

Expanding Economic Opportunity

Revised Edition

Executive Summary

This new Joint Economic Committee study documents the beneficial economic results of reductions in marginal tax rates. The study examines the recent evidence from tax rate cuts at the national level, as well as tax changes at the state level.

The 1981 tax cuts of President Reagan were modeled after the tax cut legislation proposed by President Kennedy and implemented in the 1960s. As noted in this study, during the 1980s, the Reagan tax cuts significantly reduced tax rates and improved economic incentives for work, saving, and investment. The economic performance of the 1980s under tax cut policies was far superior to that of the late 1970s or the first half of the 1990s.

The experience of the states is also instructive. This study presents five case studies comparing relatively high and low income tax states. In each case the lower tax state outperformed the higher tax state. This is also consistent with the international experience with different tax policy regimes.

The evidence in this study demonstrates that "reducing taxes increases the spirit of enterprise, leading to higher rates of growth in income, output, and employment." As noted in the study, the current U.S. economic performance under excessive taxation is unimpressive by historical standards. Furthermore, as the JEC has pointed out, this is a "treadmill economy" in which middle class earnings have declined each year since 1993. An economic expansion that fails to benefit middle class Americans is a hollow accomplishment. Tax incentives for faster economic and income growth, and tax relief for American families, are urgently needed.

It is my hope that this study will make a useful contribution to the national debate about tax policy for the future.

Jim Saxton
Vice Chairman
Joint Economic
Committee

Expanding Economic Opportunity

Revised Edition

by Lowell Gallaway and Richard Vedder

I. Introduction

The issue of tax reduction once more has moved center stage in debates about economic policy in America. This development has sparked renewed interest in the supply-side approach to economic policy. Specifically, this approach has been likened, both favorably and unfavorably, to the tax reduction initiatives undertaken by Ronald Reagan in the 1980s.

In a way, the timing of this new debate about the efficacy of supply-side economic policy is fortunate. Within recent history it is possible to identify specific time periods that embrace the supply-side philosophy and its alternative. Thus, we may conduct something in the way of a controlled experiment by comparing the performance of the American economy during these different policy regimes.

The specifics of the dates associated with supply-side and non-supply-side economic policies are quite straightforward. The interval 1981-1989 is clearly supply-side in character, beginning with the 1981 income-tax cuts. Conveniently, 1981 contains a National Bureau of Economic Research business cycle peak and 1989 is the last year before the recession that began in 1990.[1] Thus, comparing changes in economic variables between these two years is not distorted by business cycle considerations. Prior to 1981, there is another eight-year period that also begins with a year in which there is a business cycle peak, 1973. We treat it as a non-supply-side era. Finally, there is the interval between 1989 and the present, another non-supply-side interlude.

Independent of the dating of these periods, on what basis do we call one supply-side and the others non-supply-side? Basically, we ask whether economic policies increase or decrease the incentives to produce goods and services, either through explicit taxes and subsidies or hidden levies in the form of Federal government regulations and mandates. The record on taxes is very clear in this respect. From 1973 through 1981, increases in Federal government revenues claimed 22.2 percent of the rise in Gross Domestic Product (GDP). Between 1981 and 1989, only 18.5 percent of additional GDP found its way to the coffers of the Federal government. Since 1989, that figure has reverted almost exactly to its 1973-1981 level, standing at 22.3 percent.

On the regulatory side, the picture is the same. In the four years 1977-1981, Federal regulatory costs are estimated to have risen by 36.5 percent. This is more than the 23.1 percent increase recorded in the **eight** years 1981-1989, but **less** than the 53.9 percent rise between 1989 and 1994.[2]

Finally, there is the matter of transfers and social spending, which have been shown to have substantial disincentive effects on people's labor market behavior.[3] Between 1973 and 1981, additional transfers to persons amounted to 10.9 percent of the increase in GDP. From 1981 to 1989, that figure was only 7.7 percent, while over the interval 1989-1995, it soared to 13.4 percent. If the focus is all social spending -- defined as the sum of outlays for health, income security, and social security -- the respective percentages are 12.1, 8.5, and 18.1.[4]

These various indicators of the nature of economic policy since 1973 are summarized in Table 1. They clearly show that the interval 1981-1989 was one in which greater emphasis was placed on economic strategies that encourage productive activity by the entrepreneurial sector of American society. Of course, the centerpieces of this era were the legislation of 1981 and 1986

that reduced the maximum marginal income tax rate in America. This is in contrast to the post-1989 period with its very substantial rounds of tax increases (1990 and 1993) which drove the marginal tax rate at the top of the income distribution up from 28 to 39.6 percent.

Table 1
Indicators of Nature of Economic Policy, Different Policy Regimes
 United States, 1973-1995

Economic Policy Regime	Economic Policy Indicator			
	Ratio Increase in Revenue to Increase in GDP (x 100)	Percent Increase in Federal Regulatory Costs	Ratio Increase in Transfers to Increase in GDP (x 100)	Ratio Increase in Social Spending to Increase in GDP (x 100)
Pre-Supply-Side (1973-1981)	22.2	38.5 (Period 1977-1981)	10.9	12.1
Supply-Side (1981-1989)	18.5	23.1	7.7	8.5
Post-Supply-Side (1989-1995)	22.3	53.9	13.4	18.1

Source: National Income and Product Accounts and authors' calculations.

II. The Economy During the Pre-Supply-Side Era

Given the distinctly contrasting approaches to economic policy that mark the three periods under consideration, it is interesting to compare their resulting economic performance. Let us begin with what we call the pre-supply-side interval, 1973-1981. A few very straightforward economic measures will suffice. Gross Domestic Product, the estimate of the total value of goods and services produced, adjusted for price changes, grew at an average annual rate of 2.15 percentage points in the eight years following 1973. In per capita terms, real GDP rose by 11.6 percent and per capita real consumption was up by 10.8 percent. What about the employment side? Looking only at the number of jobs created can be misleading. What is important is the increase in employment compared to the growth in the working-age population.^[5] Between 1973 and 1981, civilian employment rose by 15,323,000 and the working-age population increased by 23,034,000.^[6] Thus, 0.67 jobs were created for every person added to the working-age population.

