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STATE AND LOCAL ECONOMIC DEVELOPMENT
STRATEGY: A "SUPPLY SIDE" PERSPECTIVE

A STAFF STUDY

PREPARED FOR THE USE OF THE
SUBCOMMITTEE ON MONETARY AND FISCAL POLICY
OF THE
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CONGRESS OF THE UNITED STATES



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LETTER OF TRANSMITTAL

SEPTEMBER 29, 1981.

Hon. HENRY S. REUSS,
*Chairman, Joint Economic Committee,
Congress of the United States, Washington, D.C.*

DEAR MR. CHAIRMAN: I am pleased to transmit herewith a staff study prepared for the Joint Economic Committee entitled "State and Local Economic Development Strategy: A 'Supply Side' Perspective," prepared by Dr. Richard K. Vedder of the committee staff. The manuscript was typed by Doris Irwin, and research assistance was provided by Albert Guarnieri.

The staff study shows that States that have lowered their income and property taxes have had higher rates of economic growth than States maintaining high levels of taxation. The study suggests that the supply side economic policies introduced by the Reagan administration could be profitably duplicated by State and local governments seeking economic revitalization. This is particularly true since the administration's New Federalism approach gives the States greater control over their own economic destinies.

Sincerely,

ROGER W. JEPSEN,
Chairman, Subcommittee on Monetary and Fiscal Policy.

FOREWORD

By Representative Clarence J. Brown

In 1981 Congress passed historic tax and budget legislation that should provide an environment permitting the economic revitalization of America. This legislation was a triumph for supply side economics and for the Joint Economic Committee, which in a series of bipartisan reports in the late seventies and in 1980 helped to increase the awareness in Congress of our economic problems and suggest solutions that would raise productivity and enhance our economic growth. I am pleased that Congress has adopted legislation in keeping with the committee's bipartisan recommendations that I have enthusiastically supported.

Both the Economic Recovery Program and other policies of the Reagan administration suggest that the New Federalism of the administration is indeed a reality. I strongly support the administration's efforts to permit State and local governments new flexibility to develop their own creative economic development strategies.

Supply side economics suggests that governments can influence productivity and economic growth through their taxation and expenditure policies. This study joins a growing literature that shows that high levels of State taxation, and especially income taxation, have adverse effects on the rate of economic growth. It shows how fast growth States in the seventies had far less increase in their income tax burden and had less tax progressivity than slower growth States. Faster growing States and cities relied more on sales taxation and less on either income or property taxes. Also, States that decreased their relative tax burden in the seventies grew significantly faster than States that increased the burden.

Econometric evidence included in the study suggests that climate, energy consumption and occupational structure are not important factors in explaining the differences in the rate of economic growth between the States. The more rapidly growing States had faster growth in the stock of personal savings than the slower growing States, other factors held equal. Other things equal, the more rapid the growth in corporate income tax burdens and welfare expenditures, the slower the rate of economic growth. States with highly progressive income taxes, other things held constant, grew less rapidly than States with less progressivity. The findings support the supply side notions that call for reductions in direct taxation of resource use (e.g., income and property taxes), reduced tax progressivity, and reduced governmental expenditures for non-productive purposes (e.g., large transfer payments for welfare). Econometric evidence suggests that Ohio, a relatively low tax State, had a falling relative rate of economic growth as a result of shifting emphasis in the seventies from sales toward income forms of taxation.

The evidence for supply side State and local fiscal policies is supported further when one looks at individual States that have recently attempted supply side remedies for their lagging rates of economic growth. Marginal income tax rates were slashed in New York State after 1977 but the Government's income tax revenues have risen faster than before. Economic growth is now occurring at rates approximating national norms, rather than at much lower than average rates of earlier years. Similar reductions in property taxes are stimulating the economy of Massachusetts. Another New England State, New Hampshire, has maintained high economic growth relative to its neighbors that share its climate, energy deficiencies and payments deficits from the Federal Government. It has done so by aggressively keeping taxes low, a move that has not apparently seriously hindered the level of governmental services provided. Likewise, California has resumed its historic status as a high growth State after stagnating in the early seventies from high taxes. The post-Proposition 13 evidence is that California's growth is expanding relative to the National as a whole, unemployment is falling in a relative sense, and in-migration is increasing again.

Whether one looks at tables comparing economic growth with tax levels, examines econometric evidence, or studies the histories of individual States undergoing fiscal change, the same conclusion emerges: The "supply side" policies advocated at the national level by the Reagan administration can be usefully implemented at the State and local level by States seeking to increase their rate of economic growth. The New Federalism of the Reagan administration increases the flexibility and potency of State and local fiscal policy. I hope that State and local governments use this opportunity to reinforce rather than undo the important work already done at the Federal level in restoring this Nation to its preeminent economic standing in the world.

As necessary as State and local supply side fiscal policies are to economic growth, however, they can be augmented by other measures. For example, technological change plays a vital role in economic growth, and States should make explicit efforts to attract industries and services that utilize and create high technology. A favorable environment for high technology industries requires a favorable tax policy, but also necessitates excellent research universities that work cooperatively with industry. A favorable set of attitudes on the part of labor and management toward the adoption of productivity-enhancing technologies is likewise desirable, and State and local governments can play an important role in this regard.

As a major provider of transportation capital, State and local governments can assist development by showing sensitivity to the needs of productive enterprise in allocating capital outlays, working to reduce costs for local industry both in order to attract new industry and make existing operations more profitable. In short, States should develop a growth-oriented development strategy that supplements tax reform with other measures that will lead to increased economic well-being for their citizens. I am convinced that the development of such strategies will be important in determining both the amount of economic growth in the United States in the eighties and beyond, as well as the regions where that growth will be concentrated.

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STATE AND LOCAL ECONOMIC DEVELOPMENT STRATEGY: A "SUPPLY SIDE" PERSPECTIVE

By Richard K. Vedder*

I. INTRODUCTION

Much attention has been devoted recently to the impact of Federal tax and expenditure policies on American economic growth and its primary proximate determinants, capital formation and productivity change. The historic 1981 debates over tax and expenditure policy were fought in large part over the validity of "supply side" economics with its emphasis on the output effects of taxes and expenditures on incentives and disincentives. Yet State and local governments have increased their activities even faster than the Federal Government in recent decades, and the "New Federalism" of the Reagan administration implies a still greater role for State and local governments in the future.¹ With the anticipated decline in receipts from the Federal Government and with lower Federal income tax rates, State governments are sorely tempted to raise their income and other taxes. Accordingly, it is important to ask what are the lessons of supply side economics with respect to State and local fiscal policies? Does the experience of the States tend to confirm the validity of supply side policy prescriptions? For example, how do the tax policies of fast growing States compare with those of States experiencing economic stagnation? This study addresses these questions:

The most important finding is that tax and expenditure policies of State and local governments are indeed important factors in explaining differences in the rate of economic growth between the States. The notion that differential growth rates are predestined by such natural phenomena as climatic considerations is largely dismissed. Similarly, one cannot explain the faster economic growth in the American South and West in terms of the regional impact of Federal Government spending and taxation. Rather, the evidence strongly suggests that the implementation at the State and local level of supply-side tax and expenditure proposals would enhance the rate of economic growth. In particular, it would be very detrimental to the Nation's growth if State and local government undo the productivity-enhancing effects of the Reagan tax cut with increases in taxation (particularly income taxation) at the State and local level.

*Richard K. Vedder is an economist on the staff of the Joint Economic Committee.

¹In 1960, less than 35 percent of internally generated governmental revenue in the United States was raised at the State and local level; by 1978, the proportion had risen to more than 41 percent. See the 1980 *Statistical Abstract of the United States* (Washington, D.C.: Government Printing Office, 1980), p. 288.

Supply side economics emphasizes the importance of production rather than the demand for goods and services. Supply side policy calls for tax and expenditure patterns that will raise the rate of return on productive activity. This is accomplished by lowering taxes levied on capital and labor services and by discouraging expenditures that encourage the owners of labor and capital to withdraw their productive resources from the market. Tax and expenditure policies should be designed to encourage capital formation by increasing savings, and the use of labor inputs by reducing high marginal income taxes that discourage work. Similarly, subsidies in the form of nonwork-related income transfers must likewise be reduced. Through such tax and expenditure policies, the rate of economic growth can be increased to the benefit of all Americans, rich and poor.²

²Three good nontechnical expositions of "supply side" economics and its successes include Jude Wanniski, *The Way the World Works* (New York: Basic Books, 1978), George Gilder, *Wealth and Poverty* (New York: Basic Books, 1981) and Bruce Bartlett, "Reaganomics": *Supply Side Economics in Action* (Westport, Conn.: Arlington House Publishers, 1981).

II. STATE AND LOCAL GOVERNMENT ACTIVITY AND SUPPLY SIDE ECONOMICS

The basic thrust of supply side economic policy applies to regional economic development as well as to the national economy. Tax and expenditure policies, for example, have the same basic behavioral impact if implemented at the State and local level or if they are carried out at the Federal level. Indeed, it is entirely possible that the sensitivity or elasticity of supply responses to changes in tax and expenditure policies is greater per dollar of spending or tax change involved at the State and local level than at the Federal level. The reason for this relates to the mobility of resources. Generally, it is easier and cheaper for productive factors (capital and labor) to move *within* the United States than between the United States and other countries. If Massachusetts raises taxes on productive factors in a manner that lowers the rate of return on inputs, those inputs can move to other States more readily than to other countries, a move that would be necessary to escape the impact of a Federal tax or expenditure change. In part, this reflects legal restraints on movement of capital and labor internationally compared with interstate movement. In the case of tax changes, U.S. tax laws are such that moving capital overseas does not necessarily reduce the tax liability of American corporations. Another reason why the sensitivity to tax/expenditure policies might be greater with respect to State and local policies than Federal policies is that it is probably sometimes harder to shift the incidence of the policy onto others. For example, there is considerable debate whether the incidence of the Federal corporate income tax falls on corporations and their stockholders (capital) or on consumers of the corporate products (labor). A very good case can be made that most of the burden falls on capital.¹ However, even if one believes the burden falls on laboring consumers with respect to the *Federal* corporate tax, it is still much less likely that the incidence of a *State* corporate income tax could be so shifted. For example, if Ohio were to impose a new corporation income or franchise tax on companies producing nationally traded products that are sold in many States by many firms (including some non-Ohio ones), competitive pricing pressures almost certainly will not allow the Ohio corporation to increase product prices significantly in order to shift the tax burden. More technically, the price elasticity of demand for the Ohio firm's products is quite high reducing the magnitude of shifting possible. If all producers raise prices in response to a *nationally* imposed corporate tax, the demand for the product faced by firms will be more price inelastic, permitting

