FINANCING STATE AND LOCAL
SERVICES IN A CYCLICAL ECONOMY

Fred C. White and Wesley N. Musser

During the past six years, state-local government finance ranged from a situation of fiscal crisis in 1970, to a boom in 1972-73, and back to a crisis in 1974-75. This was far worse than any since the Great Depression. During the recession of 1970-71, rising state and local tax revenues and federal grants did not keep pace with increases in expenditures resulting primarily from inflation [21, p. 500]. More favorable conditions in 1972-73, though, saw researchers projecting large future surpluses for the remainder of the decade and calling for reductions in tax rates and increases in expenditures [11, pp. 364-366].

This emerging cyclical problem reflects the aggregate economic instability of this decade. Inflationary pressures generated in the 1960s and structural economic changes have worsened the tradeoff between unemployment and inflation. Government aggregate policy has gyrated between controlling inflation and reducing unemployment, resulting in intensified business cycles. In all likelihood, these macroeconomic fluctuations will continue, as will fluctuations in state and local budgetary fiscal conditions.

Agricultural economics research on rural poverty and rural development has not considered state and local fiscal problems associated with business cycles. Reports issued by the President's National Advisory Commission on Rural Poverty [13, 14], and papers by Jones and Gessaman [6], Maki [7], Bottum [2] and Eddleman [3] presented at the 1974 Annual Meeting of the American Agricultural Economics Association, are representative of the absence of fiscal problems (in the literature) related to rural public

problems. A large part of this neglect can be attributed to theoretical conceptions of state and local public finance.

The Keynesian Revolution in economics focused attention on need for government spending to be countercyclical for economic stabilization purposes. From this viewpoint, Hansen and Perloff [4] advocated state and local deficits in recessions and surpluses in booms, with little attention to problems of adjustment in taxes and spending to implement such a policy.

Another theoretical constraint was added by Musgrave's model of public finance which views the public economic role as having three distinct activities: efficiency, income distribution and stabilization [9, pp. 3-27]. Since stabilization policy requires national action for implementation, local and state public finance has evolved to the position of considering only efficiency and income distribution [5].

The purpose of this paper was to do preliminary exploration of a neglected area—impact of business cycles on problems of state and local finance. In particular, the paper focuses upon conceptualization of the problem of fiscal instability of state and local finance. It considers some methodology for empirical analysis. Instability of specific composition of governmental budgetary components is considered, as well as changes in instability associated with structural changes in the budgetary composition.

Concepts and methodology developed in the research were illustrated with aggregate U.S. state and local budgetary data. Empirical estimates are to be considered as tentative and not necessarily

Fred C. White is Associate Professor and Wesley N. Musser is Assistant Professor, Department of Agricultural Economics, University of Georgia, Athens, Georgia.

representative of any particular government unit. Analysis of fiscal problems of a particular governmental unit would require reestimation of empirical relationships.

The first section of the paper presents a conceptual overview of the problem of fiscal instability in state and local finance. In the second section, methodology to measure instability is developed, and data supporting the study are presented, along with empirical estimates. In subsequent sections, fluctuations in each budgetary component are considered, with particular attention to impact of structural changes in this component on its responsiveness to business cycles. The final three sections briefly consider aggregate instability in state and local finance; the problem of aggregation errors; and implications of analysis for research on rural development.

CONCEPTUAL CAUSES OF FISCAL INSTABILITY OF STATE AND LOCAL BUDGETS

Fiscal instability can be simply viewed as fluctuation in budgetary cash flows in response to the business cycle. Fiscal problems, from this viewpoint, are characterized as cash surpluses during economic booms and cash deficits during recessions. These cyclical fluctuations in fiscal conditions could conceptually result either from cyclical behavior of a single major budgetary component or several of them—tax revenues, intergovernmental transfers, expenditures, debt or stabilization reserves. The combination of relationships between each of these categories and the business cycle which would produce the most instability would be: (1) tax revenues being cyclical, (2) intergovernmental transfers being cyclical, (3) expenditures being countercyclical, (4) debt levels being cyclical and (5) stabilization reserves being cyclical. In such a case, cash inflows from tax revenue and transfers would decrease in a recession. Cash outflows to expenditures would increase. Outflows to debt and stabilization reserves would exist. In a boom, cash inflows from tax revenues and transfers would increase. They would be supplemented with increased borrowing and reduction in stabilization reserves, while outflows to expenditures would decrease.

