on the fraction of total funds omitted) comparisons of preprimary spending involving the particular Latin American countries in question.

Fortunately, it should be feasible in most cases to fill the gaps in reported spending. Depending on the specific national circumstances, this could entail (1) the incorporation into education statistics of existing data on the expenditures of public early-childhood programs not officially classified as educational, (2) the addition to existing statistics of hitherto omitted private outlays for preprimary schooling, or (3) the development of expenditure estimates for subsectors of preprimary education for which no finance data are normally collected.

Note also, however, that the aforementioned home-based arrangements of Colombia and other South American countries raise a definitional issue that was not anticipated by OECD. According to the UOE definitions, preprimary education comprises institutionalized, center-based programs but not the less formal types of services generally provided in home or family settings; however, the Colombian model features programs that clearly are formalized and institutionalized—in fact, government sponsored and funded—but nevertheless located in homes. What we have here, therefore, is an interesting example of a need to reopen the definitional debate, and perhaps to modify the OECD framework, to deal with a situation peculiar to the developing (or at least the Latin American) world.

Vocational-Technical Education and Training of the Labor Force

Distinguishing between vocational-technical education and "noneducational" labor training in an internationally consistent manner has proven to be very difficult. Some view the distinction as inherently artificial, arguing that it would be more meaningful to look at both types of human capital-forming activity together when comparing countries. But public officials responsible for education and public finance need indicators pertaining specifically to the education sector, and, as a practical matter, very few countries have comprehensive data on labor training (especially training in industry). Therefore, difficulties notwithstanding, we need a workable education-training distinction.

At the beginning of the OECD indicator project national practices in this regard varied widely, with some countries including in education, and hence in education statistics, types of activities that other countries treated as "noneducational" labor training. The inconsistencies were of three main kinds: First, some countries' expenditure data reflected activities that fall unambiguously in the training category. For instance, Germany's included massive outlays for continuing training of workers in private firms, while Spain's included outlays for in-service training in government agencies. Second, problems arose in connection with the European "dual system" apprenticeship programs, under which large numbers of upper-secondary
students spend more time in employer-funded work-based training than in school. Because few countries were able to report outlays for the work-based portions of these programs, inter-country comparisons of spending for secondary education were distorted. Third, some countries have major training programs that operate outside the official education system under the auspices of labor or employment ministries or other noneducation agencies. More often than not, such programs are not taken into account in national education finance statistics, even though the programs may be similar in both content and clientele to vocational-technical training programs run by the education authorities in other countries.

Thus far, it seems that only the last of these three problems is significant for Latin America. I have not encountered any instances of the inclusion of industrial or public-agency training expenses in Latin American education finance statistics. Apprenticeship programs do exist in some Latin American countries, but not on the scale of the European dual-system programs and apparently not with the same sort of linkage to educational institutions. For the present purpose, the failure to include certain apprenticeship programs in education statistics can be viewed as just one manifestation of the broader problem of omission of vocational-technical training programs situated outside the officially defined national education systems.

A prime example of incomplete coverage of vocational-technical education in Latin America is provided by the Colombian training program known as SENA (Servicio Nacional de Aprendizaje). SENA is operated by Colombia’s Ministry of Labor and funded by a payroll tax. Its offerings include two-year apprenticeship programs for individuals ages 14 and older, which lead to specific vocational-technical qualifications; part-time vocational-technical programs for adults, which can also lead to formal qualifications; and various less formal programs, including short technical courses and training activities tailored to meet the needs of particular enterprises. There is little doubt that at least some of these programs correspond substantively to secondary or tertiary vocational-technical programs provided within the official education systems of other countries, and hence that outlays for such programs should be counted as education spending for purposes of international comparison. Recognizing this, the Colombian authorities have taken SENA expenditures into account for the specific purpose of calculating the share of national GDP devoted to education, even though the same expenditures otherwise are left out of the country’s education finance statistics.

Similarly, Brazil’s SENAI program (Serviço Nacional de Aprendizagem Industrial), on which Colombia’s SENA apparently was modeled, also operates under the jurisdiction of the national labor ministry and is funded by a payroll tax. It provides a range of services, including apprenticeship programs for individuals of secondary school age, formal two-year postsecondary programs leading to qualifications in specific vocational-technical fields, and less formal training and retraining programs (Wilson, 1996). As in the Colombian case, it is clear that many, though not necessarily all, SENAI activities qualify as secondary or tertiary education according to the OECD definitions, and hence should be reflected, for purposes of international comparison, in Brazil’s expenditure figures.
Both Argentina and Chile also have labor training programs operated by the respective Ministries of Labor, but I do not know enough about the content of these programs or the characteristics of the participants to say what portions of these activities, if any, fit the OECD definition of vocational-technical education. In the Chilean case, even more difficult problems of boundary definition (and expenditure measurement) are posed by the existence of a large private training sector, supported by public demand-side subsidies (i.e., subsidies to employers or to the trainees themselves), which apparently performs some of the same functions as are performed by institutions belonging to the education system in other countries (Wilson, 1996).

Although expenditures for the training programs in question are unlikely to amount to more than a small percentage of any country’s total education spending, they could account for substantial fractions of spending for the directly affected levels—upper-secondary (educación media) and non-university postsecondary education. Consequently, a failure to take them into account might impair international comparisons not only of spending for those specific levels but also of the distribution of education spending by level. It would be desirable, as part of the effort to develop internationally comparable statistics for Latin America, to identify the pertinent training programs of each country, and then to decide, case by case, which programs should be taken into account in education finance (and other education) statistics.

Adult, Continuing, “Informal,” and “Non-Regular” Education

Which of the many programs variously characterized as adult, continuing, informal, non-regular, or “out of school” education should be deemed to fall within the bounds of education for statistical purposes? From the outset, this has been a difficult issue for OECD, and it is likely to prove difficult for Latin America as well. Such programs are offered by diverse types of institutions, associated to different degrees—sometimes not at all—with the regular, or formal, education system. Depending on the country, the providers may include regular secondary schools, universities and nonuniversity postsecondary institutions, separate public adult education systems, local public noneducation agencies, and a wide variety of both for-profit and nonprofit private institutions. According to the OECD/UOE instructions, such programs should be represented in education statistics insofar as they cover subject matter similar to that covered in mainstream education, whereas programs of a mainly recreational or general cultural character should be excluded; but that guidance is not easy to apply, even apart from the practical problem that many countries lack data for at least some of the activities in question. Although the statistical coverage of such programs in OECD has improved, it remains incomplete and uneven, with some countries offering little coverage of adult programs, and many offering no coverage at all of the informal private sector.

Speculating on the basis of fragmentary and anecdotal information, I would expect that similar unevenness of coverage will be found among the Latin American countries. Argentina’s standard education statistics, for example, explicitly pertain only to “formal” education (Ministerio de Cultura y Educación [Argentina], 1997), suggesting that much of adult and other “non-regular” education is not covered. Chile’s statistics explicitly cover
enrollments in, and public funding for, both publicly and privately provided adult education (Ministerio de Educación [Chile], 1996). But in both of these countries, and apparently elsewhere in Latin American, the informal private sector—including, for example, many commercial trade and technical schools—appears not to be covered by any national statistics. (In Chile, another set of informal institutions called preuniversitarios—private “cram schools” designed to prepare students for universities—also falls outside the scope of education statistics.) It is not surprising that these institutional categories are not covered in Latin America, as the same is true of most OECD countries. Nevertheless, the effect is to detract from inter-country comparisons of spending, especially for upper-secondary and nonuniversity tertiary education.

Coverage of Public and Private Institutions and Public and Private Sources of Funds

Two central concerns in assessing the international comparability of education finance statistics are (1) whether each country’s figures cover all the types of public and private educational institutions operating in the country, and (2) whether each country’s figures reflect all public and private sources of education funds. Although the issues of coverage of institutions and coverage of funding sources are logically separable, in practice they are closely connected, especially with respect to the private side of education finance. As will be seen, gaps in coverage of both the finances of private educational institutions and the educational expenditures of households pose probably the largest single obstacle—but fortunately a removable obstacle—to valid international expenditure comparisons involving the Latin American countries.

The remarks on these aspects of coverage are organized around a two-way classification of education outlays, first by source of funds (public and private), second by institutional auspices (also public and private). This cross-classification, depicted in the following diagram, yields four categories of education spending: (A) public funds for public institutions, (B) public funds for private institutions, (C) private funds for public institutions, and (D) private funds for private institutions. I deal with issues concerning public expenditures first, and then with the more difficult problem of coverage of private spending.
Public Expenditures

Most countries provide full or near-full statistical coverage of government expenditures for education (subject, of course, to their own definitions of what constitutes education spending), but in some cases there are substantial data gaps. One might think at first that such gaps should not exist, since any public outlays for education normally would be reflected in government budgets and financial records. But in reality there are several situations, as outlined below, in which some public outlays go unreported.

