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This article elaborates the theoretical relationship between economic need and state development policy adoption, and presents empirical analysis of the adoption of state revenue bond financing programs between 1969 and 1979 using event history analysis techniques. Contrary to the conventional wisdom that state development policy adoption is driven by political competition or an "arms race" among neighboring states, we found that partisan control and competition from neighboring states did not affect the adoption of revenue bond programs. Relative state personal income is the one significant variable in the model. Low income states, where new development would generate the most economic benefits, were most likely to adopt revenue bond financing.

Are state adoptions of economic development policies a response to economic or political demands? The answer to this question is critical for efforts to develop and test explanations of state policy making and policy adoption. In addition, identification of the extent to which development policy adoptions are linked to economic conditions can provide a baseline to assess the potential efficiency of state development policy. There is growing evidence that state and local economic development policies can stimulate at least some economic outputs (Plaut and Pluta 1983;

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Feiock 1991; Bartik 1991). Nevertheless, critics claim that adoptions of development programs are not a response to economic need. Rather, development policy adoptions are more often viewed as symbolic activities or the result of a counterproductive arms-race mentality by state political leaders. Dennis Grady's (1987) empirical analysis of state development policies in the mid 1970s provides strong support for this argument.

Identifying the link between economic need and adoption of state economic development policies has both theoretical and applied importance for understanding the efficiency of development policymaking. State economic development policy might be both efficient, in the sense of achieving positive-sum economic gains, and progressive in that disadvantaged groups disproportionately benefit (Feiock, Dubnick and Mitchell 1993; Bartik 1991). A critical, yet untested, assumption of this argument is that economic development programs are directed to states and localities suffering economic distress, in which there is high demand or "willingness to pay" for more rapid growth. If incentive offerings are not related to need, the result would be an inefficient allocation of new development.

The relationship between economic need and adoption of development policies is critical; if policy adoption is responsive to economic hardship, the result may be both efficient and progressive. But, if development policy adoption is responsive to political, rather than economic conditions, states not experiencing economic problems may attract growth with development incentives, creating allocational as well as economic inefficiencies. This article elaborates the theoretical relationship between economic need and state development policy adoption, and presents empirical analysis of the adoption of state revenue bond financing programs between 1969 and 1979 using event history analysis techniques.

STATE DEVELOPMENT POLICY

Many have questioned whether state and local policies can influence sub-national growth patterns. While no consensus exists, most recent work suggests they can. Within the last ten years, there has been an accumulation of empirical evidence that state economic development policies do influence growth (for a review see Feiock, Dubnick and Mitchell 1993). Development policies are intended to influence a firm's cost function. While the effect of subsidies is only a very small part of a firm's cost calculus, subsidies may have a significant marginal effect across similar jurisdictions.

If state governments have tools to marginally influence patterns of economic and population growth, the next question is when and if intervening in the market is desirable for them. Neoclassical economists argue that government sponsored development incentives reduce economic welfare and misallocate investment. Baum (1987) demonstrates that, by relaxing the assumptions of the classical model to include imperfect competition and limited residential mobility, state and local growth promotion can improve the social efficiency of the economic development process at both the state and national level. Because the social benefits and costs of growth are excluded from private investment decisions, state development policy may internalize these social externalities thus improving efficiency. Feiock, Dubnick and Mitchell (1993) contend that state growth competition is not zero-sum at the regional, national, or international level. Growth policies may generate positive economic gains at both the state and the national level by accelerating market adjustment processes.

> In a dynamic model of growth and decline, subsidies may be used to speed up market adjustment processes. In particular, a declining community may use subsidies to attract investment in new export industries at a faster rate and with less pain than it would be attracted by ordinary market process, declining wages and prices for state goods...generating positive net benefits (Baum 1987, 354).

