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# GRAPEVINE

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## TIMELY DATA CIRCULATED WHILE CURRENT

### IN THIS ISSUE

Month after month and year after year GRAPEVINE includes admissions that the uses of the data presented are limited; that exact comparability among states or institutions is not attainable and not to be assumed. These cautions can not be voiced too often. They are cogently discussed in several of their varieties by Paul E. Lingenfelter, Deputy Director for Fiscal Affairs, Illinois Board of Higher Education in this issue, pages 1848-1852, inclusive.

#### USES AND ABUSES OF INTERSTATE COMPARISONS

By Paul E. Lingenfelter . . . . .1848-1852

CORRECTION for Table 53, page 1845 (November 1982): The percentage of two-year gain in Colorado entered as 33 (in Column 5) is overstated, because of several changes in the state's appropriation practices between 1981 and 1983. The fact is of local concern in Colorado, but has no large effect on the 50-state nationwide picture.

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### GRAPEVINE

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THE USES AND ABUSES OF INTERSTATE COMPARISONS  
OF HIGHER EDUCATION FUNDING

- Paul E. Lingenfelter -

Those who are interested in interstate comparisons of state and local support for higher education have access to several sources of data and different comparative approaches. The Chronicle of Higher Education annually publishes the results of M. M. Chambers' "Grapevine" survey of state appropriations, D. Kent Halstead and Marilyn McCoy have recently published studies based on the Higher Education General Information Survey (HEGIS), and the State of Washington Council for Postsecondary Education has periodically published a survey of state and local appropriations. In addition to these widely circulated reports, a variety of other studies have been prepared to critique, interpret, or analyze further the available data on state spending for higher education.

The importance of state and local tax support for higher education is evident from the attention given to these reports. Decision makers and individuals who hope to influence decisions are naturally interested in interstate comparisons that might help them identify and achieve an adequate level of support for higher education. A careful review of these studies, however, strongly suggests that the usefulness of gross interstate comparisons is limited. Both technical and structural differences among states impair the comparability of the data, sometimes to the extent that different studies have greatly different findings.

The purposes of this paper are to review the analytical problems faced by gross interstate comparisons, to consider their overall usefulness to decision makers, and to suggest other approaches to comparative analysis that might be more useful.

ANALYTICAL PROBLEMS

Technical Issues

The two most frequently used sources of data for state support of higher education are the M. M. Chambers "Grapevine" series and the Higher Education General Information Survey (HEGIS) finance survey. There are a variety of serious technical problems with both data sources, despite conscientious efforts to procure comparable data.

First, the differences in the ways that states finance capital expenditures degrade data comparability. In New York, for example, capital debt service requirements for the State University of New York system are paid through tuition revenues, which results in a larger

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appropriation of tax revenues for operations than would be needed if tuition were applied to operating costs. Other states finance capital costs through direct appropriations to institutions, while others finance capital projects through revenue bonds or direct state expenditures not reflected in either of these surveys. Capital expenditures are inherently noncomparable because of the diverse ways they are financed and the different capital requirements faced by campuses of different ages. Although both surveys have attempted to exclude direct capital expenditures, the indirect effects of various approaches for financing capital costs impair the comparability of state support for operating costs.

States also handle fringe benefits in differing ways which have not always been adequately reflected in national surveys of state support. For example, funding for retirement and insurance benefits has not been included in the data reported for Massachusetts in these surveys, and insurance benefits costing about \$30 million have not been included in Illinois data. Different approaches to the financing of these benefits may also degrade data comparability. For example, states with their own retirement systems may choose to defer full financing of each employee's retirement benefits until the employee retires. States without such systems must pay such costs in advance of the employee's retirement. While deferred financing of retirement benefits may be questionable policy, it is difficult to argue that gross appropriations data are comparable when such differences exist.

Other relevant technical factors involve the treatment of local taxes and state support for student aid programs. The Chambers survey does not capture local tax revenues which play an important role in financing community colleges in states such as Illinois and California, and virtually no role in others, such as Florida. The HEGIS survey excludes state student aid programs, which vary greatly in size. The HEGIS survey also excludes state support for postsecondary vocational and technical education in some states while it includes them in others. (NCES has developed a new survey to help address these issues.)

State policies concerning federal funds, auxiliary enterprise revenues, and other non-tax funds also may have an important indirect effect on state support. For example, some states require universities to deposit all or part of their indirect cost revenues into the state general fund, while others do not. When a state appropriation is offset by the deposit of university generated revenues into the general state treasury, it clearly represents comparatively less than an appropriation in a state which permits universities to retain all university generated revenues.

The common technique of dividing appropriations support by full-time-equivalent students has potential to be doubly misleading. In addition to the problems with appropriations data discussed above, the cost of educating a student varies so widely among academic programs that a full-time-equivalent student in one state may be only faintly

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Comparisons among states in the rate of growth, however, can be particularly misleading. States that are experiencing rapid population and economic growth naturally should increase support for higher education faster than states not experiencing such growth. Likewise, states with a well developed system of higher education may have no need to increase constant dollar expenditures at the rate that might be desirable in states where higher education is less well developed. In short, this measure is useful from the perspective of an individual state, but has less relevance as a comparative measure.