**Public Funds for Public Institutions.** First, the education expenditure statistics of some countries represent only, or mainly, the expenditures of designated education authorities. Because the education outlays of other government agencies appear under noneducation headings in government budgets, they are lost to the education accounts. In the OECD work, we found, for example, that expenditure figures for the United Kingdom excluded large outlays by the national health ministry for education in the health professions. Other OECD countries failed to include outlays for schools or training centers operated by agriculture, labor, and defense ministries. In Latin America, the main such cases to have come to light thus far are the already-mentioned omissions of expenditures for training programs operated by labor ministries and early-childhood programs operated by social welfare agencies, plus education outlays of military and police agencies. Perhaps inquiries in other
Latin American countries will reveal further omissions of the kinds found in OECD. Most such omissions could easily be corrected by extracting the pertinent expenditure figures from noneducation accounts and adding them to the amounts already reported as public education spending.

Second, even where the coverage of public educational institutions is comprehensive, certain forms of public funding for education may not be reflected in official education expenditure statistics. For example, according to Wu (1997), certain tax receipts earmarked for postsecondary education in Ecuador (in particular, taxes on petroleum) are distributed to institutions of higher education without passing through the regular national budget. Similar arrangements may exist in Peru. The education outlays of these countries are correspondingly understated in standard, budget-based financial reports. The special business taxes earmarked for labor training in such countries as Brazil and Colombia are not captured by conventional education statistics, even though, as already noted, the programs that these taxes support seem to qualify as vocational-technical education. Also sometimes omitted from national expenditure figures are education outlays financed through grants or loans from international agencies, such as the World Bank or the Inter-American Development Bank. These funds are sometimes treated as extra-budgetary or reported under such headings as infrastructure development, and hence not included in education spending figures. All such omissions are readily correctable, but only if officials of the country concerned take the trouble to identify the pertinent expenditure items and merge them with conventionally reported education expenditures.

Third, there are instances in Latin America in which substantial amounts of public spending for education go unreported not because of any deliberate decision to omit them but simply because national statistical systems are inadequately developed. Such underreporting generally occurs in countries in which major responsibilities for supporting the schools are assumed by regional (state or provincial) or local (e.g., municipal) authorities. The difficulty is that some of these countries have inadequate mechanisms for collecting, processing, and aggregating data on the finances of subnational governments, leaving gaps in the figures on total public-sector spending.

According to World Bank staff, this problem is especially serious in Brazil, where both states and localities operate schools, and where each of the two levels of government has the primary responsibility for funding the schools under its control. Although the state governments are able to account for their own outlays, some states apparently lack the capacity or the will to compile data on the expenditures of the localities within their boundaries. Consequently, national tabulations of local government outlays are incomplete. The Brazilian authorities reportedly have been taking steps to fill the data gaps as part of a broader effort to develop education statistics and indicators conforming to OECD standards.

Mexico also lacks fully comprehensive data on the education spending of its subnational governments. State government expenditures apparently are incompletely reported in some instances, and local government expenditures are not reported systematically
at all, although national estimates of local outlays have been constructed. But because Mexico's central government still plays the dominant role in generating and allocating education funds (recent steps towards decentralization notwithstanding), these problems of underreporting probably are not nearly as serious as the corresponding problems of Brazil. Moreover, Mexico, as a member country of OECD, is now making a concerted effort—even undertaking special surveys of state and local education outlays—to produce comprehensive expenditure figures.

It would be wrong to infer from these examples that decentralization or federalism is necessarily associated with incomplete statistical coverage of public spending. As counterexamples, both Argentina, in which education finance is mainly the responsibility of provincial governments, and Chile, in which localities make most final expenditures for schools, offer comprehensive or near-comprehensive coverage of public education funds. Similarly, Canada and the United States, both with highly decentralized systems of education finance, produce more finance expenditure statistics than most of the more centralized OECD nations. It is true, however, that decentralized countries must exert more effort to compile education expenditure figures than centralized countries, as they cannot simply extract expenditure figures from national budgets but must deploy systems for assembling data from numerous regional and local jurisdictions. The task of developing such systems seems to have been carried out successfully by some Latin American countries but has yet to be initiated, or to be completed, by others.

Public Funds for Private Institutions. Public subsidies for private educational institutions also show up in government budgets and consequently should be reflected in national statistics on total education spending to about the same extent as public funds for public institutions. This means that some subsidies from noneducation agencies and some flowing to private activities not officially classified as education (training programs, early-childhood programs, etc.) may be omitted. But the main comparability problems associated with public-to-private subsidies are not problems of coverage per se but rather problems in sorting out expenditures by type of institution and level of education. Initially, the statistics of some OECD countries did not differentiate clearly between expenditures for public schools and transfers to private schools, which made it difficult to associate particular expenditure amounts with particular sets of institutions or students. Further, some countries could not break down subsidies to private schools by level of education. These lapses limited the usefulness of statistics for international comparisons, even where, in a gross sense, the countries' coverage of public outlays was reasonably complete.

I cannot judge from the information in hand how significant such problems are likely to be in Latin America. In Chile, where central-government subsidies to private schools play a large role in education finance, the subsidy payments are accounted for explicitly and in detail (Ministerio de Educación, 1996). In Argentina, there may be problems: Private schools receive their subsidies from the provinces, not the national government, and some provinces apparently do not distinguish clearly between these subsidies and other education outlays, or do not disaggregate the subsidies by level of education. In Colombia, also, public subsidies
for private institutions may not be clearly separated from other public spending for education, but because such subsidies cover only a very small fraction of private school costs, the problem is minor. I understand that some Brazilian states either pay private schools to serve students who cannot be accommodated in public schools or provide subsidies in-kind, such as the services of publicly paid teachers, and that these public payments probably are not accounted for uniformly or completely. A more detailed inquiry would be needed to identify other such problems and to devise appropriate country-specific remedies.

Private Expenditures

Incomplete reporting, or nonreporting, of private spending for education was a major impediment to valid expenditure comparisons among OECD countries in the past, and remains so to a lesser extent today. By all indications, it will be a problem of larger proportions in Latin America. In OECD, the adverse effects of inadequate coverage of private spending were mitigated by several factors: (1) some OECD countries have very few private schools or private school students, (2) most private schools in most European OECD countries are predominantly or entirely publicly financed, and (3) students in many OECD countries pay minimal fees to public or private institutions, even at the university level. Even so, the omission of private funds resulted in drastic understatement of some countries’ spending (a notable example is the United Kingdom), and would have had the same effect on other countries’ figures (e.g., those of the United States) had these countries not developed rough estimates to compensate for the lack of data on private outlays. In Latin America, the mitigating factors generally are weaker or absent. In some Latin American countries, large numbers of students attend private schools that receive little or no public money, and hence are dependent on tuition fees and other private funds. Where this is so, the failure to count the private funds as part of education spending results in the omission of substantial percentages of total national expenditure for education. The following remarks deal, in sequence, with the coverage of private funds for public institutions, private funds for private institutions, and direct purchases of education-related goods by households.

Private Funds for Public Institutions. Private payments to public institutions are more likely to be covered by national statistics than are private expenditures for private schools; however, the degree of coverage varies not only between countries but also between levels or types of education within the same country. Some OECD countries account for the private payments fully, and in essentially the same manner as funds from public sources; but others initially could not supply any data on such payments, while some could report private payments to public postsecondary institutions but not to any other public schools. Later, some countries that initially lacked data were able to develop estimates, in some cases drawing on household survey data. It appears that similar variability of coverage and similar prospects for improvement exist in Latin America. Consider the following national examples:

Colombia. The education finance statistics of Colombia cover, at least in principle, not only funds from public sources but also funds received from private sources by public institutions. The latter are characterized as funds from institutional "own sources" (recursos
In practice, some household payments to public schools—especially informal "contributions"—probably are not included, but further information is needed on the nature and extent of such omissions. At the university level, fees paid by students (about 20 percent of total funding) and perhaps some other categories of private funds are reflected in institutional budgets. Thus, whatever omissions exist are probably minor.

**Chile.** In Chile, some public (municipal) schools at the upper-secondary (media) level charge tuition fees to students. These fees are small, and the amounts raised, known as the family contribution, or aporte compartido, are reflected in official statistics.

At the postsecondary level, Chile's official statistics cover direct government payments to publicly supported universities plus scholarships and government loans to students attending such institutions, but do not reflect net fees paid by students (i.e., the portion of tuition fees not offset by the scholarships and loans) or private payments for research and other services.\(^2\) However, the annual budgets prepared by the individual institutions apparently do cover own-source revenues, including the aforesaid net tuition fees and some, if not all, other types of private funds. Therefore, it should be possible to provide reasonably complete coverage of private outlays for the public institutions by aggregating data from the institutional reports.