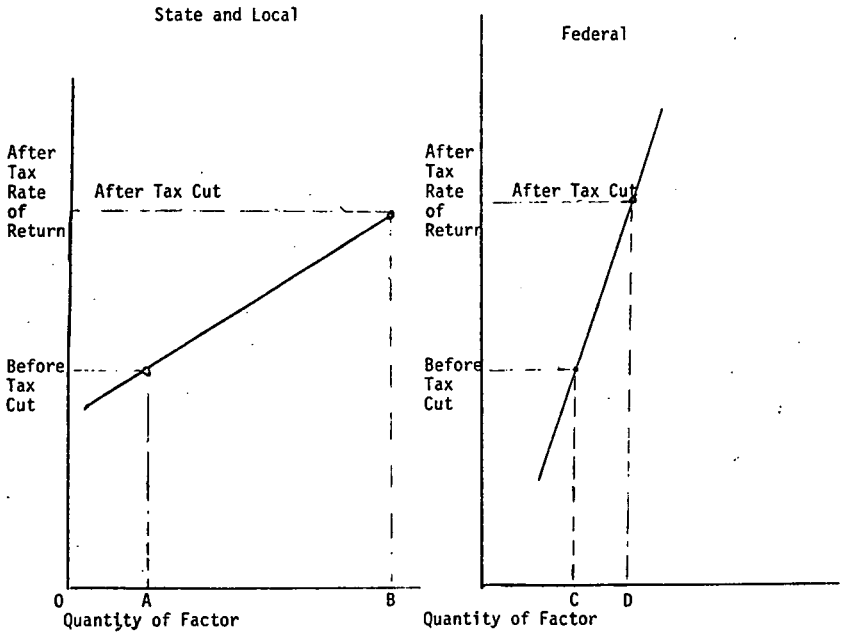
¹ See, for example, Arnold C. Harberger, "The Incidence of the Corporate Income Tax," *Journal of Political Economy*, June 1962.

greater shifting of the tax.² Corporations can escape Federal taxes easier than State ones.

The points made above are illustrated in Figure 1. Suppose a reduction in taxes imposed on a factor of production, say capital, raises the rate of return on factor investment. Since the elasticity of supply with respect to changing rates of return on capital is greater when the tax is State or local than Federal, the growth in inputs (and thus output) from a given tax reduction are greater (e.g., AB is greater than CD in Figure 1). Perhaps it is recognition of this fact that has led many State and local governments to use tax remissions as an economic development strategy, where the tax breaks are targeted at enterprises migrating from other tax jurisdictions.

Figure 1

Impact of Tax Reductions on Supply: Federal vs. State/Local



The supply-side approach suggests that the economic impact of tax or expenditure changes varies widely in terms of supply adjustments. For example, income taxes, other things equal, reduce compensation for factor use and thus are quite literally "counterproductive." Likewise, progressive income taxes are even

² The proposition that the corporate tax is shiftable is somewhat dubious. The point is that if it is shiftable, supply side effects from tax reduction will likely be more effective at the State and local level than at the Federal level. If capital bears the tax, of course, a good case can be made to lower corporate income taxes in all jurisdictions because of the negative impact that the tax has on the rate of capital formation.

more harmful than proportional (flat rate) ones in that the most productive factors of production (persons receiving the most compensation for their capital or labor services) feel the disincentive effects of the tax the most; progressive taxes lead to disproportionate factor supply reductions from the most productive resources. Moreover, the progressive income tax has a severely adverse impact on the rate of savings. Higher income groups do a disproportionate amount of savings. Gary Shilling has estimated that in 1978 persons making \$50,000 or more a year saved 35 percent of after-tax income, compared with dissavings for persons making less than \$10,000 a year (when transfer payments are included in income).³ Progressive income taxes consequently lower the savings rate below what would exist with proportional taxation. This reduction in the supply of loanable funds, other things equal, will raise interest rates and "crowd out" some otherwise viable forms of investment.

By contrast, consumption-based taxes do not have the same debilitating impact on supply as taxes directed towards productive inputs (capital or labor). While consumption-based taxes do have an economic impact, they are not taxes on labor or capital utilization and thus generally do not have as adverse supply-side effects. Indeed, by raising the cost of consumption relative to the cost of savings, they can actually be beneficial in stimulating savings. For these reasons, supply side economics calls for a reduced reliance on income forms of taxation and greater reliance on consumption-based taxes. This is in marked contrast to Keynesian economics, with its greater emphasis on the stimulation of aggregate demand; Keynesians generally advocate heavy reliance on income (supply-based) rather than consumption (demand-based) taxes. Property taxes ostensibly are levied on wealth, although some property taxes are in fact based on income (particularly on financial investments). As such, they are taxes on accumulations of savings in the form of financial capital and thus are viewed as having similar harmful supply effects as income taxes.

With respect to government expenditures, those that lower factor costs or raise productivity for capitalists and thus tend to increase rates of return would tend to be positively correlated with economic growth. Thus capital outlays for such things as highways and sewage systems and police and fire protection would be positively related to economic growth. At the same time, most transfer payments likely would have the opposite effect. Unemployment compensation payments, for example, raise the "reservation wage" of the unemployed, increasing the average duration of unemployment by dulling the incentive to go out and get a job.⁴ Thus labor inputs are reduced. Social insurance expenditures such as social security not only tax productive resources to provide income to currently unproductive ones, but also probably very significantly reduce pri-

³ Gary Shilling, "The Alternative Tax Bill Would Be a Mistake," *Wall Street Journal*, July 15, 1981, p. 26.

⁴ See Armen A. Alchian, "Information Costs, Pricing and Resource Unemployment," in Edmund Phelps *et al.*, *Microfoundations of Employment and Inflation Theory* (New York: Norton, 1970), and Martin Feldstein, "Temporary Layoffs in the Theory of Unemployment," *Journal of Political Economy*, October 1976, or Feldstein's articles cited in footnote 5.

vate savings and thus capital formation.⁵ Generally, the greater welfare and other transfer payments, the greater the anticipated reduction in supply and the greater the reduction in real output.

Some other expenditures are more ambiguous in their impact. Education expenditures are often viewed as "investment in human capital."⁶ As such, education increases labor productivity and thus supply. Some educational expenditures are direct outlays for research and development, important in enhancing technological advances. While some studies show that there is indeed a high rate of return on public educational expenditures, there are serious methodological problems of measurement.⁷ Also, education serves a consumption as well as an investment purpose. Some of the productivity gains associated with education may reflect not education but rather innate abilities; education is to some extent a "screening device" that sorts out the productive persons from the unproductive, but may not in itself be responsible for high productivity.⁸ Hence the overall output effects of public education are difficult to evaluate.

⁵ See Martin Feldstein, "Social Security, Induced Retirement and Aggregate Capital Accumulation," *Journal of Political Economy*, September-October 1974, and "Social Security and Saving: The Extended Life Cycle Theory," *American Economic Review*, May 1976. Feldstein's findings are not universally accepted, however.

⁶ The person largely credited with this concept is Theodore W. Schultz. See his "Investment in Human Capital," *American Economic Review*, March 1961 and Gary S. Becker, "Investment in Human Capital: A Theoretical Analysis," *Journal of Political Economy*, October 1963.

⁷ Many of them are discussed in J. M. Campbell and Thomas D. Curtis, "Graduate Education and Private Rates of Return: A Review of Theory and Empiricism," *Economic Inquiry*, March 1975.

⁸ For some insight on this point of view, see P. J. Taubman and T. J. Wales, "Higher Education, Mental Ability and Screening," *Journal of Political Economy*, January/February 1973.

III. STATE AND LOCAL TAX/EXPENDITURE POLICIES AND ECONOMIC GROWTH: EVIDENCE

There is an accumulating body of evidence that is consistent with that of the basic principles of supply side economics elucidated earlier. Of particular interest here are ones relating to State and local governmental tax and expenditure policies. Recent studies seem to support the following supply-side tenets:

(1) Economic growth varies inversely with the burden of State and local government taxes; the fastest growing States, by and large, are States with relatively low tax rates.

(2) Even more important, *changes* in tax burden are strongly inversely related to economic growth. States with rapidly rising tax burdens tend to grow slower than States with a stable or falling tax burden.

(3) States that have tax structures that place a relatively high burden on the taxation of capital (e.g., via income or property taxes) tend to grow more slowly than States that emphasize consumption based taxes such as retail sales taxes, or user charges.

(4) High growth States tend to have lower and less rapidly growing public welfare expenditures than slower growing States. A large share of the total State and local expenditures is devoted to direct or indirect forms of capital formation via capital outlays or educational expenditure.

It should be stated that these findings are in marked contrast to the more traditional view that State and local taxes (and presumably expenditures) have an inconsequential impact on the regional variations in the rate of economic growth. Most of the earlier studies related to the impact of taxes on industrial location, an issue related to that of economic growth. For example, in a widely cited 1961 article by John Due reviewing the literature on industrial location, it was concluded that the studies "suggest very strongly that the tax effects cannot be of major importance."¹ Some other later studies reached similar conclusions, so that the "conventional wisdom" today is that tax structures are relatively unimportant in influencing industrial location and presumably the rate of economic growth. In a very recent report, for example, the Advisory Commission on Intergovernmental Relations notes "that the facts about the movement of firms support the view that State-local tax differentials are of limited importance in interregional decisions of industrial location" and "that powerful economic forces that have been at work for decades underlie much of the continuing interregional redistribution of people, capital, and jobs."²

¹ See John F. Due, "Studies of State-Local Tax Influences on Location of Industry," *National Tax Journal*, June 1961.

² Advisory Commission on Intergovernmental Relations, *Regional Growth: Interstate Tax Competition* (Washington, D.C., March 1981), p. 4. See also pp. 32-34, where anecdotal evidence from industrial development specialists is presented to confirm the position.

A growing body of literature questions this "traditional" interpretation. Charles McLure, Jr., for example, in 1970 concluded that production taxes repelled capital, and that the precise impact depended on the price elasticity of demand for the produced product. He similarly argued in supply-side fashion that labor taxes could repel capital even more than capital-based taxes, in certain circumstances. The disincentive effects of taxes are largely related to the mobility of capital and labor (the more mobile they are, the more of a factor any given tax will repel) and the ease of substitutability between capital and labor.³

Throughout the seventies, a whole variety of studies by Boskin, Feldstein, Hall, Joine, Laffer and others, that empirically examined Federal and even foreign income taxes demonstrated that income-based taxes have a significant disincentive effect on work effort and/or savings.⁴ As a consequence, it now appears that the accumulated body of evidence more clearly favors the supply-side conclusion that taxes on productive resources tend to reduce output.