III. The Economy During the Supply-Side Era

How does this performance compare with that of the supply-side years, 1981-1989? As to overall economic growth, the average annual increase in real GDP in the eight years following 1981 was 3.20 percent, a full percentage point greater than that for 1973-1981. In turn, this produced a 19.3 percent increase in real per capita GDP and a 19.4 percent growth in real per capita consumption spending. As to jobs, total civilian employment increased by **more** than the rise in the working-age population, providing 1.04 jobs per person added to the working-age

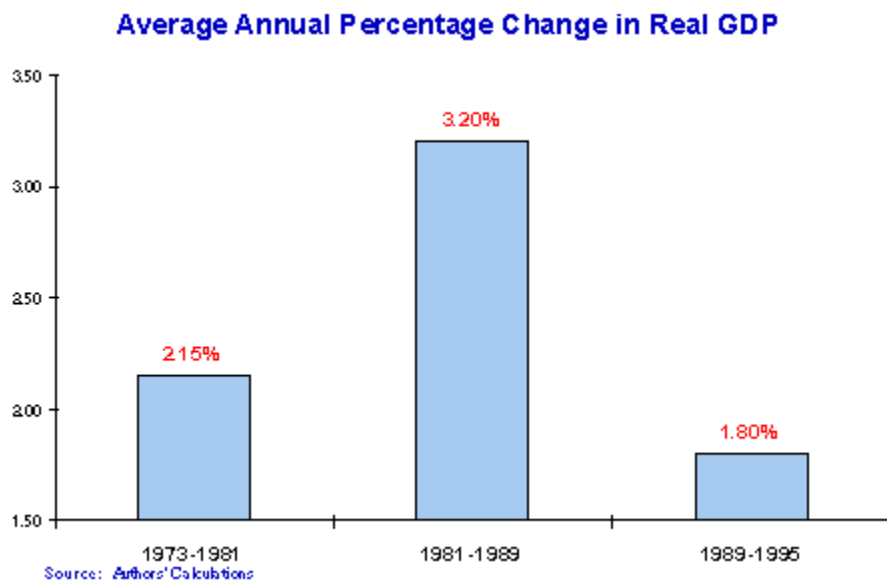
group.[7] Clearly, as measured by all four of these indicators of economic performance, the supply-side era outperformed the pre-supply-side period.

IV. Post-Supply-Side Economic Performance

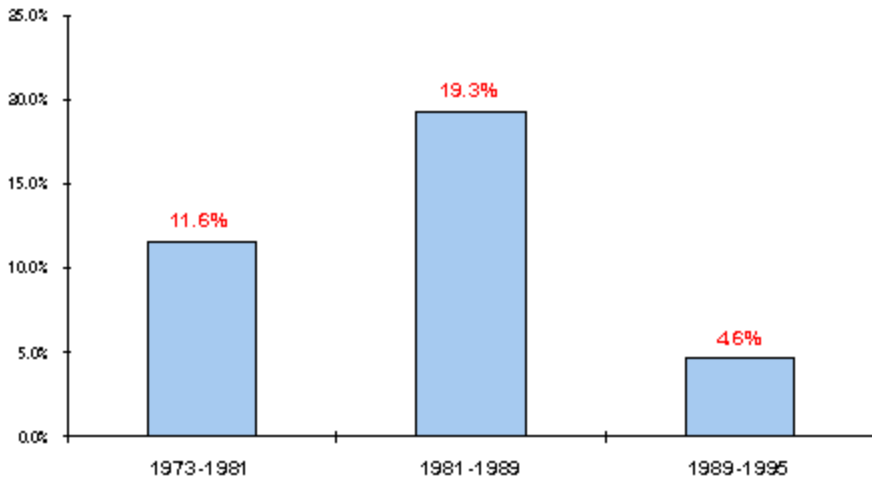
Finally, there is the post-supply-side interval, the six years from 1989 to 1995 that were punctuated by two major rounds of tax increases. What happened in this span of time? Gross Domestic Product (in real terms) grew at an average annual rate of 1.8 percent, real per capita GDP increased by 4.6 percent, real per capita consumption spending by 5.9 percent, and 0.62 jobs were created for every person added to the working-age population. Not only are these measures of economic performance below those for the supply-side era, but they fail to match even those of the pre-supply-side years.

V. Long-Run Consequences

In Figure 1, a graphic representation of the comparative economic performance under the different economic policy regimes is provided. The superiority of the supply-side years is obvious. Income and employment levels improved more dramatically than in either the pre- or post-supply side intervals. The magnitude of the differences in economic performance have profound implications in the long-run. To illustrate this, we have projected levels of economic performance that would result assuming the patterns of economic growth that have accompanied different policy regimes, with special emphasis on the supply-side and post-supply side time periods.