**Argentina.** The standard education expenditure statistics prepared by the Ministry of Education cover only public funds. This means, in the case of institutions below the tertiary level, that they exclude private funds channeled to public schools through parents’ organizations called cooperadoras. These funds have been estimated to make up about two percent of total funding for the public (nonuniversity) education sector (Flood et al., 1997). At the university level, the official budget-based expenditure statistics cover the federal government's 90 percent share of university funding; however, institutional budgets reflect not only the public funds but also funds from own sources ("fuentes propios")—a category that includes receipts from private donations, private contracts for research and other services, and any fees paid by students. It appears, therefore, that figures covering private funds for the public institutions could be produced relatively easily, if they have not been assembled already.

In sum, although some or all private funds for public institutions are omitted from these countries' expenditure statistics, the omissions are too small in some instances, especially below the postsecondary level, to detract significantly from comparability. In the case of postsecondary education, where the omissions are sometimes larger, it should be feasible to calculate the omitted amounts by aggregating data from the budgets of individual institutions. It is possible, of course, that the gaps in coverage of private payments are more serious or less easily correctable in other Latin American countries.

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\(^2\) Interestingly, the official statistics do cover private donations that the Ministry of Education has certified as tax deductible. For some purposes, in fact, the Ministry interprets the resulting tax savings as a form of government spending—that is, a tax subsidy—for postsecondary education.
Private Funds for Private Institutions. Only a few OECD countries (for instance, Canada, France, and Spain) regularly collect data on the finances of private schools from the institutions themselves. Some other countries, including the United States, collect such data only for institutions of higher education. More commonly, countries have either constructed estimates of private spending (sometimes using data from household expenditure surveys, sometimes by cruder methods) or simply omitted such outlays from their international data submissions. Because of the previously cited mitigating factors, these omissions and the recourse to crude estimates have had only limited adverse effects on the OECD indicators in most cases, although the expenditures of a few OECD countries have been seriously understated.

In Latin America, where private funds for private institutions play a larger role than in OECD, the implications of failing to measure this component of spending are more serious. In cases where 20 percent, 30 percent, or more of a country's total education spending comes from private sources, expenditure figures that leave out the private contribution would have little value for international comparisons. To produce usable figures, the countries concerned would have to fill the data gaps, either by constructing estimates or by collecting new data on the hitherto neglected private outlays. Fortunately, it appears that a number of Latin American countries already have some or all of the data needed—whether from household surveys, economic censuses, or special studies—to produce respectable estimates of private spending. The following are the situations in the few countries for which I have firsthand information:

Colombia. Private spending for private institutions is not covered by Colombia's education finance statistics but plays an important role in the national system of education finance. Its importance stems from a combination of the country's high rates of private enrollment—about 20 percent at the primary level, about 37 percent at the secondary level, and on the order of 60 percent at the university level—and the almost total dependence of the private schools on tuition fees and other private funds. The omitted funds from private sources account for a significant fraction—perhaps a third—of the nation's total education spending.

But the Colombian authorities seem to have sufficient information at their disposal, even without new data collection, to construct good estimates of private expenditures. The possibilities include (1) using existing household survey data to estimate family spending for each level of private schooling, (2) combining statistics on numbers of private school teachers and information on average teacher salary to estimate the teacher-salary portion of private school costs (this is the method that the United States has used to produce rough estimates of private school spending for OECD), and (3) drawing on private school "declarations of cost" and special studies carried out in the past to establish a cost basis for tuition fees. At the university level, the national association of universities apparently has conducted studies that could be used to develop cost estimates. Given these options, it seems likely that effective steps could be taken to close what is clearly the most important gap in Colombia's expenditure figures.
Chile. One must distinguish in the Chilean case between private schools financed primarily by central government subventions (establishimientos particulares subvencionados) and private schools that do not receive public funds (establishimientos privados pagados). These correspond to the OECD categories of government-dependent and independent private schools. Fees paid by parents to the government-subsidized private schools are included in Chile’s expenditure statistics, but there is reason to believe that the reported amounts understate the true family contributions. It seems that in addition to the official, reported fees, parents make various kinds of informal payments or donations. The financial system offers a strong incentive for institutions to prefer these “off the books” payments: The central government subvention to a private school is reduced by a percentage of the school’s tuition revenue. Consequently, the true private share of spending may be significantly greater than what the published figures suggest.

No statistics are collected on the finances of the privado pagado institutions, and both the institutions and their association are said to be secretive about the subject. These schools account for 17.2, 8.2, and 11.5 percent, respectively, of Chile’s total enrollment in preprimary education, educación básica, and educación media. Almost certainly, they spend considerably more per student than either the public schools or the subsidized private schools. Their unreported expenditures probably amount to 15 percent or more of total national spending for preprimary, primary, and secondary education. (Note, moreover, that this figure does not take into account private payments to private pre-universitarios and proprietary vocational schools).

Fortunately, there seem to be several possibilities for estimating the missing private outlays for private schools. From time to time, Chile conducts a household expenditure survey (the most recent was in 1996) that covers family education expenditures, disaggregated by level of education. It would be necessary to review the survey questions carefully to determine which elements of education spending are taken into account, and in what detail; but it seems likely that the survey data could be used to estimate the main categories of private spending. A second option would be to undertake a sample survey of the finances of private institutions, but I do not know whether such a survey is legally or politically feasible in the Chilean context. A third, cruder option would be to use data on the numbers and the salaries of private school teachers as the basis for estimating costs (as suggested above for Colombia). I have been told by Education Ministry officials that some estimates of private school costs have been prepared, but I do not know how comprehensive these are, or what methods or data sources were used.

At the postsecondary level, the lack-of-coverage problem is far worse. More than half (52 percent) of Chile’s postsecondary students attend institutions outside the traditional university sector (private universities, professional institutes, and centers for technical training) that are financed almost entirely from student fees and other private sources. These institutions’ expenditures are not reflected in official statistics. Also omitted are the net tuition fees and other private funds received by the traditional, government-funded private
universities. It seems likely, given all these omissions, that Chile’s published expenditure figures (Ministerio de Educación, 1997) represent no more than about one-third of total national spending for postsecondary education, which clearly renders them unsuitable for international comparisons.

But again, information seems to be available that could be used to assemble more comprehensive figures. Each of the 25 traditional universities is required to submit its planned and executed annual budget to the Education Ministry. All or most of the other private postsecondary institutions send annual finance data to the National Council for Higher Education. It appears, therefore, that reasonably complete expenditure figures could be assembled by aggregating the individual institutional budgets. In addition, the aforementioned household expenditure surveys could yield useful information on the amounts paid by students and families for all types of postsecondary education. I do not know whether the Education Ministry has attempted in the past to use these data sources to estimate total postsecondary spending, but there is no obvious technical impediment to such an exercise.

Argentina. In 1996, Argentina’s private schools enrolled more than 30 percent of the country’s preprimary students, 21 percent of basic education students, 29 percent of students in educación media, and 34 percent of students in nonuniversity tertiary education (Ministerio de Cultura y Educación, 1997). Most of the private institutions, especially the Catholic schools, are publicly subsidized, but some are entirely privately supported. The subsidies, which vary by province, cover between 40 and 100 percent of expenditures for teaching personnel, leaving the remainder to be covered by fees and other funds from private sources (Flood et al., 1997).

Argentina’s standard education finance statistics cover only the public subsidies for these schools, not the tuition fees or any other private funds. Judging from the enrollment figures, the resulting expenditure gap may be on the order of 15 percent or more of total national spending for the levels of education in question. According to Education Ministry officials, however, Argentina’s Economic Census of 1994 provides data, disaggregated by level of education, on the finances of private educational institutions. Argentina intends to use, or has already used, that information to produce expenditure figures for the OECD/UNESCO World Education Indicator project. In addition, existing household survey data should be usable for constructing expenditure estimates (I do not know in what level of detail). Argentina seems to be well positioned, therefore, to produce statistics covering funds from private as well as public sources, even though it has not customarily done so in the past.

At the postsecondary level, approximately 120,000 students attend Argentina’s private institutions, as compared with about 800,000 students in the public universities. The private institutions receive no public funds; no statistics on their finances are collected; and it appears that they do not submit budgets to any government agency. As a result, something on the order of one-eighth of total university spending is missing from national expenditure statistics. I do not know whether the aforementioned economic census covers these institutions. If not,
it may still be feasible to develop estimates from the aforementioned household surveys or by collecting budget data from all or a sample of the private institutions.

In sum, large blocks of private spending for all levels of education have been omitted from each country's national expenditure statistics, but data seem to be available in most instances, either from institutional budgets or from economic censuses or household expenditure surveys, that could be used to estimate the missing outlays and to fill the expenditure gaps.

Direct Household Purchases of Items Used in Education. In addition to expenditures of educational institutions, a complete tabulation of a country's education spending would have to include amounts spent directly by families to purchase items needed for their children's education. Depending on the country and on the level and type of education, the directly purchased goods may include such things as textbooks and other instructional materials; items of instructional equipment such as calculators; writing implements, notebooks, and other supplies; school uniforms; and athletic apparel and equipment. Because the outlays for such items appear only in student or family budgets, not in the budgets of education agencies or institutions, they are not ordinarily reflected in education accounts or education finance statistics. Yet they need to be taken into account (and the OECD guidelines call for them to be taken into account) to provide a full picture of the resources each country devotes to education.

