How State and Local Taxes Affect Economic Growth

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NCPA Policy Report No. 161
April 1991
ISBN #0-943802-64-4

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Executive Summary

This study finds that state and local taxes (expressed as a fraction of personal income) over the period 1957 to 1987 had a major impact on state economic growth.

- Delaware, which had the lowest economic growth rate, saw its tax rate jump from 5.16 percent to 11.28 percent over the 30-year period.
- Wyoming, with the second-lowest growth rate, saw its tax rate jump from 9.07 percent to a whopping 20.8 percent.
- New York, which ended the period with the second-highest tax rate (15.7 percent) posted a mediocre growth rate (1.9 percent).

At the other end of the spectrum, states which managed to keep tax rates low scored high in terms of economic performance:

- The tax rate never exceeded 9.29 percent in Alabama and Arkansas and 9.48 percent in Tennessee.
- The growth rates in these states were 2.47 percent, 2.68 percent and 2.57 percent respectively — well above the national average.

Although higher taxes depress economic growth in every state, in about half the states economic growth is especially sensitive to the state's own tax rate. Specifically:

- In about half the states more than 50 percent of the variation in economic growth over the past 30 years can be explained by two variables: the national growth rate and the level of taxes relative to taxes in all other states.
- For these states, a 1 percentage point increase in the state's own tax rate lowers its growth rate by about 1 to 2 percentage points.
- If the tax rate had been only 1 percentage point lower from 1957 to 1987, per capita income in Kansas and New York would have been about $78,000 higher over the 30-year period (measured in 1987 prices).
- A 1 percentage point lower tax rate would have produced more than $60,000 of additional personal income in Connecticut, Nevada and Texas and more than $50,000 of additional income in New Hampshire and New Jersey.

The Rise in State Taxes[1]

Since new spending programs at the federal level have been stymied by spending caps and a mountain of federal debt, attention is focusing increasingly on state and local governments.

In 1990, 25 states — led by California, Massachusetts, New Jersey and New York — approved roughly $10 billion in new taxes, making 1990 the second-largest state tax increase year on record.[2] No state cut taxes significantly.

The fiscal forecast in state capitals from Boston to Sacramento is for more of the same. Even with the recently enacted 1990 tax hikes, the National Conference of State Legislatures warns of a "continued deterioration in state finances in the years ahead."[3] The evidence confirms this bleak assessment:[4]

"About 20 to 30 states are planning major tax hikes for fiscal year 1992."

- Aggregate state budget reserves plummeted by 50 percent between 1989 and 1990.

- Two-thirds of the states spent more than they collected in taxes in 1990, and many will try to erase these operating deficits with new taxes in 1991.

An estimated 20 to 30 states are proposing major tax hikes for the 1992 fiscal year.[5] The budget crisis that began in New England is shifting toward the Southeast. For example, the fiscal conditions of Florida, Georgia, North Carolina and Virginia continue to deteriorate, and each is contemplating tax increases. Most likely to be raised are sales taxes, income taxes, excise taxes and taxes on professional services.

Are State Taxpayers Undertaxed?

"In the past six years, state spending grew at almost double the rate of inflation."

State officials claim the national economic slowdown is causing a decline in state revenues. Yet aggregate state taxes have reached record highs:[6]

- Per capita state tax receipts have doubled since 1980 and quadrupled since 1970. [See Figure I.]

- State revenues now consume 8.4 percent of gross national product — the highest level in 30 years and up from just 5.0 percent in 1960. [See Figure II.]

The fiscal crisis that is spreading from northeastern to southeastern and some western states has little to do with slow revenue growth and much to do with burgeoning expenditures:

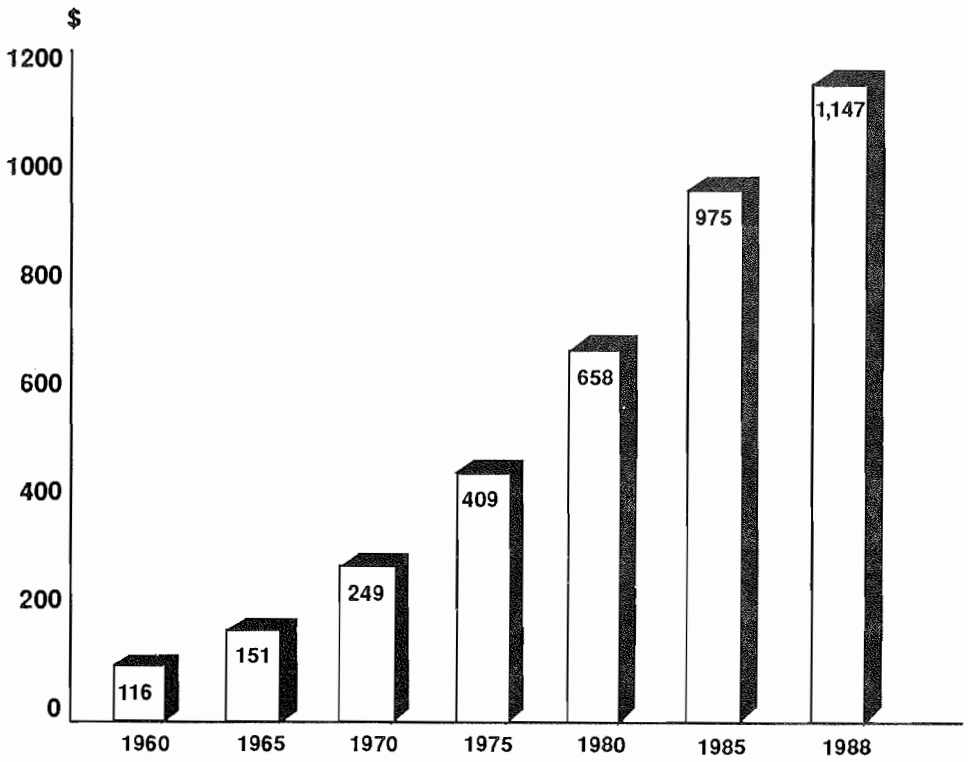
- Aggregate state spending grew by 8.4 percent per year from 1984 through 1990 — almost double the 4.8 percent inflation rate for the period.[7]

- In 1990, 15 states raised spending for elementary-secondary education by at least 10 percent; 29 states expanded spending for corrections by at least 10 percent; 28 states appropriated at least 10 percent increases for Medicaid; and 13 states increased AFDC outlays by at least 10 percent.[8]

"State tax revenues have almost doubled since 1980 and more than quadrupled since 1970."

