The Variable Cost Burdens of State and Local Governments

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The foundation for the burgeoning interest of economists in the state-local sector of the economy in recent years rests in part on the fact that state-local purchases of goods and services comprise a large and growing part of Gross National Product. By the first quarter of 1970 they amounted to $119 billion, 12.4 per cent of GNP,[1] compared with only 4.8 per cent in 1942 and 8.2 per cent in 1957.[2]

State and local governments now contribute more directly to aggregate demand in the economy than the Federal Government, only $15 billion less than gross private domestic investment, and one-third more than consumer expenditures for durable goods.

Experience during the past 30 years in the United States with respect to state-local expenditures in relation to total income and output does not mesh well with the findings of economists who have studied trends over time in public expenditures for earlier periods here and in other countries. For the most part these studies have found that public expenditures may be expected to grow more or less proportionately as population, urbanization, prices, and income rise, as technology advances, and as the complexity of the economy

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[1]U.S. Department of Commerce, Office of Business Economics, *Survey of Current Business*, Vol. 50, No. 5 (May 1970), p. S-1.

[2]U.S. Department of Commerce, Office of Business Economics, *U.S. Income and Output: A Supplement to the Survey of Current Business*, Washington, D.C., 1958, p. 119.

increases.[3] Others have suggested that dramatic events such as wars or severe depressions have "displacement" effects that overcome resistance to sharply higher levels of taxation and expenditures and facilitate centralization or "concentration" with accompanying expansion of the public sector.[4]

And even Adolph Wagner's assertion, which is not supported by Henry Carter Adams' nineteenth century data for the United States, the United Kingdom, and France,[5] to the effect that expenditures may be expected to rise more than in proportion to income,[6] hardly begins to account for the observed rapidly mounting ratio of state-local expenditures to GNP since World War II.

Growth in the Proportion of State-Local Expenditures

This observed growth reflects the rising importance of services, including public services supplied by state and local governments, for the quality of life in an increasingly affluent, urbanized society in which education, transportation, health, recreation, and other services are commanding a growing share of resources. For example, by fiscal 1967-68 (latest available data) state-local expenditures for education at all levels amounted to $41.2 billion,[7] up from $5.3

[3]See for example, Solomon Fabricant, *The Trend of Government Activity in the United States Since 1900,* New York, National Bureau of Economic Research, Inc., 1952, especially chapter 7; R. A. Musgrave and J. M. Culbertson, "The Growth of Public Expenditures in the United States, 1890-1948," *National Tax Journal,* Vol. VI, No. 2 (June 1953); and the much ealier work of Henry Carter Adams, *The Science of Finance,* New York, Henry Holt and Company, 1909, Book I, Chapter IV.

[4]G. Colm and M. Helzner, "The Structure of Government Revenue and Expenditure in Relation to the Economic Development of the United States," in International Institute of Public Finance, *L'Importance et la Structure des Recettes et des Depenses Publiques,* Brussels, 1960, and Alan T. Peacock and Jack Wiseman, *The Growth of Public Expenditure in the United Kingdom,* New York, National Bureau of Economic Research, Inc., 1961.

[5]Adams, *op. cit.,* pp. 92-3.

[6]Adolph Wagner, "Three Extracts on Public Finance," in Richard A. Musgrave and Alan T. Peacock, eds., *Classics in the Theory of Public Finance,* New York, The MacMillan Company, 1958, p. 7.

[7]U.S. Department of Commerce, Bureau of the Census, *Governmental Finances in 1967-68,* Washington, D.C., 1969, p. 34.

billion in 1948.[8]

This very large increase in expenditures reflects not only increasing total demand for education, but also a substantial shift in the relative importance of the public sector.

Private institutions of higher education in 1967-68 accounted for 27.7 percent of total public and private expenditures, compared with 37.5 percent 20 years earlier. In primary and secondary education the proportions changed even more dramatically, from 13.8 percent private to only 6.4 percent.[9]

And while not quite as readily documented, it would appear that a similar phenomenon has occurred with respect to health and hospital services and other services supplied in both the public and private sectors.

These observations tend to support the expectation expressed by Fabricant, almost 20 years ago, when he suggested that ". . . with technological advance, and the rising national income it brings, government as well as private enterprise will be called upon to produce an increasing volume of the educational, recreational, health, and other services that people demand when they are richer."[10] But this suggestion by itself seems insufficient to explain the veritable "take-off" in state-local expenditures relative to income that has occurred since World War II. To it I would add the influence of such factors as the leap forward in communications and the demonstration effects it has had and the role of a wider acceptance of an egalitarian ethic.