Direct household purchases account for only a small percentage of total education spending in most OECD countries, but in Latin American and other developing countries the percentage is likely to be higher. This is so not only because prices of the purchased goods are relatively low in the OECD countries compared with the costs of hiring teachers and operating schools, but also because schools in the wealthier countries are likely to provide some items that families in less-wealthy countries must purchase themselves. It follows that omitting the household purchases results in greater percentage understatements of total education spending in the developing than in the developed world. At the same time, the obligation to buy certain educational resources directly imposes much more of an economic burden on families in low-income than in high-income countries. These points underscore the importance of including the direct household purchases in Latin American figures on education finance.

Only a minority of the OECD countries have been able to provide data on direct purchases by households. Such data can be obtained only from household expenditure surveys detailed enough to separate the direct purchases from both other education expenses and related consumption outlays. A few countries (e.g., France) conduct special diary-based surveys specifically for this purpose. Household expenditure surveys in general seem to be at least as prevalent in Latin America as in OECD, but it remains to be determined whether the Latin American surveys have been structured in a way that will yield the desired expenditure figures.
General Implications. Private spending accounts for such a large proportion of total education spending in some Latin American countries that international comparisons limited to public expenditures would be seriously misleading. To illustrate, Colombia has reported that it spends 3.9 percent of GDP on education, a figure similar to that reported by other Latin American countries, but far below the 6.1 percent of GDP spent, on average, by the member countries of OECD. But the 3.9 percent figure excludes private funds. Considering that about one-third of Colombia's students attend privately financed private schools, it seems likely that the inclusion of private spending would raise the Colombian percentage of GDP to around 6 percent—or essentially the same as that of the developed world. In an international comparison that excluded private spending, Colombia would be identified as a developing country that invests a relatively small share of GDP in education, whereas, in fact, it invests at a rate fully comparable to rates in the industrialized countries. The comparison based only on public expenditures would be not just inaccurate but qualitatively false.

As to the prospects for improvement, one can only be encouraged by the finding that each of the three countries examined seems to be well-equipped to produce respectable estimates of private expenditures for education. In fact, each of them seems to be better endowed with the statistical resources needed for that purpose—whether economic censuses or detailed household expenditure surveys—than many of the member countries of OECD. Of course, there are no grounds for generalizing to Latin America as a whole. The less-statistically-advanced countries may not have similar capabilities. Further, the question remains unanswered of whether the countries concerned will be willing to produce estimates of private spending, considering both the costs involved and the potential political sensitivity of the findings.

Coverage of Particular Functions, Services, and Elements of Cost

Even where no education sectors, institutional types, or funding sources have been omitted, the statistical coverage of a country's education expenditures may be incomplete because certain elements of spending have not been taken into account. These omissions rarely concern such core categories of spending as teacher salaries but rather arise in connection with more peripheral expenditure items. In OECD, significant inter-country disparities existed in the coverage of spending for education support functions, ancillary services for students, pensions and other forms of nonsalary compensation of education personnel, and certain education-related functions of institutions of higher education. It appears that some of the same categories will also prove problematic in comparing the expenditures of Latin American countries.

Expenditures for Support Functions

We found in the OECD work that expenditures for building maintenance, financial and personnel management, and other administrative and support functions tend to be underreported when such functions are performed by general-purpose local or regional governments (a general-purpose government is one responsible not only for education but also
for a range of other public services). For example, the same municipal employees as are assigned to clean and maintain the local schools may also clean and maintain other local government buildings. Their salaries may be reported as spending for municipal public works rather than as spending for education. When this occurs, an element of education cost "disappears" from the education accounts, and education spending is correspondingly understated. These problems generally do not occur when the functions in question are performed by independent education agencies (such as U.S. local school districts) or fiscally independent institutions (such as autonomous national universities). Thus, differences in governance structure translate into different degrees of statistical coverage of education spending.

In some Latin American countries, the support functions in question are performed by local governments (e.g., Chile); in others, they are carried out mainly by regional authorities (e.g., Argentina, Mexico); and in still others, they are divided between regional and local-level authorities (e.g., Brazil). One suspects—although this requires confirmation—that expenditures for the various administrative and building-related support functions would be included in education spending to different degrees under these diverse national arrangements. To ascertain the facts, it would be necessary to review in some detail the methods and instruments used in each country to obtain data on subnational government expenditures. In Chile, for example, data on all municipal expenditures, including expenditures for education, are collected by the Ministry of the Interior (Ministerio de Hacienda), while in Argentina data on the finances of the provinces are assembled by the Ministry of the Economy. One presumably could learn from each agency precisely how the education category is delimited for the purpose of this data collection and whether there are other headings—general administration, public works, or other "overhead" categories—under which some education-related expenditures are reported. Such an exercise could establish whether significant items have been omitted and, perhaps, provide a basis for estimating the missing amounts.

Expenditures for Ancillary Services

The term "ancillary services" embraces such things as student transportation; health, psychological, and other student welfare services; the provision of meals in school; and sometimes the provision of student housing. Based on the earlier comparability research, we can say that whether, or to what extent, the costs of such services are captured in education finance statistics is likely to depend on who bears the costs. When the education authorities themselves pay for and provide the ancillary services, the outlays usually are reported as education spending; when a different government agency bears the responsibility (e.g., a local health or transportation agency), the outlays often do not show up in education accounts. When ancillary services are financed wholly or in part by fees collected from students or their families, expenditure statistics sometimes take into account only spending net of fees. In cases where no organized services are provided by the education system and families are required to provide the services themselves (e.g., to transport their children to and from school), the costs to the families are rarely, if ever, reflected in any education statistics. Thus, differences in how
service provision is organized can translate into variations in statistical coverage, and consequently into errors in international comparisons.

It appears that similar variations in the coverage of ancillary services outlays will be encountered in Latin America. Although I have only fragmentary information on how such outlays are handled in the statistics of particular countries, I note some situations similar to those found in OECD: In Colombia, student transportation is mainly paid for by families and not reflected in expenditure statistics. Student meals are partly funded by the Ministry of Health, but the costs may not appear in education accounts. In Argentina, municipalities provide some funds for student meals, while local transportation systems subsidize student transport; but these outlays seem not to be reported as education expenditures, and the fees that families pay for these services are not taken into account. The Chilean statistics explicitly include certain expenditures for student meals, but family contributions are not reported. Extrapolating, one can infer that outlays for ancillary services will be covered incompletely in many cases.

Pensions and Other Forms of Nonsalary Compensation

The nonsalary components of personnel compensation include expenditures for retirement programs (pensions) and such other fringe benefits as health insurance and unemployment compensation. These expenses account for a substantial percentage of total education spending—sometimes more than 25 percent of spending for staff salaries. In the OECD work, inconsistent coverage and inconsistent measurement of fringe benefit costs were identified as major comparability problems. Some countries omitted all or most pension costs from their education expenditure figures, usually because the costs are covered by general social security or civil service retirement plans rather than by separate education retirement systems. Of the countries that did include retirement costs, most reported contributions flowing into pension funds, but a few reported pension payments to retirees. The two measurement methods are seriously incompatible. Similarly, outlays for health care and other fringe benefits were reflected in the expenditure figures of some OECD countries but not others, and such outlays were not always measured consistently.

Each of the three Latin American countries for which I obtained firsthand information includes all or most costs of retirement programs and other fringe benefits in its expenditure figures. Further, each measures retirement costs in the OECD-approved way—that is, in terms of contributions flowing into pension plans. Specifically, Colombia’s statistics cover the main nonsalary components of staff compensation, pension contributions, outlays for health services, and payments into an unemployment fund, at least for teaching personnel. Chile’s figures on personnel compensation cover gross remuneration, which includes salary plus labor tax plus required contributions for retirement and health (the fringe benefit items amount in the aggregate to 23 percent of gross salary). Argentina’s numbers cover gross salaries (from which employee contributions for pensions, health care, and other social insurance are deducted) plus employer contributions for the same benefits. In the Argentine case, the figures on retirement spending apparently are incomplete in one respect: They do not reflect
extra outlays made through the social security system (financed from general taxes) to compensate for a gap between pension payments and current retirement contributions (i.e., underfunding). Even so, it seems fair to say that all three countries provide more thorough and consistent statistical coverage of pensions and other fringe benefits than do (or did) many of the member countries of OECD.

Of course, these positive findings do not necessarily apply to Latin America as a whole; in particular, there is reason to believe that other countries' methods of dealing with pension outlays may be less satisfactory. According to information obtained from World Bank staff, for example, a conspicuously large fraction of Peru's reported education spending consists of pension payments to retired former educators (instead of, or in addition to, contributions to pension plans). If so, that country's figures would be incompatible with those of the three countries discussed above. Further, the problem of underfunded pension plans, mentioned above in connection with Argentina, is believed to occur in more than a few Latin American nations. It would be premature, therefore, to reach a conclusion as to the potential seriousness within Latin America of comparability problems associated with retirement programs.