FIGURE I

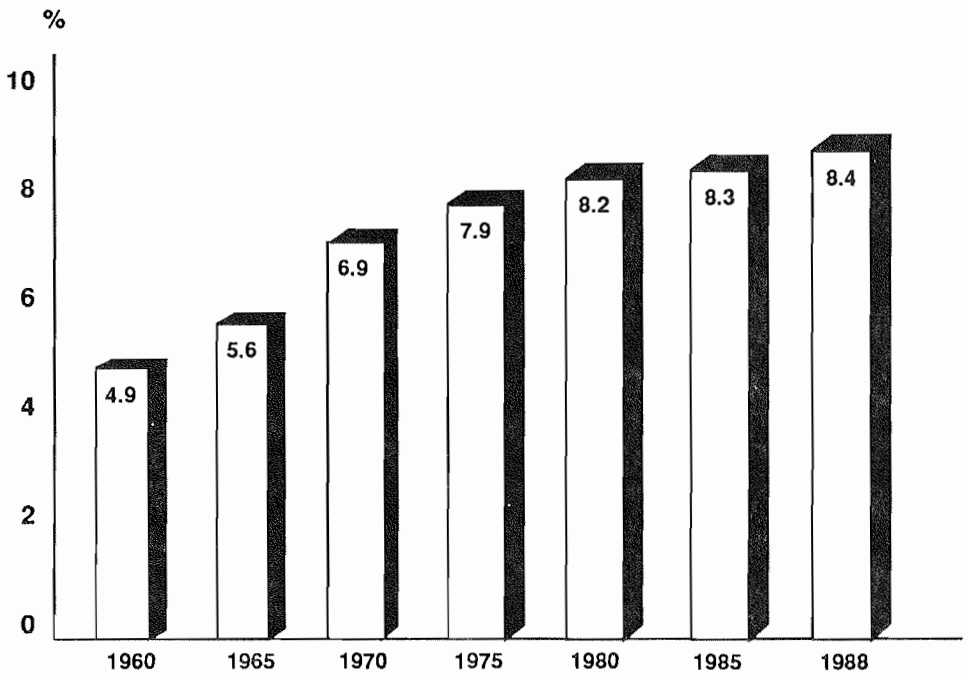
Per Capita State Tax Receipts



Source: U.S. Department of Commerce, Bureau of the Census, "Government Finances in 1987-88," and earlier volumes.

FIGURE II

State Revenues as Percent of GNP



Source: Advisory Commission on Intergovernmental Relations.

"At 8.4 percent of GNP, state revenues are at their highest level in 30 years."

Will the States Harm Their Economies by Raising Taxes?

Many states have won approval for tax increases with little discussion of the economic consequences. Proponents of tax increases have even argued that increased spending on education, roads or economic development will enhance their state's relative economic performance.

"An overwhelming body of research shows that a state's relative tax burden affects the health of its economy."

Yet an overwhelming body of research shows that a state's tax burden relative to those of its neighbors has a significant impact on its economic health. Higher state taxes reduce the growth in income, jobs and new business activity. Progressive income taxes, according to these studies, have the largest negative effect.[9]

- A study by the Harris Bank in Chicago covering the period 1963 to 1980 found that *increases* in a state's tax burden, relative to the burden in other states, slows the growth in personal income.[10]

- A 1988 study by Laffer Associates found that during the 1980-86 period taxes accounted for as much as one-third of the variation in interstate economic growth — with higher taxes causing lower growth.[11]

- A 1985 *National Tax Journal* study found that between 1973 and 1980 the ratio of state taxes to personal income had a "negative and statistically significant effect on overall employment growth and specifically employment growth in manufacturing, retail trade and services."[12]

- A Heartland Institute study found that each 1.0 percent increase in a state's "tax effort" (relative to other states) reduces the growth of personal income (relative to other states) by 0.6 percent.[13]

This study builds on the findings of earlier studies, presenting new evidence on the relationship between state taxes and economic growth.

The Effects of Taxes on Economic Growth

Rates of economic growth vary considerably among the states. The average growth rates from 1957 to 1987 for the individual states are presented in Table I.[14] As the table shows:

- The average annual growth rate of real per capita personal income for the nation as a whole was 2.13 percent over the 30-year period.

- The state with the lowest growth rate was Delaware at 1.2 percent per year, and the states with the highest were Mississippi and North Dakota at 2.8 percent each.

"The 30-year average tax burden ranged from 8.2 percent of personal income in New Hampshire to 12.9 percent in New York."

Average state and local taxes over the period were obtained by dividing all state and local tax revenues per capita by personal income per capita.[15] As Table II shows, the average tax rates for the states also varied considerably:

- The average level of state and local taxation for the nation as a whole was 10.01 percent over the 30-year period.

- Average taxes were lowest in New Hampshire at 8.2 percent of personal income and highest in New York at 12.9 percent.