Moreover, these basic supply side conclusions are reinforced by studies done at the State and local level. Studies by Cebula and Browne, for example, found that high local government taxation was a significant deterrent to in-migration of labor and thus a barrier to human capital formation within localities.⁵ In studies of both Massachusetts and Puerto Rico, Arthur Laffer and his associates observed inverse relationships between business and income taxes and the rate of economic growth in those two jurisdictions. Also, welfare expenditures were significantly inversely correlated with economic growth.⁶ Looking at Illinois, James Heins observed a negative correlation between corporate tax revenues and economic growth.⁷

Genetski and Chin, using a cross sectional analysis for all 50 States and the District of Columbia, observed a strong negative relationship between tax burdens and economic growth, after allowing for a 3-year adjustment period (assumes growth lags tax changes by 3-years).⁸ Newman, studying employment growth, observed that corporate income taxes, business climate (as measured by the presence of right-to-work laws) and unionization, were fac-

³ Charles E. McLure, Jr., "Taxation, Substitution and Industrial Location," *Journal of Political Economy*, January/February 1970.

⁴ A few of the studies include: Michael J. Boskin, "Taxation, Savings and the Rate of Interest," *Journal of Political Economy*, April 1978; Martin Feldstein, "Social Security and Saving: The Extended Life Cycle Theory," *American Economic Review*, May 1976; Arthur B. Laffer, "Prohibitive Tax Rates and the Inner City: A Rational Explanation of the Poverty Trap," *Economic Study* (H. C. Wainwright & Co., June 27, 1978); Robert E. Hall, "Stabilization Policy and Capital Formation," *American Economic Review*, May 1980; and Douglas H. Joines, "Government Fiscal Policy and Private Capital Formation," Ph.D. dissertation, University of Chicago, 1979.

⁵ Richard J. Cebula, "Local Government Policies and Migration: An Analysis for SMSA's in the United States, 1965-1970", *Public Choice*, Fall 1974, and Lynn E. Browne, "The Shifting Pattern of Interregional Migration," *New England Economic Review*, November, December 1979.

⁶ Victor A. Canto and Arthur B. Laffer, "Report to the Governor: Recommendations for Economic Reforms in Puerto Rico" (H. C. Wainwright & Co., 1979) and Charles W. Kadlec and Arthur B. Laffer, *An Analysis of Fiscal Policy and Economic Growth on Massachusetts* (Rolling Hills Estates, California: A. B. Laffer Associates, 1981). Also in Massachusetts, see Gale D. Merseth, "Strategy for Economic Revival" (Boston: Intercollegiate Case Clearing House, 1979).

⁷ A. James Heins, *Illinois Economic Growth Study* (University of Illinois, July 1976).

⁸ Robert J. Genetski and Young D. Chin, "The Impact of State and Local Taxes on Economic Growth" (Chicago: Harris Bank, November 3, 1978).

tors in the shift of industry to the South.⁹ Ecker and Syron demonstrated that significant variations in personal taxes between States may have a bearing in recruiting and retaining highly productive professional persons necessary to high technology industries.¹⁰ Noller has argued that tax reduction in New York State in the late 1970's was associated with stimulation of employment, economic growth and thus tax revenues.¹¹ Three scholars demonstrated that State and local business taxation had significant adverse employment effects.¹²

Surveys of firms about industrial location decisions increasingly are showing that taxes are playing a role in decisionmaking. For example, more than one-fourth of the 306 respondents to the *Fortune Magazine Facility Location Decisions* survey listed "State and/or local attitude towards taxes on business and industry" as a major factor in their decision as to the "most likely choice" for the location of future plants.¹³ Presumably, other things equal, plant relocations stimulate economic growth by raising the capital stock and output of areas receiving the plants by an amount that exceeds any resulting increase in population, since workers seldom migrate in large numbers as plants relocate. Output per capita rises, enhancing economic growth. The evidence supports scholars like Roger Schmenner, who concluded that "relocation is a minor factor in the geographic shifts in manufacturing employment* * *."¹⁴ The rise in the quantity and quality of capital relative to labor associated with relocation, then, is important in the growth process. America's economic growth is closely associated with increases in the capital/labor ratio.¹⁵

The impact of taxes on economic growth may be indirect and not even directly discernible to business decisionmakers. As Bernard L. Weinstein has observed, "Indirectly, high personal taxes may be an impediment to business growth since they force up salaries of executive, managerial and technical personnel."¹⁶ To induce good workers to migrate, firms in high tax States have to compensate them for high tax levels by increasing wage and salary payments. This increases production costs and creates a competitive disadvantage. Labor costs and the labor climate are always cited as important factors in industrial location, but these, in turn, in part reflect the impact of taxes.¹⁷

⁹ Robert J. Newman, "Industry Migration and the Growth of the South" (University of British Columbia Working Paper No. 743, November 1980).

¹⁰ Deborah S. Ecker and Richard F. Syron, "Personal Taxes and Interstate Competition for High Technology Industries," *New England Economic Review*, September/October 1979.

¹¹ Carl Noller, "The Experience With Tax Reductions in New York State" (Washington, D.C.: Chamber of Commerce of the United States, 1981).

¹² Ronald Grieson, William Hamovitch, and Richard D. Morgenstern, "The Effects of Business Taxation on Industry," *Journal of Urban Economics*, No. 4, 1977.

¹³ *Fortune Magazine, Facility Location Decisions* (New York: 1977), p. 12.

¹⁴ "Location Decisions of Large Firms: Implications for Public Policy," *Commentary*, January 1981, p. 3.

¹⁵ See Robert Gallman, "The Pace and Pattern of American Economic Growth," in Lance Davis et al., *American Economic Growth* (New York: Harper and Row, 1972), and Richard K. Vedder, *The American Economy in Historical Perspective* (Belmont, Calif.: Wadsworth Publishing Co., 1976), especially Chs. 4 and 11.

¹⁶ "Tax Incentives for Growth," *Society*, March/April 1977, pp. 73-75. See also his book with Robert E. Firestone, *Regional Growth in the United States: The Rise of the Sunbelt and Decline of the Northeast* (New York: Praeger, 1978).

¹⁷ The aforementioned studies by *Fortune* and Roger Schmenner are but two that demonstrate that wage costs are considered important.

In addition, previously sacrosanct notions that income tax progressivity was necessary on equity grounds have come into some question. A Brookings Institution study by Jerry Hausman observed a significant "deadweight loss" (reduction in economic efficiency) from the progressive income tax, including a greater number of hours of work loss than would be the case with a proportional income tax.¹⁸ In a historical vein, W. Elliot Brownlee found that Wisconsin's pioneering progressive income tax stifled that State's economic growth between 1911 and 1929.¹⁹

In short, there is a very large and growing body of evidence using Federal, State and local tax and expenditure data both in a cross sectional and in a time series setting that suggests that the supply-side notions of lowering tax rates and noncapital inducing governmental expenditures will indeed positively influence the rate of economic growth. In saying this, however, we are not denying the impact of other nontax or expenditure factors. Rather, we merely wish to emphasize that the notion that governmental activity has little bearing on regional economic growth is simply not correct.²⁰

¹⁸ In Henry J. Aaron and Joseph A. Pechman, eds., *How Taxes Affect Economic Behavior* (Washington, D.C.: Brookings Institution, 1981).

¹⁹ *Progressivism and Economic Growth: The Wisconsin Income Tax, 1911-1929* (Port Washington, N.Y.: Kennikat Press, 1974).

²⁰ The review of the literature here is by no means exhaustive. See Bruce Bartlett, "Reaganomics" (Westport, Conn.: Arlington House Publishers, 1981), Ch. 5 (pp. 54-69), for a more detailed exposition.

IV. SOME SIMPLE EMPIRICAL EVIDENCE

Attempts to explore the efficacy of alternative State economic development strategies have employed various methodologies, including questionnaires asking entrepreneurs what influences their locational choices, simple tables showing relationships between economic growth and various characteristics of State and local taxes and expenditures, and more complex multivariate statistical analyses incorporating a variety of variables. This study will utilize the last two approaches to evaluate the validity of the supply-side approach and previous studies dealing with it.

TABLE 1.—*State and local tax burdens, 1970, and economic growth, 1970-79*

Category:	Amount ¹
High-growth States	\$66.96
Low-growth States	64.16

¹ Tax revenues per \$1,000 in personal income (weighted average of States with population serving as basis of weights).

Source: Derived from U.S. Department of Commerce, Bureau of the Census, data.

Table 1 observes that total State and local tax burdens per \$1,000 of personal income was about the same in the year 1970 in the 16 States that grew the fastest in the seventies in income per capita as in the slowest growing 16 States. This seemingly refutes supply-side notions regarding tax incentive effects. More appropriate, however, would be to relate the *change* in aggregate tax burden in the 1970's to economic growth during that period. Doing so, a different picture emerges (Tables 2 and 3).

TABLE 2.—*Changing State and local tax burdens and economic growth, 1970-79¹*

Category:	Amount ²
High-growth States	+\$0.80
Low-growth States	+7.51

¹ A weighted average is used with population serving as the basis for the weights.

² Change in tax revenues per \$1,000 in personal income, 1970-79.

Source: Derived from U.S. Department of Commerce data.

The relatively rapidly growing States had little change in tax burdens while the slower growing States had a fairly noticeable amount of tax increase per \$1,000 of personal income, suggesting a negative relationship exists between tax burdens and economic growth. Looking at it differently (Table 3), States which had relatively declining tax burdens (from 1964 to 1975) grew much faster than the national average; the gains were greatest in low tax States but were nearly as great in high tax States that moderated their tax burdens relative to other States. States that had rising burdens had relatively low growth rates compared to the national average. This suggests that *the direction of change in tax burdens is more important than the levels of taxation in the tax-growth relationship*. States with falling tax burdens are perceived to have a favorable environment in which to place human or capital resources that can enhance output. States with high tax burdens can

profit as much as more moderate tax States in adopting policies that reduce the burden of taxation.

TABLE 3.—Changes in State/local tax burdens and economic growth, 1969-78

Tax category: ¹	Percent ²
Low and falling burden	+ 14.5
High and falling burden	+ 12.5
Low and rising burden	+ 1.5
High and rising burden	- 3.0

¹ Based on total State and local tax burden per \$1,000 income in 1964 and the change in that burden, 1964-75. A State's burden was "falling" if it declined, or rose less than the national average. The burden was "low" if in 1964 total State and local taxes per \$1,000 personal income was below the national average.

² Median economic growth relative to U.S. average.

Sources: Advisory Commission on Intergovernmental Relations, *Measuring the Fiscal "Blood Pressure" of the States, 1964-75* (Washington, D.C.: February 1977) and Robert Bretzfelder and Howard Friedenber, "State Differences in Per Capita Personal Income Growth in the Seventies," *Survey of Current Business*, August 1979, p. 25.