The Role of Egalitarianism in the Growth of State-Local Expenditures

Evidence of the influence of egalitarianism may be seen in the

[8]U.S. Department of Commerce, Bureau of the Census, *Historical Statistics on State and Local Government Finances, 1902-1953,* Washington, D.C., 1955, p. 17.

[9]Derived from data contained in sources cited in notes 7 and 8 and, for private institutions of higher education and primary and secondary schools, *Survey of Current Business,* Vol. 49, No. 7 (July 1969), p. 28, and U.S. Department of Commerce, Office of Business Economics, *The National Income and Product Accounts of the United States, 1929-1965. Statistical Tables,* Washington, D.C., 1966, p. 47. For private expenditures the fiscal year data estimated by taking the means for 1947 and 1948 and 1967 and 1968.

[10]*Op. cit.,* p. 154.

growth of public and private philanthropy. The latter has increased steadily, but only more or less in proportion to income, of which it represents about 2 percent. Public welfare expenditures by state and local governments, on the other hand, have increased substantially more rapidly than national income, rising from 1.0 to 1.2 percent of income between 1948 and 1968.[11]

But the influence of egalitarianism is probably of even larger quantitative importance in the case of such state-local services as education and public health and hospitals. With respect to education the goal of "equal educational opportunity," whatever that may mean, has been widely endorsed.[12]

It has its roots in the recognition of the importance of education as a determinant of income, and hence economic opportunity. In a similar vein adequate health services as a right available to all, rather than a privilege of the few, is gaining ever widening acceptance in our society.

Need for an Empirical Study

Clearly what is needed if we are to gain positive insights into the reasons for the behavior of state-local expenditures during the past two decades and, hopefully, some understanding of the prospects for the future, is a rigorous empirical study of the factors that may explain this behavior. Thus far only two approaches have been suggested in work that has been done, and both seem far off target, partly because they seek to explain short-run or year-to-year changes rather than longer-term trends.

Morss, Fredland, and Hymans used a linear regression model to explain annual percentage changes in state government expenditures in each of 48 states.[13] Their results may be characterized primarily by the lack of consistency in the explanatory power of their fiscal and political variables among the several states.

[11]Derived from sources cited in notes 7, 8, and 9.

[12]See, for example, the views of the Advisory Commission on Intergovernmental Relations in its *State Aid to Local Government,* Washington, D.C., 1969, pp. 14-15.

[13]Elliott R. Morss, J. Eric Fredland, and Saul H. Hymans, "Fluctuations in State Expenditures; An Econometric Analysis," *The Southern Economic Journal,* Vol. XXXIII, No. 4 (April 1967).

Davis, Dempster, and Wildavsky also employ time series regression analysis to explain changes in Federal expenditures and suggest that their approach may be fruitful at the state-local level.[14] But regressing one year's expenditures on such variables as the prior year's expenditures or appropriations requests seems to me to promise little or nothing by way of insights into the issue at hand. The finding that expenditures in year 1 are "explained" by expenditures in year 0 and that the regression coefficient is equal to, say, 1.1, strikes me as an inordinately complex way to go about computing an average annual rate of growth.

Research into the issue at hand might fruitfully pursue Wagner's hypothesis by examining the relationship between changes over time in expenditures and changes in "the 'free' national income (i.e., in Roscher's sense that part of national income which is left after the satisfaction of the people's essential material needs)."[15] Additional predictor variables that may be suggested are measures of dependency in the population, the occupational mix of the labor force, urbanization, and others that some imaginative thought and careful observation may produce.

One may be tempted to suggest that the volume of Federal aid be included as an explanatory variable, especially because it has grown from less than $2 billion in 1948 to over $17 billion in 1968 and now exceeds $25 billion.

In 1968 Federal grants amounted to 16.8 percent of direct general state-local expenditures, compared with 10.6 percent in 1948.[16] The influence of Federal aid on state-local expenditures is certainly of major interest, but it must be handled with care, partly because we should avoid "explaining" any sum by one of its major parts, and partly because the phenomenon represented by its growth is itself one that demands understanding.

The task I envisage contains no normative implications. It calls forth, rather, the effort to understand, in a positive sense, the underlying forces that have given rise to the observed behavior of a

[14]Otto A. Davis, M. A. H. Dempster, and Aaron Wildavsky, "A Theory of the Budgetary Process," *The American Political Science Review,* Vol. LX, No. 3 (September 1966).

[15]Wagner, *op. cit.,* p. 7.