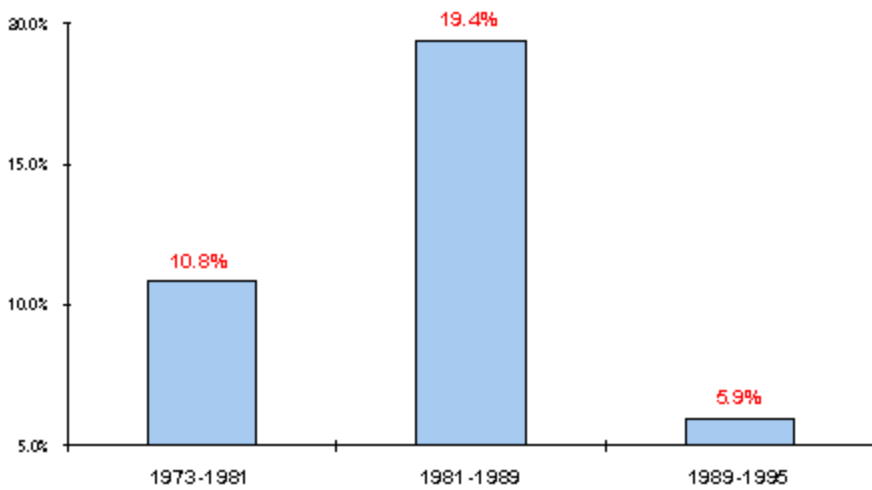


Percent Change in Real Per Capita GDP



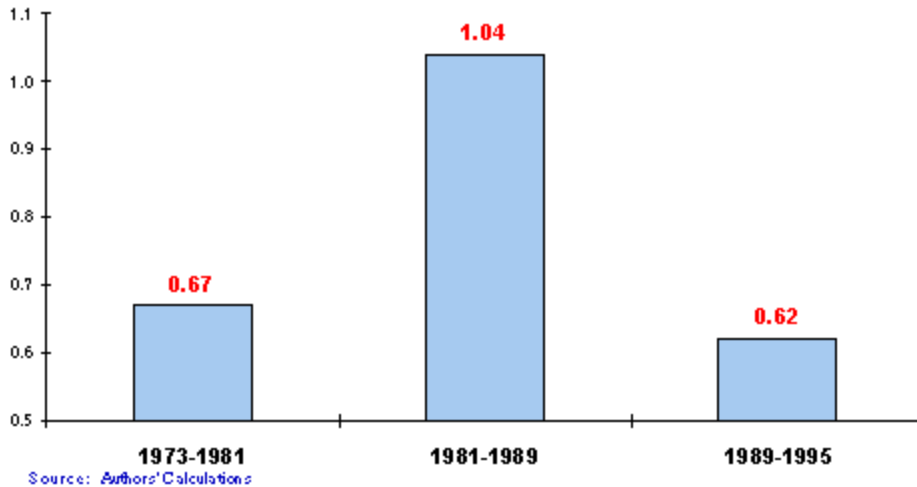
Source: Authors' Calculations

Percent Change in Real Consumption Spending



Source: Authors' Calculations

Ratio of Change in Civilian Employment to Change in Working Age Population



It is a simple exercise. The particular economic measure we focus on is real per capita Gross Domestic Product. Using its 1989 level as a base, we then extrapolate through 1995 employing the average annual growth rate in real per capita GDP over the period 1981-1989. We then compare this "supply-side growth path"[\[8\]](#) to the actual levels of real per capita GDP over this six-year period. The results are startling, as shown in Table 2 and Figure 2. By 1995, the American economy had fallen 8.3 percent **below** the supply-side growth path, a gap that amounts to a \$2,320 shortfall per person in the United States. The cumulative real per capita GDP loss over the full six years, 1989-1995, is estimated to be \$10,071. Thus, on average, a family of four people lost more than \$40,000 in real output during the post-supply-side period.

Table 2

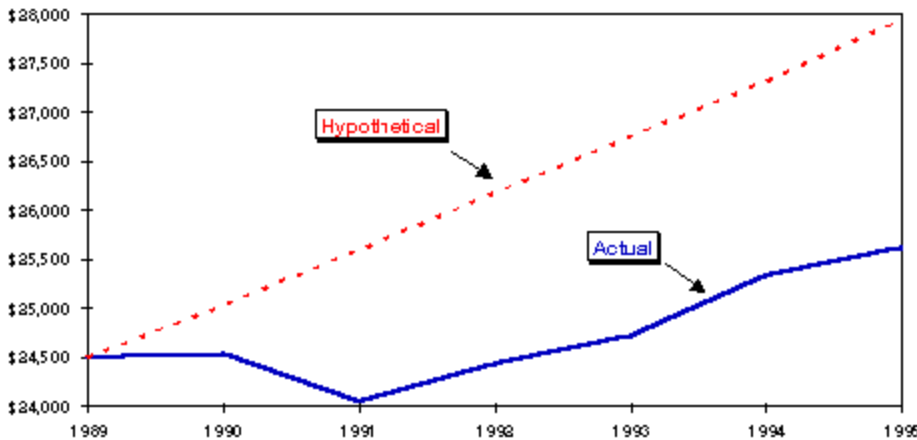
Comparison of Actual Real Per Capita Gross Domestic Product (GDP) with Hypothetical Real Gross Domestic Product Assuming 1981-1989 Growth Pattern

United States, 1989-1995

Year	Actual Real Per Capita GDP	Hypothetical Real Per Capita GDP	Hypothetical Less Actual
1989	\$24,497	\$24,497	0
1990	24,539	25,036	\$477
1991	24,058	25,599	1,541
1992	24,447	26,178	1,731
1993	24,728	26,751	2,023
1994	25,335	27,314	1,979
1995	25,631	27,951	2,320

Source: National Income and Product Accounts and authors' calculations. Per capita GDP is expressed in 1992 dollars.

Comparison of Actual Real Per Capita GDP with Hypothetical Per Capita Real GDP Assuming 1981-1989 Growth Pattern, United States, 1989-1995



Source: Authors' Calculations

This analysis can be carried one-step further by extrapolating these trends through an additional six years to 2001. When this is done, we find that the departure, on the down-side, of course, from the supply-side growth path would be 15.9 percent. Measured in 1992 dollars, the per capita shortfall in real output would be \$5,085 in 2001.

VI. The Federal Budget and Tax Changes

Whenever changes in tax policy are discussed, the question of their impact on the Federal budget arises. The critical issue in this respect is whether the budgetary impact should be

evaluated within a dynamic or static framework. The dynamic approach attempts to incorporate the effects of changes in tax policy on overall levels of economic activity into Federal revenue estimates, while the static assumes that the behavior of participants in the economy is unaffected by levels of taxation. Our previous discussion suggests that the dynamic effects would be substantial, with tax increases yielding less revenue than expected, on a purely static basis, due to their negative effect on economic activity, while tax reductions would stimulate economic activity and lead to more revenue than predicted using the static approach.

Yet, there are still many who deny a link between economic activity and rates of taxation, particularly the maximum marginal tax rate on income. A favorite argument is to attribute the Federal budget deficits of the 1980s to reductions in revenues resulting from the tax cuts of 1981 and 1986. To be sure, the deficit rose after 1981, but this was largely due to the unanticipated decline in the rate of price inflation. The five-year budget forecasts made in 1981 incorporated much higher rates of price inflation than actually occurred.^[9] The impact of the unexpected disinflation of the early 1980s on Federal revenues was direct and immediate, reducing them below their forecast levels.