The supply side arguments are further reinforced when one looks at the composition of taxes. *The high growth States of the 1970's had relatively low income taxes in 1970, relying much less heavily on income taxation than slow growth States (Table 4). Moreover, the slower growing States increased their income taxes more than the faster growing States (Table 5).*

TABLE 4.—STATE AND LOCAL PERSONAL INCOME TAXES, 1970, AND ECONOMIC GROWTH, 1970-79¹

Category	Personal income taxes per \$1,000 personal income	Personal income taxes as percent of total tax revenue
High-growth States	\$7.10	10.6
Low-growth States	14.90	23.2

¹ A weighted average is used with population serving as the basis for the weights.

Source: Derived from U.S. Department of Commerce data.

TABLE 5.—Changes in State and local personal income tax burden and economic growth¹

Category:	Amount ²
High-growth States	+ \$4.89
Low-growth States	+ 8.08

¹ Numbers are weighted averages, with population the basis for the weights.

² Change in tax burden per \$1,000 personal income, 1970-79.

Source: Derived from U.S. Department of Commerce data.

The same picture applies if one speaks of corporate income taxes (Table 6). For example, *the corporate income tax burden in 1970 in the slow growth States of the 1970's was more than twice as great as in the fast growing States.*¹

¹ Corporate tax burden is measured in terms of corporate tax payments per \$1,000 in personal income; an alternative way of measuring the burden would be in terms of corporate income.

TABLE 6.—State and Local Corporate Income Tax Burden, 1970, and Economic Growth, 1970-79¹

Category:	Amounts ²
Fast growth	\$2.90
Slow growth	6.26

¹ Numbers are weighted averages, with weighting on the basis of population.

² Corporate tax burden per \$1,000 personal income.

Source: Derived from U.S. Department of Commerce data.

Another issue relates to the progressivity of the income tax. Did States that have highly progressive income taxes have more rapid or less rapid growth than those with more proportional taxes? The measurement problems here are substantial, owing to differential tax policies (e.g., the highest marginal bracket is reached at widely varying incomes), the impact of the deductibility of State and local taxes in calculating Federal income taxes, etc.² Still, three relatively crude measures of progressivity were calculated, all of which showed an inverse relationship between the degree of progressivity and the rate of economic growth (Table 7).

Charles W. Kadlec and Arthur B. Laffer have made somewhat similar calculations to those reported above utilizing a different time period. The findings are consistent with the ones reported here.³ In addition, Kadlec and Laffer observe a negative relationship between growth and property taxation over time. Also, high growth States relied more on fees and charges than low growth States to finance activities (financing activities on the benefit principle or user charge basis rather than on an ability to pay principle). Turning to expenditures, Kadlec and Laffer observed that the high growth States spent relatively little on welfare and also had less growth in welfare expenditures. The high growth States spent a slightly higher proportion of its budget on educational expenditures than the slow growth States.⁴

TABLE 7.—STATE INCOME-TAX PROGRESSIVITY, 1970, AND ECONOMIC GROWTH, 1970-79¹

Category	Index A ²	Index B ³	Index C ⁴
High-growth States	2.47	9.15	3.30
Low-growth States	3.89	35.25	5.40

¹ All numbers are weighted averages, with weighting based on population.

² The highest marginal tax rate divided by the lowest; the greater the number, the greater the amount of progressivity.

³ The highest marginal tax rate divided by the average tax paid per \$1,000 in personal income; the higher the number, the greater the progressivity.

⁴ The highest marginal tax rate minus the lowest marginal rate; the higher the number the greater the progressivity.

Source: Derived from U.S. Department of Commerce data.

² Some of the measurement problems are discussed in Thomas Vasquez and Charles W. deSeve, "State/Local Taxes and Jurisdictional Shifts in Corporate Business Activity: The Complications of Measurement," *National Tax Journal*, September 1977.

³ *An Analysis of Fiscal Policy and Economic Growth in Massachusetts* (Rolling Hills Estates, California: A. B. Laffer Associates, 1981).

⁴ *Ibid.*

V. EVIDENCE FOR METROPOLITAN AREAS

One might argue that it is inappropriate to compare highly rural States like South Dakota or Iowa with highly urbanized States like New York or Rhode Island. There are inherent differences in the forms of economic activity and in the nature of necessary public goods between those areas, and one might argue that those differences explain some of the striking findings cited above. For example, it is possible that comparatively nonurban States "need" fewer public goods and thus have relatively low taxes while at the same time they happen to have relatively large amounts of high growth industrial activity; if this is the case, one might argue that the relationships observed earlier are spurious.

To deal with this possibility, one can confine the investigation to the tax-growth relationship for major metropolitan areas. As it turns out, doing so actually enhances the evidence in support of supply-side development strategy. Utilizing some rather unique data on 30 large cities compiled by the Government of the District of Columbia, one observes that *the cities in the sample with the greatest economic growth in the 1969-78 period had much lower average State and local tax burdens than the cities with relatively low growth* (Table 8).¹ Moreover, *the high growth cities also relied much less on income taxation in raising revenues* (Table 9). Beyond that, more of the low growth cities had highly progressive income taxes than the high growth cities. Interestingly, one of the low growth cities was San Diego, well known for its beaches and its wonderful climate; San Diego in many ways is the stereotype of a Sunbelt city. One reason why it grew so slowly may have been that it had the highest degree of income tax progressivity of any of the 18 cities extensively examined. Even taking all three major taxes (sales, property, and income) plus automobile taxes, the faster growing cities had less progressivity in their tax structures than did the slower growing areas. Interestingly, while all nine low growth cities had income taxes, four of the high growth cities had no State or local income taxation.

TABLE 8.—*State and local tax burdens and urban economic growth, 1969-78*

Category: ²	Percent ¹
High-growth cities.....	7.0
Low-growth cities.....	11.4

¹ Tax burden as percent of total income for a family of 4, income equals \$15,000, 1975.

² Unweighted average of 9 highest and 9 lowest growth cities, measured by personal income per capita.

Sources: U.S. Department of Commerce and the Government of the District of Columbia.

¹ Government of the District of Columbia, Department of Finance and Revenue, *Tax Burdens in Washington, D.C., Compared With Those in the Nation's Thirty Largest Cities*, 1975 (Washington, D.C.: 1977). It would have been desirable to use tax data for earlier years but it was not available. This should not make much difference unless the relative rankings of the cities with respect to tax burden changed significantly in the early seventies. The estimated tax burden is based on certain assumptions about family consumption habits.

TABLE 9.—STATE/LOCAL INCOME TAX BURDENS AND URBAN ECONOMIC GROWTH, 1969-78 ¹

Category	Income tax as percent of total income ²	Percent of total State/local tax burden
High-growth cities.....	1.84	26.3
Low-growth cities.....	4.56	40.1

¹ Unweighted average of 9 highest and 9 lowest growth cities, as measured by income per capita.

² For a family of 4 with an income of \$15,000 in 1975.

Sources: U.S. Department of Commerce and the Government of the District of Columbia.

The pattern with respect to the other major forms of taxation was precisely what one would predict from supply side precepts. Consider sales taxes, which are not taxes on production but rather on consumption. The high growth cities had a slightly *higher* sales tax burden than the low growth cities, and the *rapidly growing cities derived much more of their tax revenues from sales taxes than did the slower growing areas* (Table 10). Moreover, not only were property tax burdens nearly twice as high (in relation to income) for a typical family in the slower growing cities, but *the low-growth cities derived more of their tax revenues from property taxes than the relatively booming, faster growing cities* (Table 11). Thus the rebellion against high property taxes that manifested itself in Proposition 13 in California and Proposition 2½ in Massachusetts seems to have some merit when evaluated from the perspective of regional economic growth.

TABLE 10.—STATE/LOCAL SALES TAX BURDENS AND URBAN ECONOMIC GROWTH, 1969-78 ¹

Category	Sales tax as percent of total income ²	Percent of total State/local tax burden
High-growth cities.....	1.60	22.9
Low-growth cities.....	1.37	12.0

¹ Unweighted average of 9 highest and 9 lowest growth cities, as measured by income per capita.

² For a family of 4 with an income of \$15,000 in 1975.

Sources: U.S. Department of Commerce and the Government of the District of Columbia.

TABLE 11.—STATE/LOCAL PROPERTY TAX BURDENS AND URBAN ECONOMIC GROWTH, 1969-78 ¹

Category	Property tax as percent of total income ²	Percent of total State/local tax burden
High-growth cities.....	3.29	47.0
Low-growth cities.....	6.04	53.1

¹ Unweighted average of 9 highest and 9 lowest growth cities, as measured by income per capita.

² For a family of 4 with an income of \$15,000 in 1975.

Sources: U.S. Department of Commerce and the Government of the District of Columbia.

VI. SOME ECONOMETRIC EVIDENCE

The studies showing a substantial relationship between tax and expenditure strategies and the pace of economic growth can be criticized for failing to control for *other* factors that many believe contribute to economic growth. The relationship between taxes and growth, for example, may be spurious, since tax levels are related to other factors that may *really* explain the growth, such as climate. Indeed, it is widely held in some quarters that the sunshine and other climatic advantages of the "Sun Belt" States have attracted resources and stimulated economic growth in those regions.¹ Implicit in the view that climatic factors themselves are growth-inducing is the opinion that States lacking the necessary climatic amenities (e.g., the Northeastern and Midwestern States) can do little to reverse their economic stagnation. Of course, many observers dismiss the importance of climate. The *Wall Street Journal* has suggested that the notion that climate is the answer to differential economic development patterns "wilts quickly during an eight-block walk in Houston during almost any season but midwinter."² Nonetheless, any consideration of interstate variations in economic growth over time should introduce measures designed to capture the climatic amenities implied by the term "Sun Belt."

A second factor that many think explains the relative economic decline of some Northeastern and Midwestern States is the rising relative cost of energy. States which are highly energy-intensive (reflecting either high energy-using production processes or climate-related high consumer energy costs) are at a disadvantage since real energy prices began rising in the early 1970's.³ Related to this, it can be argued that energy producing States are at an advantage because the improved terms of trade for energy "exports" (energy prices rising more than other prices) have augmented real incomes. This is most dramatically illustrated by the fact that some Middle Eastern nations now have higher reported GNP per capita than the United States, while only a decade ago their levels were much lower. Again, the energy argument in part implies that a State's economic fate is geographically determined, and that public policy cannot do much to improve economic conditions.

Aside from climate and energy, some argue that in this "postindustrial" society that some States have disadvantaged economies because they are heavily oriented towards manufacturing, while

¹ Numerous studies have demonstrated that climate is a factor in labor migration. See, for example, Richard Cebula and Richard Vedder, "Migration, Economic Opportunity and the Quality of Life," *Journal of Regional Science*, August 1973, or Philip E. Graves, "A Life-Cycle Empirical Analysis of Migration and Climate, By Race," *Journal of Urban Economics*, April 1979. A. James Heins has observed a relationship between climate and State personal income growth (which in turn partly reflects population growth); see his *Illinois Economic Growth Study* (published in 1976) for the Illinois Chamber of Commerce.

