THE INFLUENCE OF NEW CONSERVATISM[1]
ON U.S. FISCAL FEDERALISM

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I. INTRODUCTION

The economic stabilization function of government has traditionally been the responsibility of the federal government from an aggregate efficiency perspective. This now traditional role within the concept of fiscal federalism has been partially founded on the perversity or procyclical hypothesis which asserts that the fiscal policies of state and local governments accentuate national economic fluctuations rather than stabilize them. In the last few years, however, there has emerged a new trend in the state-local government sector that obscures the Musgravian tradition of functional fiscal federalism responsibilities: the relative importance of state-local government finance has increased in the national economy together with greater self-dependency. This trend enhances the potential stabilizing or destabilizing effects of state-local government fiscal activities.

This new trend reflects changing views of political leadership of the federal as well as state and local governments toward their relative roles under fiscal federalism. Under the influence of new fiscal conservatism, the federal government has recently been attempting to reduce its involvement in state and local economic affairs, while state and local governments are becoming more aggressively involved in efforts to promote their state's economic development. Encouraged or "forced" by changed political environments and somewhat improved fiscal conditions during the 1980s, state and local governments are pursuing their own state-local stabilization and growth policies independently of the federal government.

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[1]The authers define New Conservatism as the political movement prevalent since 1980s which pursues returning to pure capitalist society asking for reduced government intervene and increased role of market mechanism. The characteristics of this movement, when applied to fiscal federalism, appears as the more selfdependency and autarchy tendency in state and local government sector through reduced role of federal government and increased involvement of state and local governments in addressing their own fiscal issues.

The objective of this study is to see if we can confirm the economic impact of fiscal conservatism on state and local government fiscal activities. We analyze the cyclical performance of state and local government fiscal activities in recent years to determine whether their budgets are characterized by countercyclical responses. We difine countercyclical performance by state and local government budgets to occur if they change in such a manner as to moderate the national income fluctuations. Procyclical performance is achieved when these budgets amplify national fluctuations. For example when state-local governments collectively operate with net increasing budget surpluses during national expansions or with increasing net deficits during national recessions, these subnational governments mitigate national economic fluctuations by providing contractionary forces to the national economy during boom periods and expansionary effects during recessions. Such budgetary movements of state-local governments are countercyclical.

The impact of fiscal conservatism is expected to be confirmed by econometrically identifying the countercyclical performance of state and local finance, which reflects the increased self-dependency of state and local governments in pursuing their individual economic stabilization goals. More specifically we analyze how the budget variables change in response to national economic fluctuations and what implications these cyclical responses have on the federal government economic stabilization policies. Primary interest is in determining whether the cyclical movement of state-local government budget surplus is countercyclical. Further, we extend our analysis to include the cyclical performances of several individual fiscal variables such as revenues and expenditures. From these empirical studies we expect to be able to test the legitimacy of the traditional view that state and local governments are unable to conduct their own effective stabilization or growth policies.

II. BEHAVIORAL MODEL OF STATE AND LOCAL BUDGETS

The approach used to analyze the recent cyclical performance of state and local finance is to specify and estimate an econometric model of cyclical behaviors of various fiscal variables of state and local governments. These behavioral models are derived from a set of optimization conditions associated with a budget decisionmaking model of subnational governments. We assume a simplified decisionmaking model in which state-local budget decisions are made by professional government bureaucrats and elected legislators and exectives ("government officials") who collectively (and perhaps implicitly) act as if they exercise strategies to maximize their personal interests than public interests of residents. The behavioral actions of the government officials, however, are subject to resource and political constraints. Government officials are constrained by total resources available to their community which determine the total budget at their disposal. Government officials are further constrained by the overall control of residents because tenure in their positions is significantly influenced by resident-voters. So state-local budgets

in our model appear as the result of constrained utility maximization of the government officials subject to budget and political constraints.