On the other hand, most of the baseline spending levels incorporated in the budget could only be changed by a Congress that showed a profound reluctance to make such adjustments. The result? Nominal Federal spending grew much more rapidly than nominal GDP. In the two calendar years 1981-1983, additional Federal spending amounted to almost one-third (32.7 percent) of additional GDP. A formal analysis by Gary and Aldona Robbins shows that over one-half of the increase in the Federal budget deficit between 1981 and 1986 was the direct result of lower than anticipated rates of price inflation.^[10] In short, the surge in the Federal budget deficit in the immediate post-1981 period is largely explained by factors other than the 1981 income tax cuts.^[11]

A very dramatic example of the dynamic aspects of a tax change is provided by the 1986 tax reforms. By itself, the reduction in income tax rates contained in this legislation is estimated to have increased total output by 1.9 percent, making it virtually revenue neutral.^[12] In addition, as shown in Table 3, the distributional effects were such that **all** income classes benefitted, with the lowest showing the largest percentage gain. Following the 1986 tax reforms, the Federal budget deficit shrank from being 5.2 percent of GDP to 2.9 percent, only 0.2 percentage points greater than it had been in fiscal 1981. Clearly, income tax reductions are not guaranteed budget deficit enhancers.

Table 3

**Estimated Percentage Change in Income as Result of Personal
Income Tax Provisions of the Tax Reform Act of 1986
By Income Class**

Income Class	Percentage Change in Income
\$ 0 - 9,999	4.92
10,000 - 14,999	1.31
15,000 - 19,999	2.31
20,000 - 29,999	1.23
30,000 - 39,999	2.72
40,000 and over	2.64

Source: Roy G. Boyd, Lowell Gallaway, and Richard Vedder,
"Across Group Pareto Efficiency and the 1986 Tax Reform: A General
Equilibrium Assessment," **Economic Notes**, vol. 21, no. 1, 1992, p. 70.

To substantiate the notion of dynamic effects of the sort we describe, we note a number of analyses of the possible economic effects of a flat tax system that have emerged in just the past few years. Work by Alan Auerbach, Michael Boskin, Gary and Aldona Robbins, Barry Seldon and Roy Boyd, Dale Jorgenson, and Laurence Kotlikoff all show that a flat tax system would have significant positive effects on economic growth in the United States.[\[13\]](#) Beyond these studies of the national economy, there is the experience of the individual states to be considered. We turn now to that subject.

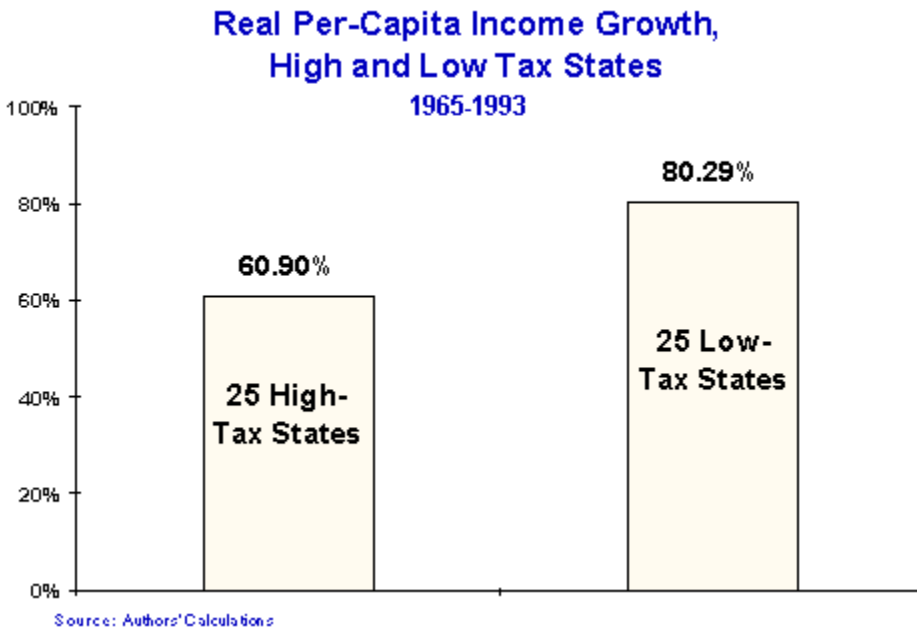
VII. Lessons from the States[\[14\]](#)

Justice Louis Brandeis, writing more than 60 years ago, asserted that the American states provided good laboratories to evaluate "social experiments" impacting on the American population. This is particularly true with respect to fiscal policy. What does the fiscal experience of the American states say with respect to plans to revise the federal income tax system? More specifically, does the "state's evidence" suggest that plans such as this will enhance the rate of economic growth, as is alleged?

Before answering that question, it is important to note that the states truly do have 50 different approaches to financing government. No two states have identical forms of taxation. With respect to individual income taxation, for example, nine states do not have a general individual income tax at all, including such large states as Texas and Florida.[\[15\]](#) At the other extreme, some states have high income taxes with sharply progressive marginal rates -- good examples include California, Iowa, New York, Ohio and Vermont.[\[16\]](#) Still a third group of populous states have income taxes, but with flat rates throughout various income ranges: Illinois, Indiana, Massachusetts, Michigan and Pennsylvania.