Empirical evidence provides some support (Morgan and Hackbart 1974; Bartik 1991). Tim Bartik (1991) presents evidence that under conditions of high unemployment, the effects of local development policy are positive-sum. Moreover, Bartik reports the effects of development policies on wages were greater in percentage terms for African-Americans and less educated workers. Nevertheless, the conditions necessary for positive-sum economic gains or progressive benefits have not been clearly specified in previous studies. In Bartik's analysis progressive effects of growth occurred in locations with high levels of unemployment. This suggests that when and where there is low demand for growth due to a tight labor market, state adoption of economic development policies would decrease both economic and allocative efficiency.

As consumers of economic development, states seek to maximize their economic interests by choosing to adopt or not adopt specific economic development policies. While Paul Peterson (1981) contends sub-national governments have a uniform incentive to pursue economic growth despite economic needs and political demand, we argue the benefits of growth will vary among states. Not every development policy benefits the average taxpayer. This is clearly evident from case studies of growth politics (Swanstrom 1985; Stone and Saunders 1987). Moreover, empirical analysis at the city level has consistently demonstrated that development policy varies substantially across cities and that this variation is strongly associated with economic distress (Rubin and Rubin 1987; Bowman 1988; Green and Fleischmann 1989; Sharp 1991; Clingermayer and Feiock 1991).

State governments subsidize business firms' investment and jobs creation. Unless a state's marginal benefit from growth equals marginal economic and social costs, such competition is inefficient. Since taxpayers will be willing to pay more for development in some areas than others (Rubin and Rubin, 1987), the economic benefits of growth increase with the severity of economic dislocations suffered by

states. In states with low incomes, high unemployment, and discouraged workers, the demand for growth will be great.

Political, rather than economic, criteria are often the basis for development incentives because development policy is formulated by self-interested public officials in a context of resource and information constraints. The political incentives of governors and members of legislatures to get re-elected can result in development policies that depart from the preference of the average taxpayer. Previous work at the local level demonstrates that, because economic development provides visible benefits for which politicians can claim credit and reward constituents or supporters, local officials have incentives to pursue growth even when the economic costs exceed their benefits (Feiock 1989, 1992).

EMPIRICAL ANALYSIS

The policy adoption examined here is state revenue bond financing programs. Revenue bonds have been one of the most important development incentives available to state and local governments. Borrowing from the work of Lowi (1964), Ambrosius classifies revenue bond programs as a distributive policy that provides targetable benefits to particular economic interests (Ambrosius 1989).

Following the work of Berry and Berry (1990), we conceive of a program or policy adoption by a state as an event that may or may not occur within a particular period of time. For any state we seek to determine the probability of adoption during the time period using Event History Analysis (EHA) techniques. We use EHA to examine the occurrence of the adoption of a revenue bond program at a particular point in time. In EHA, the data is a longitudinal record of when an event occurred. Until a state adopts a revenue bond program it remains "at risk" of the event occurring. The variable to be explained is called the "hazard rate" and is defined as the probability

that a state adopts a revenue bond program in period *t*, given that it is at risk at that time. Because the hazard rate is unobserved, the dependent variable in this analysis is a dummy variable coded one for the year a state adopts a state revenue bond financing (SRBF) program and coded zero otherwise. Table 1 reports the states adopting revenue bond financing and the year of adoption.

Table 1
States that Adopted State Revenue Bond Financing During the 1969-1979 Period

State	Year of Adoption
Pennsylvania	1970
Vermont	1970
Connecticut	1972
New Jersey	1974
Michigan	1975
Illinois	1976
South Carolina	1976
Kentucky	1978
Nevada	1978
South Dakota	1978
Louisiana	1979

Empirical Models and Hypotheses

Two indicators of demand for economic development are included in this analysis. The first is an income based measure of economic need. We use the ratio of state per capita income to national per capita which reflects a state's "relative income" (RELATIVE INCOME$_{i,t}$). This measures two aspects of how state economic position affects the likelihood of adoption. Relative income is an objective structural indicator of the well-being of individuals in a state compared with a common standard—the well-being of individuals in the nation as a whole. We believe that because it is a relative measure and permits greater accuracy in comparisons among states, relative income has the added dimension of more completely capturing policymakers' *perceptions* of a state's well-being.[1]