We follow Gramlich's suggestion (E. Gramlich 1978, p.194) and assume an objective function for the state-local government officials, W which is separable in the subfunctions of private consumption (Q_1), current puplic sector operations and consumption (Q_2), the capital stock of the public sector (Q_3), and the stock of financial assets of the public sector (Q_4). We further assume the objective function of state and local governments takes the log linear form of its arguments as follows;

(1) $W = \Sigma \in_i \ln Q_i$

where

(2) $Q_1 = \alpha(Y/P)-(R/P)$

(3) $Q_2 = (E_o^d/P_a) + \beta(G_o + G_o^m + m_o G_o^m)/P_G - D$

(4) $Q_3 = (E_k^d/P_G) + \tau(G_k + G_k^m + m_k G_k^m)/P_G + (1-\delta)K_{t-1}/P_G$

(5) $Q_4 = (F_{t-1}/P) + (S/P)$

The first argument, Q_1, involves expenditure for private consumption. Private consumption, in a world of nomoney-illusion, will be real disposable personal income which is real personal income after federal tax (Y) minus all "own source" revenues of state and local governments (R), deflated by the general price level (P, implicit GNP price deflator).[2] In (2) α is introduced to denote the possible discrimination by government officials against private consumption compared with public consumption. Here α represents the relative weight assigned to private consumption compared to public consumption. Under perfect voter control of bureaucrats, it is expected that $\alpha = 1$, because private spending and public spending are equivalent to government officials in utility terms. Under imperfect voter control, bureaucrats will distort budget decisions in favor of their personal interests, so $\alpha < 1$. In this latter case, public spending will be preferred to private spending because the marginal utility of public spending to government officials is greater than private spending.

In equation (2) the argument, Q_2, is state-local public spending for current government operations. Total spending in this component is obtained bty adding the intergovernmental matching grants earmarked for current operations (G_o^m) and required spending for receiving the matching grants ($m_o G_o^m$) to the discretionary expenditures from own-source revenues for current operations (E_o^d), plus nonmatching conditional grants designated to the use for current operations (G_o). In equation (3) P_G represents the implicit price deflator of state-local government purchases. The term β is introduced as the displacement or adjustment parameter assigned to the expression for matching and nonmatching conditional grants plus required spending. For government officials one dollar of these earmarked expen-

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[2] Note that private consumption is defined as equal to all real personal income net of federal taxes and all state-local government taxes, user-fees and other miscellaneous outlays.

diture may not be equivalent to one dollar of discretionary spending at their disposal in utility terms. In general the value of β is expected to be greater than zero but less than 1. The term m_o represents the matching ratio of required spending from own-source revenue to qualify for matching grants. The variable D indicates demand for state and local public services that depends on relevant demographic (needs) characteristics of the region; the higher the level of needs, the less welfare is implied for a given level of expenditure.

The third argument, Q_3, involves the state and local government capital stock. Since the capital stock by definition is not entirely consumed in one period, it should make long lasting contributions to multi-period utilities of government officials. A dollar used to pruchase new capital construction may be perceived differently in utility terms from a dollar used to finance current operations by contemporary and potentially mobile residents who may not in the future benefit fully form current capital outlays by specific subnational governments. In equation (4) the argument Q_3 includes current discretionary capital expenditures (E_k^d) and nonmatching conditional intergovernmental grants designated to be used for capital outlays (G_k) plus the sum of matching grants earmarked for the use of capital outlays (G_k^m) and required spending for receiving the matching grants ($m_k G_k$). Since the stock of public capital is not consumed in one period, the undepreciated balance of the previous capital stock $[(1-\delta)K_{t-1}]$ should be added to total current spending on capital: Here m_k represents the matching ratio of federal grants for capital spending; δ is the depreciation rate; k_{t-1} is state and local government capital stock of previous year, and τ is a displacement parameter assigned to the matching and nonmatching conditional grants and required spending for capital use. This displacement parameter τ plays the same role as β for Q_2, as previously discussed.