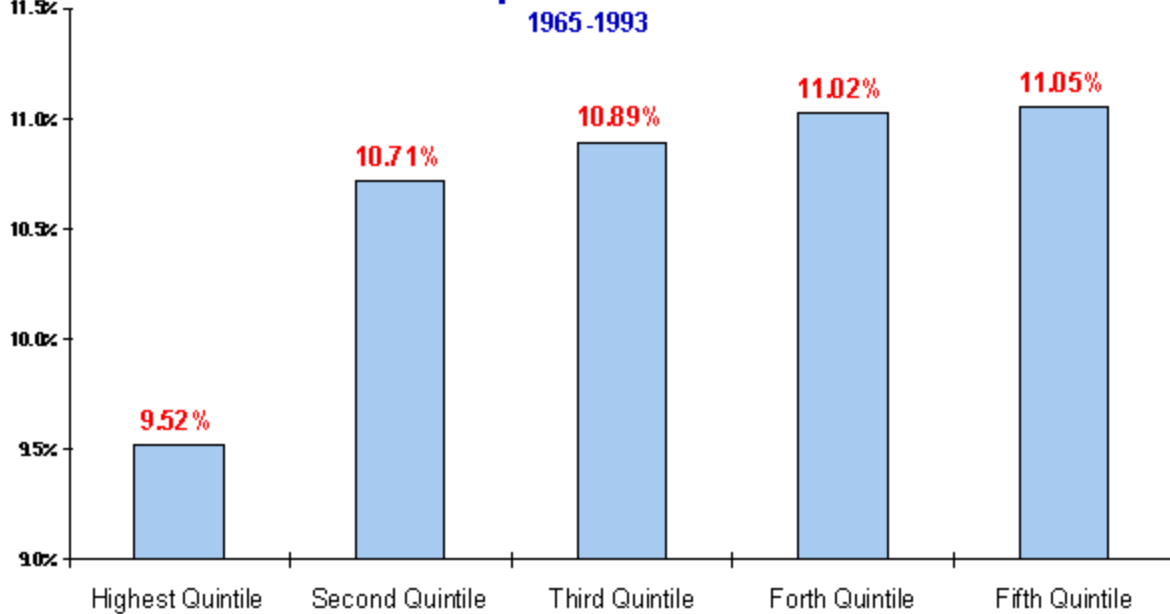
Many argue that a significant reduction in taxation will stimulate the rate of economic growth. Does the state experience support that proposition? The answer, we believe, is clearly

yes. Figure 3 shows that the rate of growth in real income per capita was almost one-third higher in the 25 states in the union with the lowest overall state and local tax burden over the generation from 1965 to 1993.[17] Lower taxes mean higher growth.



In Figure 4, the data are classified by quintiles (groups of ten states) with respect to rates of economic growth. Note that the 10 states with the lowest economic growth had an average tax burden that was more than 15 percent higher than the 10 states with the highest rate of growth. Note that as tax burdens fell, economic growth rose consistently across all five quintiles.

Tax Burden of States By Quintile of Per Capita Income Growth



Source: Author's Calculations; see text.
State and local taxes as a % of personal income; average of figures for 1965 and 1992.
"Highest" represents to 10 states with the highest growth rate from 1965-1993;
"second" represents states ranked 11th to 20th in growth performance, etc.

The analysis above might be criticized on at least four grounds. First, the variations in economic growth might be explained by non-tax factors that the simple comparisons above do not take into account. Second, the tax-growth relationship might not hold over somewhat shorter time periods; if it takes 25 or more years for tax policy to result in meaningful growth, it might be argued that the benefits of tax reduction are significantly reduced. Third, the use of real per capita income as a measure of economic performance, while commonly accepted, is not the only measure -- does the tax-growth relationship hold with other measures? Fourth, this tax plan concentrates on **income** taxation. Perhaps the impact of income taxation is less negative on income creation than other forms of taxation.

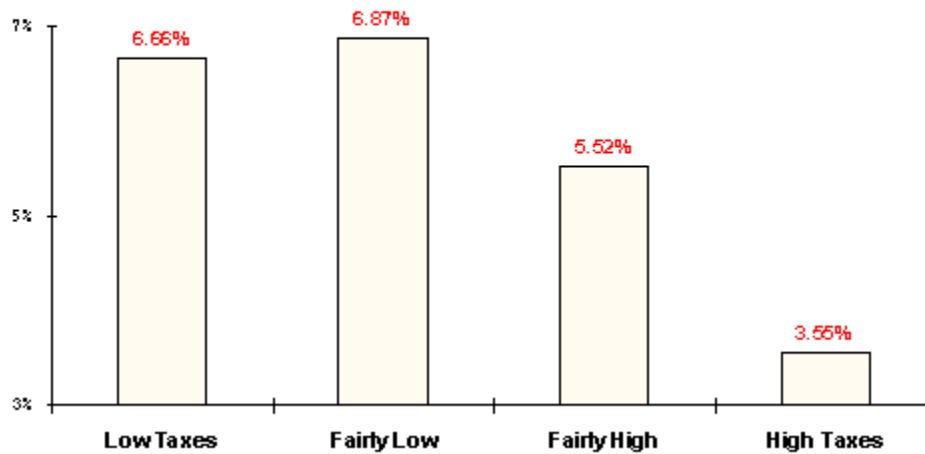
Statistical analysis introducing other measures as control variables deals with one of the problems outlined above. The authors tested a variety of alternative models with different non-tax variables introduced for control purposes: measures of unionization, industrial structure, political composition of the electorate, the production of energy sources, etc. The results consistently revealed a negative relationship between taxes and economic growth, usually involving results that were statistically significant at the five per cent level or beyond.

This finding corresponds with that of a huge body of literature that suggests that, other things equal, lower taxes are associated with superior economic performance. These findings hold for the U.S. using similar cross-sectional data to that here, albeit for somewhat different time periods.[18] They hold for cross-national studies as well.[19] They hold when alternative measures of economic performance (e.g., employment growth, new business locations, migration) are used.[20] Most of the studies use modern multivariate statistical techniques that

control for non-tax factors, although the adverse impact of taxes is notable in studies using other approaches as well.[21]

Dealing with another two of the possible concerns about the results in Figures 3 and 4, Figure 5 examines the relationship between states with differing **income** tax burdens and economic growth over the much shorter time span 1990 to 1995. Using a mid-period figure for income tax burden, the states were divided into four categories. Real income growth per capita averaged nearly twice as large over those five years in the nine states with very low state and local income tax burden as in states with high taxation (over three percent of personal income).[22] Note that, with one minor exception, the rate of economic growth fell as the individual income tax burden grew. Thus, economic growth averaged almost 25 percent greater in the 12 states with fairly low tax burdens (1-2 percent of personal income) as opposed to those states with fairly high burdens (2-3 percent of personal income).[23]

Economic Growth Higher in States with Low Tax Rates



Source: Authors' Calculations

Dealing with one last criticism, the negative tax-growth relationship held in a number of statistical estimations focusing on other measures of economic performance, such as total (as opposed to per capita) personal income growth, or net migration. Using a simple comparison as before (Figure 4), note that the no (or extremely small) income tax states had a net in-migration of 1,396,000 Americans over the year 1990 to 1994. Roughly one thousand per day moved to the states that allowed citizens to keep the fruits of their labors, at least with respect to income taxation. By contrast, in the eight states with high income taxation, there was net **out**-migration of 789,000 -- more than 500 a day left the states that heavily burdened owners of productive resources.