It should be noted that this extreme case has limited realism. In particular, relationships regarding debts and stabilization reserves are not normal ones. However, during the 1975 recession, New York City attempted to reduce its debt, and Georgia Governor George Busbee proposed that his state increase its budget reserves. Even with these atypical

relationships generally not holding, some of the above relationships are plausible. They are a well-known part of the United States budgetary system.

In particular, tax revenues from most sources would be expected to be cyclical. At least, the income transfer component of expenditures is countercyclical. Unless cash flows from expenditures other than income transfers are cyclical (and/or countercyclical cash inflows from intergovernmental transfers, debt and stabilization reserves exist), adjustment to fiscal instability will be a problem.

METHODS AND DATA

The analysis of each category of cash flow in this paper was concerned with two factors. First, trends in structural components which increased their contribution to fiscal instability were identified in order to give some historical perspective to fiscal instability. This analysis related past and current governmental decisions on allocation of expenditures and tax sources to evolving stability problems.

Secondly, elasticity measures of the relationship between income and budget categories were considered. Since year-to-year changes in financial variables were pertinent to this analysis, the elasticity coefficient was obtained by regressing annual percentage changes of each financial variable (X) and income.

$$\frac{\Delta X}{X} = a + b\frac{\Delta Y}{Y}$$

The constant term in the regression equation represents annual percentage change in the financial variable, with no change in income. The slope coefficient, b, may be defined as the short-run coefficient of income elasticity. Both sign and magnitude of the elasticity coefficient have economic significance. Sign of the coefficient tells whether the financial variable was directly or inversely related to changes in income. Size of the coefficient tells the change percentage in the financial variable associated with a one-percent change in income. A measure of long-run growth was also obtained through regression analysis. The long-run elasticity coefficient e was obtained from the following equation:

$$\ln X = \ln c + e \ln Y$$

where X is any financial variable and Y is the income measure.

Historical data on government financial variables used in the analysis were obtained from U.S. Bureau of Census publications [16, 17]. Income measures obtained from *Survey of Current Business* [18]

represented state income when the analysis dealt with individual states. They represented national income when the analysis dealt with all state and local governments.

Table 1 shows income elasticities and significance levels for selected financial variables for state and local governments in the United States. Estimates, covering the period 1952-72, were calculated using the above procedures and data sources.

STATE AND LOCAL TAX REVENUES

Historically, state and local governments have depended largely upon property taxes as a source of revenue. While property values fluctuated with the level of economic activity during business cycles, short-run income elasticity of property tax revenue was not high. Revenues, then, were stable, except for protracted periods of economic depressions. During the 1930s, other forms of taxation grew in importance to assist in balancing budgets, particularly at the state level. These taxes were of three categories—special excise taxes, general sales taxes and income taxes [4, pp. 62-68].

The process of substitution of other taxes for stable property tax continued with economic growth. In part, these taxes were instituted to finance increases in government goods and services demanded by an increasing society. Once enacted, however, their proportion of total revenue grew as consumption and income grew.

The result of this process is summarized in Table 2. While property taxes accounted for 49.8 percent of tax revenue in 1950, they had declined to 43.0 percent by 1972. During this same period, individual and corporation income taxes increased from 9.4 percent to 20.2 percent. General sales and receipt taxes increased from 15.4 percent to 20.8 percent. Excise taxes, with the exception of that on tobacco, declined during this period.

These structural changes in state and local finance have been advantageous for the process of raising revenue to finance the rapidly growing public service sector. They have increased susceptibility of revenues to business cycles, though. These relationships are shown by long-run and short-run income elasticities. Williams and others [20] estimated that long-run income elasticity which measures response of tax yield to economic growth was 2.08 for individual income taxes, 1.34 for corporate income taxes and 1.37 for general sales taxes. Although this research did not estimate elasticities for property taxes, those for income and sales taxes were higher