The fourth argument, Q_4, as shown in equation (5) involves the net stock of financial assets accumulated by state and local governments. This stock is the sum of financial assets outstanding at the end of previous period (F_{t-1}) plus the budget surplus of the current year (S):

Next we make several assumptions about the budget and political constraints that state-local government officials face in maximizing their objective function. First we assume the budget constraint is given by an identity equation that equates receipts and expenditures in the public sector.

(6) $\quad S = R + G + G_o + G_k + G_o^m + G_k^m - (E_o^d + G_o + G_o^m + m_o G_o^m) - (E_k^d + G_k + G_k^m + m_k G_k^m)$

where S is the surplus in consolidated current and capital budgets, and G represents general revenue sharing (nonmatching unconditional grants). Second we assume the political constraint is given by the requirement that state-local government officials provide some standard level of services for their residents either to reduce complaints to a politically acceptable level or to compete with neighboring states for residents and new private firm locations.

We also assume there are minimum levels for private consumption and for expenditures for current operations and capital outlays ($\underline{Q}_1$, $\underline{Q}_2$ and $\underline{Q}_3$). The political constraint is given by inequality equations which requie that the arguments of the objective function should be greater than or equal to these minimum levels, as follows;

(7-9) $Q_1 \geqslant \underline{Q}_1$, $Q_2 \geqslant \underline{Q}_2$, $Q_3 \geqslant \underline{Q}_3$

Next we derive the behavioral equations of various budget variables of state and local governments from the first order conditions for above constrained maximization problem. The equations are

State and local government own-source revenue,

(6) $R = [1-(\in_1/\in)]\alpha Y - (\in_1/\in) G - \beta (\in_1/\in) G_o - \tau (\in_1/\in) G_k$
$\quad - (\in_1/\in) (\beta + \beta m_o - m_o) G_o^m - (\in_1/\in) (\tau + \tau m_k - m_k) G_k^m$
$\quad - (\in_1/\in) [(1-\delta) K_{t-1} + F_{t-1}] + (\in_1/\in) DP_G$

State and local government expenditure for current operations,

(7) $E_o = E_o^d + G_o + m_o G_o^m + G_o^m$
$\quad = (\in_2/\in) \alpha Y + (\in_2/\in) G + [(\in_2/\in) \beta + 1 - \beta] G_o + [(\in_2/\in) (\beta + \beta m_o - m_o)$
$\quad + (1-\beta) (1+m_o)] G_o^m + (\in_2/\in) \tau G_k + (\in_2/\in) (\tau + \tau m_k - m_k) G_k^m$
$\quad + (\in_2/\in) [(1-\delta) K_{t-1} + F_{t-1}] + [1-(\in_2/\in)] DP_G$

State and local government expenditure for capital outlay,

(8) $E_k = E_k^d + G_k + m_k G_k^m + G_k^m$
$\quad = (\in_3/\in) \alpha Y + (\in_3/\in) G + (\in_3/\in) \beta G_o + (\in_3/\in) (\beta + \beta m_o - m_o) G_o^m$
$\quad + [(\in_3/\in) \tau + 1 - \tau] G_k + [(\in_3/\in) (\tau + \tau m_k - m_k) + (1-\tau) (1 + m_k)] G_k^m$
$\quad + [(\in_3/\in) - 1] (1-\delta) K_{t-1} + (\in_3/\in) F_{t-1} - (\in_3/\in) DP_G$

State and local government budget surplus,

(9) $S = (\in_4/\in) \alpha Y + (\in_4/\in) G + (\in_4/\in) (\beta + \beta m_o - m_o) G_o^m + \tau (\in_4/\in) G_k$
$\quad + (\in_4/\in) (\tau + \tau m_k - m_k) G_k^m + (\in_4/\in) (1-\delta) K_{t-1} + [(\in_4/\in)-1] F_{t-1}$
$\quad - (\in_4/\in) DP_G$

where $\in = \in_1 + \in_2 + \in_3 + \in_4$

III. DATA AND ESTIMATION METHOD

Using yearly data, we estimate the behavioral model from pooled time series data for several selected periods. The entire data set covers 1971 through 1986 for each of the 50 composite state-local government units, for a maximum of 800 observations when the entire sample is used. To eliminate both price and time trend effects the relevant fiscal variables are in 1982 dollars and expressed as growth rates. To try to identify possible structural changes in the cyclical behaviors of state-local government variables over time, we have partitioned the data into three

subsets; the first and second halves of 1970s and 1980s. The second half of the 1970s was charzcterized by the energy shock and high inflation levels and seems quite different from the first half of the 1970s. The new federalism emerged with the Reagan administration and should characterize the 1980s.