TABLE I

Average Rate of Growth of Real Per Capita Income (1957 to 1987)

State	Growth Rate	Lowest Annual Increase	Highest Annual Increase
North Dakota	2.83%	-11.28%	36.94%
Mississippi	2.83	-2.71	8.13
Virginia	2.79	-2.01	6.56
Georgia	2.74	-3.44	6.60
South Carolina	2.74	-3.57	7.30
South Dakota	2.71	-11.62	20.63
New Hampshire	2.70	-3.23	6.15
Arkansas	2.68	-3.66	9.11
North Carolina	2.66	-4.11	6.69
Tennessee	2.57	-2.84	6.26
Alabama	2.47	-1.92	5.74
Florida	2.45	-4.05	6.26
Minnesota	2.44	-3.20	10.48
Vermont	2.43	-2.80	7.61
Nebraska	2.41	-5.27	11.66
Massachusetts	2.40	-2.55	6.62
Maryland	2.32	-2.28	4.98
Maine	2.32	-4.11	6.38
Kentucky	2.31	-2.57	5.54
New Jersey	2.28	-3.03	5.28
Kansas	2.28	-1.98	7.79
Iowa	2.27	-5.54	14.36
Colorado	2.13	-1.62	5.13
Connecticut	2.13	-4.83	6.44
Oklahoma	2.12	-5.52	6.17
District of Columbia	2.11	-1.49	9.92
Rhode Island	2.09	-2.07	4.77
Texas	2.06	-2.21	5.67
Arizona	2.05	-6.02	6.80
Missouri	2.02	-2.09	5.26
Louisiana	2.02	-3.06	7.21
New York	1.94	-2.50	5.60
Wisconsin	1.92	-2.07	4.97
West Virginia	1.91	-4.42	5.53
Pennsylvania	1.89	-2.52	4.33
New Mexico	1.86	-2.51	5.10
Washington	1.82	-2.93	6.40
California	1.80	-2.20	4.77
Indiana	1.71	-3.78	7.90
Michigan	1.69	-4.96‘	6.27
Idaho	1.69	-5.91	10.38
Oregon	1.62	-4.73	5.09
Ohio	1.59	-4.97	4.85
Illinois	1.57	-2.77	5.50
Nevada	1.56	-5.08	7.14
Utah	1.47	-1.86	3.94
Montana	1.47	-4.31	14.12
Wyoming	1.43	-6.88	8.69
Delaware	1.22	-7.13	5.38
United States	2.03	-2.09	4.57

TABLE II

State and Local Taxes As a Percent of Personal Income (1957 to 1987)

State	Average Tax Rate	Lowest Tax Rate	Highest Tax Rate
New Hampshire	8.23%	7.29%	9.69%
Missouri	8.29	6.71	9.65
Alabama	8.47	8.02	9.29
Ohio	8.50	6.88	10.34
Virginia	8.51	6.59	9.80
Texas	8.63	7.39	9.57
Tennessee	8.63	7.88	9.48
Arkansas	8.73	8.02	9.29
Florida	8.92	7.76	9.52
Indiana	8.95	6.97	10.16
Kentucky	9.01	6.92	10.18
Connecticut	9.04	7.18	11.77
Georgia	9.05	8.04	9.91
South Carolina	9.13	7.89	10.25
New Jersey	9.18	6.87	11.16
North Carolina	9.23	7.77	10.23
Illinois	9.24	6.70	10.98
Oklahoma	9.28	6.55	10.65
Delaware	9.40	5.16	11.28
Nebraska	9.43	7.30	11.13
Pennsylvania	9.47	7.13	11.38
Idaho	9.69	8.71	11.16
Maryland	9.72	7.10	11.29
Kansas	9.90	8.96	11.04
West Virginia	9.94	7.04	11.94
Washington	10.04	8.36	11.30
Rhode Island	10.07	7.57	11.55
Colorado	10.10	8.63	11.25
Nevada	10.10	8.51	11.69
Mississippi	10.12	9.27	11.40
District of Columbia	10.19	6.66	15.33
Oregon	10.21	9.15	11.50
Iowa	10.33	8.99	11.46
North Dakota	10.43	7.60	12.14
Michigan	10.43	7.98	12.09
South Dakota	10.54	9.18	12.50
Utah	10.57	8.85	11.94
Maine	10.66	9.06	12.67
New Mexico	10.71	9.07	12.19
Louisiana	10.72	9.69	11.84
Massachusetts	10.94	9.22	13.13
Arizona	10.96	9.02	12.85
California	11.00	9.33	13.04
Montana	11.10	9.52	12.55
Minnesota	11.39	9.40	12.72
Wisconsin	11.50	8.91	13.46
Vermont	11.70	10.32	13.68
Wyoming	12.84	9.07	20.81
New York	12.94	9.20	15.69
United States	10.01	8.15	11.19

"States with above-average tax burdens tended to have below-average growth rates."

Evidence That Taxes Matter. Even a casual look at the evidence suggests a negative relationship between taxes and economic growth:

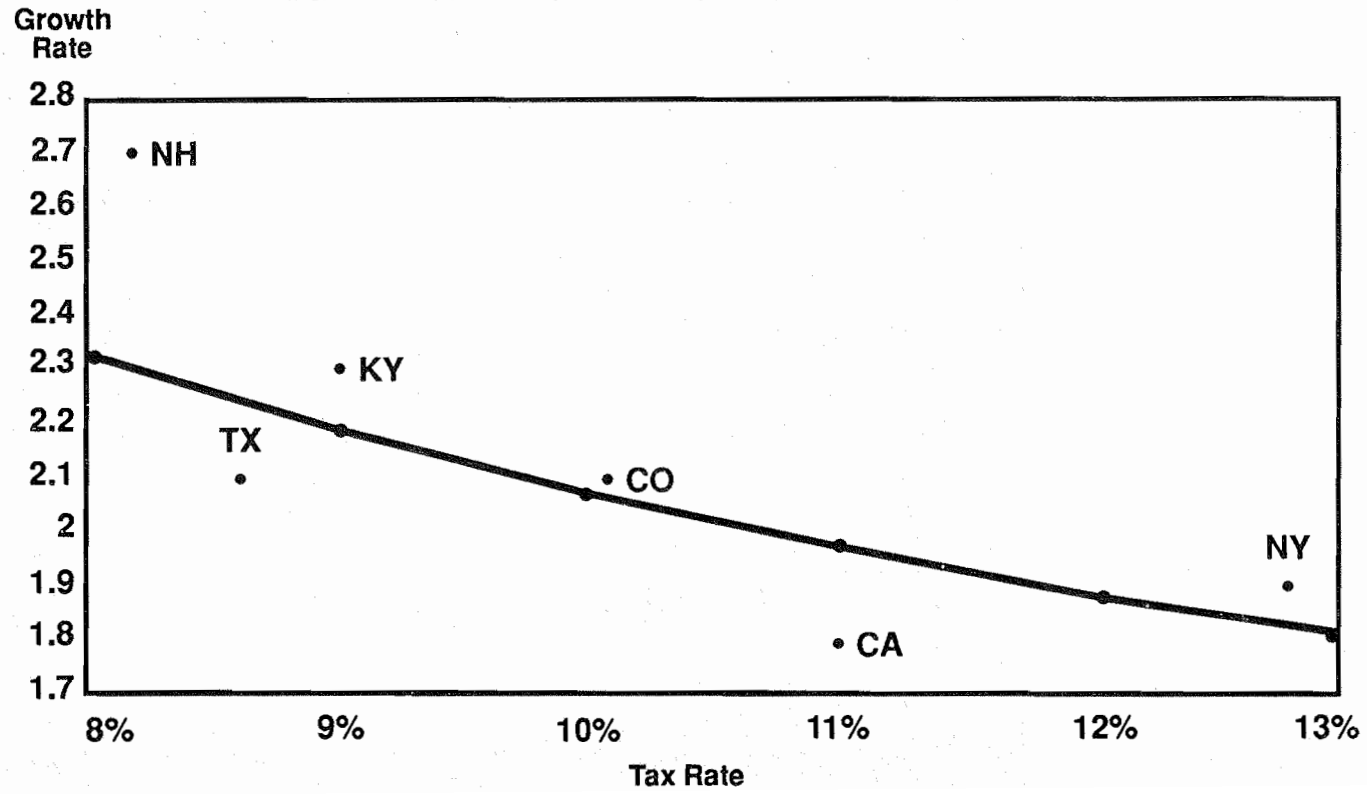
- Delaware, which had the lowest economic growth rate, saw its tax rate jump from 5.16 percent to 11.28 percent over the 30-year period.
- Wyoming, with the second-lowest growth rate, saw its tax rate jump from 9.07 percent to a whopping 20.8 percent.
- New York, which ended the period with the second-highest tax rate (15.7 percent) posted a mediocre growth rate (1.9 percent).

At the other end of the spectrum, states which managed to keep tax rates low scored high in terms of economic performance:

- The tax rate never exceeded 9.29 percent in Alabama and Arkansas and 9.48 percent in Tennessee.
- The growth rates in these states were 2.47 percent, 2.68 percent and 2.57 percent respectively — well above the national average.

FIGURE III

Tax Rates and Economic Growth Rates



A Statistical Test. In Appendix A, we describe a statistical test to determine the overall relationship between state tax rates and economic growth. That relationship is shown in Figure III. In general, doubling a state's tax rate will cause the rate of growth of personal income to be cut in half. To see how tax rates affect income over time, take a hypothetical state with the average per capita income of $15,482 in 1987. Table III shows the difference over a 20-year period between a high tax rate (12.9 percent) and a low tax rate (8.2 percent). As the table shows:

"In general, a doubling of a state's tax rate will cut its economic growth rate in half."

- After a 20-year period, aftertax income will be $2,655 lower under the high tax policy.
- This means that, in addition to $2,648 in direct taxes in the year 2007, people will also pay a hidden "growth tax" of $2,277 because taxes will have caused a lower rate of economic growth.
- Although the direct tax rate is 12.9 percent, when the growth tax is added the real tax on potential income is 20 percent!

"In time, the 'growth tax' becomes larger than the direct tax."

TABLE III

How Tax Policies Affect Future Income

Policy Chosen in 1987	Low Tax Policy	High Tax Policy
Pretax Per Capita Income	$15,482	$15,482
Taxes	1,270	1,997
Aftertax Income	$14,213	$13,485
Tax Rate	8.2%	12.9%
Growth Rate	2.3%	1.8%
Economic Effects in 2007		
Pretax Per Capita Income	$24,397	$22,120
Taxes	2,001	2,648
Aftertax Income	$22,397	$19,742

States Whose Economic Growth is Especially Sensitive to the State Tax Burden

The economic growth of any state is partly dependent on the economic growth of the nation and partly dependent on economic forces peculiar to that state or region (e.g., the rise and decline of the automobile industry, declining transportation costs, the rise and decline of the steel or railroad industry, etc.).

Statistical Results for All States. Appendix B describes a statistical test in which each state's economic growth rate is explained in terms of the national growth rate and the state's tax rate relative to that of all other states. These tests show that:

"In about half the states, economic growth is especially sensitive to the state's own taxes."

- An increase in a state's own tax rate relative to the rates in all others slows the rate of economic growth in 45 of 49 states.
- In 30 of the 50 states the negative effect of the state's taxes on its own growth rate is statistically significant.

Statistical Results for Selected States. Table IV lists some of the states whose tax rates have a significant effect on economic growth.

- For most states, the statistical analysis explains over half of the variation in the state's economic growth rate from 1957 to 1987.
- For these states, a 1 percentage point increase in the state's tax rate leads to a 1 to 2 percentage point decline in the rate of growth of personal income.

"A 1 percentage point increase in the tax rate reduces growth by 1 to 2 percentage points."

The Growth Tax. One way to appreciate the importance of state taxes is to hypothetically reduce tax rates by 1 percentage point over the 1957 to 1987 period. As Table IV shows:

- If the tax rate had been 1 percentage point lower over the past 30 years, the economic growth rate would have been much higher — ranging from 0.5 percent in South Carolina to 2.2 percent in Kansas.
- These higher growth rates would have produced higher incomes, which cumulatively (in 1987 dollars) would have ranged from $10,967 per person in South Carolina to $78,082 in Kansas.

"If Texas taxes had been 1 percentage point lower over the past 30 years, Texans would have earned $61,000 more income per person."