Expenditure Items Peculiar to Postsecondary Education

Several comparability issues pertain exclusively or mainly to postsecondary, especially university, education. I comment briefly on three such issues, each of which was important enough in OECD to seriously distort comparisons of postsecondary spending.

Expenditures for Research. OECD countries initially disagreed sharply, and still disagree to some extent, about which types of spending for university research should be treated as part of expenditure for postsecondary education. Because some countries' expenditure figures covered essentially all research spending, while others' covered only a portion of spending (usually the portion inseparable from expenditures for teaching), inter-country comparisons were often misleading. The UOE definitions call for comprehensive coverage, but not all countries have been able or willing to comply. OECD's attempts to circumvent the problem by excluding specified types of research funding in an internationally consistent manner have not yet succeeded. Consequently, uneven coverage of research spending remains an impediment to valid comparisons among the OECD countries.

It appears that some Latin American postsecondary expenditure figures also reflect less than complete coverage of research funding. The budgets of Chilean universities include the full salaries of teaching personnel, portions of which can be attributed to research, plus certain funds explicitly designated for research. Nevertheless, they omit research funds channeled to university faculty members outside the regular university budget by public agencies responsible for science and technology, and perhaps some research funds from private sources. Essentially the same applies to the university expenditure figures for Argentina. It is not clear whether the omitted elements of research spending are significant in these cases, or whether greater or lesser gaps in coverage may exist elsewhere in Latin
America. The OECD experience suggests, however, that the issue is potentially serious and deserving of further attention.

**Expenditures for Hospitals.** The inclusion of expenditures for university-affiliated hospitals in the postsecondary spending figures of a few OECD countries skewed comparisons with other countries—the great majority—that excluded hospital costs. To deal with this problem, OECD has stipulated that hospital expenditures generally should be excluded, and most OECD member countries have complied. It appears that some Latin American countries would have to make similar adjustments to avoid comparability problems. In Chile, the budgets of at least four universities include substantial expenditures for university-affiliated hospitals. These outlays are partly offset by patient fees and contributions from the Ministry of Health, but the remainder is treated as part of education spending. Similarly, a substantial portion of the cost of hospitals affiliated with Argentine universities is included in university budgets (another portion is covered by the Ministry of Health), and hence in statistics on postsecondary expenditures. Both countries, and probably others, would have to delete the hospital expenditures to produce figures suitable for international comparisons.

**Financial Aid and Subsidies For Student Living Expenses.** OECD’s expenditure statistics initially failed to distinguish between expenditures for postsecondary institutions and subsidies for the living expenses of postsecondary students. Some countries commingled the two, while others omitted the subsidies. As a result, the expenditures reported by countries with generous student subsidies were misleadingly high. OECD has since dealt with this problem by distinguishing sharply in its statistics between institutional expenditures and student subsidies. Nevertheless, other aspects of the treatment of financial aid to students remain problematic. Some countries have difficulty separating subsidies for tuition fees from subsidies for student living expenses; some do not account adequately for student loans; and some offer various types of indirect subsidies to students that are not captured by expenditure statistics. These problems continue to detract from the accuracy of OECD’s postsecondary expenditure comparisons.

In Latin America, the problem of distinguishing between institutional expenditures and student subsidies is likely to be of relatively minor significance, partly because Latin American expenditures for such subsidies seem to be very modest. In Argentina, for example, students attending public universities receive small amounts of aid from the government (becas) plus additional grants from the individual institutions. Because the institutions do not charge tuition fees, such payments are easily identified as subsidies for student living expenses and can be separated from other postsecondary outlays. But Chile’s situation is more complicated. University students pay tuition fees, which may be offset by different forms of financial aid. Scholarships and government loans, which are available only to students attending the country’s 25 traditional universities, are reflected in the country’s postsecondary expenditure statistics, but government-subsidized private bank loans (the only financial aid available to students in other types of postsecondary institutions) are omitted. To prepare its statistics for international comparisons, Chile would not only have to fill this data gap but also to determine what portion, if any, of its financial aid translates into subsidies for student living
expenses, as opposed to tuition offsets. More generally, it appears that several Latin
American countries—Brazil is an important example—provide much of their financial aid to
students as loans rather than as scholarships. Student loans, especially those provided by
private lenders, have not been covered adequately in the finance statistics of some OECD
countries (the prime example being the United States), and special efforts may be needed to
ensure their proper representation in statistics developed in Latin America.

**Enrollment, PPP, and Expenditure Per Student**

In addition to statistics on spending for each level of education, two additional items
are essential to produce expenditure-per-student figures that can be compared internationally:
(1) statistics on full-time-equivalent (FTE) enrollment; (2) the purchasing-power-parity (PPP)
exchange rates needed to convert each country’s currency units into equivalent U.S. dollars.

**Full-Time-Equivalent Enrollment**

An important finding of the Expenditure Comparability Study was that major errors in
comparing spending per student, especially at the postsecondary level, can arise from
internationally inconsistent measurement of full-time-equivalent enrollment. The root of the
problem in the case of postsecondary education is that some countries do not recognize the
concept of “part-time university student.” In particular, because many continental European
countries count all university enrollees as full-time students, even though many students really
participate at low levels, their figures on spending per student are misleadingly low relative to
those of countries (such as the United States and Canada) that count each part-time
participant as only a fraction of a full-time enrollee. For instance, it has been estimated that
Germany’s spending per tertiary student could be understated by as much as 30 percent for
this reason alone.

Although I do not have detailed information on Latin American enrollment statistics, I
infer from discussions with Education Ministry officials that at least some Latin American
countries follow the continental European practice—that is, they do not differentiate in their
postsecondary enrollment figures between full-time and part-time attendees. If so, their
expenditure-per-student figures will be biased downward in the manner indicated above, and
comparisons between countries with different mixes of full-time and part-time students will be
inaccurate. The remedy is to calculate true FTE enrollment figures that take both the
incidence and the degree of part-time study into account. The only alternative is to exclude
the countries unable to produce such figures from comparisons of spending per postsecondary
student.

**Purchasing-Power-Parity Exchange Rates**

Although some writers have translated Latin American figures on per-student and per-
capita expenditures into U.S. dollars by applying ordinary market exchange rates, this
approach does not yield satisfactory international comparisons. The reason is that market
exchange rates reflect many factors other than the relative purchasing power of the currencies in question—interest rates, trade policies, economic stability, and the like. To represent the relative purchasing powers of different currencies more accurately, the World Bank, OECD, and other international agencies increasingly rely on purchasing-power-parity, or PPP, exchange rates to compare such basic economic variables as total and per capita GDP. PPP rates are constructed (in essence) by determining how much it costs in each country, in units of national currency, to purchase a specified standard market basket of goods and services, and then comparing the results across countries. OECD uses these PPP rates to compare education spending per student, and it will be important for the Latin American countries to do the same.

To illustrate the significance of using PPPs, the average market exchange rate for Chile in 1995 was 396 pesos per U.S. dollar, but the PPP rate, as reported by the World Bank, was only 170 pesos per dollar. Thus, Chilean spending per student, expressed in U.S. dollars, would have appeared 2.3 times greater (396/170) according to a PPP conversion than according to the conventional market-rate conversion. The switch to PPPs will have similarly dramatic effects on the expenditure-per-student figures of many other Latin American countries. The effects will be most pronounced when comparing spending per student or per capita expenditures between Latin American countries and the wealthier OECD member countries, but comparisons within Latin America, especially between higher-income and lower-income countries, should also be affected to a significant degree.

IV. Comparisons of the Compositions of Education Expenditures

The four main aspects of the composition of education expenditures reflected in OECD's array of international finance indicators are distributions by institutional auspices (public or private), level of education, source of funds, and use of funds (nature and resource category). The public-private distinction has already been considered; the other dimensions are examined here. Several additional aspects of the composition of spending are potentially relevant to policymakers—for instance, a breakdown by functional category (instruction, administration, building-related services, ancillary services, etc.) or by mode of service provision. But the lack of international frameworks for such breakdowns and the nonexistence of suitable data in most countries places such classifications beyond the current state of the art.

Categorization of Expenditures by Level of Education

Although statistics on aggregate spending for all levels of education combined are useful for certain broad-brush international comparisons, most comparisons useful to policymakers require expenditure figures for particular stages of the educational process. At a minimum, it is essential to separate spending for postsecondary education from spending for preprimary through secondary schools, and then to distinguish, within the latter category, among at least preprimary, primary, and secondary education (or, in the Latin American
context, between educación básica and educación media). For some purposes, more detailed distinctions between levels are required, as, for instance, between lower-secondary and upper-secondary education or between university-level and non-university postsecondary education. The validity of all but the most aggregative expenditure comparisons (not to mention comparisons of enrollment, staffing, etc.) depends on the degree to which the levels and their definitions are standardized across countries.