The second measure of economic demand is based on state unemployment. We created a variable to capture the "recency effect" of unemployment rates (Isaac and Carlson 1986). Specifically, we used the sum of unemployment at year *t* and year *t-1* (RECENT UNEMPLOYMENT$_{i,t}$) reasoning that recent unemployment figures, rather than those from the current or the previous year only, actuate economic development policy making because policy makers cannot easily claim that a particular year of bad unemployment figures is simply an aberration—a "down" year—soon to be followed by an upturn in the near future.

Political demand variables are included in the model as well. The first is *one-party control of state government*. We employ a pair of dummy variables to capture the effect of having the governorship, and both houses of the legislature controlled by Republicans

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[1]Grady (1987) employed the state unemployment rate minus the national rate to capture relative unemployment, reasoning that this is the operationalization that directly affects policy makers because this is how unemployment is often presented in the popular media.

(REPUBLICAN CONTROL$_{i,t}$) or Democrats (DEMOCRAT CONTROL$_{i,t}$).[2]

The second political demand variable is an indicator of regional development competition. To capture the effects of regional competition among states, we employ the regional competition variables created by Berry and Berry (1990). We test both of their operationalizations of regional competition: "the number of states sharing a border with state *i* that had adopted a lottery [in our case, the economic development policy] prior to year *t*" (REGIONAL COMPETITION$_{i,t}$); and, "the percentage of states sharing a border that had adopted a lottery" (REGIONAL COMPETITION2$_{i,t}$) (Berry and Berry 1990, 405). This yields four hypotheses for empirical testing.

Hypothesis 1: *Higher income states are less likely to adopt state revenue bond financing (SRBF).*

Hypothesis 2: *States with greater recent unemployment are more likely to adopt state revenue bond financing.*

Hypothesis 3: *Democrat-controlled state governments are more likely to adopt state revenue bond financing.*

Hypothesis 4: *States with greater regional competition in economic development policy adoption are more likely to adopt state revenue bond financing.*

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[2]The simultaneous inclusion of both of these variables did not result in multicollinearity problems.

Methods and Data Sources

Event history analysis was employed to test the models because it is appropriate for addressing why economic development policy adoptions occur when they do. Excellent surveys of these techniques (Allison 1984; Yamaguchi 1991) and their utility in addressing the timing of state policy adoptions (Berry and Berry 1990; Pavalko 1989) are detailed elsewhere, but generally, they involve regression analysis of "a longitudinal record of when an event happened to a sample of individuals or collectivities"—i.e., event histories (Allison 1984, 9). Discrete time event history models were estimated because the data are measured at distinct and even time periods. The data are pooled cross-sections for the period 1969-1979, and the unit of analysis is state-years. A state contributes data beginning in 1969 until it adopts the policy, at which point the remaining data are (right) censored—the state no longer contributes data to estimate a model.[3]

We use logistic regression because the dependent variables are dichotomous, and derive parameter estimates using maximum likelihood estimation. Two statistics are employed to evaluate model fit. We employ the Log-likelihood chi-square statistic, which functions similarly to the F-test in OLS regression to indicate the statistical significance of the independent variables as a group. We also use the AIC measure (Akaike 1974, 1987), which adjusts the Log-likelihood chi-square measure for the number of observations and independent variables employed in the models, to compare the statistical strength of competing models of the same data.[4] A model which has a smaller AIC value than a competitor, *ceteris paribus*, is a better fit.

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[3]It was necessary to have the period of study include 1969 because one-year lags are used in some of the independent variables and both policies examined here include states that adopted in 1970.

[4]The SAS LOGISTIC procedure was employed witch provides the AIC and other quantitative measures for assessing model fit.