TABLE 1. INCOME ELASTICITIES FOR SELECTED FINANCIAL VARIABLES OF STATE AND LOCAL GOVERNMENTS, UNITED STATES

Financial Variables	Income Elasticities	
	Short-run	Long-run
Tax Revenues		
Individual income	1.08[a]	2.08[a]
Corporate income	1.87[a]	1.34[a]
Sales	0.81[a]	1.37[a]
Alcoholic beverage	0.51[a]	1.01[a]
Tobacco	0.63[a]	1.48[a]
Motor fuel	0.34[a]	1.02[a]
Vehicle license	0.14[a]	0.99[a]
Property	0.84	1.27**
	(0.70)	(0.04)

Financial Variables	Short-run Income Elasticities	
	State Governments	Local Governments
Expenditures		
Current	0.77**	0.41**
	(0.30)	(0.21)
Capital	0.78**	0.84**
	(0.38)	(0.32)
Assistance	-	-
Interest	-	-
Insurance	-	-
Intergovernmental Transfers	0.85	0.84**
	(0.70)	(0.27)
Debt	-0.66**	-0.34*
	(0.36)	(0.20)

[a]Source: William V. Williams, et. al., "The Stability, Growth and Stabilizing Influence of State Taxes," *National Tax Journal*, Volume 26, No. 2, June 1973, p. 271.

Standard errors are in parentheses.

Level of significance:
*indicates 0.10 significance level
**indicates 0.05 significance level

TABLE 2. TAX SOURCES FOR STATE AND LOCAL GOVERNMENT, UNITED STATES 1950-1972

	1950	1960	1970	1972
	(Million Dollars)			
Taxes	15,914	36,117	86,795	108,801
	(Percent)			
Property	49.8	51.3	43.7	43.0
Individual income	5.4	7.7	13.9	15.6
Corporation income	4.0	3.7	4.8	4.6
General sales and receipts	15.4	16.2	20.7	20.8
Motor fuel	13.2	10.5	8.1	7.5
Alcohol	2.8	2.1	1.9	1.8
Tobacco	2.0	3.1	3.1	3.1
Motor vehicle and operating license	7.4	5.3	3.7	3.7

SOURCE: U.S. Bureau of the Census, Historical Statistics on Governmental Finances and Employment, and Governmental Finances, annual.

than our estimate of long-run income elasticity for property taxes of 1.27. Increased reliance on income and sales taxes also results in total revenue being increasingly subject to short-run business cycles. Williams and others estimated short-run income elasticity of these taxes as 1.08 for individual income, 1.87 for corporate income and .81 for general sales.

Those taxes which have become less important over time, generally, have lower short-run income elasticities. Short-run estimates for excise taxes vary from .14 for vehicle license to .63 for tobacco. Property tax had a .84 short-run income elasticity.

Short-run income elasticity of total tax revenues for state and local governments was calculated as a weighted average of those of various taxes. Elasticities for selected years appear in Table 3. While state and local revenues were still inelastic with respect to short-run fluctuations, estimates indicated that revenues were becoming more elastic, as income taxes comprised a larger proportion of total tax revenues. This trend would be expected to continue unless significant adjustments are made in tax structure.

STATE AND LOCAL PUBLIC EXPENDITURES

The decrease in stability of revenues was not sufficient to produce recent fiscal imbalances. If state and local public expenditures could be freely adjusted in the legislative appropriations process, budgets could easily be balanced by raising or lowering expenditures. However, government expenditures are in part exogeneous to annual appropriation decisions. Weidenbaum identified four major institutional forms of program appropriations which are relatively uncontrollable—trust funds, permanent and indefinite appropriations, fixed charges and ongoing projects. He estimated that 48 percent of the total 1969

federal budget is in these categories [19]. While a complete analysis of controllability of state and local budgets was beyond the scope of this paper, impact of structural changes in composition of budgets on controllability was identified.

Data in Table 4 summarize structural changes in state and local expenditures between 1950 and 1972. The most significant structural changes have been in elementary and secondary education (increased from 28.0 to 32.2 percent); higher education (increased from 3.5 to 6.7 percent); and in highways (decreased from 16.7 to 11.4 percent). In terms of reducing controllability of the budget, the 32 percent decrease in proportion of expenditures on highways reduced flexibility of state and local governments. With a large commitment to highway construction as in 1960, construction and/or repairs could be decreased in a recession and expanded when revenues were available.