Case Study: Texas. Between 1957 and 1987, the average tax rate in Texas was 8.6 percent of personal income — below the national average of 10 percent. The Texas growth rate over the period was 2.1 percent, roughly equal to the national average, but with above-normal variability — undoubtedly due in part to the swings in fortune of the Texas oil economy. Suppose that over the 30-year period Texas had kept its tax rate 1 percentage point lower. This would have required about 12 percent less government spending, but every government budget probably has 12 percent waste.

- As a result of the lower tax rate, the Texas economy would have grown at a 4 percent rate rather than 2.1 percent.

- The higher growth rate would have produced more income for Texans — about $61,000 per person, or $2,000 more income each year for 30 years, measured in 1987 dollars.

Currently Texas faces a budget crisis and pressure to enact a new state income tax. If the state tries to meet its fiscal crisis with tax increases rather than spending reductions, Texans will pay a heavy price in terms of lower economic growth. [See Figure IV.]

Conclusion

The United States is an integrated economy in which capital and labor can freely flow across state boundaries. For this reason, a state's tax rate has a larger impact on its economic growth rate than national taxes do. If one state increases its tax burden while other states maintain theirs, the tax-increasing state risks an outflow of productive resources to other jurisdictions.

"Lesson for the future: in order to promote high economic growth, maintain low taxes."

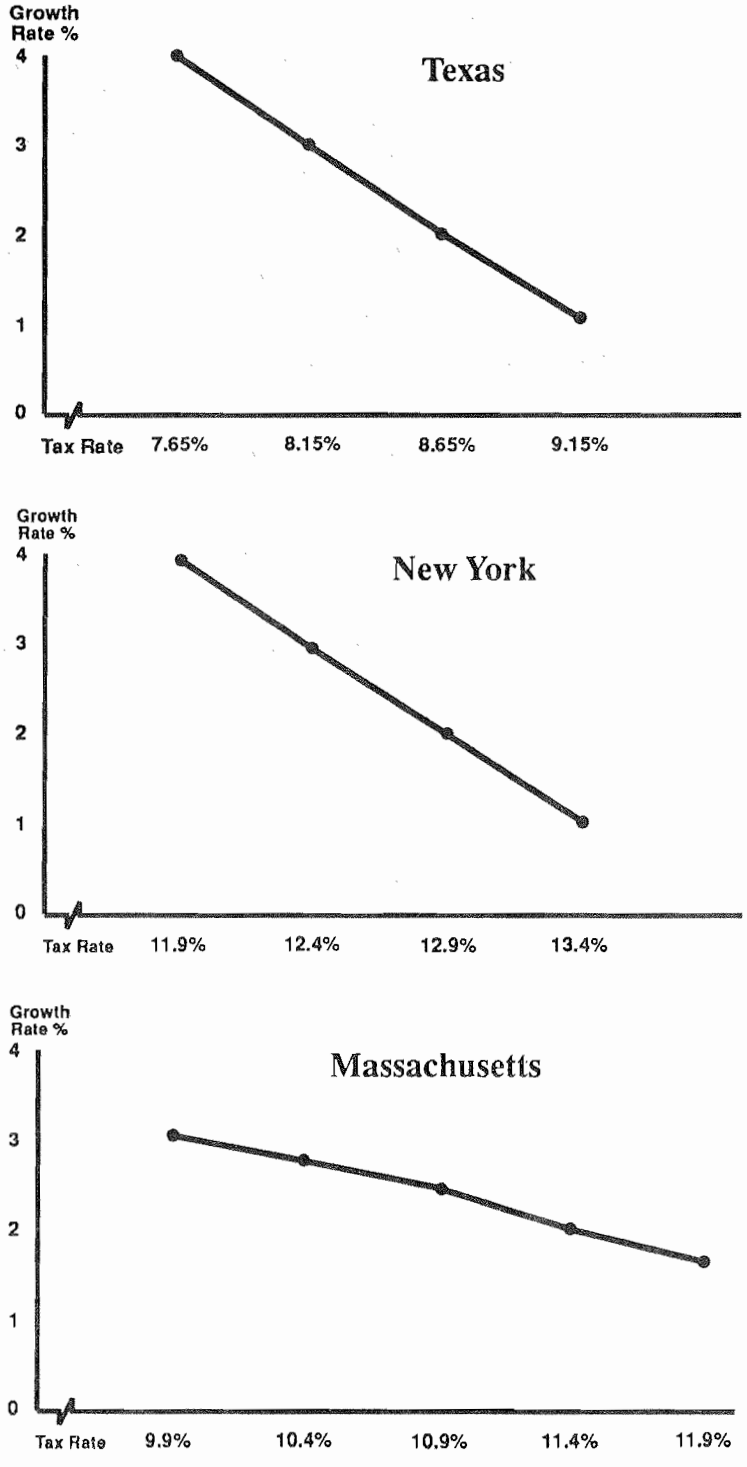
Although state and local taxes undoubtedly depress economic growth in every state, this study finds that in about half the states economic growth is especially sensitive to the state's own tax rate. For most of these states, more than half of the variation in economic growth over the past 30 years can be explained by the national growth rate and the state's tax burden relative to the burden in all other states.

As we look to the future, we will confront a society which becomes increasingly mobile with each passing year. As a result, capital and labor will be able to move from high-tax to low-tax jurisdictions with increasing ease. The clear lesson for the future is: states can maintain a high rate of economic growth only if they maintain a low level of taxation.

"In some states, economic growth is especially sensitive to taxes."

FIGURE IV

How a State's Tax Rate Affects Its Economic Growth Rate



Note: These graphs are for illustrative purposes only. They are based on a relationship for the period 1957 to 1987, holding constant the growth rate for the country as a whole and the tax rates prevailing in the other 49 jurisdictions. Since taxes in other states are now higher and since the U.S. growth rate changes over time, the relationships depicted would be somewhat different in 1991.

"Small changes in a state's growth rate produce large changes in personal wealth over time."

