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The Role of State and Local Government in the Economic Development of Appalachia†

By ROY W. BAHL* and ROBERT J. SAUNDERS**

THE INCREASED PROSPERITY of the past two decades has passed Appalachia by, and the upsurge in social action aimed at areas of hard core unemployment and social ill has to this point had little effect. Among the vast amount of legislation of the past five years aimed at improving the lot of the 17 million inhabitants of Appalachia is The Area Redevelopment Act, Manpower Development and Training Act, Public Works and Economic Development Act, The Economic Opportunity Act, and The Appalachian Regional Development Act. The goal of this concentrated effort is essentially to promote economic development by encouraging industrial growth through provision of a pool of skilled labor, assistance in financing plant construction, and the development of an adequate transportation network. The economic impact of these and other proposals has been examined extensively by academicians of various disciplines in terms of alternative methods by which economic activity might be stimulated and the standard of living raised.

However, one dimension of development planning for Appalachia which has been given little attention is the potential role of state and local governments. That is, what taxation and expenditure policies are most harmonious with the goals of economic development? The dual objectives of this paper are to examine the trend and pattern of public

finances shaped by the state and local government sector in an underdeveloped Appalachian state, and to explore the implications of alternative public (state-local) policies for economic growth.

A case study of West Virginia seems appropriate for these purposes since the state suffers from most of the economic ailments of Appalachia—low per capita income, low rates of growth in capital formation and productivity, a primarily rural population, high unemployment rates, and economic dependence on declining industries such as agriculture and mining. Further, a recent empirical examination of West Virginia state-local fiscal activities is available in a form amenable to the purposes of the present paper.¹

The two sections following involve an analysis of the trend and structure of public expenditures and revenues with-

† The time and facilities necessary to complete this paper were provided by the West Virginia University Regional Research Institute. The authors are indebted to Professors James W. Martin and William H. Miernyk for their comments on an earlier draft of this paper.

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¹ Roy W. Bahl and Robert J. Saunders, *The Trend and Pattern of Intercounty Disparities in West Virginia Public Expenditures* (Bureau of Business Research and Office of Research and Development, West Virginia University, Morgantown, 1967).

in West Virginia, with a focus on comparisons with the nation as a whole and between urban and rural areas within the state. Then the implications for long-run economic development are examined in terms of the hypothesis that a policy which maximizes growth may

not be consistent with the goal of uniformity in public service standards among regions within the state.

Public Expenditures

Table I presents a comparison of West Virginia and national average selected public finance statistics. From these data it can be seen that the state ranks 46th among the 50 states in 1962 per capita expenditures from own sources and that, even when the extremely high level of federal aid is included, the relative standing when states are arrayed by per capita expenditures from all sources is not improved.

Three alternative measures of fiscal capacity are available to compare the taxable resources at hand in West Virginia with that of the national average (see rows 4, 5, and 6 of Table I). In each case West Virginia ranks low in the hierarchy of states. Further, measures of tax effort (see rows 7, 8, and 9) reveal alternative rankings for the state to fluctuate rather closely about the national mean which implies that, at best, an average effort is put forth by West Virginia residents. In summary, (a) public revenues are a relatively more scarce resource in West Virginia than in the rest of the country, (b) growth in these revenues is severely limited by both a low fiscal base and the lack of a strong resident preference for public goods, and (c) average public service levels in the state are at a low level. Given these observations and the relatively undeveloped stage of the state's economy, the allocation of available funds (both geographically within the state and among the public functions) is of considerable importance. More specifically, a vital issue is whether or not the observed distribution of these limit-

TABLE I—SELECTED PUBLIC FINANCE STATISTICS:
A COMPARISON OF WEST VIRGINIA WITH
NATIONAL AVERAGES

	United States	West Virginia	
	<i>average</i>	<i>amount</i>	<i>rank</i>
<i>Public Expenditure Measures (1963)</i>			
(1) Per capita state and local	\$343.64	\$250.72	46
(2) Per capita state and local (less federal grant)	299.25	196.14	46
(3) Per capita federal grants	44.39	54.58	22
<i>Fiscal Capacity Measures</i>			
(4) Per capita income (1962)	2366	1810	41
(5) ACIR composite income ^a (1959)	2382	1903	38
(6) ACIR per capita yield of a representative tax system ^a (1960)	202	150	41
<i>Tax Effort Measures</i>			
(7) State-local general revenues from own sources per \$1,000 of personal income (1963)	\$117.61	\$116.20	29
(8) ACIR composite income ^b (1960)	100	92	31
(9) ACIR representative tax system ^b (1960)	100	101	20

^a Advisory Commission on Intergovernmental Fiscal Relations, *Measures of State and Local Fiscal Capacity and Tax Effort*, October 1962. Composite income is an index combining personal income, income produced, and income earned to more accurately reflect the total income flow available to the state for tax purposes. The yield of representative tax system is measured by evaluating the bases available for taxation in each state and then estimating the amount of revenue each could raise if all applied a uniform tax system.