Three difficulties in categorizing education programs by level will affect expenditure comparisons in Latin America. The first problem, which is of worldwide rather than just regional significance, is that there are serious flaws in ISCED, the International Standard Classification of Education (in Spanish, Clasificación Internacional Normalizada de Educación, or CINE)—the long-established international taxonomy on which the OECD and UNESCO classifications of education programs by level are supposed to be based. Because the ISCED levels have been only loosely and vaguely ("flexibly") defined, each country has had considerable leeway to define them for itself. The result has been that different countries sometimes have applied such seemingly standard labels as "primary," "lower secondary," and "nonuniversity tertiary" to programs that differ drastically in duration and/or educational content, and that cannot legitimately be compared. UNESCO and OECD have introduced, and are in the process of implementing, a revised version of ISCED, intended to provide a stronger foundation for internationally comparable statistics. Elsewhere, I have argued that the new version is likely to enhance international comparability in some respects but also to introduce new comparability problems, especially at the postsecondary level (for details, see Barro, 1995, 1997b). Whether the net effect is positive will become apparent only as the new taxonomy is implemented by individual countries around the world.

The second problem is that the levels recognized by Latin American countries for statistical purposes deviate in several respects from both the old and the new ISCED categories. One difference is that the Latin American statistics generally emphasize the distinction between educación básica (usually spanning 8 or 9 years) and educación media (usually lasting 3 or 4 years), whereas the OECD statistics focus on the distinction between primary and secondary education (each nominally lasting 6 years, but with considerable inter-country variation). Other important differences include the following:

- Some Latin American countries produce finance statistics only for preprimary and primary education combined (or only for preprimary education and educación básica combined), not for the individual constituent levels.

- Some countries treat special education, adult education, and certain education support services as activities falling outside the classification by level, whereas the ISCED and OECD instructions stipulate that all such activities should be assigned to, or apportioned among, particular levels.

- Some countries do not distinguish between the university and nonuniversity levels of postsecondary education in a manner compatible with the ISCED definitions.
• Some countries report substantial fractions of their education expenditure as “not allocated by level,” a practice that detracts from comparability and that is strongly discouraged by the OECD/UOE guidelines.

Each Latin American country that follows one or more of the aforesaid practices would have to modify its statistics to make them internationally comparable within the OECD framework.

The third problem is that methods of categorizing programs by level vary considerably from one Latin American country to another. To illustrate, consider the differences in the nationally defined durations of primary, lower-secondary, basic, and upper-secondary education among a few selected countries:

<table>
<thead>
<tr>
<th>Country, Country, Country</th>
<th>Primary</th>
<th>Lower-Secondary</th>
<th>Basic (Primary + Lower-Sec.)</th>
<th>Upper-Secondary (Media)</th>
<th>All Primary-Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina, Paraguay, Uruguay, Mexico</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Brazil</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Chile</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Colombia</td>
<td>5</td>
<td>4</td>
<td>9</td>
<td>2</td>
<td>11</td>
</tr>
</tbody>
</table>

The variations in the duration of basic education (8 or 9 years) and all primary-secondary education (11 or 12 years) are not problematic, and are similar to variations among the OECD countries. But the variation in the duration of primary education—4, 5, or 6 years—is more troublesome. For example, a comparison of the share of GDP devoted to primary education between a country with a 4-year primary program and a country with a 6-year primary program would have a built-in 50 percent comparison error. It would not be reasonable to present such a comparison in an international indicator report.

Thus far, OECD has been reluctant to ask countries to organize statistics according to standardized levels that may not correspond to their own national institutional stages—for example, to define primary education (for purposes of international comparison only) as the first six years of primary-secondary schooling. The lack of such standardization has prevented the inclusion of such variables as “percentage of GDP devoted to primary education” in the OECD indicator set. Unless the Latin American countries decide to impose more strictly
standardized definitions of levels than have been imposed by OECD, the same limitations will apply to comparisons within the Latin American region.

To appreciate in more detail what national statisticians would have to do to produce internationally comparable expenditure breakdowns, consider how expenditures are now categorized by level in some of the individual Latin American countries:

**Argentina.** The Argentine Ministry of Education reports expenditures for four broad levels of education, designated (1) elemental, (2) media y técnica, (3) superior, no universitario, and (4) superior, universitario. A fifth category covers gasto sin discriminar—that is, expenditure not allocated by level.

Gasto elemental comprises expenditures for both educación inicial and educación primaria. Inicial is equivalent to preprimary, but “primaria” is not equivalent to the ISCED category of primary education; rather, it corresponds to basic education, or primary and lower-secondary education combined. To make its categories compatible with OECD’s, Argentina would have to decompose gasto elemental into spending for preprimary and basic education, and then to subdivide the latter into primary and lower-secondary components. According to Education Ministry officials, most provinces can do the former, as they already distinguish between spending for preprimary and basic education, but separate statistics on spending for primary and lower-secondary education generally are not collected, even though these categories do correspond to structural distinctions within the educational system. Consequently, the distinction would have to be made artificially—that is, by prorating expenditures for basic education between the two categories.

Although Argentina’s distinction between the university and nonuniversity levels of higher education appears to correspond to the similarly labeled ISCED distinction, in fact it does not. The Argentine categories reflect an institutional/jurisdictional distinction rather than a distinction by type of program. The category “superior, no universitario” covers provincial institutions of less than university level; the category “superior, universitario” applies only to universities under the jurisdiction of the Education Ministry. The problem is that the universities offer not only long programs leading to a full university degree (licenciatura) but also some shorter programs that seem to belong in the ISCED nonuniversity category. To conform to the ISCED/OECD definitions, the Argentine authorities would have to subtract estimated outlays for the short programs from university expenditures and add it to nonuniversity spending.

Finally, Argentina’s practice (at least in the past) of reporting a substantial fraction—as much as 18 percent—of total provincial spending for education as “gasto sin discriminar” is

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3 A complicating factor is that Argentina is in the midst of a transition from a 7-2 to a 6-3 year structure of basic education. The extant statistics on enrollment, etc. reflect the older pattern. But for purposes of international comparison, it would be much better to construct expenditure statistics according to the 6-3 pattern, which corresponds to the standard (new) ISCED definitions of primary and lower-secondary education.
a serious impediment to comparisons between Argentina and other countries. To deal with this problem, the Argentine statisticians would have to devise a method for distributing the currently unallocated funds among the individual levels.

**Chile.** The Education Ministry's annual statistical compendium presents expenditure figures for levels and types of education labeled (1) parvularia, (2) básica, (3) especial, (4) media, (5) superior, and (6) adultos. Parvularia corresponds to preprimary education, and educación media corresponds to upper-secondary education, so these categories can be used unaltered for international comparisons. The category educación básica, which combines primary and lower-secondary education, is suitable for comparisons with the basic education categories recognized by most other Latin American countries, but expenditures for educación básica would have to be split into separate primary and lower-secondary components to permit comparisons within the OECD framework.

The fact that Chilean educación básica has a duration of 8 years and is made up of two 4-year cycles adds to the problem (this point also applies to Brazil). As noted above, basic education lasts for 9 years in many other Latin American countries and, more important, the primary stage of basic education lasts 6 rather than 4 years in much of Latin America and in the majority of OECD countries. Possibly Chile (and Brazil) could construct artificial figures representing expenditures for the first 6 years of primary-secondary schooling. If not, comparisons between Chile and other countries of, for example, primary spending per capita and primary spending relative to GDP would be precluded. Fortunately, comparisons of spending per primary student probably would be affected only slightly by the same definitional difference.

Expenditures for special and adult education are treated as separate categories in the Chilean statistics but would have to be distributed among the regular levels of education to conform to the OECD/UOE specifications. According to Ministry officials, the data needed to accomplish that distribution already exist. Fortunately, Chile does not report any other expenditures as "not allocated by level" but instead allocates all administrative costs, subsidies, capital outlays, etc. to particular levels of education.

Chile's educación superior corresponds to postsecondary education, but Chile does not distinguish between nonuniversity and university postsecondary education in the manner specified in either the old or new ISCED. Chile's technical training centers, which offer short programs, clearly belong to the nonuniversity category, but the proper classification of the institutions called professional institutes is uncertain. These institutions, which offer 4-year, technically oriented programs, could be deemed equivalent to the German Fachhochschulen, and hence assigned to the university category, but some of their programs may be more appropriately classifiable as nonuniversity tertiary education. This matter requires further investigation.

**Colombia.** Colombia's expenditure statistics are organized according to classification system used by the International Monetary Fund (IMF). Expenditures are broken down into
seven categories, corresponding to different levels and types of education: (1) administración de la educación, (2) educación primaria, (3) educación secundaria, (4) educación superior, (5) otras enseñanzas, (6) otros servicios educativos y culturales, and (7) servicios auxiliares de la educación. Categories 2, 3, and 4, which include the great bulk of total spending, correspond to levels of education, but the remaining four categories cut across the levels. Colombia would have to assign all expenditures in the latter four categories to particular levels to conform to the OECD/UOE model.