[16]From sources cited in notes 7 and 8 *supra.*

rapidly growing and increasingly important sector of the economy and is justified by the hope that such understanding will be useful for predictive purposes.[17]

Variance Among Units of Government in Levels of Expenditures

The economist's basic concern with the allocation of scarce resources among alternative uses has carried him a long way toward an understanding of the mechanisms involved in the private sector of the economy and we have a well-developed body of normative as well as positive theory.

Through the well-known efforts of Musgrave, Samuelson, and others the normative theory has been extended to the public sector. But, as we have seen, our understanding, in the sense of our ability to explain and predict behavior in the public sector, of why resources are allocated as they are between the private and public sectors and within the latter, is still at a rather primitive stage.

We have looked at the issues and prospects in terms of changes in state-local expenditures over time. Another, equally intriguing and still perhaps only somewhat less frustrating, approach involves the examination and analysis of differences at any one time in levels of expenditure of similar governmental units or among states with respect to the state governments and local subdivisions.

That there is a great deal of variance to be explained may be seen in the differences among the states in levels of combined state-local expenditures per capita or relative to income. Thus in fiscal year 1967-68 total general expenditure of state and local governments in the United States as a whole was $512 per capita. But it was $1,203 per capita in Alaska and between $700 and $736 in Hawaii, Nevada, and New York, the four highest spending states, and roughly only

[17] There has been no dearth of projections of state-local expenditures. For two recent efforts see Tax Foundation, *Fiscal Outlook for State and Local Governement to 1975,* New York, Tax Foundation, Inc., 1966, and Selma Mushkin and Gabrielle C. Lupo, "Project '70: Projecting the State-Local Sector," *Review of Economics and Statistics,* Vol. XLIX, No. 2 (May 1967). But these and earlier projections have not been based on a positive theory or on statistically estimated parameters. And the record of conformity with actual outcomes has left much to be desired. The 1966 Tax Foundation study, for example, would have state-local general expenditures exceeding the actual 1968 level of $102.4 billion by only $3.5 billion in 1970. Its projection for 1970 seems likely to be over $20 billion too low. For education the 1968 expenditures were roughly equal to the 1970 projection. *Op. cit.,* p. 91.

half as high in Arkansas, Mississippi, North Carolina, and South Carolina, the four lowest, where state-local expenditures ranged from $340 to $373 per capita.

And while expenditure in Alaska, North Dakota, Vermont, and Wyoming ranged between 23.3 and 32.8 percent of personal income, it amounted to between 12.5 and 14 percent in Missouri, New Jersey, Ohio, and Pennsylvania, compared with the U.S. average of 16.4 percent.[18]

Similar differences may be found among state governments, and among cities, school districts, and other comparable units of government, both within and between states.

Unlike the situation with respect to studies of changes in expenditure levels over time, in little more than a decade some six dozen books and articles have been published which employ statistical techniques in the effort to explain variance in expenditures among governmental units in a given year.[19]

Some of these studies are concerned with total expenditures, while others deal with selected functional categories and still others with both. This extensive literature has now been subject to several intensive surveys and reviews.[20] I propose here to do no more than present a brief overview, designed to give us some sense of where we are.

Variance "Explained"

Almost all of the statistical studies of variance among the states in the level of state-local expenditures per capita employ a single linear

[18] *Governmental Finances in 1967-68,* pp. 45 and 50.

[19] Roy W. Bahl, "Studies on Determinants of Public Expenditures: A Review," in Selma J. Mushkin and John F. Cotton, *Functional Federalism: Grants-in-Aid and PPB Systems,* Washington, D.C., State-Local Finances Project of the George Washington University, 1968, listed 66 such studies in 1967. In 1968 and 1969 one may count an additional even dozen published in the *National Tax Journal* alone.

[20] See Barry N. Siegel, "On the Positive Theory of State and Local Expenditures," in Paul L. Kleinsorge, ed., *Public Finance and Welfare: Essays in Honor of C. Ward Macy,* Eugene, University of Oregon Books, 1966; Werner Z. Hirsch, "The Supply of Public Services," in Harvey S. Perloff and Lowdon Wingo, Jr., eds., *Issues in Urban Economics,* Baltimore, The Johns Hopkins Press, 1968; Gail Wilensky, "Determinants of Local Government Expenditures," in J. P. Crecine, ed., *Financing the Metropolis,* Beverly Hills, Calif., Sage Publications, 1970; and Bahl, *op. cit.*

equation the parameters of which are estimated by means of least-squares multiple regression analysis. They generally find that between one-half and three-quarters of the total variance is "explained" by income or some variant thereof, population density, and proportion of the population living in urbanized places. That density and urbanization would appear to be alternative statements of the same thing is typically blithely ignored.