TABLE IV

How a 1 Percentage Point Lower Tax Rate (1957 to 1987) Would Affect a State's Economy Today

State	Increase in Growth Rate[1]	Increase in Personal Wealth[2]
Alabama	1.2%	$29,502
Arkansas	0.9%	$19,738
Connecticut	1.3%	$60,933
Delaware	0.7%	$24,010
Georgia	1.2%	$33,369
Kansas	2.2%	$78,082
Massachusetts	1.2%	$47,236
Nevada	1.6%	$61,804
New Hampshire	1.6%	$58,819
New Jersey	1.3%	$55,818
New York	1.9%	$77,869
Oklahoma	0.9%	$34,541
Oregon	1.3%	$39,766
South Carolina	0.5%	$10,967
Tennessee	1.1%	$28,383
Texas	1.9%	$60,820
Utah	0.9%	$23,217
Vermont	0.8%	$22,684
Virginia	1.4%	$45,354
Wyoming	1.1%	$33,011

[1]Percentage point increase in the average rate of growth of per capita personal income over the 30-year period.

[2]Present value of increase in personal per capita income over the 30 year period at a real interest rate of 2 1/2 percent.

Appendix A

Statistical Results: Cross-Section Analysis

A first test of the effect of the level of taxation on the growth rate is to regress the average level of taxation on the growth rate. The simple log linear regression yields:

$$\text{Log Real Growth Rate} = \underset{(3.11)}{1.95} - \underset{(1.94)}{0.53}\ \text{Log Tax Rate}$$

Both the constant term and the coefficient relating changes in the tax rate to changes in the growth rate are statistically significant above the 95 percent level. Obviously, more than taxation affects the growth rate of the states, but our interest is not in considering all of the variables that affect growth. The empirical results indicate that a doubling of the tax rate is associated with about a halving of the rate of growth of personal income.

The tax rate has not been constant over the period. Table II presents the minimum and maximum levels of taxation among the states during the period. Crudely, these can serve as approximations from the level of taxation in the early and later years of the period. The range in the minimums is from 5.2 to 9.6 percent and in the maximums from 9.3 to 20.8 percent. Thus average taxes have risen by several percentage points over the period.

As government at all levels has grown during the 20th century, tax rates have risen. It is unfortunate that the annual series does not extend before 1957. Taxation was lower in our earlier economic history. In examining the period 1957-1987, we are looking at a world of big government.

It is possible to look at the period prior to 1957 by using beginning and end period observations of the data. Personal income data is available back to 1929, and tax data is available for 1927. Since there was little change in state and local taxes in the 1920s, the 1927 tax rate is a suitable proxy for the 1929 rate. The appropriate linear regression is to compare the ratio of real per capita personal income in 1987 to that in 1929 with the level of taxation in 1929 and the change in the tax rate between 1929 and 1987. The results are:

$$\text{Log Income Ratio} = \underset{(5.10)}{2.86} - \underset{(2.96)}{.73}\ \text{Log Tax Rate (1929)} - \underset{(3.51)}{.80}\ \text{Log Tax Rate Change (1929-1987)}$$

The mean level of taxation in 1929 was 5.4 percent of personal income, with a standard deviation of 1.4 percent. The mean change in the tax rate between 1929 and 1987 was 5.1. First, compare the consistency of the two regression equations. Multiplying the coefficients by the mean values in the above regressions yields a predicted mean level of the ratio of 1987 real personal income to 1929 income of 3.09. Solving for the economic growth rate that would yield 1987 income as 3.09 times its 1929 level yields a growth rate of 1.9 percent per annum. Substituting into the first regression a mean tax rate of 10.5 percent yields a growth rate of 2 percent. The difference between this result and the results of the first regression is small.

Second, notice that the coefficient estimates of the effect of the tax rate in 1929 on the change in the ratio of 1987 to 1929 income is about the same as the effect of the change in the tax rate over the period on the ratio of income. This suggests that the effect of taxation on growth is not only negative but linear over the whole range of observed levels of taxation.

Finally, compare the welfare of citizens in low tax rate states and higher tax rate states over this longer period. Suppose the low tax state kept its 5.4 percent tax rate in effect throughout the period and the average state raised its taxes by the mean amount (i.e., 5.1 percentage points). In the low tax state, real personal income in 1987 would be predicted to be 5.06 times its 1929 level. In the average state, it would be 2.97 times its 1929 level. In the state with the largest change in the tax rate (14.1 percentage points), real per capita income would be 1.4 times its 1929 level. These differences in economic welfare are dramatic.

Appendix B

Statistical Results: Time Series Analysis

Tax and public spending policy in part is endogenous and in part exogenous to individual states. Tastes for the level of government services vary across the states, with the South generally preferring less and the North and West preferring more. At the same time, the federal government ties funding to increased state spending or mandates levels of expenditure for the states. The decline of federalism has reduced the independence of state and local fiscal policy. Yet some independence remains. And to the extent that resources at the margin are sensitive to after-tax returns, assets and people are reallocated among the states. This reallocation affects the rate of economic growth. Thus the appropriate measure of the effect of the state's tax rate on its economic growth rate is the ratio of the state's tax rate to the average level of state and local taxation.

In the regressions presented in Table B-1, the dependent variable is the state's annual real growth rate of per capita personal income. The independent variables are the U.S. annual growth rate, a trend variable, and the ratio of the state's tax rate to the average tax rate. The variables other than the trend variable are in logarithms. In about half of the cases, there was evidence of autocorrelation. The equations presented in the appendix have been corrected for autocorrelation, where appropriate.

Examination of these regressions reveals that the effect of an increase in the relative level of taxation invariably (45 out of 49 cases) is negative. In 30 cases the coefficient of the relative tax rate on the growth rate is significant at the 90 percent level or better. Further examination reveals why the effect is significant in some states and not in others. Of the 30 significant cases, the growth trend coefficient also is significant in 23 cases. Of the 19 states in which the effect of a relative change in taxation on growth is not significant, the growth trend coefficient is not significant either (17 of 19 cases). In these states, on the whole, economic growth is primarily dependent on economic growth in the nation. The states' tax policies over the range that we observe either have little independent effect on their growth or

the relationship between taxes and growth is more complicated than the one considered here. In the states in which the growth trend is significant, some portion of the states' economic growth is endogenous and is affected by the states' tax policies.