Colombia's categories of educación primaria, secundaria, and superior would have to be disaggregated to correspond to the ISCED levels. Educación primaria encompasses both preprimary and primary education, and would have to be split between the two. Educación secundaria, which merges lower-secondary and upper-secondary education, is compatible with secondary education, as defined in ISCED. For comparisons within Latin America, however, it would be necessary to divide educación secundaria into lower-secondary and upper-secondary components, so that the former could be combined with primary to form a "basic education" category. Educación superior includes both university education and various kinds of less-elevated, mainly vocational-technical postsecondary schooling. It would have to be partitioned into university and nonuniversity components. I have the impression that existing data would support at least some of the needed restructuring, but a more thorough inquiry would be needed to determine precisely what can and cannot be accomplished.

In sum, the categories used to classify education expenditures by level in a number of Latin American countries diverge significantly from the OECD/ISCED categories and differ from one another. In part, these variations reflect differences in the underlying national structures of education, but also, perhaps in larger part, they seem to reflect differences in statistical traditions and practices. Clearly, some countries would have to modify their categories, subdividing and recombining levels and apportioning certain expenditure items among levels, to produce breakdowns by level of education that can be compared internationally. Some countries apparently have the detailed data needed to disaggregate their figures, but others would have to resort to artificial methods, such as prorating outlays in proportion to enrollments.

**Categorization by Source of Funds**

Before the development of the UOE finance data collection instrument and in the absence of a well-defined international accounting structure, countries used disparate, sometimes idiosyncratic, methods to distinguish between initial (before transfer) and final (after transfer) sources of funds, to differentiate between funds from public and private sources, and to calculate the shares of public education expenditures attributable to national, regional, and local governments. Gaps in the coverage of household and other private expenditures and confusion regarding the proper treatment of public-to-private transfer payments aggravated the disparities. OECD was unable to present coherent indicators of sources of education funds until the third (1995) edition of *Education at a Glance*. 
The key to improving the source-of-funds statistics was to develop a data collection instrument that (1) allowed for separate reporting of the education expenditures of central, regional, and local governments, households, and other private entities, and (2) distinguished clearly among direct expenditures for educational institutions, intergovernmental transfer payments (subventions), and transfer payments to households and other private entities. These breakdowns have made it possible to calculate in an internationally consistent manner the amounts of education money generated by, and ultimately expended by, each public and private funding source.

It appears that at least some Latin American countries will find it less difficult than did many of the OECD countries to produce internationally comparable breakdowns of spending by source of funds. Chile, for example, distinguishes very clearly among direct central government expenditures, central-to-local government transfers, and government subsidies to private schools. Colombia’s IMF-inspired categories differentiate in detail among the various types of direct expenditures and transfer payments. The relative simplicity of some Latin American financial systems is helpful in this regard. In Argentina, for example, the dominant role of the provinces in financing primary and secondary schools, and that of the central government in financing universities, together with the very limited scope of public subsidies to households, makes it relatively easy to sort out the initial and final sources of education funds. In a more complicated, multi-tier system such as Brazil’s, however, sorting out the different types of intergovernmental transactions may prove to be considerably more complicated.

One issue concerning sources of funds that has yet to be dealt with adequately by OECD concerns the role of general-purpose (as opposed to education-specific) intergovernmental transfers in education finance. In Argentina, for example, the provinces are said to be responsible for nearly all spending for primary and secondary education, yet almost 60 percent of all provincial revenue derives from general-purpose grants or shared revenues provided by the central government. One could argue, therefore, that although most explicit outlays for education are attributable to the provinces, a large share of spending actually originates at the federal level. The same could be said about the financing of the municipios that operate public schools in Chile or the financing of the regional or local authorities that run schools in such countries as the United Kingdom, Germany, Canada, and Brazil. OECD has not yet devised a method of representing these indirect financial contributions of central governments in its expenditure indicators, leaving users with an incomplete picture of how the responsibility for funding schools is apportioned in federal systems. Latin America, with its variety of federal and otherwise decentralized governance structures, seems to provide a fine setting for dealing with this thus-far inadequately examined aspect of education finance.

An issue that will definitely be more important in Latin America than it was in OECD concerns education funds from international, or foreign, sources. The funds may come from the World Bank and other international donor agencies, from foreign governments, or from private organizations, such as business firms or foundations. They may come as grants or
loans. The funds may flow to the receiving country’s central government, to a subnational public authority, or directly to public or private educational institutions. The existing international data collection instruments deal in only a rudimentary fashion with international transactions and do not cover the full range of possibilities. This appears to be an area where the OECD/UOE framework needs to be elaborated to meet the needs of Latin American and other developing countries.

Categorization by Use of Funds

To answer questions about how education funds are used (“what education money buys”), OECD has asked countries, first, to distinguish between current and capital expenditures and, second, to decompose current expenditures into outlays for specified categories of personnel and other resources. The distinction between current and capital spending generally has not been problematic, although a few countries with unusual methods of financing school buildings have had difficulty providing suitable data. However, OECD has found it very difficult to assemble internationally comparable data on the composition of current spending by resource category.

Although the distinction between spending for personnel and spending for other resources seems straightforward, in fact it is not. Differences in the division of responsibility for noninstructional functions, in the coverage of spending for ancillary and support functions, and in methods of accounting for contracted services have impaired comparisons of the share of total spending devoted to personnel. In addition, because some countries define “teaching personnel” more broadly than others, and because some countries can only report spending on all types of personnel combined, OECD has been unable to develop credible comparisons of the shares of personnel outlay accounted for by teaching staff, other professional and pedagogical staff, and support staff. Comparisons that would require more detailed expenditure breakdowns—for example, comparisons showing the percentages of education spending allocated to textbooks and instructional materials or to educational technology—have not even been attempted.

It appears that even more severe difficulties would be encountered in an attempt to compare the uses of education funds among Latin American countries. Colombia’s statistics, for example, distinguish between current and capital expenditures, but the only further distinction within current expenditure is that between personnel compensation (remuneración del trabajo) and outlays for all other types of resources (compra de bienes y servicios de consumo). There is no separation of the compensation of teachers from the compensation of other personnel. In fact, outlays for nonteaching personnel (e.g., persons who operate and maintain school buildings, provide clerical services, etc.) may not be fully covered in the finance statistics or, if covered, may not always be identified as personnel compensation.

Similarly, Chile’s statistics differentiate between current expenditures and capital outlay, but the only further distinction within current spending is that between remuneration of personnel and spending for all other goods and services (“funcionamiento”). Disaggregation
by type of personnel does not appear to be feasible (although the possibility of using nonfinancial data files, such as personnel records, for that purpose may be worth exploring). In the Chilean case, moreover, there is the even more serious practical problem that statistics are not collected on uses of education funds by either the municipios (which operate the public schools) or the government-subsidized private schools. The aforesaid expenditure breakdown pertains only to the national Education Ministry’s own direct outlays. It is possible that use-of-funds figures for the municipio schools could be derived from general municipal finance data collected by the Ministerio de Hacienda, but the feasibility of this approach needs to be confirmed. It seems unlikely that Chile will be able, in the short run, to present usable statistics on the breakdown of current spending by resource category.

Argentina’s expenditure statistics, too, seem to differentiate mainly among spending for personnel, spending for other current goods and services, and capital outlay. (The inclusion of transfer payments in some Argentine tabulations is problematic, as it seems to imply that the figures do not really represent a breakdown by final uses of funds.) Potentially promising for the future, however, is a separate breakdown of expenditure for teaching personnel (broadly defined) according to “función educativa.” The functional categories include classroom teaching, several subcategories of management and administration, and teaching assistance. This mode of disaggregation may be helpful for implementing the OECD distinction between teachers and other educators, although it clearly is not equivalent to the OECD classification.

One can infer from these cases that many, probably most, Latin American countries will be unable to break down spending by use of funds in the detail called for by the UOE data collection instrument. That this is so is hardly surprising, considering that many OECD countries also have been unable to respond as requested. The implication is that it probably will not be feasible in the near term to produce valid comparisons of the resource mixes in different countries’ schools. The problem is not insoluble. It can be addressed by developing more detailed expenditure figures, perhaps by merging information from personnel data bases into education finance statistics. Realistically, however, the amount of effort that each country would have to exert to develop such data makes any such solution a long-term prospect.

V. Findings and Conclusions

This final section offers some general but necessarily highly tentative conclusions, a summary of the inquiry’s main substantive findings, and suggestions regarding next steps for enhancing the international comparability of Latin American education finance statistics.

Conclusions

Obviously, one cannot offer definitive conclusions on the basis of partial information for three countries and bits of information for a few more. Pending a broader and deeper
inquiry, I present two interim conclusions—or, perhaps more accurately, conclusions that I suspect would be confirmed by a full-scale inquiry:

First, the existing national education finance statistics of Latin American countries cannot be used "as is" for international comparisons of spending. Each country's statistics are too closely tied to that country's own institutional structure and policy concerns to be suitable for that purpose. In light of the OECD experience, it would be remarkable if matters were otherwise. Very few OECD countries have been able to use their standard national statistics, without substantial alteration, to respond to the OECD/UOE data collection effort. When and if a serious international comparison project is launched within Latin America, it will be necessary to determine, one country at a time, what extensions and modifications of normal education expenditure statistics are necessary to reach a reasonable standard of international comparability.