VIII. Five Case Studies

While the discussion of the general tax-growth relationship is relevant, it is perhaps less interesting than some real world examples. Accordingly, let us compare five sets of two states

that are in many ways similar, but where one of the two states has high income taxation and the other does not.

New Jersey and New York

New Jersey and New York are both densely populated urban industrialized states adjacent to one another in the northeast. Historically, New York was the more prosperous of the two states. For example, in 1960, per capita income in the Empire State exceeded that in New Jersey, as it had since annual statistics had begun to be compiled beginning in 1929.

Yet by 1995, New Jersey by most measures was a more affluent state than its neighbor to the north. Per capita personal income in New Jersey exceeded that in New York by over \$2,000, or nearly 7.8 percent. The major cause of this differential was that a significantly higher proportion of the adult population of New Jersey worked than was the case in New York.^[24] Other indicators suggested that New Jersey was the healthier state. For example, out-migration from New York in the early 1990s was more than four times that for New Jersey.

Economic growth from 1960 to 1995 was noticeably greater in New Jersey, with real per capita personal income rising over 102 percent, compared with 85 percent in New York.^[25] Why? An important factor is that New York consistently had a higher tax burden. Moreover, the differential tax burden grew throughout the 1960s and 1970s, so that by 1980 state and local taxes in New York absorbed nearly 40 percent more of personal income than in their southern neighbor. During most of that period, New Jersey did not have an income tax, while New York had one, even in the early 1960's, that was fairly high by today's standards.

In the early 1990s, however, New Jersey's economy sputtered -- even more than that of New York. From 1990 to 1995, per capita income in real terms stayed about constant in New Jersey, while it slowly rose in the Empire State. One factor in New Jersey's stagnation was a rising state income tax burden. By 1993, the New Jersey income tax burden exceeded that of the median of all states, and taxes were being increased amidst economic stagnation.

In November 1993, Governor Christine Todd Whitman was elected on a promise that she would institute over several years a 30 percent income tax reduction. Since that tax reduction plan has only recently been fully implemented, and there tends to be a lag of perhaps three years between tax implementation and the time the positive impact is fully felt, it is too early to assess the results of the tax cut. While by most measures incomes and jobs are growing since the tax reduction began, the same is occurring in neighboring states (some of which, however, are also undergoing tax reduction strategies) -- states that in the years before the New Jersey tax cut were far outdistancing New Jersey. If history is any guide, however, in the long run the tax cut should have a positive impact. New Jersey may not grow relative to neighboring states, however, since governors in **those** states (e.g., George Pataki in New York, Tom Ridge in Pennsylvania) also have indicated support for a low tax fiscal policy reflecting the fiscal experience observed above.

Tennessee and Kentucky

Kentucky and Tennessee are neighboring border states with much in common. As late as 1980, Kentucky, closer to the more prosperous north, had somewhat higher income levels than Tennessee on a per capita basis. Yet in 1995, per capita income was nearly 10 percent higher in Tennessee than in its neighbor to the north. What happened?

The rate of economic growth from 1980 to 1995 was about 50 percent greater in Tennessee than in Kentucky. Tennessee had a lower tax burden than Kentucky at the beginning of the period, and the differential grew as Tennessee cut its tax burden still further, both absolutely and relative to Kentucky. Moreover, Tennessee had virtually no income tax, while Kentucky had one of the 10 highest in the Union by 1993, in terms of the proportion of personal income absorbed by the tax. As a consequence, Kentucky continues to fall behind its historically poorer neighbor to the South. Tennessee's low tax environment lured more than triple the number of net new migrants than Kentucky from 1990 to 1994.

South and North Dakota

It would be hard to find two states that are more similar than the two Dakotas. Both have large rural populations, low population densities, and similar climates. Yet by most measures South Dakota has outdistanced North Dakota economically. From 1990 to 1995, for example, the rate of per capita income growth was about one-fourth larger in South Dakota. That state experienced modest but real population in-migration, whereas North Dakota had noticeable population out-migration.

While other factors may also be at work, North Dakota had higher and rising taxes, while South Dakota's tax burden actually fell after 1980. Again, South Dakota had no income tax, while North Dakota had such a levy. Lower (or no) income taxes again translate into higher growth in incomes.

California and Florida

While geographically far apart, California and Florida are remarkably similar in many respects. They are the nation's leading Sun Belt states, for decades attracting tourists and retirees. Both have high population densities, have appealed to large numbers of immigrants from Hispanic backgrounds, and have both large urban areas and a significant agricultural sector.

Yet by any measure, in the last few decades, Florida has far outdistanced California economically. In 1960, income per capita was more than 28 percent greater in California than in Florida; today, 90 percent of that income differential has been wiped out, as Florida's growth rate has exceeded the national average, while California's has been far below national norms (on a per capita basis). In the first half of the 1990s, the comparison is even more stark: California's real per capita income actually fell, while Florida's rose more than six percent.

One important reason is a sharply divergent tax policy. California has had a higher tax burden than Florida. Of particular relevance here, California has a high and sharply progressive income tax, while Florida has none. The income tax burden in California nearly quadrupled relative to personal income from the early 1960s to the early 1990s. The most obvious

manifestation of changing public perceptions of these two states is in the migration statistics. From 1990 to 1994, California faced massive out-migration among its native-born population, while Florida attracted, net, over 550,000 new inhabitants from internal migration.