In contrast, the major increasing component, elementary and secondary education, does not provide similar flexibility. In addition to political constraints, inflexibility in elementary and secondary education was a result of its heavy human service orientation, which requires current expenditures to maintain services. However, lack of specialization in consumption or production of elementary and secondary education also gave this component a large degree of uncontrollability.

Public welfare is a component requiring particular interpretation, because its structural changes

TABLE 3. SHORT-RUN INCOME ELASTICITIES OF TAX REVENUES FOR STATE AND LOCAL GOVERNMENTS, UNITED STATES 1950-1972

Year	Short-run Income Elasticity[a]
1950	.758
1960	.789
1970	.837
1972	.843

[a]The short-run income elasticity for total tax revenues is a weighted average of the elasticities of the various taxes, with the weights being the proportion of the particular tax in total state and local tax revenue at that point in time.

TABLE 4. DIRECT GENERAL EXPENDITURE OF STATE AND LOCAL GOVERNMENT, UNITED STATES 1950-1972

	1950	1960	1970	1972
	(Billion Dollars)			
Expenditures	22.8	51.9	131.3	166.9
	(Percent)			
Elementary and secondary education	28.0	32.2	33.5	32.2
Higher education	3.5	3.9	6.6	6.7
Highways	16.7	18.2	12.5	11.4
Public welfare	13.0	8.5	11.2	12.6
Health and hospitals	7.7	7.5	7.4	7.7
Police protection and correction	3.4	3.6	4.7	4.8
Natural resources	2.9	2.3	2.1	1.9
Sanitation and sewerage	3.7	3.3	2.6	2.8
Housing and urban renewal	2.0	1.7	1.6	1.7
Interest on general debt	2.0	3.2	3.3	3.6
All other	17.3	15.8	14.5	14.6

SOURCE: U.S. Bureau of the Census, Historical Statistics on Governmental Finances and Employment, and Governmental Finances, annual.

were not readily apparent from its constant share between 1950 and 1972. In the 1950s, public welfare recipients and expenditures were almost constant in absolute terms. This was reflected in the relative decline in this expenditure from 13.0 to 8.5 percent from 1950 to 1960. In the 1960s, welfare expenditures began to increase and were at 1950 levels in 1972. If these trends continue, public welfare will have an increasing relative share of state and local expenditures. These trends were the basis for the well-known welfare crisis [8, 12].

Trends in public welfare have definite implications for general and cyclical controllability of expenditures. At the federal level, Weidenbaum identified public welfare expenditures as an important component of uncontrollable expenditures [19, p. 361]. As authorized and administered, public welfare is also largely uncontrollable at the state and local levels. More importantly for cyclical controllability, public welfare is countercyclical: when economic conditions reduce revenues, demand for welfare would be expected to increase.

These qualitative judgments on current budget controllability can be evaluated with disaggregated cross-sectional data for a point in time. The year 1970 was selected for this analysis because of a wide disparity in aggregate economic conditions in individual states: The nation was generally considered to be in a recession in 1970, but many states did not experience an economic slowdown. Increases in general expenditures were directly related to rate of increase in each state's personal income (Table 5).

Although educational expenditures for local schools were directly related to economic activity, other educational expenditures showed no clear-cut relationship. However, the smallest increase in other educational expenditures occurred in the states with the lowest growth rate in personal income. States in the two categories with the lowest growth rates showed almost no change in highway expenditures. An inverse relationship between economic activity and public welfare expenditures was present in 1970. These data indicated a worsening of state and local budget controllability: The rate of increase in highway expenditures was over eleven times greater in states with the largest increase in personal income, while local school expenditures were less than three times greater.

INTERGOVERNMENTAL TRANSFERS

The amount of loans or grants-in-aid from higher levels of government to subordinate governments for supplementation of subordinate sources of revenue has been growing. These intergovernmental transfers may be especially important during contractionary periods of the business cycle. Loans could be used if the subordinate government can expect sufficient future revenues to justify current expenditures [5, p. 119]. Grants, which are money transfers without obligation of repayment, may be made to subordinate governments to avoid financial crisis, or if the higher level of government wishes to subsidize particular functions or projects that would otherwise be reduced or eliminated.