Efforts to improve the explanatory power of the equation have taken the direction of adding state and federal aid per capita, other fiscal variables, and political variables designed to reflect the strength or weakness of one-party dominance.

The political variables have added little or nothing to the proportion of variance explained and one suspects that the "explanatory" power of federal aid largely derives from the fact that its use constitutes regressing one variable on one of its major components.

State aid has more intuitive appeal because it seems plausible that the larger it is, to the extent that it substitutes for locally raised funds, the less important may be the constraint on local expenditures imposed by inter-local competition for industry and wealth; because state tax sources may meet with less taxpayer resistance than local property taxes; and because there may be something to the Peacock-Wiseman concentration or centralization hypothesis. But one also suspects that state aid is highly correlated with state direct expenditures and that, therefore, it is in fact not a truly independent variable.

The ultimate in efforts to explain variance in state expenditures in a given year is perhaps that of Sharkansky, who finds that he can "explain" variance in one year's expenditures by using the prior year's expenditures as an "independent" variable! Needless to say, he obtains the highest coefficients of multiple determination in the literature. I should expect that his results would be very much the same were he dealing with combined state-local expenditures. Given his R^2 values of higher than .9 the game must surely now be over, even though he is not disturbed by negative coefficients for federal aid and the absence of statistically significant values for personal income and tax effort.[21]

What, then, have we found that's meaningful? Very little, it seems

[21] Ira Sharkansky, "Some More Thoughts About the Determinants of Government Expenditures," *National Tax Journal*, Vol. XX, No. 2 (June 1967).

to me, that Fabricant did not discover almost 20 years ago, namely that state-local expenditures per capita appear to be responsive to differences among the states in income and urbanization or population density.[22]

In statistical studies of city and school expenditures we find confirmation, generally, of the fact that the income elasticity of demand for public expenditures is greater than zero. City expenditures also appear to be somewhat sensitive to population density and, for central cities, to the ratio of SMSA to city population.

As in the case of the analysis of state-local expenditures, one can always increase the "explanatory" power of the equation by inserting revenue from higher levels of government into it. And expenditures are very nicely accounted for when the dependent variable is broken down into its parts and these parts are then employed as predictor variables.[23]

Finally, it should be noted that city expenditures appear to be sensitive to the character or function of the community. Thus, core cities of major metropolitan areas spend more per capita of resident population than their suburbs, and cities that are not defined as being a part of an SMSA and core cities of the smaller SMSA's spend less than either group. This appears to reflect both the influence on expenditures of the central city's contact population and the fact that the larger central cities are, in most parts of the country, the place in which new low-income, often culturally deprived, migrants and minority groups generally live.

How useful the findings of the studies briefly described here are depends upon the objectives and ambitions of the observer. If one is interested simply in comparing the level of expenditures per capita in a given city, for example, with levels elsewhere, then it would seem most meaningful to draw the comparison between actual local expenditures and the level "expected" in a city of its characteristics, using the characteristics that appear from statistical analyses to be relevant as weighting factors.

The same may be said with respect to other units of government, combined state-local expenditures, in total and by functional cate-

[22]Fabricant, *op. cit.*, chapter 6.

[23]Werner Z. Hirsch has employed this technique in several articles, all of which are listed by Bahl, *op. cit.*, p. 206.

gory. That is, useful descriptions of performance are better described by comparisons between actual and expected (i.e., computed from regression equation parameters) expenditures than by comparison between unweighted observed values.

Allocative Process Unknown

If, however, we are more ambitious, if it is understanding of the allocative process we are seeking, clearly no end of single equation least-squares estimates will be likely to provide the answers. Even if we are thoroughly convinced, for example, that income is an important determinant of expenditure levels, the methodology thus far employed fails to tell us why or how income influences expenditures. Logically we can surmise that it operates through the demand function; that is, that demand is income elastic. But if high income in a city is a function of high local wage rates we should also expect that public employees, whose supply is less than infinitely elastic to any one governmental unit, must be paid higher wages than in a low-wage area. Much the same may be said of other predictor variables, and single equation models, therefore, present insuperable problems of identification.

Furthermore, if we are concerned with resource allocation we need to know a good deal about demand functions and about production functions or supply conditions. Thus economists, given their methodological tool kit and strong predilection in favor of individualism and consumer sovereignty as the motivating force behind resource allocation decisions, are bound to enter a plea for analyses couched in terms of a model that takes the form of a set of structural equations descriptive of demand and supply functions.