^b The ACIR estimated tax effort by dividing each of the above capacity measures into state and local tax collections. The states were then ranked by relatives where the national average is 100 percent.

ed revenues is consistent with an objective of stimulating economic growth.

If the proportion of total revenues from own sources devoted to a specific public function can be assumed to describe in general the preference of residents for that public function relative to all other public goods, the observed functional allocation of public funds among West Virginia counties shows the pattern of preferences to be substantially different than that existing within the 50 states, (see Table II). In West Virginia, a fraction significantly greater than the national average is spent for public welfare and highways, but a significantly lower proportion is spent for health and hospitals, and for all of the more traditionally locally financed and typically urban services, *e.g.*, police, fire, and sanitation. Further, the relative emphasis on highways and welfare increased in West Virginia between 1957 and 1962, while for the nation as a whole the proportion devoted to these functions fell or remained constant and relative emphasis was shifted to education. In contrast, in West Virginia, the proportions of total resources devoted to welfare and to highways each increased by several times the increment in educational spending. Hence, if governments in West Virginia made any attempt to reallocate expenditures among functions so as to maximize the net benefits received for the marginal dollar of public funds spent, it was apparently felt that the gains to be received from shifting funds to welfare and highways would be greater than the gains received from shifting funds to education, or the losses incurred by reducing the relative amount of public spending for the local functions.

The data shown in Table II also enable a comparison of the homogeneity

TABLE II—FUNCTIONAL DISTRIBUTION OF TOTAL PER CAPITA PUBLIC EXPENDITURES: WEST VIRGINIA AND THE UNITED STATES: 1962

Function	West Virginia ^a	United States ^b
Education	37.9 (18.9)	36.9 (12.9)
Highways	21.6 (39.6)	17.2 (28.1)
Welfare	13.7 (42.1)	8.4 (28.3)
Health and Hospitals	5.2 (161.8)	7.2 (26.4)
Police	2.2 (58.7)	3.5 (24.9)
Fire	0.9 (151.3)	1.9 (45.8)
General Control	3.6 (42.0)	3.9 (23.0)
Sanitation	0.8 (n.c.)	3.3 (n.c.)
Interest on debt	2.4 (n.c.)	3.3 (n.c.)

^a The mean proportion shown (not weighted by population size) is of the ratio of expenditures in counties by all levels of government on function A to total expenditures in counties by all levels of government. Capital outlays are excluded where possible. The coefficient of variation ($V = \frac{s}{X} \cdot 100$) is computed on the above ratio and shown in parenthesis below the mean proportion; however, only those expenditures which are allocatable among counties are included.

^b Expenditures are total by state and local governments including federal grants and capital outlays are excluded where possible.

n.c. = not computed.

of preference (as measured by the coefficient of variation²) among the 50 states and among counties³ within West Virginia. These data suggest that the relative importance afforded the nine expenditure categories considered is

² A coefficient of variation is the standard deviation as a percent of the mean and measures the relative dispersion of a distribution. The smaller the coefficient of variation, the smaller the relative dispersion about the mean and the more homogeneous the population.

³ Total county expenditures in this paper refers to the sum of municipal government, county government, school district, federal government, and state government expenditures *in* the county. Expenditures from local sources refers to the sum of municipal government, county government, and school district expenditures of funds raised from local sources.

TABLE III—PER CAPITA EXPENDITURES IN WEST VIRGINIA COUNTIES BY ALL LEVELS OF GOVERNMENT AND BY LOCAL GOVERNMENTS FOR SELECTED FUNCTIONS: 1962