² Editorial, *Wall Street Journal*, Sept. 18, 1978.

³ A representative study stressing energy's role in differential economic growth between the States is Richard Corrigan and Rochelle L. Stanfield, "Rising Energy Prices—What's Good for Some States Is Bad for Others," *National Journal*, Mar. 22, 1980.

consumer demand has been increasing fastest in the service industries. Thus the "mature" industrial States suffer from having an inappropriate capital structure. Still others would adopt the argument raised by Newman and conclude that the "business climate" is particularly important, as measured by such factors as the relative degree of unionization or the existence of a State "right-to-work" law.⁴

Still another factor that many persons, particularly those from some low growth States of the Northeast and Midwest stress, is the discriminatory effects of Federal Government tax and spending policies. In particular, the poor economic performance of the slowly growing States is blamed on the fact that they tend to send more tax revenue to the Federal Government than they receive back in the form of transfer payments, grants in aid, Federal contracts, etc. Thus they are subsidizing the rest of the country. It is true that the variation in the Federal receipts-Federal payments ratio is substantial between States.⁵

The notion that discriminatory Federal policies are responsible for the relative economic decline of the Northeast and Midwest does not seem to hold up well even from casual observation however.⁶ It is true, for example, that the State with the lowest rate of economic growth in the seventies, New York, got back slightly less in Federal grants and payments than it paid in taxes, but that State's Federal "payback ratio" was about the same or even higher than that existing in such high growth States as Nevada, Texas, Oregon, Wyoming, and New Hampshire.⁷ As two leading officials of the Carter administration, Charles Schultze and Stuart Eizenstat said, "the principal reason for New York's 'deficit' is that its Federal tax payments are high * * * tax payments are high because New York is a high income State—and our tax system is progressive * * *"⁸

In other words, if New York were shortchanged at all it was simply because it was a rich State and our tax system is progressive. If the "problem" exists at all, the solution would be to make the Federal tax system less progressive. It is unlikely that any "problem" exists, however. Several observers, including the Comptroller General of the United States, have observed that the modest Northeastern "deficit" has been largely eliminated by rapidly increasing grants-in-aid to that region along with a decline in the area's relative Federal tax burden owing to its slow economic growth.⁹ In this connection, John Rees in a recent study for the

⁴ Robert J. Newman, "Industry Migration and the Growth of the South" (University of British Columbia Working Paper No. 743, November 1980).

⁵ Delaware got back 70 cents of each dollar sent to Washington in 1978, compared with \$1.82 in Alaska. See "The Growing Burden of State Taxes," *Consumer Research Magazine*, February 1981, p. 16.

⁶ The idea that the Frostbelt is somehow impoverished is totally without foundation. On this point, see C. L. Jusenius and L. C. Ledebur, "A Myth in the Making: The Southern Economic Challenge and Northern Economic Decline" (Washington: Economic Development Administration, November 1976), and Richard B. McKenzie, "Eight Myths About the Frostbelt-Sunbelt Fight," *Wall Street Journal*, Sept. 8, 1981, p. 34.

⁷ Derived from William Rymarowicz, "Estimated Federal Tax Payments by Residents of Individual States Compared to Estimated Federal Outlays in the States, Fiscal Year 1977" (Washington: Congressional Research Service, Report 78-185E, Aug. 10, 1978).

⁸ As reported by Roland Powell, "Two Carter Aides Reject Moynihan Claim That State Is Being Shortchanged by U.S.," *Buffalo Evening News*, Sept. 28, 1977.

⁹ Comptroller General of the United States, *Changing Patterns of Federal Aid to State and Local Governments, 1969-1975* (Washington: Government Accounting Office, Dec. 20, 1977) and

Joint Economic Committee argued that on balance governmental policies had little impact on industrial location of firms, a conclusion that is harmonious with the view that the regional impact of Federal activities has been exaggerated and cannot be viewed as a major cause of relative economic growth or stagnation.¹⁰ Nonetheless, various groups (notably the Northeast-Midwest Institute) continue to argue that Federal policies are a cause of regional decay, so any econometric model should incorporate that factor into the analysis.

Multiple regression analysis is a statistical technique that allows one to observe the relationship between two variables, holding the other factors included in the model equal in value for each observation. This provides an environment resembling the "other things equal" assumption present in most economic theories. A multiple regression was performed attempting to explain variations in the growth in per capita personal income, 1970-79, between the 50 States. Which of the factors discussed above explain why some States grew faster than others?

Before proceeding to answer that question, some discussion is in order of how the various factors mentioned above were measured. Two "supply side" variables were identified. First, the per capita growth in deposits in banks and savings and loan associations in the 1970-76 period was used as a proxy for measuring changes in the savings rate in each State. States with high growth rates in per capita deposits presumably had relatively high savings rates. While this variable is not perfect in that it excludes some forms of savings and covers only 6 of the years examined, it does incorporate the most important forms of savings which can be measured on a State-by-State basis.¹¹ Second, the change in the overall State and local tax burden between 1967 and 1977 (as measured as a percent of personal income) was introduced.¹² As indicated above, the crude evidence is that *changes* in tax burdens are much more important than the levels of total taxes as they relate to income.

To measure the impact of climate, a variable measuring the number of days the Sun shines annually in each State was introduced, providing a quite literal measure of Sun availability, a factor some view as being important.¹³ A second variable, measuring coldness, was the average number of heating degree days in each State. The greater the average number of heating degree days, the colder a State tends to be (e.g., Southern States have fewer heating degree days than Northern States).

(Continued)

Charles L. Vehorn, *The Regional Distribution of Federal Grants-in-Aid* (Columbus, Ohio: Academy for Contemporary Problems, 1977), especially p. iii.

¹⁰ John Rees, "Government Policy and Industrial Location in the United States," in Joint Economic Committee of Congress, *Special Study on Economic Change*. Vol. 7, *State and Local Finance: Adjustments in a Changing Economy* (Washington: Government Printing Office, 1980).

¹¹ Another problem is that some deposits are held by depositors residing in other States or even countries. Still, deposits in a State provide some indication of lendable capacity of financial institutions within that State.

¹² The 1967-77 tax data were used with the 1970-79 growth rate because of previous studies indicating that economic growth effects lagged 3 years behind tax changes. On the lag effects, see Robert J. Genetski and Young D. Chin, "The Impact of State and Local Taxes on Economic Growth" (Chicago: Harris Bank, Nov. 3, 1978), especially pp. 3-4.

¹³ All climate data come from the U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States: 1980* (Washington: Government Printing Office, 1980). Obviously, climate data varies within States and the measure used was the average of reporting stations unless there was an obvious population center.

To measure industrialization, the proportion of the labor force in each State holding manufacturing jobs was used. To measure the favorability of business legal climate, a dummy variable was introduced that had one value if a State had a right-to-work law and a lower value if it did not, assuming that the presence of such laws was an indication of a probusiness political climate. To measure the differential impact of Federal spending and taxation on the various States, the "Federal payback ratio" was used as reported by the Advisory Commission on Intergovernmental Relations.¹⁴

The econometric model explains 74 percent of the variation in growth rates ($R^2 = .74$). Summarizing the findings:

(1) There is a statistically significant negative relationship between changes in tax burden and the rate of economic growth. The greater the State and local tax burden increased, the lower the rate of economic growth, other factors held constant.

(2) There is a strong, positive, and statistically significant relationship between the increase in the stock of accumulated per capita savings in a State and the State's rate of economic growth.

(3) Energy-intensive States (as measured by per capita consumption), other things equal, grew *faster* than nonenergy intensive States, the opposite of what some would argue.

(4) Other things equal, economic growth was *greater* the greater the proportion of the labor force in a State in manufacturing.

(5) The observed relationships between sunshine, heating degree days and economic growth were weak statistically and in the opposite direction to what were expected.

(6) There was a weak but positive relationship between business climate (as measured by right-to-work laws) and the rate of economic growth.

(7) There was only a weak and not statistically significant relationship between net Federal contributions of revenues to a State (as measured by the Federal payback ratio) and a State's economic growth.

The findings support in a highly significant fashion the basic supply side premise that changes in tax burdens are negatively associated with economic growth. Controlling for other factors in the model, *the results confirm the simpler evidence* presented earlier *that States and localities can positively influence their economic growth by lowering their aggregate tax burdens*. This conclusion supports the assumptions of the Reagan administration regarding the long-run positive effects of the Federal tax cut.¹⁵

Also, *the findings strongly refute the notion that climate or energy usage explain the regional disparities in economic growth in the United States*. Contrary to conventional wisdom, growth was

¹⁴ Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism* (Washington: Government Printing Office, October 1980).

¹⁵ Tax burden is measured by taking tax payments and dividing by personal income. It could be argued that if economic growth were occurring for reasons unrelated to taxation, tax burdens as measured here would fall and the observed tax burden-economic growth relationship would be spurious. While this contention is debatable, a second set of statistical estimations was made where taxation variables were expressed on a per capita basis (rather than as a percent of personal income). The findings were substantially the same as obtained using the personal income-derived measure of tax burdens.

greater, *other things equal*, in relatively unsunny, cold, and energy-intensive States. Also, *these findings dispute the notion that States with relatively high levels of manufacturing activity are likely to grow relatively less rapidly*. During the seventies, *States with relatively extensive manufacturing grew relatively rapidly, controlling for other factors*. While the reallocation of regional resources that occurs because of Federal taxation and expenditures may have contributed in some small way to differential rates of economic growth, the impact of this factor has been greatly exaggerated. With respect to another supply-side variable, *some 58 percent of the variation in the rates of economic growth between the States in the seventies can be explained by variation in the growth of per capita savings alone* (as measured by bank and savings and loan deposits). This is strongly consistent with the basic supply-side principle.

It is worth restating the importance of the "other things equal" condition that prevails in this analysis. It is true, for example, that many of the high growth States of the seventies were rather sunny States in the South and West. That is not being disputed here. What is being said here, however, is that the *reason* the States of the South and West grew so much is not related to climate, but to *other things* present in those States, such as a high amount of savings to finance capital formation, a relatively declining rate of taxation, a favorable business climate, etc.