#### THE USE OF STATE LEVEL FINANCIAL COMPARISONS

Despite the numerous technical and analytical problems described above, broad, comparative data on higher education finance can provide a general context for interpreting more specific information about individual states. While such comparisons are relatively useless as an absolute measure of support for higher education, information concerning relative trends among states can be instructive. From this perspective, the efforts of NCES to deal with some of the more flagrant technical problems are constructive, and they should improve the data.

The nature of the structural and analytical problems discussed above, however, suggests that even data that are technically improved will not help states decide whether their level of funding for higher education is adequate. Such decisions must necessarily rely on considerations that are more closely linked to specific needs. Although virtually all comparative studies will encounter technical problems, interstate studies that focus on specific concerns, such as faculty salaries, are somewhat less likely to founder on noncomparable data. For example, interstate comparisons are possible for faculty salaries, degrees awarded, the availability of student assistance, participation rates, federal funding obtained, and professional graduates imported or exported. Moreover, studies of such data are likely to be more useful than studies of gross funding levels because they relate to specific programmatic and policy issues.

In conclusion, the structural and technical problems that afflict gross comparisons of state support for higher education make efforts to analyze and argue from such data largely unproductive. Extensive analysis of such data is dangerous as well as unproductive, because technical and structural differences among the states can produce misleading results. Instead, interstate analytical efforts should focus on specific issues where the relevance of data to educational concerns is more direct and where the problems of comparability are more manageable.

### Analytical Pitfalls

Appropriations for higher education are often compared to per capita income in the various states. The underlying assumption, of course, is that higher education should receive some fixed proportion of a state's wealth. Richer states then would enjoy a more generously funded system of higher education than poorer states. (Of course, this measure also assumes that tax funds are the only relevant source of investment in higher education.)

Under the assumption that every state needs a solid system of higher education, however, the natural tendency for richer states would be to spend a smaller fraction of its wealth on higher education than poorer states. If higher education is a necessity of life, poorer states are likely to spend a larger fraction of their income on higher education just as poorer people spend a greater percentage of their income on food and housing.

Another common measure, the percentage of state appropriations allocated to higher education, is usually interpreted to indicate relative priority of higher education among all state services. While this does suggest relative priority, its usefulness is limited because: a) the range and extent of services provided by state and local governments differ widely across the country; b) in some regions of the country government provides services that are financed through user fees or private organizations in other regions of the country; and c) the size of the state budget in comparison to the total economic activity in the state varies widely among the states.

Under such conditions it is difficult to know whether a high percentage of the state budget allocated to higher education means that higher education is highly valued, other state services are of a low priority, or other services sometimes financed by government are being financed through private means.

Within a state an increase or decrease in the percentage allocation of tax revenues to higher education could signify a change in priority, but it could also mean that new sources of revenue have been allocated to meet unmet needs while the commitment to existing programs is unchanged. In short, the percentage of a state budget allocated to any single area is not a very satisfactory indicator of either relative priorities or the absolute level of service provided.

Possibly the most useful (and least misleading) approach commonly used in the analysis of higher education finance is to examine the growth of higher education appropriations over time. It is clearly useful to know whether the growth in state support for higher education has kept pace with inflation. Changes in constant dollar expenditures for higher education may suggest whether a state is increasing or curtailing the level of its investment.

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comparable to a full-time-equivalent student in another. (This would be a problem even if an FTE student were defined alike in all states, which it isn't.) States with a heavy commitment to graduate and professional education, particularly in the health sciences, would normally have higher per student costs than states emphasizing lower cost curricula. Conversely, states with a heavy commitment to remedial or basic skills instruction in community colleges would tend to have lower per student costs. A dramatic change in the enrollment mix within a state can create an illusion of a shift in state support per student when only the mix of programs supported has changed. Differences in state and institutional funding of public service and research also impair the comparability of per student costs.

### Structural Issues

In addition to these technical problems, differences among the states along several other dimensions reduce the usefulness of the national data bases on state support for higher education. There are vast differences among the states in the maturity and size of their higher education systems. Large states may achieve economies of scale not possible in smaller states, and states attempting to catch up to states with more mature systems of higher education will incur start-up costs for new programs and institutions. In addition, they may be forced to pay a premium in order to recruit quality faculty and staff. In short, they must spend more in order to achieve comparable quality.

Another important structural dimension is the relative size of private higher education in the various states. In some respects the means by which the citizens of a state support higher education is incidental to the quality of service available to the state. Some of the states which rank relatively low on state appropriations for higher education (e.g., New York, Massachusetts) rank very high in the extent to which their citizens have supported private institutions. To the extent that a state's investment in higher education reflects the level of service provided, all sources of revenue are relevant, not just state appropriations.

Also pertinent is the extent to which states differ in the need for higher education services due to the age and socio-economic characteristics of their citizens. States with a large population in the traditional college attending age group have different needs from states where this group is smaller. The extent to which a state exports or imports students is also a factor. Some states have an average or even an above average participation rate in higher education, but the affluence of their citizens enables many students to leave the state to achieve their educational goals. The exportation of students under such circumstances would reduce the level of state appropriations necessary to provide quality services for the citizens of the state.

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