The parallel with analyses relating to the private sector requires that we be able to define the product; and, clearly, expenditure, in total or per capita, does not do that. But what is the product of police or fire services, or education? Noting that product differentiation is common in the private sector[24] hardly seems instructive.

Unless, or until, we have defined the product the output of which is being supplied and demanded, estimating demand and supply equations is simply not possible. A plea for adopting this approach,[25] at this juncture at any rate, strikes me as being about as

[24]Hirsch, *op. cit.*, pp. 480-1.

[25]See, for example, Gail Wilensky, *op. cit.*, pp. 207-8, and Alan Ginsberg, Gunther Schramm, and Gail R. Wilensky, "The Problem with Expenditure Determinant Studies" (unpublished paper).

useful as the drunk's efforts to find his lost keys under the lamppost because the light is better there. I conclude this portion of my analysis, therefore, on a pessimistic, or at least skeptical, note.

Variance in Expenditures and "Needs"

The concept of "need" is no more meaningful to the economist in the public than it is in the private sector of the economy, given an individualistic approach to the analysis of resource allocation. It assumes operational significance for policy only if we accept the notion that, with respect to the consumption of some or all public services or income maintenance levels, minimum standards must be accessible to everyone, irrespective of where he may live. In a democratic society this requires standards imposed, in the case of local governments and the states, by higher levels of government, standards which presumably reflect the preferences of the larger community.

Thus, for example, "equal educational opportunity" may be operationally interpreted as "universal access to a minimum of educational resources." This minimum may be defined as that level which the relevant community, the state or the nation, views as adequate to the objective of equality of economic opportunity. In this context education may be said to contribute to equality of economic opportunity if, as a minimum, children are not handicapped by being exposed to a clearly inferior quality of schooling.

One may judge that the suggested criterion is not being met when operating expenditure per pupil ranged in 1967-68 from $1,024 in New York to $364 in Mississippi.[26] Moreover, variance within states is very large as well. In Michigan, for example, with a statewide average estimated at $617 in the same year, the range extended from $402 per pupil to $951.[27]

In the case of income maintenance programs such as AFDC monthly payments per recipient in the United States averaged $45 in August of 1969. But such payments ranged from an average of $11

[26]National Education Association, *Rankings of the States, 1969,* Washington, D.C., 1969, p. 59.

[27]Michigan Department of Education, *Ranking of Michigan Public High School Districts by Selected Financial Data, 1967-68, Bulletin 1012,* Lansing, Mich., December, 1968, pp. 23 and 29.

in Mississippi to $66 in Massachusetts, New Jersey, and New York.[28]

Again, one may speak of "need" in terms of a minimum standard accessible to all. The minimum may be expressed in terms of the cost of purchasing a market basket of goods and services deemed necessary for the maintenance of health and decency. The same may be said, of course, with respect to other income maintenance programs now administered by state or state and local authorities.

But even in the cases of primary and secondary education and income support, "needs" can only be defined arbitrarily, and minimum standards imposed from above must derive their authority from appeal to statewide or national "interest," an elusive concept at best, but one which may command support and operational effectiveness through the political process. Can the same be said with respect to other major functions of state and local governments? My own tentative answer is a hesitant "no."

Public wants, as given by individuals' tastes and preferences, must be afforded the same primacy in the public sector as are private wants in the private sector of the economy, and "needs" have meaning, for the most part, as subjective elements governing individuals' wants. For most state-local functions imposed standards of consumption have no more claim to dominance than they do in the private sector.

Policy Directions

Implications for policy may be seen in both the trend in recent years in levels of state-local expenditures and in the variance in expenditure among state and local units.

The rapid rate of growth in state-local expenditure in absolute amounts and relative to income warrants a deepening concern for the kinds of tax sources used to support this growth and their economic consequences. In this context the local property tax appears to me to present the most serious problems. Total revenues from this source rose between 1948 and 1968 from $6.1 billion to $27.7 billion and declined as a proportion of total state-local tax receipts only from 45.9 to 41.0 percent.[29]

[28]U.S. Department of Health, Education, and Welfare, *Welfare in Review*, Vol. 8, No. 1 (January-February 1970), p. 33.

[29]*Historical Statistics, 1902-1953*, p. 21, and *Governmental Finances in 1967-68*, p. 31.

The defects of the property tax are, of course, well known. It is generally regarded as both horizontally and vertically inequitable; it inhibits efficiency in resource allocation; and it encourages socially undesirable land use patterns. In addition, it has been shown to lead to inefficient budgetary outcomes with respect specifically to school finance.[30]

These defects become increasingly costly as the weight of the tax in the economy increases. They suggest that other sources of revenue be substituted, at least to the extent compatible with administrative feasibility at the local level in the case of alternative local tax sources and user charges, and, in my view, they lend support to other arguments in favor of Federal and state revenue sharing and the expansion of grants-in-aid.