Second, conditions appear generally favorable, at least in some of the more advanced Latin American countries, for developing finance statistics that will be comparable not only within Latin America but also between the Latin American countries and countries outside the region whose statistics conform to the OECD framework. In a number of ways, the prospects for valid comparisons seem more favorable in the Latin American countries for which I have firsthand information than they were for some OECD countries just a few years ago: There seem to be fewer major data gaps to fill, less troublesome definitional idiosyncrasies to deal with, and more adequate statistical resources on which to base estimates of private expenditures. If the question is whether it will be feasible for these Latin American countries to develop finance statistics that satisfy the OECD/UOE standards, then I feel confident that the answer is "yes."

Main Substantive Findings

The following are the main findings of this preliminary assessment of the coverage and categorization of expenditures in Latin American education finance statistics. Naturally, these findings pertain only to the specific countries for which information has been obtained. They do not necessarily apply—and in some instances are known not to apply—to Latin American countries in general.

Coverage of Public Expenditures

The following are the key points concerning the statistical coverage of government expenditures for education:

First, the statistical coverage of public education expenditures in the three countries for which firsthand information was obtained appears to be relatively comprehensive, except for the specific, generally correctable, omissions noted below.
Second, there is reason to believe that the coverage of public spending—in particular, spending by subnational governments—is not similarly comprehensive in such other countries as Brazil, but there is no way to determine the nature and seriousness of the data gaps in these countries without obtaining direct information from the respective national authorities.

Third, certain sectors, programs, and institutions not customarily counted as parts of education by the countries concerned, but that do fall within the international (OECD) definition of education, generally are not covered by official education finance statistics. These omitted activities include:

- preprimary programs operating outside the official education system
- vocational-technical training programs operated by labor or employment ministries or other noneducation agencies
- public programs of adult and informal education

It appears that expenditure figures for such programs generally do appear in public finance statistics, but not under education headings. Thus, it should be possible in the short term to fill the gaps in the education spending figures.

Fourth, it is suspected but not confirmed that the following elements of education cost are significantly underreported by some countries:

- costs of support services provided by general-purpose local governments
- costs of various ancillary services provided by noneducation authorities and/or funded in part by families through fees

These gaps in coverage would be more difficult to fill than the ones mentioned above. The effort would require an analysis of how each country provides the services in question and a careful review of subnational financial accounts. This is clearly a longer-term data improvement task.

Fifth, unlike some of the OECD countries, the Latin American countries from which I obtained firsthand information do appear to provide full or near-full coverage of expenditures for pensions and other forms of nonsalary compensation, but there is some reason to believe that other countries in the region may provide less adequate treatment of pension outlays.

Sixth, in addition to the issues affecting education in general, certain special issues affect comparisons of spending for postsecondary education. The postsecondary expenditure figures of some Latin American countries would have to be modified to deal with disparate coverage of research expenditures, the unwarranted inclusion of outlays for university hospitals, and the commingling of institutional expenditures with subsidies for student living expenses. Of these, only the treatment of research expenditures poses a serious problem. In
addition, however, valid comparisons of spending per postsecondary student would require standardized measures of full-time-equivalent postsecondary enrollment—an item that many Latin American countries (as well as some OECD countries) could not easily provide.

Coverage of Private Expenditures

Incomplete, often nonexistent, statistical coverage of private spending for education is perhaps the single most important obstacle to valid expenditure comparisons both among the Latin American countries themselves and between Latin American countries and countries in other regions. The lack of data on private spending is a more serious problem in the Latin American than in the OECD context because of the large role played by private funding of private institutions in many Latin American education finance systems. Until suitable private spending figures are produced, we will be limited to potentially misleading comparisons covering only public-sector spending.

Fortunately, at least some Latin American countries appear to be well equipped with the statistical resources—economic censuses, household expenditure surveys, and institutional budgets—needed to estimate private outlays. The ability and willingness of the individual countries to produce such estimates will determine whether and when useful expenditure indicators for Latin America can be developed.

Categorization of Expenditures by Level of Education

Latin American countries categorize expenditures by level according to categories that deviate from the ISCED categories underlying OECD's statistics and that are often inconsistent among the Latin American countries themselves. As a result, many comparisons of spending for specific levels of education, as well as comparisons of the distribution of funds by level, are either impaired or precluded. The apparently fairly common practice of placing some categories of spending outside the classification by level aggravates the problem. To deal with these difficulties, some countries would have to realign their classification schemes, splitting and recombining levels and reallocating expenditures as necessary to produce internationally comparable figures.

Categorization by Source of Funds

It will probably be easier to produce an internationally standardized classification of education funds by source in Latin America than it was in OECD. Some complications are likely to arise in sorting out public-to-private and private-to-public flows of funds and dealing with the various forms of international aid for Latin American education, but these should not be too difficult to resolve. However, one issue concerning funding sources that OECD has not yet dealt with adequately will require attention in Latin America as well—namely, how general-purpose intergovernmental transfers to regional and local authorities responsible for schools should be taken into account in comparing sources of education funds.
Categorization by Use of Funds

The existing Latin American finance statistics do not allow meaningful comparisons of the composition of current expenditures by resource category. Even the most basic distinctions, those between personnel and nonpersonnel expenditures and between spending for teaching staff and other personnel, generally cannot be made consistently across countries. More detailed breakdowns of spending are ruled out by the lack of sufficiently disaggregated data. That such comparisons are infeasible is not surprising, considering that the capacity to make them is very limited in the OECD countries as well. Any solution to this problem is likely to require new data collection, which means that little improvement can be expected in the near term.

Next Steps Toward Improved Comparability

There are two kinds of “next steps” to discuss: substantive actions to deal with the already-identified limitations of the finance statistics of particular countries and steps to broaden the assessment so that it reflects more fully the situation in Latin America as a whole.

On the substantive front, the foregoing review of comparability problems has identified various actions that would have to be taken by the countries examined—and almost surely by other Latin American countries as well—to produce internationally comparable expenditure statistics. While all these actions would contribute to the validity of international comparisons, there is a need to set priorities among them. In this regard, the OECD experience provides a valuable lesson: It is important for an international comparison project to produce a usable, even if far from perfect, set of indicators at an early stage, and thus to demonstrate the feasibility and potential value of the endeavor to national policymakers, even if doing so necessitates deferring important but longer-term improvements. Accordingly, I would differentiate as follows between the initial and subsequent rounds of an effort to develop a set of education finance indicators for Latin America:

In the initial round, I would assign the highest priorities to these measures to enhance the international comparability of national expenditure figures:

- Short-term revisions to fill gaps and correct inconsistencies in the coverage of government spending for education—e.g., adding in the costs of preprimary and vocational training programs offered by noneducation agencies and deleting such extraneous items as outlays for university hospitals

- Development of estimates of private spending for both public and private educational institutions (even if it is necessary to rely initially on crude estimation methods)

- Reclassification of nationally reported expenditures to conform to the OECD/ISCED taxonomy of levels of education
A country that begins with respectable data on the expenditures of its public education authorities (as is certainly the case in Argentina, Chile, and Colombia, though apparently not in Brazil) and then accomplishes these three tasks should be able to reach at least a basic threshold level of international comparability.

Then, in subsequent rounds, I would pursue data improvement activities that are more analytically demanding and time-consuming or that require new data collection. These might include, but would not be limited to, efforts to (1) fill gaps in the data on education expenditures of subnational governments, especially in federal systems, (2) identify and estimate currently unreported outlays for education support functions and ancillary services, (3) identify and quantify any omitted or inconsistently measured outlays for pensions and other forms of nonsalary compensation, (4) extend and refine the initial estimates of private expenditures, (5) deal with the more difficult special issues affecting postsecondary expenditure figures, including those concerning research outlays and FTE enrollment, and (6) develop the new data and/or estimation methods needed to produce usable breakdowns of spending by resource category. Note that some of these items would require further developmental work at the international level—e.g., standardization of categories and improvement of estimation methods—in addition to efforts by the individual countries.

Whether the same prescriptions apply to Latin America more generally can be determined only by assessing the finance statistics of a larger, more representative set of countries. Undoubtedly the highest priority task in a broadened inquiry would be to review thoroughly the expenditure figures of the two most populous Latin American nations, Brazil and Mexico. Because these countries are now actively engaged in upgrading their education statistics, it should not be difficult to obtain information from them on both the current state of the art and the prospects for improvement. It would then be appropriate to examine the statistics of a carefully selected sample of other countries in the region—one or two of the Andean countries, a pair of Central American countries, and perhaps (depending on the scope of the anticipated international comparison effort) some of the larger Caribbean nations. With this expanded sample, one would expect to obtain generalizable results and to unearth most, if not all, of the significant expenditure comparability problems.
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