Before we could estimate the empirical models to obtain some of the coefficients reported in the next section in Table 1, several adjustments were necessary to accommodate both the availability of data and to deal with several econometric problems. These adjustments are:

(1) Measuring the cyclical components of budget variables. To try to isolate pure cyclical components from the overall trends in the fiscal variables, trend effects in observed budget variables were removed by transforming their values into growth rates, as noted previously.

(2) Possible nonneutral effect of price changes. If there is no money-illusion when all fiscal variables are expressed in real terms, a price variable should have no significant explanatory power in explaining movements in real variable growth rates. It si likely, however, that the price-adjustment mechanism is less than perfect. There may exist some remaining degree of price-induced distortion in determining budget values. To handle this possible source of price distortion on the budget decisionmaking process we incorporate a price variable into the estimating model.

(3) Poulation size and growth. Since all real fiscal variables should grow naturally with population growth giving all variables a common trend and possibly introducing heteroscedasticity, all variables are deflated by population so that they are measured as growth rates per capita. The scale of the clientele served by the state-local government may influence the efficiency of provision of services through the public budgets so we have introduced population size into the model as a control variable.

(4) Variable parameters. With pooled data it is possible to encounter the problem of variable parameters across different cross-section units. In order to avoid this as dominant political parties change over time—perhaps leading to attitude changes among government officials making budgetary decisions, we initially introduced a dominant political dummy variable into the model.[3] As the dominant political party dummy variable was not statistically significant in our preliminary tests, it has been excluded as an explanatory variable from our final estimating model. What we do incorporate is a variable characterizing the fiscal organization of the subnational government in order to deal with the uniqueness of individual state-local government responses to cyclical changes in their fiscal activities.

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[3]The dominant political party dummy variable was created as follows. We surveyed the composition of State legislatures by political party affiliations for each state and each year, from *Statistical Abstract of the United States* (various years, 1961-1986, tables on "Composition of Congress, by Political Party Affiliations, by States"). We then assigned either 1 or 0 to each state and year. The value 1 was assigned when the number of Republicans in the legislature outnumbered Democrats, O otherwise.

We use ratio of tax over own-source revenue as the fiscal structure variable.

(5) Other data adjustments. To avoid double counting, only intergovernmental grants from the federal government are used, as our observation unit is the composite state-local government sector. Further federal grants have been aggregated across categories because of the wide range of categories and matching ratios. So federal grants are not decomposed into capital and noncapital use. The federal budget surplus variable, used to measure federal fiscal policy, is the high employment budget surplus adjusted by inflation and interest rate effects, developed by Robert Eisner (R. Eisner 1986. p.17). Inclusion of federal fiscal policy variable is to confirm the pro- or countercyclical charateristics of state-local governments budgetary movements. The completely adjusted model to be estimated is reported in Appendix 1. Sources of data are reported in Appendix 2.

(6) National income is endogenous variable. Because we expect a two-way relationship among the national income and state-local government finance variables, national income must be included in the estimating model as an endogenous variable. The estimation method, to be discussed shortly involved the use of simultaneous techniques with instrumental variables.