The behavior of intergovernmental transfers has exhibited secular growth, with little influence on moderating the cyclical nature of state-local

TABLE 5. PERCENTAGE INCREASE IN STATE AND LOCAL GOVERNMENT EXPENDITURES, WITH 50 STATES CROSS-CLASSIFIED BY RATE OF INCREASE IN PERSONAL INCOME

	Increase in Personal Income 1969-1970				
	Less than 5%	5%-8%	8%-11%	11%-14%	Greater than 14%
	(Percent)				
Total General Expenditures	6.5	9.7	14.1	14.2	18.7
Educational Expenditures for Local Schools	7.2	8.5	12.4	12.4	19.8
Other Educational Expenditures	5.7	9.6	15.4	10.9	11.0
Highways	1.0	1.9	10.9	17.5	11.4
Public Welfare	20.0	20.3	20.2	19.5	15.0
Health and Hospitals	5.2	10.7	12.8	12.6	35.3

government finance. Federal aid to state and local governments increased 12.8 percent annually from 1952 to 1972, while state aid to local governments increased 9.6 percent [16]. However, neither of these aid programs has consistently been used to moderate the effect of cyclical fluctuations on revenues of lower levels of government. The aggregate behavior of intergovernmental aid programs of federal and state governments over the period 1952-1972 were very similar. Short-run income elasticities, which reflect response of intergovernmental aid to changes in gross national product, were 0.84 for both federal and state aid. Positive elasticity indicated that lower levels of government receive greater aid during expansionary periods and less during contractionary periods.

DEFICIT FINANCE

Borrowing allows state and local governments to obtain funds without increasing current-period tax liabilities of taxpayers [5, p. 102]. Although state debt has increased 9.5 percent annually, it was 92.8 percent of state receipts in 1972, the same as in 1950 [16]. Local debt as a percentage of local receipts has actually declined over the same period, even though the level of debt has increased 7.8 percent annually. Increased demands for public facilities led to large state and local capital expenditures, which were financed with a steady rise in debt. Receipts, though, have increased at a similar rate.

State and local government debt has been used to offset cyclical fluctuations in revenues. The short-run income elasticity of debt has been −0.34 for local governments and −0.66 for state governments. Negative coefficients indicated that during recession, debt increased more rapidly than its secular trend would indicate. In an expansionary period, state and local debt increased at a sub-trend rate. Interest rate ceilings, maximum debt levels, and statutory requirements for balanced budgets limit deficit financing for countercyclical purposes in several state and local governments. These governments could benefit, especially during a depression, by easing these restrictions. Furthermore, state governments could improve local government's ability to borrow at lower costs by guaranteeing local government bond issues [15, p. 120].

For a government unit to effectively use borrowing to offset general economic fluctuations, it must be involved in a forecasting and planning process associated with borrowing. The level at which expenditures can be maintained through borrowing will depend on the magnitude and duration of economic downturn. During a minor recession lasting only one or two quarters, expenditures could be maintained at their previous levels without creating a large debt.

However, trying to maintain these expenditure levels during a deep depression lasting for several years would be unrealistic. In addition, unlimited deficit financing authority can be substituted for secular increases in revenues rather than cyclical decreases. These can produce serious budgetary solvency problems, as evidenced by New York City in 1975.

STABILIZATION RESERVES

Reserve funds, created by state and local governments during periods of prosperity, may be utilized to supplement tax receipts during an economic downturn. Such stabilizing reserves would make the government unit less dependent on outside sources of funding (such as intergovernmental grants and loans). Furthermore, it would not have to borrow under unfavorable credit conditions during periods of declining revenues.

Melvin White has proposed that reserve fund programs be used to minimize the necessity for tax rate increases during recessions [20, p. 30]. The program would be most effective for a tax structure with high-income elasticity. The rate of surplus accumulation would depend on expected duration of the expansionary phase, as well as on the extent to which rising incomes and employment would affect tax yields and expenditure requirements.

Surplus accumulation would also depend on the purpose for which the funds would be used. A surplus reserve may be restricted to finance only certain functions (such as welfare) or to offset decline in a particular tax that would be especially vulnerable to economic fluctuations [20, pp. 29-35]. However, a reserve fund without such restrictions, but available for general expenditures, would provide greater flexibility.

One of the greatest obstacles to developing an effective reserve fund is its lack of political acceptability. Rather than accumulating idle funds as tax revenues increase during prosperity, citizens prefer a reduction in tax rates or an increase in government expenditures. Thus, a successful reserve policy would have to be operated automatically; both rates of accumulation and release would be tied to the general level of economic activity and government revenues. Developing specific formulas to release funds in an appropriate manner during recession and to build up reserves during expansion is a very complex problem.