Income Class	Total Expenditures			Education			Welfare			Highways		
	All	Local	Difference	All	Local	Difference	All	Local	Difference	All	Local	Difference
Under \$1,400	192.00	41.00	151.00	69.00	22.00	47.00	48.00	0.40	47.60	58.00	1.70	56.30
\$1,400-\$1,599	169.00	42.00	127.00	67.00	23.00	44.00	41.00	0.50	40.50	44.00	2.00	42.00
\$1,600-\$1,799	157.00	44.00	113.00	65.00	21.00	44.00	28.00	0.55	27.45	44.00	2.30	41.70
\$1,800-\$1,999	149.00	56.00	93.00	69.00	33.00	36.00	25.00	0.83	24.17	35.00	2.60	32.40
\$2,000-\$2,199	151.00	63.00	88.00	66.00	29.00	37.00	18.00	0.91	17.09	38.00	3.80	34.20
\$2,200 and up	142.00	81.00	61.00	58.00	33.00	25.00	14.00	1.10	12.90	28.00	5.30	22.70

more uniform among the states than among the 55 West Virginia counties. Accordingly, it might be concluded that the combination of preference patterns, fiscal capacity, and needs is more diverse among West Virginia counties than among the 50 states. An examination of the intercounty uniformity reveals that the relative importance of the education function is assessed quite equally among West Virginia counties, *i.e.*, a similar fraction of the total government spending in counties is devoted to education regardless of the level of public funds available. For the other heavily aided programs—welfare and highways—the diversity in proportionate amounts spent is large. Since these three functions are heavily financed through state funds, this diversity would seem to mirror the extent to which the state assesses relative needs differently from county-to-county.

In Table III is presented data which show that in West Virginia the geographical distribution of state aids to counties and direct state expenditures within counties is sufficient to create an inverse relationship between per capita income and per capita expenditures, even though local governments in low income counties spend considerably less than their high income counterparts. That is to say, the gap between per resident local government expenditures in high

and low income counties is *more than offset* by state fiscal activity (either grant or direct expenditure programs) in these counties. In regard to fiscal effort, Adams⁴ has found that among the lower income West Virginia counties, per capita state aid is inversely related to local fiscal effort (measured as state-local revenues from own sources per dollar of personal income) signifying the substitutability of state for local fiscal resources. This significant negative relationship also indicates that higher levels of per capita state aids are associated with proportionately smaller amounts of personal income being diverted to the purchase of public goods. In general, Adams' findings for the Appalachian region are contradictory to the thesis that the relative size of the public sector grows with the development of an area.

Simple correlation coefficients between combinations of selected demographic and socio-economic county characteristics on 55 West Virginia counties show that high income counties are also more highly urbanized and have the greater rates of population growth. Moreover, it can be hypothesized that

⁴ Robert F. Adams, "The Fiscal Response to Intergovernmental Transfers in Less Developed Areas of the United States," *Review of Economics and Statistics*, August 1966, pp. 308-313.

these higher income—more heavily populated counties are the potential growth points in the state. Consequently, any state policy such as the one being carried out in West Virginia, which dictates an equalizing distribution of aids, discriminates against the urban growth areas.

Public Revenues

In 1962 local government expenditures as a percent of total state-local expenditures ranged from 39.4% in Vermont to 74.4% in New Jersey. West Virginia ranked 47th among the states (44.9%), indicating a high degree of fiscal centralization, and hence the great power of current state policy in shaping the distribution of all public expenditures both geographically within the state, and proportionately among functions. With regard to the former, a policy of equalization is followed in aiding education; highway expenditures are distributed on a basis of specific projects; and the welfare program is tied closely to need. Nearly all state government assistance to, or direct expenditures in counties are for these three functions. As was shown above, the net effect of the present method of distributing state aids is to equalize per capita expenditures.

As is the case for most state tax structures, that in West Virginia is highly regressive. The major sources of revenue are a gross sales tax (23.7% of total state government revenues in 1965), a consumer sales tax (18.9%), a gasoline tax (15.5%), and a personal income tax (9.2%). Given the spatial distribution of income and general economic activity in the state, there is little doubt but that a greater per capita amount is being paid in the more highly urbanized-higher income areas. Hence, state policy

of equalization in the distribution of assistance among counties is effectively a reallocation of resources from higher to lower income areas. Further, Maxwell notes that the per capita redistribution of income attributable to federal grant formulas and federal tax incidence in 1962 was a positive \$48.06 for West Virginia.⁵ But while \$48.06 is a per person estimate of the *average* federal grant-tax redistribution effect, the corresponding per capita amount is assuredly below this figure in urban areas of the state. This disparity again results from the state policy of per capita expenditure equalization which results in a much heavier per capita distribution of assistance to rural areas.