The relationship between the state average level of taxation, changes in the average level of taxation and the rate of economic growth are illustrated for Texas, New York and Massachusetts in Figure IV. These diagrams are constructed through the use of the regression results in Table B-1 with all values other than the tax ratio variable set at the mean level.

These diagrams contrast markedly with Figure I. In Figure I, based on the regression in the text above, the relationship is between the average tax rate and the average growth rate over the 30 year period. As the figure illustrates, each 1 percentage point change in the average tax rate is associated with about a tenth of a percentage point change in the growth rate. Since there has been a convergence in the average level of taxation across states, the effect of changes in the average level of taxation on the average level of economic growth is attenuated.

In Figure IV, the effect of a change in the tax rate on the rate of economic growth is comparatively large. The reasons for this are twofold. First, the supply of resources to any particular state is much higher than the supply of resources to the nation as a whole. At the national level, resource supply at the margin is determined by changes in savings-investment-consumption behavior, labor force participation and resource flows from abroad. The responses of these resources is quite inelastic. Hence the effect of changes of the level of taxation on the national growth rate is relatively small. A 1 percentage point change in the average level of national taxation (state, local and federal taxes divided by GNP) reduces growth by about 0.6 percent. At the state level, changes in tax rates, holding constant other states' policies, induce a much higher supply elasticity. There are no barriers to the movement of capital and labor among the states.

Second, the regression specification holds the national growth rate constant. Thus the effect of a change in the state tax rate on state growth is on that portion of the state growth that is a residual of national growth. The effect on growth of a change in the tax rate, therefore, is its effect on the independent portion of the state's growth rate.

TABLE B-1

Regression Results[1]

State	Constant	U.S. Growth Rate	State Tax Rate/Ave Tax Rate	Trend	R^2/DW	AR^2
AL	.2370E2 (0.15)	.9237 (10.54)	-.9340E1 (1.66)	-.2758E3 (0.94)	.8296 1.69	AR
AR	.4709E1 (3.36)	1.1603 (7.78)	-.7742E1 (1.74)	-.1215 (3.04)	.6375 2.01	AR
AZ	.3327E1 (0.74)	1.3170 (7.54)	-.1123 (1.41)	-.6537E3 (0.75)	.6929 1.74	AR
CA	-.2657E2 (0.20)	.9520 (10.88)	-.1509E1 (0.60)	.6480E4 (0.25)	.8116 2.02	AR
CO	.4128E1 (1.40)	.6830 (5.48)	-.6822E1 (1.22)	-.7972E3 (1.23)	.5101 1.78	AR
CT	-.6976E1 (4.04)	1.0387 (7.64)	-.1133 (2.40)	1.1315E2 (4.25)	.7124 1.86	
DC	.3235 (0.55)	.9669E1 (0.41)	.9184E2 (0.16)	-.2665E3 (0.20)	.0911 1.99	AR
DE	-.4877E1 (2.10)	.8914 (6.91)	-.6418E1 (1.50)	.9288E3 (2.03)	.6326 2.21	AR
FL	.2710E1 (0.76)	1.1090 (7.07)	-.5870E1 (0.74)	-.7054E3 (0.72)	.6859 1.70	AR
GA	-.2914E2 (0.29)	1.0617 (8.28)	-.1048 (1.62)	-.3963E4 (0.17)	.7804 1.68	
IA	.1078 (3.03)	1.3945 (4.73)	-.3101 (3.28)	-.2348E2 (3.17)	.5235 2.17	
ID	.8938E1 (4.23)	1.3798 (7.46)	-.1967 (4.06)	-.2425E2 (4.65)	.6275 1.77	AR
IL	-.4567E2 (0.37)	1.0926 (11.63)	.4043E2 (0.11)	-.3282E4 (0.14)	.8460 2.00	
IN	-.5975E2 (0.42)	1.4977 (9.25)	-.4428E1 (0.75)	-.2790E3 (0.72)	.7355 2.18	
KS	.1079 (3.20)	.8239 (3.96)	-.2057 (2.92)	-.2358E2 (2.99)	.3703 2.39	
KY	.4309 (2.49)	.9847 (8.48)	.8101E1 (1.18)	-.7100E3 (2.76)	.6680 1.96	AR
LA	.1458 (3.99)	.4966 (2.35)	-.2912 (3.76)	-.2642E2 (3.77)	.4460 1.93	AR
MA	-.2148E1 (1.27)	.7933 (8.02)	-.8237E1 (1.97)	.8131E3 (2.30)	.7854 2.15	AR
MD	-.2202E1 (1.41)	.8638 (9.02)	-.6574E1 (1.15)	.5844E3 (1.82)	.7832 1.92	AR
ME	-.2781E1 (1.41)	.9631 (5.27)	-.6821E1 (0.81)	.6120 (1.67)	.4841 2.17	
MI	-.1982E1 (0.90)	1.6657 (7.68)	-3261E1 (0.31)	.9862E4 (0.14)	.6901 1.92	AR
MN	.1555E1 (1.07)	1.2736 (9.18)	-.4455E1 (0.71)	-.2619E3 (1.14)	.6621 2.04	AR
MO	.3316E3 (0.04)	.9583 (9.84)	-.6741 (1.72)	-.2665E3 (1.34)	.6861 1.94	AR
MS	.1635 (3.01)	.8252 (3.45)	-.2816 (2.33)	-.3377E2 (2.90)	.4536 2.66	