IV. RESULTS OF ESTIMATION

The specification of the completed econometric model estimated is reported in the Appendix to save space. The parameters of the equations, modified as discussed in the previous section, are estimated using two stage least squares regression techniques.[4] With our emphasis on cyclical responses of the state-local government firscal variables, our primary interest is in the estimated values and signs for the cofficients on the (endogenous) per capita national income growth rate variable[5], when the state-local government dependent variables are: R, the per capita growth rate of own-source revenues; E, the per capita growth rate of total expenditures; E_o, the growth rate of per capita current operating expenditures; E_k, the per capita growth rate of capital expenditures; S, the per capita growth rate in the consolidated budget surplus. These national income coefficients are displayed in Table 1.[6]

Overall two important conclusions emerge from studying the estimates in Table 1. First, the three periods into which the original data set was partitioned for analytical purposes appear to reflect different regimes and shifting preferences, with national income growth coefficients changing among the time periods. Second, the hypothesis that the net impact of state-local government revenues and

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[4]For econometric estimation, we used the Gauss program version 1.49b for personal computers. We used module 2 of the program for the data transformation, module 3 for descriptive statistics, and module 4 for the regression work.

[5]We used per capita disposable personal income in 1982 dollars.

[6]The complete set of coefficient estimaties is available upon request, from the authors.

[Table 1] National Income Coefficient of State-Local Government Fiscal Variables

(t-value)

periods	R(1)	E(2)	Eo(3)	Ek(4)	S(5)
1970.I	-0.2900	-0.2963	-0.8593	-1.0275	0.3040
	(2.0837)	(0.3434)	(1.6320)	(0.7759)	(1.7221)
1970.II	0.6406	-1.1458	1.8491	-7.0221	2.5023
	(2.1377)	(2.3291)	(1.9696)	(4.9923)	(5.7994)
1980.I	1.0668	-0.4933	0.7920	-6.0098	1.7171
	(4.9910)	(1.2254)	(2.5178)	(5.3784)	(6.3797)

t-ratios are in parentheses

expenditures is counterclical is supported by the positive and significant² national income growth cofficients in column five. The ratio of the state-local government consolidated budget surplus increases with the rate of national income growth, dampening the growth in economic activity. And this dampening effect increased most sharply during the inflationary late 1970s.

Most of the other estimates in Table 1 support the countercyclical hypothesis. As the per capita national income growth rate increases, the per capita growth rate in own-source revenues (R, column 1) increases in the latter two periods with countercyclical effects; but during the first half of the 1970s, this variable moved procyclically by a modest amount. Emphasizing a long-standing trend in state-local expenditures, the per capita growth rate in expenditures (E, column 2) was unrelated to the income growth rate in the early 1970s. What was earlier a relative continuous increase in state-local expenditures apparently vanished in the second half of the 1970s; the per capita growth rate in E declined as national income growth increases, with E becoming countercyclical. When the expenditure growth rate is decomposed into operating expenditures (E_o column 3) and capital expenditures (E_k column 4), neither is effected by the rate of income growth in the first half of the 1970s, consistent with what we found for E. But E_o and E_k growth rates responded to income growth rate in a mixed manner: E_o increased and would be procyclical while E_k decreased sufficiently and countercyclically to more than off-set the procyclical impact of E_o during the last half of the 1970s and the 1980s periods for which we have data.

Overall, it appears reasonable to conclude that state-local government fiscal activities are countercyclical and contribute to stabilizing the national economy.

V. SOME SIMULATION RESULTS

To obtain some insight into the influence of federal grants on state-local govern-ment fiscal variables, we conducted a set of simulations. We extracted the growth

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[7]The coefficients in column (5) are statistically significant at the .05 level using a one-tailed t-test.

rate coefficients fro federal intergovernmental grants which enter the estimating model exogenously, to see their effects on the same set of state-local government endogenous variables examined earlier in Table 1--and on the endogenous national income growth rate, as the grant growth rates were systematically altered, other things being equal. These simulation results are presented in Table 2, with grant rate changing over the interval -10 percent to + 10 percent in 1 percent point increments. As a potential federal fiscal policy variable, an increase in the growth rate of federal intergovernmental grants positively stimulates own source revenue (R) and expenditure (E) growth rates. The grants positively influence current operating growth rates (E_o) and capital growth rates (E_k). Reflecting the apparent fact that grants received are partially transformed into state-local budget surpluses, the surplus ratio increases with the rate of growth in grants.