The most important experiments with stabilization reserves involved New York and California [1, pp. 326-347] [10, pp. 174-175]. Neither experiment proved very successful. Both were dropped after a

short period. Other state and local governments were apparently unimpressed by the experience—similar large-scale experiments have not been attempted.

AGGREGATE INSTABILITY IN THE BUDGETARY PROCESS

An examination of particular budgetary components, as presented in the previous sections, was only a first step in developing a better understanding of the cyclical nature of state and local government finance. Aggregation of various components then gives a measure of overall vulnerability of these governments to economic fluctuations.

Selected components of revenue, expenditures and debt for state and local governments are presented in Table 6. For tax revenues, the two groups can be differentiated according to form of tax. Local governments receive 44.0 billion dollars of their total tax revenues (53.0 billion dollars) from property taxes. State governments, however, receive only 1.3 billion dollars from property taxes with most of their revenues being derived from sales and income taxes. In the expenditure categories, differences between the two groups were not as apparent. State governments do have larger income transfer expenditures in the assistance and subsidies and insurance benefit categories, while local governments have much larger expenditures on current operations.

Short-run coefficients of income elasticity for both state and local governments are reported in Table 7. The most interesting result of this analysis was that tax revenue elasticity estimates were the same for both groups. With the dependence of state governments on income taxes and local governments on property taxes, this outcome would generally not be expected. However, the largest tax sources for state governments were sales and excise taxes. Sales taxes were less elastic than property taxes and excise taxes were even less elastic than general sales taxes. Thus, the current combination of state taxes has a similar short-run income elasticity to local taxes, largely property taxes.

Negative debt elasticities demonstrate that both state and local governments use debt in a counter-cyclical fashion. Debt elasticity was lower for state governments, indicating a more pronounced cyclical pattern. However, elasticity of cash flows from revenue and debt was slightly higher for state governments than local ones. This pattern reversal for debt elasticities resulted from the larger debt relative to tax revenues for local governments. Increases in debt outstanding were 9.1 billion dollars for local governments in 1973, and 4.9 billion for state governments. Cash flows from the debt, therefore, have had a larger influence on combined cash flows of tax revenues and debt for local governments.

Expenditure elasticities for state and local governments were both in the inelastic range, with state expenditures being more income-elastic. This difference can probably be attributed to larger importance of capital outlays in state expenditures which have more cyclical controllability.

Elasticities for revenue and debt, and for expenditures, indicated that local governments, as a

TABLE 6. COMPONENTS OF STATE AND LOCAL REVENUE, DEBT, AND EXPENDITURES, BY LEVEL OF GOVERNMENT, UNITED STATES 1973

	State and Local	State	Local
	(billion dollars)		
Revenue			
Revenue from Own Sources	178.3	97.1	81.2
Taxes	121.1	68.1	53.0
Property	45.3	1.3	44.0
Sales and Gross Receipts	42.0	37.1	4.9
Individual Income	18.0	15.6	2.4
Corporation Income	5.4	5.4	–
Other Revenue	57.2	29.0	28.2
Expenditures			
Current Operation	138.8	44.8	94.0
Capital Outlay	35.3	14.7	20.6
Assistance and Subsidies	12.2	6.9	5.3
Insurance Benefits	11.1	9.2	1.9
Increase in Debt	14.0	4.9	9.1

SOURCE: U.S. Bureau of the Census, *Governmental Finances in 1972-73*, Washington, D.C., 1975.

TABLE 7. SHORT-RUN COEFFICIENTS OF INCOME ELASTICITY FOR STATE AND LOCAL GOVERNMENTAL BUDGET CATEGORIES, UNITED STATES 1973[a]

	State	Local
Revenue	.84	.84
Debt	-.66	-.34
Revenue and Debt	.79	.76
Expenditures	.68	.44

[a]Aggregate income elasticities are weighted averages of the elasticities of individual components.

group, have more fiscal cyclical problems than state governments. Cash inflow elasticity was not much higher than expenditure elasticity for state governments, while a larger difference existed for local governments. This result does correspond to current fiscal problems of large urban centers compared with state governments.