The large variance in state and local expenditures, particularly in the areas of primary and secondary education, welfare, and, perhaps, health, when seen as being closely related to differences in income or wealth, may be regarded as intolerable in the light of such broad objectives as equalizing economic opportunity and ensuring a tolerable minimum standard of living for everyone.

In the case of welfare or income maintenance there appears to be a developing consensus in favor of Federal assumption of most or all of the fiscal and administrative responsibility now borne by state and local governments. I can only offer my strong endorsement of this policy position.

In primary and secondary education I believe that a convincing case can be made for continued local control with constraints imposed by state agencies. But equalizing educational opportunity by providing the suggested universal access to a minimum of educational resources requires that the fiscal roles of the state and Federal governments be substantially increased and revised.

At the state level the approach that has most appeal for me is one that retains the essence of the so-called "foundation program," but goes much further in ensuring equalization, adequacy, and stimulation of local effort than common practice among the states now does. The immediate objective is to ensure that all school districts in a state realize the same amount of revenue per pupil per mill in the tax rate, assuming local property tax finance.

[30]Robin Barlow, "Efficiency Aspects of Local School Finance," *The Journal of Political Economy*, Vol. 78, No. 3 (July/August 1970).

The state might stipulate a minimum sum per pupil, to be adjusted upward with rising costs and weighted for pupils requiring special effort, such as those defined as culturally deprived, together with a minimum local tax rate. Suppose that this minimum were established at $1,000 per pupil and that the minimum tax rate required were set at 20 mills. The state aid ratio then is

$$\frac{\$1{,}000 - .02\ \text{SEV}}{\frac{.02\ \text{SEV}}{1}}$$

where SEV is state equalized value of taxable property per pupil in the district. Under this formula all districts levying 20 mills (with SEV of $50,000 or less) would realize $1,000 per pupil irrespective of the taxable wealth available to them. Moreover, each additional mill in the tax rate beyond 20 mills would also yield the same amount per pupil in all districts.[31] Adjusting the formula to take into account nonproperty taxes levied by the school district should, of course, present no appreciable difficulties.

To the extent that there is, as I believe to be the case, a national interest in ensuring that the stipulated objective in education be achieved, a similar approach to federal aid for education to the states appears to me to be appropriate. This approach is designed to reduce inequality in educational, and therefore economic, opportunity by equalizing the tax price to taxpayers everywhere of supplying educational resources. It retains local responsibility and those options at the margin that are conducive to efficiency in resource allocation. It simply reduces or eliminates taxpayer-price differentials.

For functions other than primary and secondary education and welfare my own policy preferences lead me to advocacy of a major role for some form of revenue sharing, at both the federal and state levels. But this topic has been more than adequately discussed in earlier papers presented at this Conference.

[31] This approach to state aid is presented in greater detail in Harvey E. Brazer, "Federal, State, and Local Responsibility for Financing Education," in Roe L. Johns, ed., *Economic Factors Affecting the Financing of Education in the Decade Ahead*, Gainesville, Fla., National Education Finance Project, forthcoming.

DISCUSSION

BENJAMIN CHINITZ

This is an ideal paper for a discussant in many respects. Very often I get a paper to discuss and I spend an awful lot of time just trying to figure out what the author is saying. This was an easy paper to read and digest, and it's also ideal because it's open-ended. It's essentially an invitation to a discussant to join the author in speculating about a lot of important issues.

First I would like to introduce a few numbers to sharpen the perspective that Harvey has given us on the growth of state and local expenditures. I am sure that Harvey is aware of these numbers, and let me say, Harvey, that you are welcome to use them in your final draft if you agree with their relevance.

To begin with, he gave you three dates: 4.8 percent of GNP in 1942, 8.2 percent in 1957, and 12.4 percent in 1970. Well, it turns out that in 1929, in other words 13 years before 1942, state and local expenditures accounted for 7 percent of GNP, so that they actually declined as a share of GNP during that period. I don't have the intervening dates, but in 1957 it was 8.2 percent, so it was just a shade above its 1929 level. Just as a side comment, the actual dollars in 1942 were the same as the dollars in 1929, which I found both interesting and astounding. Now does this change Harvey's interpretation of what is happening? I think that it suggests that the trend is, in some sense, of even more recent origin than he suggested. In other words, the big changes essentially come in the last decade, or in the last dozen years. We spent a good part of the earlier period just catching up with the pre-war situation.