The potential sources and yields of revenues for local units of government in West Virginia, as in most Appalachian states, are severely constrained by legal limitations. Municipalities and counties derive receipts primarily from the property tax and a gross sales tax while school districts may tax only property. A combination of constraining maximum legal property tax rates, less than uniform assessment practices, and a relative income inelasticity of assessed value make the property tax a less than adequate primary source of revenue. Further, local governments are prohibited from levying other nonproperty taxes, and state grants to local governments are unconstitutional (with the single exception of school districts). These limitations and a history of very limited state assistance in financing the traditionally local functions (police, fire, local roads and streets, refuse collection) have re-

⁵ James A. Maxwell, *Financing State and Local Governments* (Washington, D. C.: The Brookings Institution, 1965), Appendix Table A-14.

sulted in an inordinately low level of local public services. Further, without the grant-in-aid, tax credits, or tax sharing, it is not apparent that the state could opt to raise the levels of these services, even if federal programs such as the Heller-Pechman plan make federal funds available expressly for this purpose.

Implications For Economic Growth

In the above two sections was presented an examination of the activity of the public sector in an underdeveloped, Appalachian state with reference to relative treatment of the urban and rural areas. The results indicate a decided bias favoring rural areas in the spatial distribution of expenditures, and a net flow of fiscal resources from higher income, more urbanized to lower income, rural areas. The point to be examined now is the degree to which this pattern is consistent with a development policy.

There would seem to be two possible avenues of thought in formulating effective public finance policy for an economically depressed Appalachian state such as West Virginia. The first is that social overhead investment should be distributed on a per capita basis within the state as a prerequisite to economic development. A specific argument here is that education results in awareness and responsibility, whereas the lack of education and training excludes the human resource from full participation in the growth process. Similarly, adequate transportation and communications insures both access to—and mobility of—resources. If communication, transportation, and education services are concentrated only in the already urbanized area, the impulses of growth are also restricted to only these areas.

The second avenue of thought is that the development process must “take off” before the diffusion of Social Overhead Capital can influence the rate of growth. Advocates of this theory would argue that given the limited resources available in the state, it is not possible to equalize simultaneously public service activity within the state and reduce the disparity between urban (growth) areas in West Virginia and those in the United States as a whole. If this premise is accepted, it leads to the conclusion that state equalization policies in West Virginia are not compatible with the objectives of long-run growth.

The pattern of public sector activity described above suggests that the first of these philosophies has been followed historically in West Virginia, *i.e.*, the higher levels of per capita government spending occur in counties with lower per capita incomes. The effects of this policy have been an “overequalization”⁶ within the state, and possibly an increasing disparity in public service levels between West Virginia and the rest of the country.

Consider, for example, the case of the education function in West Virginia. Presently, the state ranks low in spending for primary, secondary, and higher education. Given that teachers’ salaries in West Virginia urban areas are not presently at high levels, it seems improbable that school districts located in the state of West Virginia will be able to bid quality teachers away from other potential employment. In fact, it is probable that relatively low salaries in West Virginia may contribute to a net out-

⁶ The simple correlation coefficient between per capita spending in counties and per capita income is $-.35$ which is significant at the $.05$ level.

flow of quality teachers. Consequently, the real effect of the state equalization policy in regard to education, is to enable low income counties to compete with higher income counties in the state in terms of teachers' salaries. Reduction in the disparity between the quality of education in potential growth areas in West Virginia and that in competing areas in other states is (given the limited financial resources of the state) not compatible with a policy of equalizing per capita expenditures within the state. Very conceivably the effect of an equalization policy could be to widen the disparity in the quality of education between West Virginia and the rest of the nation. The same may be true of public investment in certain other functions.

The geographical distribution of state assistance within West Virginia is but one dimension of the more general problem of formulating a realistic definition of the role of the state-local sector in stimulating economic development. A second question of considerable importance involves the distribution of revenues available to the state (internally raised funds plus federal grants) among the alternative functional categories. The state government has elected to assist local areas primarily in the education, highway, and public assistance programs and the state constitution has severely limited local governments in the selection of revenue sources, and prohibited the use of state-to-local grants-in-aid. Consequently, local public services—police, fire, roads and streets, sanitation, parks and recreation—are at low levels. Further, even with prospects of increased federal assistance for urban type functions, there is no adequate method by which this aid may be passed down from the state government to local units.