RESULTS

The results of estimating the state revenue bond financing are presented in Table 2. These findings provide support for the economic demand explanation, but not the political demand explanation. Although the significant Log-likelihood chi-square statistic indicates that the model is statistically significant, only one variable—the relative income of the state—is statistically significant. States with

Table 2
Logit Maximum Likelihood Model Estimates of State Revenue Bond Financing (SRBF)

Independent Variable	ML Estimate	t-value
RELATIVE INCOME$_{i,t}$	-2.67↑	-2.52
REPUBLICANCONTROL^{i,t}	.73	.63
DEMOCRAT CONTROL^{i,t}	.40	.61
REGIONAL COMPETITION1$_{i,t}$	.43	.75
RECENT UNEMPLOYMENT$_{i,t}$	.11	1.38
Intercept	5.49↕	4.54
N-295		
-2(Log-likelihood ratio) 9.601*		

*p < .05
↑p < .01
↕p < .001

higher relative per capita personal incomes are less likely to adopt a state revenue bond financing measure, after controlling for the effects of regional competition, political party control of state government, and employment. While in the hypothesized direction, the coefficient for unemployment fell short of statistical significance.

The political demand explanation, however, is not supported. Partisan controlled state government did not affect the likelihood of adoption of a state revenue bond financing policy. Further, the likelihood of adoption is not increased significantly as the number of border states (nor the percentage of border states) that have adopted a state revenue bond financing policy increases.

DISCUSSION

While state economies have experienced renewed growth in recent years, development politics and policy remain leading issues for state government. Growth policy is particularly critical to sub-national politics because economic growth has not translated into the expected employment opportunities. While some states recovered faster than others from the early 1990's recession, in even these fast-growing states, employment growth rates were less than those forecasted from increases in productivity. The findings from this article suggest that the politics of state development is not dominated by political forces.

We are somewhat circumspect in our conclusions due to the modest findings and the limitations of the empirical analysis. Nevertheless, the finding presented here provides interesting insights into development policy adoption. First, contrary to the conventional wisdom that state development policy adoption is driven by political competition or an "arms race" among neighboring states, we found that partisan control and competition from neighboring states had no effect on this policy adoption.

The results also provide some insight into the efficiency of state economic development policymaking. Relative state personal income is the one significant variable in the model. States with low relative personal income, the states in which new development would generate the most economic benefits, were most likely to adopt revenue bond financing in this period. Nevertheless, the effect of unemployment were not significant. The fact that development policy adoption is not responsive to unemployment suggests that the distribution of benefits is less progressive than has been maintained (Bartick 1991). Development policy adoption may be more responsive to the economic demands of capital rather than labor. This is consistent with studies of the economic outcomes of state and local development that have found that the impact of development incentives on capital investment is much greater than on job creation. Extending this analysis to a broader set of policies and expanding the model specification to include a broader set of political and economic variables might provide clearer evidence regarding the efficiency of state economic development policy adoption.

REFERENCES

Akaike, H. 1987. "Factor Analysis and AIC," *Psychometrica*, 52:317-332.

Akaike, H. 1974. "A New Look at the Statistical Identification Model," *IEEE Transactions on Automatic Control*, 19:716-723.

Allison, Paul D. 1984. "Event History Analysis," *Sage University Paper Series on Quantitative Applications in the Social Sciences*, 07-046. Beverly Hills and London: Sage Publications.

Ambrosius, Margery Marzahn. 1989. "The Role of Occupations Interests in State Economic Policy," *Western Political Quarterly*, 42:53-68.

Ambrosius, Margery Marzahn. 1990. "The Effectiveness of State Economic Development Policies: A Time Series Analysis," *Western Political Quarterly*, 43:283-300.

Bartnik, Timothy J. 1991. *Who Benefits from Economic Development Policies?* Kalamazoo, W.E. Upjohn Institute.

Baum, Robert. 1987. "The Economic Effects of State and Local Business Incentives," *Land Economics* 63:348-360.