This suggests that federal intergovernmental grants had some potential as effective fiscal policy tools during the 1980s. With the parameters estimated for the 1980s and used in the Table 2 simulations, an increase in the federal grant rate per capita might have stimulated positive growth rates in both state-local government own-source revenues and expenditures per capita. Through the interrelation-

[**Table 2.**] Responses of Endogenous Variables to Exogenous Variable Changes, the growth rate of federal grants, 1980's period:

	Growth Rates of Dependent Variables					
Grnt (1)	Y (2)	R (3)	E (4)	E_o (5)	E_k (6)	S (7)
− 10.0	1.36	2.18	− 1.43	− 7.30	30.20	1.39
− 9.00	1.40	2.16	− 1.24	− 7.07	30.34	1.56
− 8.00	1.43	2.13	− 1.04	− 6.83	30.49	1.74
− 7.00	1.47	2.11	− 0.85	− 6.60	30.63	1.92
− 6.00	1.51	2.09	− 0.65	− 6.36	30.77	2.10
− 5.00	1.54	2.07	− 0.46	− 6.13	30.91	2.28
− 4.00	1.58	2.05	− 0.26	− 5.89	31.06	2.46
− 3.00	1.61	2.03	− 0.07	− 5.66	31.20	2.64
− 2.00	1.65	2.00	0.12	− 5.42	31.34	2,82
− 1.00	1.69	1.98	0.32	− 5.19	31.49	3.00
0.00	1.72	1.96	0.51	− 4.95	31.63	3.18
1.00	1.76	1.94	0.71	− 4.72	31.77	3.36
2.00	1.79	1.92	0.90	− 4.49	31.92	3.53
3.00	1.83	1.89	1.10	− 4.25	32.06	3.71
4.00	1.87	1.87	1.29	− 4.02	32.20	3.89
5.00	1.90	1,85	1.49	− 3.78	32.34	4.07
6.00	1.94	1.83	1.68	− 3.55	32.49	4.25
7.00	1.97	1.81	1.87	− 3.31	32.63	4.43
8.00	2.01	1.78	2.07	− 3.08	32.77	4.61
9.00	2.05	1.76	2.26	− 2.84	32.92	4.79
10.00	2.08	1.74	2.46	− 2.61	33.06	4.97

ships within the econometric model, these changes in state-local variables induce an increase in national income. These results indirectly confirm the significant effects of state and local government finance on the national economy. A one percent point increase in the intergovernmental grant growth rate increases per capita expenditure by about 0.20 percent points, inducing an average 0.04 percent point increase in the national income growth rate, as measured. A 1.0 percent point increase in per capita state and local government expenditures (due to federal grant increase) induces an average increase in the national income growth rate of 0.19 percent points.

VI.CONCLUSION AND POLICY IMPLICATIONS

We found that state and local finance particularly in the late 1970s and 1980s, instead of passively responding to national economic growth cycles, was counter-cyclical, most likely as a result of the increasing fiscal conservatism. The analysis also provides empirical support for the countercyclical hypothesis that state and local finance contributes toward stabilizing the national economy: state and local government budgets tend to run a surplus (or reduced deficit) during expansions and run deficit (or decreased surplus) during recessions. This countercyclical performance of state and local finance exerts a contractionary force to the national economy during the expansions and an expansionary force during the recessions. State and local government finance, therefore, provides a stabilizing effect on the national economic fluctuations.

We also identified a two-way relationship between national income and state and local government fiscal variables through estimations of the behavior models of state and local fiscal variables and a set of simulations. The two-way relation was implied by the endogenous characteristic of the national income variable in our cyclical response models of state and local government fiscal variables. The simulation result confirms this two-way relation and supports the second part of our hypothesis that state and local finance plays a significant role of stabilizing national economy.