Texas and Oklahoma

One of our nation's most vibrant states in terms of economic development during this century has been Texas. Of all Texas's neighbors, Oklahoma probably most closely resembles the Lone Star State -- large agricultural population, heavy reliance on oil and gas, a mixture of western and southern regional orientation. Yet in modern times, Texas has consistently outperformed its neighbor to the North. From 1980 to 1995, real per capita income rose 13.5 percent in Texas, compared with 5.4 percent in Oklahoma. Since 1990, the comparison is even more striking. Real per capita income in Oklahoma rose less than one percent from 1990 to 1995, one of the worst performances in the Union, while Texas grew almost six percent, a very respectable growth in this era of slow increases in incomes and output. Moreover, Texas had 10 times Oklahoma's inflow of net new native born migrants from 1990 to 1994.

Again, tax policy plays a role in explaining differential performance. In 1993, the total state and local tax burden in Texas was about seven percent less than in Oklahoma. More important, however, was the **composition** of the taxation. Texas has no income taxes, while Oklahoma is one of the dozen states discussed above with "fairly high" income taxes.[\[26\]](#) Moreover, that income tax burden (in relation to personal income) has more than tripled since the early 1960s, whereas Texas has consistently avoided the use of this destructive form of taxation.

IX. Conclusions

The "state's evidence" is consistent with the national and international experience: reducing taxes increases the spirit of enterprise, leading to higher rates of growth in income, output, and employment. America is in a period of slow growth. The 1990s is the worst decade in this century except the Depression Decade of the 1930s in terms of typical growth rates. The growth slowdown is forcing a reduction in the rate of growth in our standard of living, aggravating social tensions and endangering the quality of life. Therefore, plans to reduce the federal income tax burden would seem to have a positive effect in reversing America's economic stagnation.

To emphasize the importance of this conclusion, join us in one more look into the future, this time a more distant one. Think in terms of the future prospects of young people just now entering the labor market, beginning their career as economically productive human beings. Ask the question, "What is their standard of living likely to be a half-century down the road, as they near the end of their working life?" If we extrapolate fifty years ahead using the 1989-1995 percentage growth in real per capita GDP, we find that living standards would rise to not quite one-and-half times their current level.

On the other hand, if the projection is made using the growth rate in real per capita GDP that marked the supply-side years, the potential living standard increases to about three times its present level. Thus, a half-century of Reagan-style, supply-side, economic growth would give

our children and grandchildren a living standard at least twice that which would be achieved with the economic growth patterns of the post-supply-side era.

These simple data present a powerful case for the vitality of the supply-side view. They show that government policies that do not reduce the rewards to entrepreneurial activity are beneficial to the overall economy. They emphasize a very fundamental premise -- the path to national prosperity is through production in the private sector, not through taxing and spending by the public sector.

Endnotes:

1. The next National Bureau of Economic Research business cycle peak after that in 1981 occurs in early 1990. Therefore, 1989 unambiguously reflects the end of the prosperity of the 1980s.
2. Lowell Gallaway and Richard Vedder, **The Impact of the Welfare State on Small Business and the American Entrepreneur** (Washington, DC: Joint Economic Committee of Congress, July 1996), p. 12.
3. Some of the very early studies that demonstrate the operation of work disincentive effects are Carl T. Brehm and Thomas R. Saving, "The Demand for General Assistance Payments," **American Economic Review**, December 1964; Lowell E. Gallaway, "Negative Income Taxes and the Elimination of Poverty," **National Tax Journal**, September 1966; and Hirschel Kasper, "Welfare Payments and Work Incentive: Some Determinants of the Rates of General Assistance Payments," **Journal of Human Resources**, Winter 1968. For some more recent detailed evidence of this phenomenon, see Lowell Gallaway, Richard Vedder, and Robert Lawson, "Why People Work: An Examination of Interstate Variations in Labor Force Participation," **Journal of Labor research**, Winter 1991. This analysis reveals that the proportion of people in a state receiving public aid is positively related to the attractiveness of welfare benefits relative to wages and that the labor force participation rate among states is smaller the larger the proportion of people receiving public aid. For further confirmation of these linkages, see M. Anne Hill and June O'Neill, **Underclass Behavior in the United States: Measurement and Analysis of Determinants** (New York: City University of New York, Baruch College, August 1993) and Robert Moffitt, "Incentive Effects of the U. S. Welfare System: A Review," **Journal of Economic Literature**, March 1992.
4. These comparisons use fiscal year data for social spending and calendar year data for GDP. This should not produce any significant distortion.
5. The working-age population is defined as the civilian non-institutional population age 16 and over.
6. For this and similar calculations, Current Population Survey employment data are used rather than the establishment survey information.
7. The working-age population increased by 16,263,000 while civilian employment rose by 16,945,000 between 1981 and 1989.
8. The average annual growth rate in this statistic during the years 1981-1989 is quite similar to that for the period 1949-1973.
9. On January 15, 1981, Jimmy Carter submitted a budget to Congress for fiscal year 1982. It forecast the following percentage inflation rates (using the GDP price deflator) for the years 1981-1985: 1981 - 10.4; 1982 - 8.8; 1983 -

8.2; 1984 - 7.5; and 1985 - 6.7. Ronald Reagan's budget for fiscal 1983, submitted on February 8, 1982 forecast the following inflation rates for the years 1982-1985: 1982 - 7.2; 1983 - 5.5; 1984 - 4.9; and 1985 - 4.6. The actual inflation rates were: 1981 - 9.2; 1982 - 6.3; 1983 - 4.2; 1984 - 3.9; and 1985 - 3.3. Clearly, at the beginning of the 1980s, inflation rate forecasts consistently overestimated the amount of price inflation that would occur in subsequent years. The data sources are the official budget documents of the United States.

10. Gary Robbins and Aldona Robbins, **Cooking the Books: Exposing the Tax and Spend Bias of Government Forecasts**, Research Report No. 129 (Lewisville, Texas: Institute for Policy Innovation, February 1995).