Berry, Francis S. and William D. Berry (1990). "State Lottery Adoptions as Policy Innovations: An Event History Analysis." *American Political Science Review*, 84:395-415.

Blair, John, *et al.* 1984. "The Market for Jobs: Location Decisions and the Competition for Economic Development," *Urban Affairs Quarterly* 20:64-77.

Bowman, Ann O'M. 1988. "Competition for Economic Development Among Southeastern Cities," *Urban Affairs Quarterly*, 23:511-27.

Brierly, Allen B. 1989. "The Timing of State Economic Development Incentives and Their Impact on Economic Performance from 1968 to 1985: A Longitudinal Analysis of State Industrial Policy," presented at the annual meeting of the Midwest Political Science Association April 13, Chicago.

Clingermayer, James and Richard Feiock. 1993. "Constituencies, Campaign Support, and Council Member Intervention," *Social Science Quarterly*, 74:199-215.

Clingermayer, James and Richard Feiock. 1990. "The Adoption of Four Economic Development Policies in Large Cities," *Policy Studies Journal*, 18:539-52.

Feiock, Richard C. 1991. "The Effect of Economic Development on Local Economic Growth," *American Journal of Political Science,* 35:343-355.

Feiock, Richard C. and James Clingermayer. 1992. "Development Policy Choice: Four Explanations for City Implementation of Economic Development Policies," *American Review of Public Administration*, 22:49-65.

Feiock, Richard C. and James Clingermayer. 1986. "Municipal Representation, Executive Power and Economic Development Policy Adoption," *Policy Studies Journal,* 15(No. 1 December):211-230.

Feiock, Richard C., Melvin Dubnick, and Jerry Mitchell. 1993. "State Economic Development Policies and National Economic Growth," *Public Administration Quarterly*, 16: 55-67.

Fleischmann, Arnold and Gary P. Green. 1992. "Organizing Local Agencies to Promote Economic Development," *American Review of Public Administration,* 21:1-15.

Green, Gary P. and Arnold Fleishmann. 1989. "Analyzing Local Strategies for Promoting Economic Growth," *Policy Studies Journal*, 17:557-573.

Morgan, William E. and Merlin Hackbart. 1974. "An Analysis of State and Local Industrial Tax Exemption Programs," *Southern Economic Journal*, 41:200-05.

Olson, Mancur. 1971. *The Logic of Collective Action*. Cambridge: Harvard University Press.

Pavalko, E. K. 1989. "State Timing of Policy Adoption: Workmen's Compensation in the United States, 1909-1929," *American Journal of Sociology*, 95, 3, 592-615.

Peterson, Paul. 1981. *City Limits*. Chicago: University of Chicago Press.

Plaut, Thomas R. and Joseph Pluta. 1983. "Business Climate, Taxes and Expenditures, and State Industrial Growth in the United States," *Southern Economic Journal,* 50:99-119.

Rubin, Herbert and Irene Rubin, 1987. "Economic Development Incentives: The Poor Pay More," *Urban Affairs Quarterly*, 22: 32-62.

Sharp, Elaine B. 1991. "Institutional Manifestations of Accessibility and Urban Economic Development Policy," *Western Political Quarterly*, 44:129-147.

Sharp, Elaine B. and David Elkins. 1991. "The Politics of Economic Development Policy," *Economic Development Quarterly*, 5:126-39.

Stone, Clarence N. and Heywood Sanders. (eds.) 1987. *The Politics of Urban Development*. Lawrence, KS: University of Kansas Press.

Swanstrom, Todd. 1985. *The Crises of Growth Politics: Cleveland, Kucinich, and the Challange of Urban Populism*. Philadelphia: Temple University Press.

Thompson, James H. 1962. "State Subsidies for Industry: Comment," *Southern Economic Journal*, 29:114-19.

U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States*, selected years.

Yamaguchi, Kazuo. 1991. "Event History Analysis." *Sage Applied Social Research Methods Series*, Vol. 28. Newbury Park and London: Sage Publications.