The importance of this low level of urban services to the economic development of the state relates to the potential for attracting or retaining either industry or human resources. Though state and local tax structures traditionally have been discussed as a factor of some importance in industry location decisions, the level and quality of public services may be an equally important determinant.⁷ The cost of not providing local units of government with an adequate supply of funds or with the power to raise an adequate amount through taxation is the amount of industry which is discouraged from locating (or expanding) in the state because of low public service levels. Similarly, the attraction of human resources, especially professional people such as lawyers, physicians, teachers, etc., may also be impeded by the below average quality of public services which exists even in the more highly urbanized areas. Viewed another way, the cost of aiding rural low income areas at the expense of higher income, more highly urbanized areas may be some amount of industry or professional talent lost to the state because of low public service levels.

Greenhut suggests the possibility of a mushrooming effect, *i.e.*, as an area develops industrially, it becomes a more and more attractive place in which to locate a plant.⁸ This would seem to lend

⁷A tabulation of the results of interviews with 89 firms locating plants in West Virginia over the 1945-1956 period shows that community facilities were mentioned more often as having "strong influence" on the location decision than was the level of state and local taxes. James H. Thomson and Thomas S. Isaack, *Factors Influencing Plant Location in West Virginia, 1945-1956* (Bureau of Business Research, West Virginia University, Morgantown), p. 15.

⁸Melvin L. Greenhut, "An Explanation of Industrial Development in Underdeveloped Areas of the United States," *Land Economics*, November 1960, p. 378.

further credence to the argument that the public sector should concentrate initially on stimulating a take off of the growth points, at the expense of equalizing public service levels within the state. This growth may be necessary not only to attract new talent to the state but to ebb the out-migration of professional talent and to reduce somewhat the loss in social overhead investment created by this out-migration.

It was estimated that between 1950 and 1959 each of the over 1½ million out-migrants from Appalachia carried with him a total public and private "rearing cost" of over \$10,000, most of which was derived from regional sources.⁹ This is not to say that this population flow did not make a significant contribution to the economy of the Appalachian region, but that at least some of this net exporting of social overhead investment was embodied in the kind of professional talent essential to the development needs of an economically depressed area.

Conclusions

The objective of this paper is an examination of the role of state and local government in the economic development process of an underdeveloped state. More specifically, the analysis centers on the geographical and functional distribution of public funds in terms of the relative amount allocated to the more highly urbanized, higher income areas as opposed to the primarily rural, lower income areas. It has been shown that (a) state policy in West Virginia has dictated an equalizing distribution of public sector activity and (b) a combination of legal restraints, low fiscal capacity, and an absence of a strong resident preference for public goods has constrained urban public services to a relatively low level.

There is merit in examining the implications of an alternative state policy with respect to the goals of the attraction of industry and long-run economic growth. Two elements of this policy are a reduction in the degree to which public expenditures are equalizing, and an increase in the effective fiscal abilities of local governments.¹⁰ Consider the consequences of the first. The relative levels of public spending for education and highways would rise in the urban areas and fall in rural. As a consequence, the already deficient educational and transportation systems in the low income areas would fall relatively further behind. On the other hand, the higher income areas would be left in a better position to compete with other regions for higher quality human and industrial resources. The reduction in fiscal equalization would be of course limited by certain factors, *e.g.*, a highway connecting urban area must pass through rural counties.

Another variable to consider in attempting to evaluate the benefits received from the marginal public dollar in high as opposed to low income counties is the efficiency of operation of the local government in question. To the extent that there exist economies of scale in the provision of public services, the marginal dollar buys more units of service in the urban than the rural area, and because of the greater possibilities for specialization it may also buy a greater quality of service in the urban area.

⁹ See, David A. Grossman and Melvin R. Levin, "The Appalachian Region: A National Problem Area," *Land Economics*, May 1961, p. 133.

¹⁰ See also, Frederick D. Stocker, *The Role of Local Government in Economic Development of Rural Areas* (Washington, D. C.: Economic Research Service, United States Department of Agriculture, 1966).

The second phase of this alternative policy would call for increased fiscal activity on the part of local units of government to strengthen the level and quality of public services. Assume for example, that local governments were suddenly allowed to tax income (or received a tax credit from the state). Since the urbanized areas (the potential growth areas) have the highest per capita incomes, they would benefit most in terms of revenues received from the tax. This is a desired effect if the objective is to increase urban public services and consequently increase the chances for certain areas (the growth points) to attract industry.

A final important, though often overlooked, dimension of the local problem is the role of urban public services as a supplement to state investment in Social Overhead Capital. For example, the effectiveness of the state highway system may be greatly diminished if local feeders are inadequate or if city streets are so overly congested as to impede the flow of traffic. Further, the public education system could be complemented effectively by the local government in providing adequate park and recreational summer programs or alternatively by direct local action (tax referendum) directed toward increasing the level of school revenues.

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