INCOME TAXATION AND PROGRESSIVITY

Supply side economics suggests two dimensions of State and local tax systems that are potentially inimical to economic growth. Income taxes are direct levies on compensation to owners of productive services and thus are viewed as harmful. Second, highly progressive taxation is viewed as harmful because it discriminates against the most productive individuals in society and reduces disposable incomes of individuals most likely to channel income into savings. Accordingly, variables were introduced into the econometric model described above measuring the burden of income taxation and also the progressivity of the personal income tax. *The findings suggest a statistically significant negative relationship between corporate income tax burdens and economic growth and between personal income tax progressivity and economic growth*. The progressivity factor is quite strong. Consider two States, one with a flat rate income tax of 3 percent and the second with a tax with a range of 1 to 7 percent, with the average burden the same as in the proportional tax State. Suppose both States had the same per capita incomes in 1970. The results suggest, other things the same in both States, that personal income per capita in the progressive income tax State by 1979 would have been 4 percent less than in the proportional tax State. Assuming these States were about average in terms of per capita income, the proportional tax State's income would have been about \$350 a person greater or more than \$1,000 a household by 1979.

This finding is very important, for it suggests that *high marginal income taxation lowers disposable incomes for the poor as well as the rich in the long run*. Consider two identical low income families in 1970, one living in a State with a 3 percent flat rate income tax and the other in a State with a graduated, progressive income tax

with rates running from 1 to 7 percent. Suppose their income in 1970 was \$10,000 in 1978 dollars, slightly more than one-half the national median family income. The disposable income in that year would be slightly higher for the family in the State with the progressive income tax. For example, if both families had *taxable* income of \$7,000, the family in the progressive income tax State might pay as little as \$70 (0.01 times \$7,000) while the family in the flat rate tax State would pay \$210 (0.03 times \$7,000), a difference of \$140.¹⁶

Now assume that the two families had their income grow at the same percentage rate as the average for their States in the seventies. In 1979, the family in the flat rate income tax State would have had an income at least \$500 higher than that of the family residing in the progressive tax State, assuming the estimates on the impact of progressivity on economic growth cited above are correct. While the family in the progressive tax State would pay \$150 to \$200 less in taxes, its disposable income would still be at least \$300 less than in the State with flat rate income taxation. In other words, progressive taxes so stifle economic growth that it takes well under 10 years for a poor family in a regressive or proportional tax State to recoup any initial income loss arising from tax proportionality. Everyone gains, rich and poor alike, from reducing tax progressivity. The results suggest that introducing progressivity into State and local tax codes is a poor, shortsighted, and ultimately unsuccessful way of raising income for lower income groups.

Introducing expenditure variables into the model, the results suggest that there is a strong and highly significant relationship between welfare expenditures and economic growth. Other things equal, *States had a higher rate of economic growth the lower the growth in the burden of welfare expenditures* (measured either in relation to personal income or to population). This was consistent with the supply-side view that welfare expenditures too often involve disincentives to work, thus reducing output. By contrast, the relationship between education expenditures (or even higher educational expenditures) and economic growth was not statistically significant.

On balance, the econometric investigation provides results strongly supportive of a supply-side development strategy. Explanations of regional growth that stress the role of climate, energy or economic structure seem to have little validity. In contrast, if past experience is valid, economic growth seems to be enhanced by cutting (or at least reducing the increase in) State and local taxes. Equally important, the progressivity of taxation is an important factor. Reducing the progressivity (if not the overall revenues) of the personal income tax seems to be consistent with growth enhancement. On the expenditures side, welfare expenditures appear to be particularly inimical to growth. Most important of all, efforts to enhance savings at the State and local level, if successful, should enhance the rate of economic growth.

A few qualifications are in order. Some of the data on which factors were measured were necessarily imperfect. Alternative

¹⁶ Deductions and exemptions in both States reduce the amount of income that is subject to taxation.

measures were generally used where available, with the findings generally confirming those stated above. One important exception relates to energy. While energy consumption levels were not related in any meaningful fashion with growth rates, energy production was. The higher the proportion of a State's energy needs that it produced internally, the greater the rate of economic growth. Energy-rich States, other things equal, grew faster than energy-poor ones. This probably reflects the rapid rise in real energy prices during the seventies. Whether energy-rich States will continue to capture unusually large gains in their relative economic status is largely dependent on what happens to the relative price of energy sources. It is questionable whether those prices will rise at anything like the rate of the past decade, suggesting much of the gain from the rise in energy prices has already been captured. This is not to deny, however, that other things equal a State will gain from the development of new energy sources or from increased physical output of energy. From a supply-side perspective, the findings with respect to energy are not surprising. The demand for energy has less of a bearing on growth than the supply of energy, something that can be enhanced by a favorable economic environment free of confiscatory taxes, stifling regulations, etc.

It is assumed throughout this study that real income per capita is the relevant measure of economic welfare and that public policy should be concerned with enhancing that statistic. An increase in real output per capita is the accepted definition of "economic growth." Alternative objectives can be pursued, however, that might be best met with different strategies. For example, one goal might be to increase the number of jobs in a State. Another would be to maximize the attraction of capital from other domestic or foreign political jurisdictions. While an elaborate analysis of alternative goals is beyond the scope of this report, some limited statistical analysis of one alternative goal, employment maximization, was undertaken.

Other things equal, the number of jobs grew faster the sunnier a State was; also, jobs grew faster in number in States that had a nonmanufacturing emphasis. This points out an important distinction. While the Sunbelt and service-oriented States might have fared relatively well in job creation and probably in population growth, the growth in income or output per person was not higher in these States because of sunshine or industrial structure. *If the goal is "become big" (more jobs, more people), one might put more stock in the amenities/sunshine factors summed up in the term "Sunbelt." If the goal, however, is to "grow more prosperous" per person, then the Sunbelt/Frostbelt analogy seems not only overly simplistic but even misleading.*

Some of the public policy implications arising from the evidence are the same whichever goal is pursued, employment growth or economic growth. Most relevant in this regard is the finding with respect to the tax burden. Statistical analyses suggest that, other things equal, the smaller the tax burden of a State, the more substantial the growth in that State's labor force. Thus the supply-side tenets seem to have policy validity even with this alternative goal.

VII. SOME ADDITIONAL ECONOMETRIC EVIDENCE: THE CASE OF OHIO

While the above results are rather persuasive, one might argue that it is desirable to look at one geographic area over a longer time period rather than compare all of the States in one specific year. Do supply-side tenets hold under these conditions? To try to answer this question, tax and income data on one large State was gathered for the 21 years from 1960 through 1980. Ohio was picked precisely because it would seem to be an unlikely State to demonstrate the validity of supply-side principles, since it both has one of the lowest overall tax burdens of any State and also has had a below average rate of growth in per capita income. At the same time, however, the total tax burden was increasing over time, and the State moved aggressively away from heavy reliance on sales taxation toward income taxation.¹

Specifically, two types of models were examined. In both models, the basic measure of economic growth was real per capita personal income. The first examines the determinants in real personal income per capita in Ohio over time in terms of various tax variables, and the long-run trend (as measured by time itself). To correct for short-term changes in per capita income resulting from cyclical fluctuations, the Ohio unemployment rate was introduced as a control variable. The second model attempts to analyze Ohio's economic status relative to other States by dividing Ohio's real per capita income by the national average. This variable was then related to variables measuring the Ohio tax structure and to the Ohio unemployment rate relative to the national average. Multiple regression analysis statistical procedures were used.²

The principal findings are:

(1) *There was a negative relationship between the burden of Ohio taxation and the level of real personal income, holding other factors in the model constant. The relationship, however, is significant at only the 10 percent level (meaning that there is almost a 10 percent chance the negative relationship in fact does not exist).*

(2) *The higher sales taxes per capita, other factors in the model held equal, the higher real income per capita. By contrast, however, the higher personal and corporate income taxes per capita, the lower the level of per capita income. The sales tax/income relationship is highly significant statistically while the income tax/income relationship is significant at the 10 percent level.*

(3) *Correcting for the time trend, the higher the proportion of Ohio tax revenues derived from income taxes, the lower the*

¹ A progressive individual and corporate income tax took effect in 1972. In 1960, income-related State taxes accounted for 8.6 percent of total internally generated State revenues, while in 1980 they accounted for 36.5 percent of revenues. By 1977, Ohio had a slightly more progressive tax system than the Nation as a whole. These statistics are based on data provided by the Ohio Department of Taxation and the Advisory Commission on Inter-governmental Relations.

² Data from *Annual Reports* of the Ohio Department of Taxation and its predecessor agency; the assistance of the Department of Taxation is gratefully acknowledged.

level of real per capita income relative to other States. The relationship is highly significant statistically. Again, however, the opposite relationship holds for sales taxes. The higher the proportion of Ohio tax revenues derived in the form of sales taxes, the higher the level of income in Ohio relative to other States. The same conclusions hold if one looks at per capita sales or income taxes rather than the proportion of total tax revenues derived from the taxes.

(4) Disaggregating income taxes, both the individual and corporate income tax seemed to have had significantly adverse impacts on Ohio's economic development.

(5) The sales tax-growth relationship held if one defined "sales taxes" to include other excise taxes, such as taxes on cigarettes and alcohol.

Essentially, the findings resoundingly are supportive of a supply-side fiscal policy development strategy. As Ohio's tax structure shifted away from sales and excise taxes towards income taxes, growth in the State suffered relative to other States. Both the individual and corporate income taxes contributed to this development. While the evidence weakly supports the notion that increasing taxes in general will negatively affect the growth rate, the evidence is even stronger that what is really important is devising a tax structure that does not tend to reduce the rate of return on investment in either human or physical capital, causing a decline in the stock of capital assets and thus income and output per capita. A lack of complete data did not allow for the testing of some other tenets of supply-side economics relating to expenditures, nor did it allow for complete control for other factors influencing economic development. Still, the results are strong enough to support the view that Ohio's increased emphasis on income and capital taxation has led to an acceleration of its long-run economic decline.

VIII. CASE STUDIES: THREE NORTHEASTERN STATES

While the econometric studies and tabular evidence are highly supportive of supply-side principles, the effectiveness of those principles becomes more evident when one looks in greater detail at States in the Northeast, the region of the Nation which has lagged the most in its economic progress in recent decades.

It is fashionable to blame the economic stagnation in the Northeast and Midwest on climate, high energy costs, overemphasis on heavy industry, and an unfavorable Federal Government disbursement of tax revenues received in disproportionately large amounts from these States. Earlier analysis argued that most, if not all, of these explanations have little merit. Yet it still remains to be demonstrated that low-growth States can improve their economic lot by engaging in supply-side policies. In other words, one might question the direction of causation in the statistical analyses presented above, concluding that "economic stagnation raises State and local taxes and welfare expenditures" rather than the reverse.

Of the nine States in the Northeast, three stand out fiscally: New York, Massachusetts, and New Hampshire. The first two were known in the seventies for their crushing tax burdens and their enormous fiscal problems, notably those of New York City and more recently Boston. At the same time, however, New Hampshire was conspicuous in New England for its very low taxes and also for its substantial in-migration of resources. A look at the recent fiscal history of the three States will thus prove instructive.