The second set of numbers I want to introduce is, I guess, in the spirit of trying to dispel some of the mystery that Harvey has cast over this phenomenon. Let me say parenthetically that I was very pleased to get this paper because I am a relative novice in the public finance field, and I set myself this problem as one of the things I

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would like to work on. I was glad to learn from an expert that the problem hasn't yet been solved, so it is a legitimate one for further inquiry. But it turns out that if you introduce one variable, namely cost, that at least by some measures, and I wish I knew more about these measures so that I could be fully confident that they are relevant, you just get an entirely different picture of the historical development of state and local finance.

What I am referring to is expenditures in constant dollars, with the GNP deflated by its deflator, and the state-local expenditures deflated by its deflator. It turns out that in 1958 prices, in 1929 state and local expenditures were 9.1 percent of GNP. In 1947 they were 6.7 percent. In 1957 they were 8.3 percent, and in 1967 they were 9.8 percent. I would assume that in 1970 they were probably more than 10 percent.

But again I found this kind of interesting and affecting my own perspective on the history of state and local finance. What this says, if you believe the data, is that in real terms, that is, corrected for their respective rates of price increase, we have just recently, in effect, gotten back to pre-depression levels in terms of share of GNP. This is rather striking. Of course, what it implies, obviously, is that the rate of price increase, or the rate of factor cost increase, in the state and local sector has been a lot more rapid than in the economy at large. I haven't looked at the figures recently, but I think it is something like 50 percent above the base now, as compared to something like 25 percent for GNP as a whole.

So while I agree with Harvey that the phenomenon bears further effort towards complete explanation, it seems to be clear that reference to what is happening on the cost side goes a long way. It almost takes away the percentage increase in GNP, and leaves you more with the challenge of explaining absolute levels. But we are now moving into new territory even in terms of percentage of GNP in real terms.

I think, when you come down to it, the motivation for trying to understand the growth of state and local expenditures really is trying to predict the future. The question we are sort of asking ourselves is, "Is this going to go on at more or less the same rate in the future?" Obviously that is a disturbing prospect – the notion that state and local expenditures would continue to absorb a larger amount of your share of our resources. It also would raise some very serious policy questions – like, isn't there any way we can economize in the local public sector?

Now it seems to me that to provide a basis for speculating about the future in the absence of scientifically satisfactory explanations of the past, and I have got to accept Harvey's judgement that that is the state of affairs, that the best we can do is to set up a little framework of likely causes and, without being able to quantify them in terms of partial coefficients, then ask ourselves just on a speculative basis whether we have any reason to believe the future will look different from the past with respect to those causes, which on an *a priori* basis, would seem to be relevant to our problem.

The natural place to begin would be the one I have already mentioned, namely, unit costs. Do we have any reason to believe that the future will be any different from the past (and by the past, of course, we mean the last decade or 12-15 years) in terms of the increase in factor costs, which means salaries for teachers, firemen, policemen, and construction costs, for schools and other kinds of public buildings.

As you look back I think you will probably find that the unit costs have risen in this most recent period for two related reasons. One is the expected one, namely, that as productivity increases in the economy at large and you get higher wage levels on the average, you have got to have higher wage levels even in those sectors where you do not achieve productivity increases. Otherwise you can't keep the factors in those sectors. You cannot keep the barber in the barbershop unless you pay him a wage that reflects what is going on in the steel mill, even though there is no increase in productivity in the barbershop. In the same way, you can't keep teachers in schools unless their salaries reflect what is going on in the economy at large. Now I gather what has happened in the recent period is more than that. In fact, Harvey was telling me yesterday that in his own work in trying to project salaries, he found that he was underestimating salary increase because he used the first factor as the base, namely, what is happening to wages in general in the economy at large. It turns out that teachers have done better than that in recent years. Now if this is true, then what we have to ask ourselves with respect to the future is, have we had a catching up process over this postwar period, and if we have caught up in some sense, can we look to the future and expect mainly only that rate of increase which will reflect the rate of increase in productivity and earnings in the economy at large? I do not know the answer, but I offer you that as a basis for perhaps thinking about that question.

Now, undoubtedly, a second factor which has influenced the growth of expenditures, in very simple terms, has been the increase in the size of the job that has to be done for a given standard, without new aspirations, without raising social goals, without increasing standards. A lot of the increase in state and local expenditure in the postwar period boils down to just having to do a lot more of what you were doing traditionally.

I would like to characterize the growth of the clientele with reference to three representative units: kids, cars, and garbage. Each one is a proxy for a set.