State	Constant	U.S. Growth Rate	State Tax Rate/Ave Tax Rate	Trend	R^2/DW	AR^2
MT	.6735E1 (2.24)	1.0453 (3.49)	-.3033 (3.63)	-.9579E3 (1.70)	.4286 2.02	AR
ND	.1510 (1.80)	1.6572 (1.93)	-.2861 (2.52)	-.3413E2 (1.92)	.2463 1.89	AR
NC	-.3214E2 (0.23)	1.2244 (8.05)	-.1081 (1.24)	-.8683E4 (0.29)	.6804 2.10	
NE	.6468E2 (0.19)	.8586 (2.50)	-.2749 (2.40)	-.3904E3 (0.57)	.2384 2.06	
NH	-.1979E1 (0.81)	1.1720 (8.27)	-.1206 (1.52)	-.4935E4 (0.06)	.7636 2.03	AR
NJ	-.5784E1 (2.94)	.7630 (6.91)	-.1108 (1.95)	.1250E2 (3.50)	.7219 1.81	
NM	.1464E1 (0.79)	.5341 (3.30)	-.3569E1 (0.74)	-.1254E3 (0.33)	.2550 2.03	AR
NV	.4115E1 (0.82)	1.0964 (4.91)	-.1534 (1.99)	-.1043E2 (0.98)	.5340 1.80	AR
NY	-.4210 (2.40)	.6846 (6.66)	-.2317 (2.90)	.2379E2 (3.08)	.7287 1.94	AR
OH	-.2068E1 (1.68)	1.3161 (12.23)	-.2095E1 (0.71)	.1463E3 (0.69)	.8194 1.86	AR
OK	.6088E1 (3.07)	.3973 (1.79)	-.7923E1 (2.51)	-.1227E2 (2.74)	.2809 1.64	
OR	.1647E1 (1.19)	1.0824 (7.26)	-.1229 (2.96)	-.4425E3 (1.50)	.6861 1.62	
PA	-.2965E2 (0.26)	.8914 (10.69)	-.9594E3 (0.02)	.8474E4 (0.40)	.7917 1.89	
RI	.1931E2 (0.12)	.6898 (5.25)	-.3382E1 (0.47)	.1449E3 (0.38)	.5620 1.92	AR
SC	.1449 (1.65)	1.2469 (12.78)	-.4546E1 (1.42)	-.3787E3 (2.08)	.8598 1.86	
SD	.3544 (3.07)	1.4080 (2.21)	-.4755 (3.06)	-.7589E2 (3.07)	.2648 1.98	
TN	.1475E1 (1.66)	1.2102 (12.99)	-.9236E1 (1.67)	-.6168E1 (1.95)	.8531 2.17	
TX	.1268E1 (0.72)	.7898 (4.78)	-.1520 (2.81)	-.6915E3 (1.74)	.5575 1.94	AR
UT	.1988E1 (1.41)	.8163 (6.59)	-.9355E1 (2.17)	-.3927E3 (1.33)	.6089 1.84	AR
VA	-.3405 (2.74)	.8707 (10.20)	-.1140 (3.32)	.5737E3 (2.97)	.8241 2.14	
VT	.4048E1 (1.30)	1.0448 (7.17)	-.8935E1 (1.64)	.5230E3 (1.02)	.7212 1.85	AR
WA	.8011E2 (0.29)	1.0082 (6.17)	-.1828E1 (0.19)	-.2400E3 (0.40)	.6161 1.74	AR
WI	.5002E2 (0.48)	1.1725 (10.29)	-.4528E1 (1.09)	-.7600E4 (0.38)	.7840 1.99	AR
WV	.1264E1 (0.58)	.6978 (3.45)	-.8523E1 (1.20)	-.1964E3 (0.42)	.2610 .1.61	
WY	-.3180E1 (1.05)	.9693E1 (4.64)	-.1323 (5.24)	.1201E2 (1.64)	.7275 1.80	AR

[1]The independent variable is the state's annual real growth rate of per capita personal income. All variables other than the trend variable are in logarithms.

[2]Corrected for autocorrelation.

Footnotes

[1]Portions of the descriptive part of this report were taken from Stephen Moore, "State Governments Turn to New Taxes," National Center for Policy Analysis Policy Backgrounder No. 106, October 9, 1990.

[2]As measured in constant dollars. Fiscal Year 1983 was the largest state tax increase year in U.S. history.

[3]National Conference of State Legislatures, "State Fiscal Pressure Worsening, New NCSL Study Finds," News Release, August 6, 1990.

[4] "Grandeur of Governorships," *City and State*, May 7, 1990.

[5]National Association of State Budget Officers, "Fiscal Survey of the States," September 1990.

[6]U.S. Department of Commerce, Bureau of the Census, "Government Finances in 1987-88," 1989; and Tax Foundation Inc., "Facts and Figures on Government Finance," 1988-89.

[7]National Association of State Budget Officers, "Fiscal Survey of the States," March 1990, p. 1.

[8]National Conference of State Legislatures, "State Budgets and Tax Actions," 1990.

[9]A summary of these studies may be found in Joseph Bast and Diane Bast, *Coming Out of the Ice* (Chicago: Heartland Institute, 1989).

[10]Robert J. Genetski, "The Impact of State and Local Taxes on Economic Growth, 1963-1980," Harris Bank, Chicago, IL, 1982.

[11]Victor A. Canto, "The State Competitive Environment: 1987-88 Update," A.B. Laffer Associates, 1988.

[12]Michael Wasylenko and Therese McGuire, "Jobs and Taxes: The Effect of Business Climate on States' Employment Growth Rates," *National Tax Journal*, Vol. 38, 1985, pp. 497-511.

[13]Bast and Bast, *Coming Out of the Ice*. "Tax effort" is the amount collected in taxes relative to a state's capacity to collect taxes and is calculated based on 26 different sources of revenue.

[14]U.S. Department of Commerce, *State Personal Income: 1929-87*, Washington: U.S. Government Printing Office, 1989. The personal income data is deflated in constant 1982-84 dollars.

[15]Per capita state and local taxes are from the *Statistical Abstract of the United States*, various years. Coverage is annual and consistently measured back to 1957. Coverage is intermittent prior to 1957.

[16] The ratio of the state's tax rate to the average level of state and local taxation among the states.

[17]By substituting the mean values of the variables into the regression equations in the appendix, we obtain the mean value of economic growth in the various states. Per capita wealth was calculated by taking the 1957 level of real personal income and compounding it at the mean growth rate (2.5 percent). Using the coefficients in the regressions, the difference in the rate of economic growth given a 1 percentage point lower tax rate was calculated. The difference in wealth is shown in Table 3.

About the Author

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