NEW YORK

During the 1970's, economic growth in New York was only about 65 percent of the national average.¹ In 1980 and early 1981, however, personal income was rising faster in New York than in the Nation as a whole.² In the middle seventies, unemployment in New York was much higher than the national average. For example, New York's unemployment rate in 1976 of 10.3 percent was more than one-third higher than the national unemployment rate of 7.7 percent.³ By 1980 and 1981, however, most of the differential between New York and the rest of the Nation had disappeared. The New York rate fell to 7.6 percent by 1980, while the national rate had declined only slightly to 7.1 percent.⁴ More dramatically, personal income began to grow significantly faster than the national average. For example, in March 1981 personal income in New York

¹ Carl Noller, "The Experience With Tax Reductions in New York State" (Washington: U.S. Chamber of Commerce, 1981), p. 3.

² U.S. Department of Commerce data.

³ See *Employment and Training Report of the President*, 1980, p. 325.

⁴ See Noller, "The Experience With Tax Reductions in New York State," p. 2.

was 13.6 percent higher than a year earlier, compared with a national gain of only 10.5 percent.⁵

Why the dramatic change? The State of New York began to heed the increasingly strong advice of business leaders and others who argued that the tax burden was killing business and driving productive resources away. Consider, for example, the comments of Raymond Hagel, Chairman of the Macmillan Co.:⁶

The cumulative effect of Federal, State and city taxes on individuals is counter-productive and is a significant factor depriving business located in New York City of the services of outstanding graduates We are experiencing increasing difficulty in our college recruiting because these new graduates, seeing little advantage in assuming the heavy New York State/New York City tax burden, prefer to take other jobs.

The State and local tax burden on a family with \$50,000 was more than three times as great in New York as in nearby New Hampshire, and even more than 50 percent greater than in California, a fairly high tax State.⁷

Languishing economic growth manifested itself conspicuously in New York City's near bankruptcy, but just as importantly in the outflow of productive resources. Net out-migration from New York State exceeded 1,200,000 from 1970 to 1979, more than twice that of any other State.⁸ Even worse, the rate of out-migration increased after 1975 from the already high prevailing rate. The people leaving were relatively productive, lowering the State's resource endowment that had long made New York one of the wealthiest in the Union. More than two-thirds the income differential between New York and the Nation as a whole that existed in 1970 was wiped out during the seventies.⁹ No State in the Union had a lower rate of economic growth. In the first half of the seventies, the State had lost a net total of 330,000 nonagricultural private sector jobs, although government employment had grown by a like amount.¹⁰

The leaders of New York State (Governor Hugh Carey) and New York City (Mayors Abraham Beame and Edward Koch) turned to supply-side economic principles not out of conviction but out of desperation. State income taxes were lowered (see Table 12). The reduction from 1977 to 1982 in the maximum marginal rate approximated 35 percent on work income, although less on other income. Rather than lowering tax revenues, receipts soared, rising more than in the years before the tax cut. During the same period, New York City cut business taxes, especially property taxes, which were reduced on the average by 40 percent.¹¹ New York's tax rates are still high and quite progressive, and tax burdens there will again rise from inflated-related "bracket creep" unless further cuts are enacted. Still, the tax cuts to date have both raised the rates of return for productive services in New York and have brought

⁵ *Business Week*, July 27, 1981, p. 56. The observed higher growth rate for New York has been observed for several other recent months. Whether it is representative of a major permanent shift in New York's relative growth rate is not certain, of course, as of this writing.

⁶ See The Conservation of Human Resources Project, Columbia University, *The Corporate Headquarters Complex in New York City* (Montclair, N.J.: Allanheld Osmun Co., 1977), p. xviii.

⁷ Stephen E. Lile, "Family Tax Burdens and Taxpayer-Unrest," *State Government*, August 1978, p. 201.

⁸ U.S. Department of Commerce, Bureau of the Census, 1980, *Statistical Abstract of the United States* (Washington: Government Printing Office, 1980), p. 13.

⁹ Derived from Robert Bretzfelder and Howard Friedenberg, "State Differences in Per Capita Personal Income Growth in the Seventies," *Survey of Current Business*, August 1979, p. 25.

¹⁰ "The Supply Side Saves New York," *Wall Street Journal*, Feb. 23, 1981.

¹¹ See Noller, "The Experience With Tax Reductions in New York State."

about a reversal of the trend toward stagnation, and the same time changing attitudes of despair associated with ever more confiscatory taxes.

TABLE 12.—TAX CUTS AND COLLECTIONS—NEW YORK STATE PERSONAL INCOME TAX

(Maximum tax rate)

Fiscal year	Personal service income ¹ (percent)	Other income ² (percent)	Collections (millions)	Percent change
1977.....	15.375	15.375	\$4,297	
1978.....	15	15	4,736	10.2
1979.....	12	15	4,958	4.7
1980.....	12	14	5,680	14.0
1981 (projected).....	11	14	6,641	16.9
1982 (projected).....	10	14	7,315	10.1

¹ Wages, salaries, etc.² Dividends, interest, etc.

Source: New York State, Division of the Budget, as reported in James R. Adams, "New York Moves to the Supply Side" (Rolling Hills Estates, California: Arthur Laffer Associates, Apr. 8, 1981), p. 4.

MASSACHUSETTS

Massachusetts has widely been regarded as one of the highest tax States in the Union, nicknamed by some "Taxachusetts." High taxation seemed to have jeopardized the entire future of Massachusetts' acclaimed high technology industries. According to the *New York Times*, "leaders of the prized electronic industry of Massachusetts say they are having a hard time recruiting engineers at salaries they can afford because of high local taxes. The result, they say, is that many of the high-technology companies * * * are planning to channel new investment toward other parts of the country."¹²

That taxes have been high in Massachusetts is indisputable. In 1978-79, the average amount of State and local tax revenues per \$1,000 in personal income in the United States was \$120.29, but in Massachusetts it was more than 23 percent higher, \$148.34. The property tax burden in Massachusetts was \$68.34 per \$1,000 personal income, *some 80 percent higher than the national average.*¹³ Whereas real per capita personal income from 1967 to 1977 rose 22.5 percent in the United States, it rose 40 percent less rapidly (13.0 percent) in Massachusetts; meanwhile the high growth States had their income rise by more than 35 percent.¹⁴ Employment and population growth also lagged. Gale D. Merseeth has estimated that Massachusetts slipped from 27th to 47th between 1969 and 1978 in median family income adjusted for regional living cost disparities and differential personal income tax rates.¹⁵

One high technology firm considering locations in five different States concluded that operating costs in Utah or North Carolina would be at least 10 percent less than in Massachusetts. While

¹² Michael Knight, "Taxes Hurt Massachusetts Jobs," *New York Times*, Mar. 26, 1979, p. D1.

¹³ Calculated from U.S. Department of Commerce, Bureau of the Census, *Governmental Finances in 1978-79* (Washington: Government Printing Office, 1980), p. 94.

¹⁴ Charles W. Kadlec and Arthur B. Laffer, "An Analysis of Fiscal Policy and Economic Growth in Massachusetts: Executive Summary" (Rolling Hills Estates, California: A. B. Laffer Associates, 1981), p. 4.

¹⁵ "Strategy for Economic Revival." (Boston: Intercollegiate Case Clearing House, 1979), p. 20.

energy costs were higher in Massachusetts, far more important were taxes. Some 73 percent of the Massachusetts-Utah cost differential was explained by higher property, corporate income and inventory taxes in Massachusetts.¹⁶ Using quite a different methodology, the Kadlec and Laffer study has demonstrated statistically that Massachusetts' tax and expenditure policies explain much of that State's lagging growth, leading to recommendations by the authors to cut taxes generally, getting rid of (or reducing) differential taxes on unearned income, cutting the property tax, ending the corporate profits tax (by substituting a value added tax), reducing capital gains taxes, and cutting public welfare benefits.¹⁷ Welfare expenditures had soared throughout the seventies, rising from \$455 million in 1969 to \$1,478 million in 1978, a 14 percent annual compounded rate of increase. Payments for aid to families with dependent children, general relief and old-age assistance were higher than in all but four (or fewer) States in all three welfare categories.¹⁸

While the Dukakis administration (1975-79) acknowledged the existence of Massachusetts' relative economic stagnation, it blamed it on energy costs, unfavorable Federal policies, high unemployment reflecting high labor force participation, and high State and local governmental costs. While acknowledging at least a limited role played by State and local spending and taxation, the Dukakis administration actually increased taxes, and also forced a redistribution of State education expenditures from prosperous to poor school districts; the administration also increased tax progressivity.¹⁹

In late 1978, Edward J. King was elected Governor of Massachusetts, running on an unabashedly progrowth platform calling for tax and welfare spending reduction. The campaign against high taxes led to the passage in 1980 of "Proposition 2½ (against King's and nearly every other politician's wishes), which slashed property taxes by 44 percent and forced policymakers to "bite the bullet" and cut expenditures.

It is premature to fully evaluate the impact of the changing tax environment in Massachusetts. Early indications, however, are that economic growth is being stimulated. As two popular columnists recently put it: "Confidence in government has fallen while business confidence surges, unemployment drops and economic growth accelerates."²⁰ Personal income in the aftermath of Proposition 2½ is growing faster than the Nation's average; for example, in March 1981 it was 13.0 percent above year earlier levels, compared with a 10.5 percent gain for the Nation as a whole.²¹ Unemployment in Massachusetts was in the double digits in 1975 but early in the more growth-oriented King administration it fell below the national average where it remains in the aftermath of Proposition 2½.

¹⁶ See Merseth, "Strategy for Economic Revival," p. 37.

¹⁷ Kadlec and Laffer, "An Analysis of Fiscal Policy . . . : Executive Summary," pp. 9-10.

¹⁸ See Merseth, "Strategy for Economic Revival," pp. 33-35.

¹⁹ For an account of both the stated economic development program of the Dukakis administration and actual tax, expenditure and regulatory policies, see *ibid.*

²⁰ Rowland Evans and Robert Novak, "Taxachusetts' No More," *Washington Post*, July 20, 1981, p. A-13.

²¹ *Business Week*, July 27, 1981, p. 56.

The fiscal disruption that widely was predicted in the wake of substantial property tax cuts did not occur in California after Proposition 13, nor has it happened yet in Massachusetts. The State has been able to increase payments to local governments to partly compensate for property tax revenue losses.

Some schools have been closed but in most cases these closings would seem economically desirable in any case, given rapid public school enrollment declines.²² Not only is life continuing, but at a faster and more prosperous pace, in the wake of the spread of the taxpayers' revolt to the East Coast.