"Kids" reflects the baby boom and the growth of population, and to the extent that population enters into other cost pressures, I am using kids as a proxy for them too. This has been the period in which automobile ownership has gone up to saturation level almost, so that if you wanted to maintain a given standard of mobility you have to build a lot of highways. And garbage, of course, is my proxy for all of the negative spill-outs from economic progress. Garbage in the literal sense, and, well, it is almost always literal — never figurative. Whether it's air pollution, water pollution, or solid waste, it is literal.

I made one calculation for education which shows this very dramatic figure that Harvey mentioned earlier in the growth of educational expenditures in the post-war period. If you took my first two factors into account, namely, the behavior of cost and the size of the job that had to be done, namely, the number of kids that had to be educated, at fixed standards, you explained about 80 to 90 percent of the growth of education budgets in the United States in the post-war period. So again I am trying to suggest that even if there is no systematic explanation of the kind which neatly divides the variance up and assigns parts to the different variables, we should not overlook easy ways to get at chunks of the problem.

But again, with respect to the future, I think that the issue is, "Is this past period indicative of the future period?" Now we know that we had a significant decline in the birth rate. We are actually educating fewer children in the public schools. I think we are educating no more — I'll make a safer statement — no more kids in the earlier grades than we have in recent years. In other words, we are not moving to higher levels of activity in terms of numbers of kids, and we are probably going to go through a phase when we have absolutely fewer children in school.

Automobile ownership – we are increasing the number of two car families and three car families and so forth. But I think it is safe to say that the rate of increase of ownership in the future is not likely to match the increases in the past. On garbage I am completely in the dark; I don't know what to expect there. But if you add it all up, there may be some grounds for expecting less sheer quantitative pressure, in terms of the size of the clientele, whether it be kids, cars, or garbage, on state and local expenditures.

A third factor that suggests itself to me, and I haven't seen anyone try to do it in any systematic way, is what I would call spatial adjustment. In other words, aside from the fact that we have increased our population dramatically in this period, and we have more of all of these objects of government spending, we have also had a very dramatic rearrangement of the scene in geographic terms – the city-suburban shift, the rural-urban shift. I just have the feeling – a very *a priori* type gut feeling – that somehow this rearrangement of the spatial distribution of the population must have had some net impact on capital expenditures in the state and local sector. Somehow we added schools not just to meet demand in simple terms, but because we were abandoning a school in one location and building a school in another location. And again I would ask whether we expect a similar amount of spatial adjustment in the future.

A fourth factor that I appeal to, which I have alluded to earlier with numbers, is the starvation of the local sector from probably 1929 through 1946. In some sense, just like consumer demand was starved during the war, we certainly deprived state and local spending of its normal claim on resources, first because of depression, second because of war. It could be that a lot that has happened in the last 20 years or 15 years again is in the nature of catching up, and may not have to be replicated in the years to come.

A final one that is on even thinner ice is the whole question of technical progress in the public sector. I don't know how much we have achieved in the last 10 or 15 years, but there may be some hope for a faster rate of progress in the future than we have had in the past. At least that is something to think about in terms of the plan.

When I add it all up, the kind of optimistic conclusion that I would like to come to – and maybe at some future conference I will be able to report this with greater confidence – is that we may be moving from quantity to quality pressure in the state and local sector. In other words, that with all the hoopla of the last 20 years,

we have been primarily preoccupied with the quantity job – more kids, more cars, more garbage, more welfare recipients – and have not really made that much progress, and maybe even retrogressed, in quality. If we can maintain the same level of effort, and maybe even increase it, in the next decade or two we may have some real opportunities to achieve quality progress in all these fields of state and local expenditures.

My final comment is a very modest attempt to link the first part of the paper with the second part. Harvey talked first about trying to explain the aggregate growth of state and local expenditures, and then about trying to enlighten cross-sectional differences. The bridge that may have to be built between the two is to look at differential rates of increase.

I think if we try to explain variations in expenditures at a moment in time between different parts of the country, we are taking on everything. We are taking on all the economics and all the politics of the local sector. We can admit we don't understand a lot of the politics, and a lot of the politics is responsible for different levels of expenditure. But let's at least look on the margin and see how expenditures behave in incremental terms. Is the rate of increase different in different parts of the country? Can we at least attack that in terms of some simple principles along the lines that I have suggested? Hopefully there is enough variation in the system, in terms of rates of population growth or perhaps some of these other factors that I have mentioned – spatial adjustment, the generation of kids, cars, and garbage and so forth – so that we might have an opportunity, by observing differential rates of increase within the country, to get a glimpse of what may be ahead for the country as a whole.