AGGREGATION ERROR

Analysis of the impact of structural changes in particular budgetary categories would contain aggregation error if state and local governments were not considered as separate groups. However, for certain research areas, state and local governments can be meaningfully considered as one group. Analysis on cyclical fluctuations under the current budgetary structure in this paper is one of these cases.

In general, estimates for state and local governments indicated that serious aggregation error was not introduced—in consideration of state and local governments as one group rather than two—in analysis of cyclical behavior. However, aggregation error within each group may be more serious and was not evaluated in this paper. Until this question is explored, analysis of cyclical problems of a particular state or local government should be based on estimates of elasticities for that particular government, using the methods discussed in this paper.

IMPLICATIONS

This paper has demonstrated that aggregate economic fluctuations have important influence on state and local budgetary process. In addition, structural changes in revenue and expenditure patterns indicated that state and local public finances are becoming more unstable. These trends indicated that analysis of public programs needs to be broadened from its current efficiency emphasis, as characterized by Program Planning and Budgeting, to include a stabilization emphasis. This section presents some implications on such reorientation.

In emphasizing stabilization, it must be recognized that countercyclical public finance is the domain of the federal government rather than state and local governments. Expenditures which are insensitive to business cycles or are countercyclical are, therefore, more properly financed by the federal government. This principle gives strong support to federalization of all welfare programs. Federal support should emphasize expenditures which are the most difficult to contract or expand in response to business cycles. Conceptually, federal support should emphasize current expenditures rather than capital construction, as in current federal programs. These policy prescriptions, in part, do conflict with prescriptions based on equity and/or efficiency.

The present system of intergovernmental transfers, designed with efficiency and equity in mind, contributes to economic instability rather than moderating the impact of business cycles. As long as intergovernmental transfers are directly linked to the granting government's revenue, these grants will be subject to economic fluctuations.

However, intergovernmental transfers could be used to stabilize the flow of funds to state and local governments. While the federal government could use tax credits to stimulate economic activity and indirectly raise state and local government revenue, only grants-in-aid would directly ensure that desired impact on state and local governments would be achieved. Furthermore, cross-sectional analysis of state and local governments revealed that the level of economic prosperity was unevenly dispersed. For example, the 1974-75 recession had little impact on oil-producing areas of the nation, while others experienced the worst unemployment since the Great Depression. Thus, to cope with these economic disparities, federal grants could be dependent on the level of unemployment or changes in personal income. Such grants were included in the Comprehensive Employment and Training Act of 1973 and could be expanded to other federal-state program areas. In particular, general revenue sharing could be designed to fluctuate, at least in part, according to state and local economic activity.

Present emphasis in agricultural economics research on equity, efficiency and economic growth as appropriate policy criteria for evaluating state and local government tax systems may results in decisions that would be inappropriate in the face of increasing economic instability. State and local governments are directly concerned with stability of tax revenues. Unexpected fluctuations in tax revenues complicate planning and increase inefficiency as programs are adjusted periodically, perhaps curtailed unexpectedly, in order to reflect changes in revenue. More importantly, stability would reduce risk of fiscal insolvency.

As an example, equity and efficiency criteria have often been used to critically analyze property tax. Such analyses have recommended increases in sales tax and/or income tax as replacements for property tax. Such a change would obviously increase unexpected fluctuations in tax revenue particularly for local governments. Failure to implement such proposals may indicate that local governments are more concerned with problems of economic instability than presently realized.

Economic instability may create special problems for rural development. Quality and availability of public services are generally lower in rural areas than in urban areas, despite efforts to improve rural services. Traditionally, the management problem in rural communities has been conceptualized as that of efficiently allocating available resources to produce desired levels of public services. However, the fact that local communities often neglect such policy prescriptions indicates that other important dimensions of the management problem may not have been considered. More specifically, public expenditure decisions in local communities have to cope with economic uncertainties. If local leaders feel that a community is particularly vulnerable to economic fluctuations, they may be hesitant to markedly increase financial commitments. Research on the budgetary fluctuations of rural versus urban governments, therefore, appears to be a priority area in rural development.

In conclusion, we are not suggesting that stabilization should be the sole criteria by which government finance should be evaluated. However, increasing economic instability experienced in the 1970s indicates that stability can no longer be ignored for theoretical or other reasons.