NEW HAMPSHIRE

New Hampshire differs markedly from surrounding States in the region that have higher income and sales taxation. Indeed, for years New Hampshire was the only State in the Nation with neither sales nor income taxes. Tax burdens have been low, especially for productive entrepreneurs and workers with fairly high incomes. As Table 13 indicates, taxes are low in relation to such large nearby industrial States as New York and Massachusetts, but are also low in relation to its small, more rural neighbor, Vermont.

New Hampshire has stood out from its neighbors not only for having low taxes, but also for having relatively high rates of economic growth and low unemployment (Table 14). Growth in the seventies was much higher in New Hampshire than in other Northeastern States with high taxes, including neighboring Vermont. This assertion holds whether one measures growth in per capita or total income terms. Even more startling, New Hampshire has had dramatically lower unemployment in recent years than the other States. This suggests that *high taxation may well hurt the groups most prone to become unemployed, such as blacks, other minorities and teenagers.*

TABLE 13.—Average tax burden, family with \$50,000 income, 1977

State:	State and local tax payments
New Hampshire.....	\$2,548
Vermont.....	5,312
Massachusetts.....	5,676
New York.....	7,875

Source: Stephen E. Lile, "Family Tax Burdens and Taxpayer, Unrest," *State Government*, August 1978, p. 201.

TABLE 14.—ECONOMIC GROWTH AND UNEMPLOYMENT, NEW HAMPSHIRE AND NEIGHBORING STATES

(In percent)

State	Growth in real per capita income, 1969-78 ¹	Growth in total real personal income, 1965-78 ¹	Average annual unemployment rate, 1975-79
New Hampshire.....	20.4	70.5	5.66
Vermont.....	16.7	65.6	7.18
Massachusetts.....	14.6	38.2	8.08
New York.....	9.9	23.5	8.74

¹ The GNP deflator was used to convert current dollars to constant dollars.

Sources: U.S. Department of Commerce and U.S. Department of Labor.

²² Michael Cockley, "Tax Cut Hasn't Bled Massachusetts Yet," *Chicago Tribune*, Sept. 4, 1981.

The low tax/high growth environment of New Hampshire increased the quality of life in that State relative to other States in the region. "Quality life" is a concept that is difficult to define and harder to measure, but one very good "revealed preference" indicator of a region's relative attractiveness is net migration. If people are, on balance, moving into a region, that is a sign that movers view that area as one with opportunities, advantages that are not available in other areas. As Table 15 suggests, most areas in the Northeast had net *out-migration* in the seventies, and even bucolic Vermont, the epitome of the rural pollution-free milieu so popular with environmentally conscious Americans, had only modest immigration. New Hampshire, by contrast, had substantial immigration, far greater than any other State East of the Mississippi River and North of the Mason-Dixon Line.

TABLE 15.—*Net migration, New Hampshire and surrounding areas, 1970-79*

State or area:	Net migration
New Hampshire	106,000
Vermont.....	22,000
Massachusetts.....	-92,000
Remainder of New England.....	-34,000
New York	-1,287,000

Source: U.S. Department of Commerce, Bureau of the Census.

Moreover, *New Hampshire had a greater relative "deficit" in its "balance of payments" with the Federal Government than any other New England or Mid-Atlantic State through most of the past decade.*²³ The Northeast's relative decline cannot be explained by unfavorable Federal fiscal policies, but can be explained by the high, incentive-destroying levels of taxation prevailing over most of the region. Only iconoclastic States like New Hampshire, which have the same climate, energy costs, Federal aid "problems" as other States in the region, are booming. Fortunately, the lesson that the New Hampshire experience offers has been learned in part by some of the other States in the region, as the New York and Massachusetts examples indicate.

Skeptics might observe that to have low taxes, New Hampshire has had to have a lower level of public expenditures per capita than other States. That is only partly true, because the low tax rates induce economic growth that increases the income base, so that actual tax revenues are enhanced over what they would be if economic growth had stagnated as would have been the case if tax rates had been left high. Still, expenditures per capita have been lower in New Hampshire than in neighboring States. This suggests that the differential expenditures on public services in the high tax States like New York have little in the way of growth-inducing benefits to offset the growth-reducing effects of higher taxes on production. Indeed, the increased governmental expenditures in high tax States may get transmitted into "economic rent" or extra compensation collected by recipients of government payments, rather than real increases in governmental services. For example,

²³ Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism* (Washington: Government Printing Office, 1980), p. 17.

a school teacher making \$18,000 a year in a high tax State might get only \$15,000 in a low tax State but provide the same quality of services.²⁴ Colin and Rosemary Campbell, in a detailed study of New Hampshire and Vermont, concluded that "there is little evidence that public services are better in Vermont than in New Hampshire despite the higher tax burden."²⁵

²⁴ The seminal theoretical exposition on this topic is Anne O. Krueger, "The Political Economy of the Rent-Seeking Society," *American Economic Review*, June 1974, pp. 291-303.

²⁵ *A Comparative Study of the Fiscal Systems of New Hampshire and Vermont, 1970-1974* (Hampton, N.H.: Wheelabrator Foundation, 1976), p. 7.

IX. THE TAXPAYERS' REVOLT IN CALIFORNIA

What about California, the home of the "taxpayers' revolt"? The overwhelming approval on June 6, 1978, of Proposition 13 by the voters of California sent shock waves across the Nation and inaugurated a new era of concern about the limits of government. California limited the maximum rate of property taxes to 1 percent of the cash value, based on assessments in 1975, with assessment increases beyond 1975 limited to 2 percent a year unless the property were sold or transferred. The move to cut taxes did not stop there. In November of 1979, the California voters, by a 3 to 1 margin, approved Proposition 4, putting a cap on State and local expenditures and closing some loopholes in Proposition 13. Also, the California Legislature indexed the State income tax to prevent inflation-caused tax increases from taking effect.

Noted scholars predicted economic devastation in California. President Kennedy's Chairman of the Council of Economic Advisers, Walter Heller, wrote that Proposition 13 "would help dig the grave of local self-government * * *. Chaotic cuts in local school, hospital, police and fire services would be the order of the day."¹ A study at UCLA's Graduate School of Management predicted dire increases in unemployment.² Economists supporting the bill, however, such as Charles Kadlec and Arthur Laffer, developed an econometric model that predicted increases in personal income, government revenues and an in-migration of labor and capital.³

Backing up a bit, the economic boom that had characterized California in the postwar era had burst by the seventies. California's growth in per capita income from 1969 to 1978 was below that of the Nation as a whole.⁴ The in-migration which had been so massive in California's history began to decline. In the sixties, net migration averaged 211,000 a year, but in the first 8 years of the seventies, it declined to only 101,000 a year, a drop of 52 percent.⁵ Most dramatically, California had become a relatively high unemployment State in the years before Proposition 13 (see Table 16).

¹ "Meat-Axe Radicalism' in California," *Wall Street Journal*, June 5, 1978.

² See John Quirt, "Aftershocks From the Great California Taxquake," *Fortune*, Sept. 25, 1978, pp. 76-77.

³ Charles W. Kadlec and Arthur B. Laffer, *The Jarvis-Gann Tax Cut Proposal: An Application of the Laffer Curve* (Boston: H. C. Wainwright & Co., 1978).

⁴ Robert Bretzfelder and Howard Friedenberg, "State Differences in Per Capita Personal Income Growth in the Seventies," *Survey of Current Business*, August 1979, p. 25.

⁵ Derived from the 1979 *Statistical Abstract of the United States* (Washington: Government Printing Office, 1979), p. 13.

TABLE 16.—UNEMPLOYMENT RATES, CALIFORNIA AND THE UNITED STATES

[In percent]

Period	California rate	United States rate	California as a percent of U.S. rate
1975-77.....	9.1	8.7	104.6
1979-81 ¹	6.6	6.9	95.7

¹Rates are annual average except for 1981, for which the month of June was used.

Source: Derived from U.S. Department of Labor, Bureau of Labor Statistics data published in various issues of *Employment and Earnings*.

Taxes in California before the Jarvis-Gann initiative (Proposition 13) were among the highest in the Nation. Per capita tax collections in 1978 in California were higher than in every other State, excepting Alaska and New York, being some 38 percent above the national average; they had grown faster than the national average in the years preceding Proposition 13.⁶ The explosion in California real estate values associated with inflation and the rise in inflationary expectations had a devastating impact on California's taxpayers. Per capita property tax payments rose 50 percent in the 6 years after 1972, and further sharp increases were expected by most Californians as property values were reassessed upward. Californians had per capita property taxes already that were more than 40 percent higher than the national average.⁷

What has happened since the passage of Proposition 13? As Table 16 indicates, the unemployment rate has fallen not only in an absolute sense but also as a percent of the U.S. average, falling well below national norms by 1981. Personal income per capita, which grew slower than the national average before Proposition 13, has grown significantly faster since (Table 17):

Moreover, chaos has not ensued, the governments of California are still functioning, basic services are being provided, and no major fiscal crisis has erupted. The reductions in taxation have, instead, stimulated economic growth and increased the attractiveness of the State, leading to an apparent sharp increase in in-migration of human resources.⁸

TABLE 17.—Growth in per capita income, California and the United States

Period:	Percent ¹
1969-78.....	99
1978-80.....	111

¹ California growth as a percent of United States.

Source: Derived from U.S. Department of Commerce data.

⁶ Advisory Commission on Intergovernmental Relations, *Significant Features* . . . , p. 85.

⁷ *Ibid.*

⁸ Census estimates imply net in-migration in late 1978 and early 1979 of some 400,000; owing to potential errors in estimation, this figure should be viewed as subject to considerable error.

X. CONCLUSIONS

What are the policy implications of this study? The evidence is strong that tax and expenditure policies of State and local governments are important in explaining variations in the rate of economic growth between States, far more important than other factors frequently cited such as climate, energy costs, the impact of Federal fiscal policies, etc. It is clear that high rates of taxation lower the rate of economic growth, and that States that lower their tax burdens are rewarded with an enhancement in their economic growth. Income taxes levied on individuals and corporations are particularly detrimental to growth, more so than consumption based taxes or user charges that do not reduce incentives to work or form capital. Progressive taxation not only lowers the rate of economic growth compared with proportional or regressive taxation, but in the process hurts the very persons that progressive taxes are designed to help, the poor. Similarly, well meaning income maintenance programs designed to assist the economically disadvantaged may hurt poorer individuals inasmuch as there is a negative correlation between the amount of welfare expenditures and the rate of economic growth.

The next step in implementing both the economic recovery program of the Reagan administration and the new form of federalism supported by the administration is for State and local governments to follow the Federal lead in cutting incentive-destroying forms of taxation and expenditure. They should reduce high marginal income taxes on both individuals and corporations, if necessary shifting some of the burden to consumption based taxes or to user charges. They should scrutinize transfer payments that reduce work incentives and limit such payments to truly needy individuals. In pursuing such policies Americans from all parts of the country and from all income groups can share in the resulting benefits of greater economic growth.