11. Lawrence B. Lindsey, **The Growth Experiment: How the New Tax Policy is Transforming the U. S. Economy** (New York: Basic Books, 1990).

12. Roy G. Boyd, Lowell Gallaway, and Richard Vedder, "Across Group Pareto Efficiency and the 1986 Tax Reform: A General Equilibrium Assessment," **Economic Notes**, vol. 21, no. 1, 1992, pp. 60-72. The analytical technique used in this analysis is that of a computable general equilibrium model.

13. Alan Auerbach, "Tax Reform, Capital Allocation, Efficiency and Growth," prepared for Brookings Institution Conference on Fundamental Tax Reform, February 15-16, 1996; Michael Boskin, "A Framework for the Tax Reform Debate," testimony before the Committee on Ways and Means, U. S. House of Representatives, June 6, 1995; Gary and Aldona Robbins, **Which Tax Reform? Developing Consistent Tax Bases for Broad-Based Tax Reform**, Research Report No. 135 (Lewisville, Texas: Institute for Policy Innovation, January 1996); Barry J. Seldon and Roy G. Boyd, **The Economic Effects of a Flat Tax**, Policy Report No. 205 (Dallas, Texas: National Center for Policy Analysis, June 1996); Dale Jorgenson, "The Economic Effect of Fundamental Tax Reform," testimony before Committee on Ways and Means, U. S. House of Representatives, June 6, 1995; and Laurence J. Kotlikoff, **The Economic Impact of Replacing Federal Income Taxes with a Sales Tax**, Policy Analysis No. 193 (Washington, DC: Cato Institute, April 15, 1993).

14. This section draws heavily on Richard Vedder **State and Local Taxation and Economic Growth: Lessons for Federal Tax Reform**, Joint Economic Committee of Congress (Washington, DC: Government Printing Office, 1996).

15. Other states without an income tax include Alaska, Nevada, New Hampshire, South Dakota, Tennessee, Washington, and Wyoming. Some of these states tax some income, such as that from dividends, but none of them taxes work-derived income.

16. Interestingly, these states have all made some effort to moderate their tax burden in recent years, presumably reflecting the negative impact that such taxation has on economic growth.

17. The tax burden of each state was measured by taking the average of state and local tax revenues as a percent of personal income in the years 1965 and 1992.

18. See, for example, Bruce L. Benson and Ronald N. Johnson, "The Lagged Impact of State and Local Taxes on Economic Activity and Political Behavior," **Economic Inquiry**, July 1986; Victor Canto and Robert Webb, "The Effect of State Fiscal Policy on State Relative Economic Performance," **Southern Economic Journal**, July 1987; Alaeddin Mofidi and Joe A. Stone, "Do State and Local Taxes Affect Economic Growth?" **Review of Economics and Statistics**, November 1990, and Gerald Scully, **How State and Local Taxes Affect Economic Growth** (Dallas, TX: National Center for Policy Analysis, 1991). See, also, Richard Vedder, "State and Local Taxation...", op cit.

19. Early studies include Keith Marsden, "Links Between Taxes and Economic Growth: Some Empirical Evidence," World Bank Staff Working Papers, no. 604 (Washington, DC: World Bank, 1983), and Gerald Scully, "The Institutional Framework and Economic Development," **Journal of Political Economy**, June 1988. More recent studies include Eric Engen and Jonathan Skinner, "Fiscal Policy and Economic Growth," National Bureau of

Economic Research Working Paper #4223, December 1992, and Paul Cashin, "Government Spending, Taxes and Economic Growth," **International Monetary Fund Staff Papers**, June 1995.

20. See Richard J. Cebula, "Local Government Policies and Migration, An Analysis for SMSA's in the United States, 1965-1970," **Public Choice**, Fall 1974; William A. Niskanen, "The Case for a New Fiscal Constitution," **Journal of Economic Perspectives**, Spring 1992; Michael Wasylenko and Therese McGuire, "Jobs and Taxes: The Effects of Business Climates on States' Employment Growth Rates," **National Tax Journal**, December 1985; Thomas R. Plaut and Joseph E. Pluta, "Business Climate, Taxes and Expenditures, and State Industrial Growth in the United States," **Southern Economic Journal**, July 1983; Timothy J. Bartik, "Small Business Start-Ups in the United States: Estimates of the Effects of Characteristics of the States," **Southern Economic Journal**, April 1989, and Ernest Goss, Phillips Preston and Joseph M. Phillips, "State Employment Growth: The Impact of Taxes and Economic Development Agency Spending," **Growth and Change**, Summer 1994.

21. Our favorite example here is Robert Premus, **Location of High Technology Firms and Economic Development**, Staff Study, Joint Economic Committee of Congress (Washington, DC: Government Printing Office, 1983).

22. The low tax (or no tax) states were Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, Wyoming, and Alaska. The high tax states, based on 1993 fiscal year individual income tax burdens exceeding three percent of personal income were: Delaware, Maryland, Massachusetts, Minnesota, New York, Oregon, Wisconsin, and Hawaii.

23. The fairly low tax states were Alabama, Arizona, Illinois, Kansas, Louisiana, Mississippi, Missouri, Nebraska, New Jersey, New Mexico, North Dakota, and West Virginia. The fairly high tax states were Arkansas, California, Colorado, Connecticut, Georgia, Idaho, Indiana, Iowa, Kentucky, Maine, Michigan, Montana, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Utah, Vermont, and Virginia.

24. For example, in 1994, 61.4 percent of those in New Jersey over the age of 16 worked, compared with 57.0 percent in New York. See the **Statistical Abstract of the United States: 1995** (Washington, DC: Government Printing Office, 1995), p. 403.

25. All the income data in this and subsequent discussion is provided by the U.S. Department of Commerce, Bureau of Economic Analysis; that department's Bureau of the Census provides the tax data cited; employment and unemployment statistics are from the U.S. Department of Labor, Bureau of Labor Statistics.

26. In fairness to Oklahoma, its governor, Frank Keating, has emphasized a need to reverse the slow growth course of his state, and is considering significant income tax relief in the next budget.