REFERENCES

[1] Blank, David M. "Reform of State-Local Fiscal Relations in New York," *National Tax Journal*, Volume 3, December 1950, pp. 326-347.

[2] Bottum, John S. "Non-Local Funding of Rural Public Services," *American Journal of Agricultural Economics*, Volume 56, No. 5, December 1974, pp. 953-958.

[3] Eddleman, B. R. "Financing Public Services in Rural Areas: A Synthesis," *American Journal of Agricultural Economics*, Volume 56, No. 5, December 1974, pp. 959-963.

[4] Hansen, Alvin H. and Harvey S. Perloff. *State and Local Finance in the National Economy*, New York: W. W. Norton and Company, Inc., 1944.

[5] Hirsch, Werner Z. *The Economics of State and Local Government*, New York: McGraw-Hill Book Company, 1970.

[6] Jones, Lonnie L. and Paul H. Gessaman. "Public Service Delivery in Rural Areas: Problems and Decisions," *American Journal of Agricultural Economics*, Volume 56, No. 5, December 1974, pp. 936-945.

[7] Maki, Wilbur R. "Local Funding of Rural Public Services," *American Journal of Agricultural Economics*, Volume 56, No. 5, December 1974, pp. 946-952.

[8] Moynihan, Daniel P. *The Politics of a Guaranteed Income*, New York: Vintage Books, 1973.

[9] Musgrave, Richard A. *The Theory of Public Finance*, New York: McGraw-Hill Book Company, 1959.

[10] Myers, Eugene A. and Randall S. Stout. "The Role of the States and Local Governments in National Fiscal Policy," *National Tax Journal*, Volume 10, June 1957, pp. 174-175.

[11] Ott, David J. and Attiat F. Ott. "The Financial Condition and Outlook for State and Local Governments," 1973 Proceedings of the Sixty-Sixth Annual Conference on Taxation, Held Under the Auspices of the National Tax Association—Tax Institute of America, Toronto, Ontario, Canada, September 9-13, 1973.

[12] Piven, Frances F. and Richard A. Cloward. *Regulating the Poor, the Functions of Public Welfare*, New York: Vintage Books, 1971.

[13] President's National Advisory Commission on Rural Poverty. *The People Left Behind*, Washington, D.C.: U.S. Government Printing Office, September 1967.

[14] President's National Advisory Commission on Rural Poverty. *Rural Poverty in the United States*, Washington, D.C.: U.S. Government Printing Office, May 1968.

[15] Rafuse, Robert W., Jr. "Cyclical Behavior of State-Local Finances," *Essays in Fiscal Federalism*, Richard A. Musgrave, ed., Washington, D.C.: The Brookings Institution, 1965, pp. 63-121.

[16] U.S. Bureau of the Census. *Governmental Finances in 1972-73*, Washington, D.C.: U.S. Government Printing Office, 1975.

[17] U.S. Bureau of the Census. "Historical Statistics on Governmental Finances and Employment," *Census of Governments, 1972*, Washington, D.C.: U.S. Government Printing Office, Volume 6, No. 4, and previous issues.

[18] U.S. Bureau of Economic Analysis. *Survey of Current Business*, Washington, D.C.: U.S. Government Printing Office, April 1975 and previous issues.

[19] Weidenbaum, Murray L. "Budget 'Uncontrollability' as an Obstacle to Improving the Allocation of Government Resources," *The Analysis and Evaluation of Public Expenditures: The PPB System*, A Compendium of Papers Submitted on Economy in Government of the Joint Economic Committee, Congress of the United States, 91st Congress, 1st Session, Volume 1, Washington, D.C.: U.S. Government Printing Office, 1969.

[20] White, Melvin L. "Comment" on "Stabilizing State and Local Finance," in *Policies to Combat Depression*, Report of the National Bureau of Economic Research, Princeton, 1956, pp. 196-204.

[21] White, Melvin and Anne White. "Domestic Fiscal Developments in the U.S., Mid-1971 to Mid-1973," *Finanzarchiv*, Volume 32, No. 3, 1974, pp. 500-501.

[22] Williams, William V., *et. al.* "The Stability, Growth and Stabilizing Influence of State Taxes," *National Tax Journal*, Volume 26, No. 2, June 1973, pp. 257-274.