APPENDIX 1

The Empirical Model to be Estimated

The adjusted equations in the model that was estimated are:

State and local government revenue from own source,
$$R_i = r_o + r_1 Y_i + r_2 P_i + r_3 \ Grnt_i + r_4 F_{t-1i} + r_5 K_{t-1i} + r_6 EV_{1i} + r_7 FSV_{1i} + U_{ri}$$

State and local government total expenditure,
$$E_i = e_0 + e_1 Y_i + e_2 P_i + e_3 Grnti + e_4 F_{t-1i} + e_5 K_{t-1i} + e_8 FBS_i + e_9 R_i + U_{ei}$$

State and local government expenditure for current operation,
$$E_{oi} = o_1 Y_i + o_2 P_i + o_3 Grnt_i + o_4 F_{t-1i} + o_5 K_{t-1i} + o_8 FBS_i + u_{oi}$$

State and local government capital expenditure,
$$E_{ki} = k_1 Y_i + k_2 P_i + k_3 Grnt_i + k_4 F_{t-1i} + k_5 K_{t-1i} + k_8 FBS_i + u_{ki}$$

State and local government current budget surplus,
$$S_i = s_1 Y_i + s_3 Grnt_i + s_4 F_{t-1i} + s_5 K_{t-1i} + u_{si}$$

APPENDIX 2.

Source of Data

Data	Source
Fiscal values of State and Local Governments	Per capita amounts of selected items of state and local finance, by states, *Governmental Finances*, series GF No.5, U.S. Bureau of the Census, Washington, D.C.: U.S.Government Printing Office, various years, 1961-1986.
R(Own-source revenue)	All general revenue from own source
E(Total expenditure)	General expenditure, Total
E_o(Current operating expenditure)	General expenditure, other than capital outlay
E_k(Capital expenditure	General exenditure, Capital outlay
S(Budget surplus)	General revenue, total-General expenditure, total
F_{t-1}(Balance of financial assets)	Cash and security holdings at end of fiscal year
Grnt(Federal intergovernmental grants	General revenue, From federal government
FSV_1(Fiscal structure variable	Tax revenue/total revenue
Tax revenue	All general revenue from own source, Tax
EV_1(State population)	Population and personal income by states, *Governmental Finances*, series GF No.5, U.S. Bureau of the Census, Washington, D.C.: U.S. Government Printing Office, various years, 1961-1987
K_{t-1}(Capital stock of state and local governments)	Estimates of net stock of total state-local nonresidential capital stock, *New Estimates of State and Local Government Tangible Capital and Net Income*, Michael J. Boskin, Marc S. Robinson, and Alan M. Huber, NBER Working Paper Series, No. 2131, January, 1987.
Macrovariables	Appendix B. Statistical Tables Relating to Income, Employment, and Production, *Economic Report of the President, together with the Annual Report of the Council of Economic Advisors*, Washington, D.C.: U.S. Government Printing Office, 1987.
Y(National income)	TABLE B-27, Disposable personal income, kper capita, 1982 dollars
P(Price)	TABLE B-3, Implicit price deflators for gross national product

Data	Source
Forecasted values of GNP(Instrumental variable of Y)	Short-range economic forecast in Chapter 2, *Budget of the United States Government*, Executive Office of the President, Office of Management and Budget, annual, various year, 1961-1986.
FBS(Federal government fiscal policy variable	Federal government budget surplus/Federal govrnment revenue
Federal government budget surplus	Table 3, High-Employment Budget Surplus as Percentage of GNP, 1955-1984, in R.Eisner, "Will the Real Federal Deficit Stand Up?" *Challenge*, Vol. 29, No. 2, May/June, 1986.
Federal Government Revenue	No. 470. Federal Budget-Summary: 1945 to 1987, *Statistical Abstract of the United States*, U.S. Department of Commerce, Bureau of the Census, Washington, D.C.: U.S. Government Printing Office, 1987.
Dominant political party dummy variable	Composition of Congress, by political party affiliation by states in *Statistical Abstract of the United States*, various years, 1961-1986

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